REGULATION 13
PERMIT APPLICATION
FOR TRUCK ASSEMBLY FACILITY
HINO WEST VIRGINIA SOUTH
PARKERSBURG, WEST VIRGINIA

Prepared for:

Hino Motors Manufacturing U.S.A., Inc.
1 Hino Way
Williamstown, West Virginia 26187

Prepared by:

Potesta & Associates, Inc.
7012 MacCorkle Avenue, SE
Charleston, West Virginia 25304
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Project No. 0101-17-0079-007

February 2018

POTESTA

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SECTION I - III

GENERAL APPLICANT INFORMATION

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF AIR QUALITY

601 57th Street, SE
Charleston, WV 25304
(304) 926-0475
www.dep.wv.gov/daq

APPLICATION FOR NSR PERMIT AND TITLE V PERMIT REVISION (OPTIONAL)

PLEASE CHECK ALL THAT APPLY TO **NSR (45CSR13)** (IF KNOWN):

☒ **CONSTRUCTION** ☐ **MODIFICATION** ☐ **RELOCATION**
☐ **CLASS I ADMINISTRATIVE UPDATE** ☐ **TEMPORARY**
☐ **CLASS II ADMINISTRATIVE UPDATE** ☐ **AFTER-THE-FACT**

PLEASE CHECK TYPE OF **45CSR30 (TITLE V)** REVISION (IF ANY):

☐ **ADMINISTRATIVE AMENDMENT** ☐ **MINOR MODIFICATION**
☐ **SIGNIFICANT MODIFICATION**

IF ANY BOX ABOVE IS CHECKED, INCLUDE TITLE V REVISION INFORMATION AS **ATTACHMENT S** TO THIS APPLICATION

FOR TITLE V FACILITIES ONLY: Please refer to "Title V Revision Guidance" in order to determine your Title V Revision options (Appendix A, "Title V Permit Revision Flowchart") and ability to operate with the changes requested in this Permit Application.

Section I. General

1. Name of applicant *(as registered with the WV Secretary of State's Office):*
Hino Motors Manufacturing U.S.A., Inc.

2. Federal Employer ID No. ***(FEIN):***
33-0638183

3. Name of facility *(if different from above):*
Hino West Virginia South

4. The applicant is the:
☐ **OWNER** ☐ **OPERATOR** ☒ **BOTH**

5A. Applicant's mailing address:
1 Hino Way
Williamstown, WV 26187

5B. Facility's present physical address:
Coldwater Creek Drive
Parkersburg, WV 26101

6. **West Virginia Business Registration.** Is the applicant a resident of the State of West Virginia? ☒ **YES** ☐ **NO**

➪ If **YES,** provide a copy of the **Certificate of Incorporation/Organization/Limited Partnership** (one page) including any name change amendments or other Business Registration Certificate as **Attachment A.**

➪ If **NO,** provide a copy of the **Certificate of Authority/Authority of L.L.C./Registration** (one page) including any name change amendments or other Business Certificate as **Attachment A.**

7. If applicant is a subsidiary corporation, please provide the name of parent corporation: Hino Motors, Ltd.

8. Does the applicant own, lease, have an option to buy or otherwise have control of the *proposed site?* ☒ **YES** ☐ **NO**

➪ If **YES,** please explain: Own

➪ If **NO,** you are not eligible for a permit for this source.

9. Type of plant or facility (stationary source) to be **constructed, modified, relocated, administratively updated** or **temporarily permitted** (e.g., coal preparation plant, primary crusher, etc.): Truck Assembly and Painting Facility

10. North American Industry Classification System **(NAICS)** code for the facility:
336112

11A. DAQ Plant ID No. (for existing facilities only):
107-00186

11B. List all current 45CSR13 and 45CSR30 (Title V) permit numbers associated with this process (for existing facilities only):
NA

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

12A.

- ➪ For **Modifications, Administrative Updates** or **Temporary permits** at an existing facility, please provide directions to the *present location* of the facility from the nearest state road;
- ➪ For **Construction** or **Relocation permits,** please provide directions to the *proposed new site location* from the nearest state road. Include a **MAP** as **Attachment B**.

From I-77 at the Mineral Wells Exit, take State Route 14 toward Parkersburg, go approximately 1.2 miles, turn right onto Coldwater Creek Drive. The facility is at the end of Coldwater Creek Drive.

12.B. New site address (if applicable):	12C. Nearest city or town:	12D. County:
NA	Parkersburg	Wood
12.E. UTM Northing (KM): 4,340.12648	12F. UTM Easting (KM): 454.68510	12G. UTM Zone: 17

13. Briefly describe the proposed change(s) at the facility:
Installation of a truck assembly plant.

14A. Provide the date of anticipated installation or change: 05/01/2018 ➪ If this is an **After-The-Fact** permit application, provide the date upon which the proposed change did happen:	14B. Date of anticipated Start-Up if a permit is granted: 01/01/2019

14C. Provide a **Schedule** of the planned **Installation** of/**Change** to and **Start-Up** of each of the units proposed in this permit application as **Attachment C** (if more than one unit is involved).

15. Provide maximum projected **Operating Schedule** of activity/activities outlined in this application:
24 Hours Per Day 7 Days Per Week 52 Weeks Per Year

16. Is demolition or physical renovation at an existing facility involved? ☒ **YES** ☐ **NO**

17**. Risk Management Plans.** If this facility is subject to 112(r) of the 1990 CAAA, or will become subject due to proposed changes (for applicability help see www.epa.gov/ceppo), submit your **Risk Management Plan (RMP)** to U. S. EPA Region III.

18**. Regulatory Discussion.** List all Federal and State air pollution control regulations that you believe are applicable to the proposed process *(if known).* A list of possible applicable requirements is also included in Attachment S of this application (Title V Permit Revision Information). Discuss applicability and proposed demonstration(s) of compliance *(if known).* Provide this information as **Attachment D.**

Section II. Additional attachments and supporting documents.

19. Include a check payable to WVDEP – Division of Air Quality with the appropriate **application fee** (per 45CSR22 and 45CSR13).

20. Include a **Table of Contents** as the first page of your application package.

21. Provide a **Plot Plan,** e.g. scaled map(s) and/or sketch(es) showing the location of the property on which the stationary source(s) is or is to be located as **Attachment E** (Refer to ***Plot Plan Guidance***) **.**
Indicate the location of the nearest occupied structure (e.g. church, school, business, residence).

22. Provide a **Detailed Process Flow Diagram(s)** showing each proposed or modified emissions unit, emission point and control device as **Attachment F.**

23. Provide a **Process Description** as **Attachment G.**
Also describe and quantify to the extent possible all changes made to the facility since the last permit review (if applicable).

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

24. Provide **Material Safety Data Sheets (MSDS)** for all materials processed, used or produced as **Attachment H.**

☐ For chemical processes, provide a MSDS for each compound emitted to the air.

25. Fill out the **Emission Units Table** and provide it as **Attachment I.**

26. Fill out the **Emission Points Data Summary Sheet (Table 1 and Table 2)** and provide it as **Attachment J.**

27. Fill out the **Fugitive Emissions Data Summary Sheet** and provide it as **Attachment K.**

28. Check all applicable **Emissions Unit Data Sheets** listed below:

☐ Bulk Liquid Transfer Operations	☐ Haul Road Emissions	☐ Quarry
☐ Chemical Processes	☐ Hot Mix Asphalt Plant	☐ Solid Materials Sizing, Handling and Storage Facilities
☐ Concrete Batch Plant	☐ Incinerator	☒ Storage Tanks
☐ Grey Iron and Steel Foundry	☐ Indirect Heat Exchanger	

☒ General Emission Unit, specify Paint Booths, Body Prep, Inspection with Touchup Paint/Cleaning, Welding, Engine Testing, Parts Washer, Retractable Paint Booth, Windshield Installation, Building Heat, Fire Pump Engine, and Emergency Generators (engines).

Fill out and provide the **Emissions Unit Data Sheet(s)** as **Attachment L.**

29. Check all applicable **Air Pollution Control Device Sheets** listed below:

☐ Absorption Systems	☐ Baghouse	☐ Flare
☐ Adsorption Systems	☐ Condenser	☐ Mechanical Collector
☐ Afterburner	☐ Electrostatic Precipitator	☐ Wet Collecting System

☒ Other Collectors, specify Fabric Filters for Paint Booths.

Fill out and provide the **Air Pollution Control Device Sheet(s)** as **Attachment M.**

30. Provide all **Supporting Emissions Calculations** as **Attachment N,** or attach the calculations directly to the forms listed in Items 28 through 31.

31. **Monitoring, Recordkeeping, Reporting and Testing Plans.** Attach proposed monitoring, recordkeeping, reporting and testing plans in order to demonstrate compliance with the proposed emissions limits and operating parameters in this permit application. Provide this information as **Attachment O.**

➢ Please be aware that all permits must be practically enforceable whether or not the applicant chooses to propose such measures. Additionally, the DAQ may not be able to accept all measures proposed by the applicant. If none of these plans are proposed by the applicant, DAQ will develop such plans and include them in the permit.

32. **Public Notice.** At the time that the application is submitted, place a **Class I Legal Advertisement** in a newspaper of general circulation in the area where the source is or will be located (See 45CSR§13-8.3 through 45CSR§13-8.5 and ***Example Legal Advertisement*** for details). Please submit the **Affidavit of Publication** as **Attachment P** immediately upon receipt.

33**. Business Confidentiality Claims.** Does this application include confidential information (per 45CSR31)?

☐ **YES** ☒ **NO**

➢ If **YES,** identify each segment of information on each page that is submitted as confidential and provide justification for each segment claimed confidential, including the criteria under 45CSR§31-4.1, and in accordance with the DAQ's *"**Precautionary Notice – Claims of Confidentiality"*** guidance found in the ***General Instructions*** as **Attachment Q.**

Section III. Certification of Information

34. **Authority/Delegation of Authority.** Only required when someone other than the responsible official signs the application. Check applicable **Authority Form** below:

☐ Authority of Corporation or Other Business Entity	☐ Authority of Partnership
☐ Authority of Governmental Agency	☐ Authority of Limited Partnership

Submit completed and signed **Authority Form** as **Attachment R.**

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

35A. **Certification of Information.** To certify this permit application, a Responsible Official (per 45CSR§13-2.22 and 45CSR§30-2.28) or Authorized Representative shall check the appropriate box and sign below.

Certification of Truth, Accuracy, and Completeness

I, the undersigned ☒ **Responsible Official** / ☐ **Authorized Representative,** hereby certify that all information contained in this application and any supporting documents appended hereto, is true, accurate, and complete based on information and belief after reasonable inquiry I further agree to assume responsibility for the construction, modification and/or relocation and operation of the stationary source described herein in accordance with this application and any amendments thereto, as well as the Department of Environmental Protection, Division of Air Quality permit issued in accordance with this application, along with all applicable rules and regulations of the West Virginia Division of Air Quality and W.Va. Code § 22-5-1 et seq. (State Air Pollution Control Act). If the business or agency changes its Responsible Official or Authorized Representative, the Director of the Division of Air Quality will be notified in writing within 30 days of the official change.

Compliance Certification

Except for requirements identified in the Title V Application for which compliance is not achieved, I, the undersigned hereby certify that, based on information and belief formed after reasonable inquiry, all air contaminant sources identified in this application are in compliance with all applicable requirements.

SIGNATURE _____ DATE: 2/28/18
(Please use blue ink) *(Please use blue ink)*

35B. Printed name of signee: Brent Craine		35C. Title: Vice President, Corporate Strategy Development
35D. E-mail: bcraine@hmmusa.com	36E. Phone: (248) 442-6879	36F. FAX: Use Email
36A. Printed name of contact person (if different from above): Same		36B. Title:
36C. E-mail:	36D. Phone:	36E. FAX:

PLEASE CHECK ALL APPLICABLE ATTACHMENTS INCLUDED WITH THIS PERMIT APPLICATION:

- ☒ **Attachment A: Business Certificate**
- ☒ **Attachment B: Map(s)**
- ☒ **Attachment C: Installation and Start Up Schedule**
- ☒ **Attachment D: Regulatory Discussion**
- ☒ **Attachment E: Plot Plan**
- ☒ **Attachment F: Detailed Process Flow Diagram(s)**
- ☒ **Attachment G: Process Description**
- ☒ **Attachment H: Material Safety Data Sheets (MSDS)**
- ☒ **Attachment I: Emission Units Table**
- ☒ **Attachment J: Emission Points Data Summary Sheet**
- ☒ **Attachment K: Fugitive Emissions Data Summary Sheet**
- ☒ **Attachment L: Emissions Unit Data Sheet(s)**
- ☒ **Attachment M: Air Pollution Control Device Sheet(s)**
- ☒ **Attachment N: Supporting Emissions Calculations**
- ☒ **Attachment O: Monitoring/Recordkeeping/Reporting/Testing Plans**
- ☒ **Attachment P: Public Notice**
- ☐ **Attachment Q: Business Confidential Claims**
- ☐ **Attachment R: Authority Forms**
- ☐ **Attachment S: Title V Permit Revision Information**
- ☒ **Application Fee**

Please mail an original and three (3) copies of the complete permit application with the signature(s) to the DAQ, Permitting Section, at the address listed on the first page of this application. Please DO NOT fax permit applications.

FOR AGENCY USE ONLY – IF THIS IS A TITLE V SOURCE:

- ☐ ***Forward 1 copy of the application to the Title V Permitting Group and:***
- ☐ ***For Title V Administrative Amendments:***
  - ☐ ***NSR permit writer should notify Title V permit writer of draft permit,***
- ☐ ***For Title V Minor Modifications:***
  - ☐ ***Title V permit writer should send appropriate notification to EPA and affected states within 5 days of receipt,***
  - ☐ ***NSR permit writer should notify Title V permit writer of draft permit.***
- ☐ ***For Title V Significant Modifications processed in parallel with NSR Permit revision:***
  - ☐ ***NSR permit writer should notify a Title V permit writer of draft permit,***
  - ☐ ***Public notice should reference both 45CSR13 and Title V permits,***
  - ☐ ***EPA has 45 day review period of a draft permit.***

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

ATTACHMENT A

BUSINESS CERTIFICATE

WEST VIRGINIA
STATE TAX DEPARTMENT
BUSINESS REGISTRATION CERTIFICATE

ISSUED TO:
HINO MOTORS MANUFACTURING U.S.A., INC.
1 HINO WAY
WILLIAMSTOWN, WV 26187-9605

BUSINESS REGISTRATION ACCOUNT NUMBER: **2002-8882**

This certificate is issued on: 06/24/2010

This certificate is issued by
the West Virginia State Tax Commissioner
in accordance with W.Va. Code § 11-12.

The person or organization identified on this certificate is registered to conduct business in the State of West Virginia at the location above.

This certificate is not transferrable and must be displayed at the location for which issued.

This certificate shall be permanent until cessation of the business for which the certificate of registration was granted or until it is suspended, revoked or cancelled by the Tax Commissioner.

Change in name or change of location shall be considered a cessation of the business and a new certificate shall be required.

TRAVELING/STREET VENDORS: Must carry a copy of this certificate in every vehicle operated by them. CONTRACTORS, DRILLING OPERATORS, TIMBER/LOGGING OPERATIONS: Must have a copy of this certificate displayed at every job site within West Virginia.

atL006 v.1
L1088215808

ATTACHMENT B

AREA MAP

POTESTA
Engineers and Environmental Consultants

DATE: December 2017

PROJECT NO. 0101-17-0079-007

MAPPING FOR VISUAL REPRESENTATION ONLY

AREA MAP
HINO WEST VIRGINIA SOUTH
HINO MOTORS MANUFACTURING U.S.A., INC.
PARKERSBURG, WOOD COUNTY, WV

ATTACHMENT C

INSTALLATION AND STARTUP SCHEDULE

ATTACHMENT C

INSTALLATION AND STARTUP SCHEDULE

Hino Motors Manufacturing U.S.A., Inc. proposes to move the Hino West Virginia plant located in Williamstown into one existing building in Parkersburg. Building remodeling is proceeding. Installation of emission sources is anticipated to start in May 2018 with start of production to occur January 2019.

ATTACHMENT D

REGULATORY DISCUSSION

ATTACHMENT D

REGULATORY DISCUSSION

The facility is required to comply with the requirements contained in the applicable provisions of (1) 45CSR4, (2) 45CSR7, and (3) 45CSR13, and (4) 45CSR21.

1. 45CSR4. No person shall cause, suffer, allow, or permit the discharge of air pollutants which cause or contribute to objectionable odor at any location occupied by the public.

2. 45CSR7 45-7-4, 4.1. No person shall cause, suffer, allow, or permit particulate matter to be vented into the open air from any type source operation or duplicate source operation, or from all air pollution control equipment installed on any type source operation or duplicate source operation in excess of the quantity specified under the appropriate source operation type in Table 45-7A of the rule.

3. 45CSR13 requires the facility to operate within the limits of the permit and in accordance with the permit application.

4. 45CSR21 requires a facility to utilize appropriate coatings and applies to Wood County. This facility is subject to Section 45-21-19, Coating of Miscellaneous Metal Parts. The paint and primer as applied meets the 3.5 lbs/gallon Volatile Organic Compound (VOC) limit and clear coal meets 42 lbs/gallon VOC limit.

5. 40CFR60 Subpart IIII (Standards of Performance for Stationary Compression Ignition Internal Combustion Engines) and 40CFR63 Subpart ZZZZ (National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines)

   The diesel fire pump engine and the emergency generators are subject to these standards based on their horsepower and date of manufacture.

   The fire pump engine (9S) is a 368-horsepower engine manufactured in 1999. The engine would be subject to ZZZZ. The larger emergency generator (17S) is a 1,490-horsepower engine manufactured in 1998. Both engines are emergency use only. These engines must be operated in accordance with ZZZZ.

   The smaller emergency generator (18S) is a 775-horsepower engine and is a certified engine. The certificate is included in the appendix for this engine. It must be operated in accordance with the requirements of IIII.

ATTACHMENT E

PLOT PLAN

No.	Date	Revision

PARTS WASHERS (8S)
WELDING (6S)
TO BE LOCATED/CONDUCTED
AS NEEDED WITHIN BUILDING

ENGINE EMISSIONS
(7S)

SALES LOT
FINISHED TRUCK PARKING
(GRAVEL)

FLUIDS BUILDING
(SEE INSERT)

WINDSHIELD
INSTALLATION
(12S)

TEST TRACK
(PAVED)

FINISHED
TRUCK
PARKING

RETRACTABLE
PAINT BOOTH
(11S, TO BE
LOCATED IN
THIS
ROOM/AREA)

EXISTING
EMERGENCY
GENERATOR
(18S)

VEHICLES EXIT
TO SALES LOT

DIESEL TANK
(13S)

ROAD TO
SALES LOT
(GRAVEL)

BODY PREP ROOM
(4S)

PAINT BOOTH NO. 2
WITH HEATER
(2S)

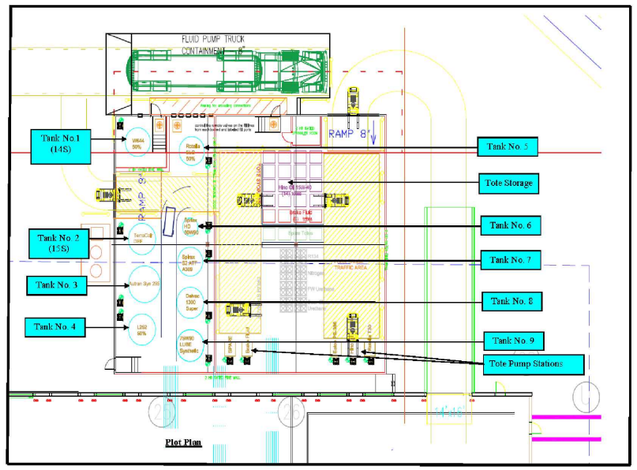
PAINT BOOTH NO. 3
WITH HEATER
(3S)
(PROPOSED FOR FUTURE)

PAINT BOOTH
NO. 1 WITH HEATER
(1S)

VEHICLE ACTIVITY (VA)
OCCURS THROUGHOUT
THE SITE ON PAVED AND
UNPAVED SURFACES

EXISTING FIRE
PUMP ENGINE
(9S)

EXISTING DIESEL TANK (16S)
EXISTING EMERGENCY GENERATOR (17S)



FLUIDS BUILDING
NO SCALE

GRAPHIC SCALE
200 100 0 200 400

MAPPING REFERENCE:
BASE TOPOGRAPHIC MAPPING AS DEVELOPED FROM AERIAL PHOTOGRAPHY AND LIDAR BY KEDDALL AERIAL MAPPING. AERIAL PHOTOGRAPHY DATE WAS 9-24-17.

ISSUE DATE 1/29/2018

PROPOSED LAYOUT FOR AIR PERMITTING ONLY - NOT FOR CONSTRUCTION

File: S:\CAD-Proj-HRV\2017\17-0079 - HINO\PHASE 007\17-0079-007_01.dwg
Layout: Layout1
Plotted By: cdaud

* 01	CAD File No.
JM	Drawn
PEW	Checked
PEW	Approved
1"=200'	Scale:
JANUARY 2018	Date:
17-0079-007	Project No.

POTESTA & ASSOCIATES, INC.
ENGINEERS AND ENVIRONMENTAL CONSULTANTS
7012 MacCorkle Avenue SE, Charleston, WV 25304
TEL: (304) 342-1400 FAX: (304) 343-9031
E-Mail Address: potesta@potesta.com

POTESTA

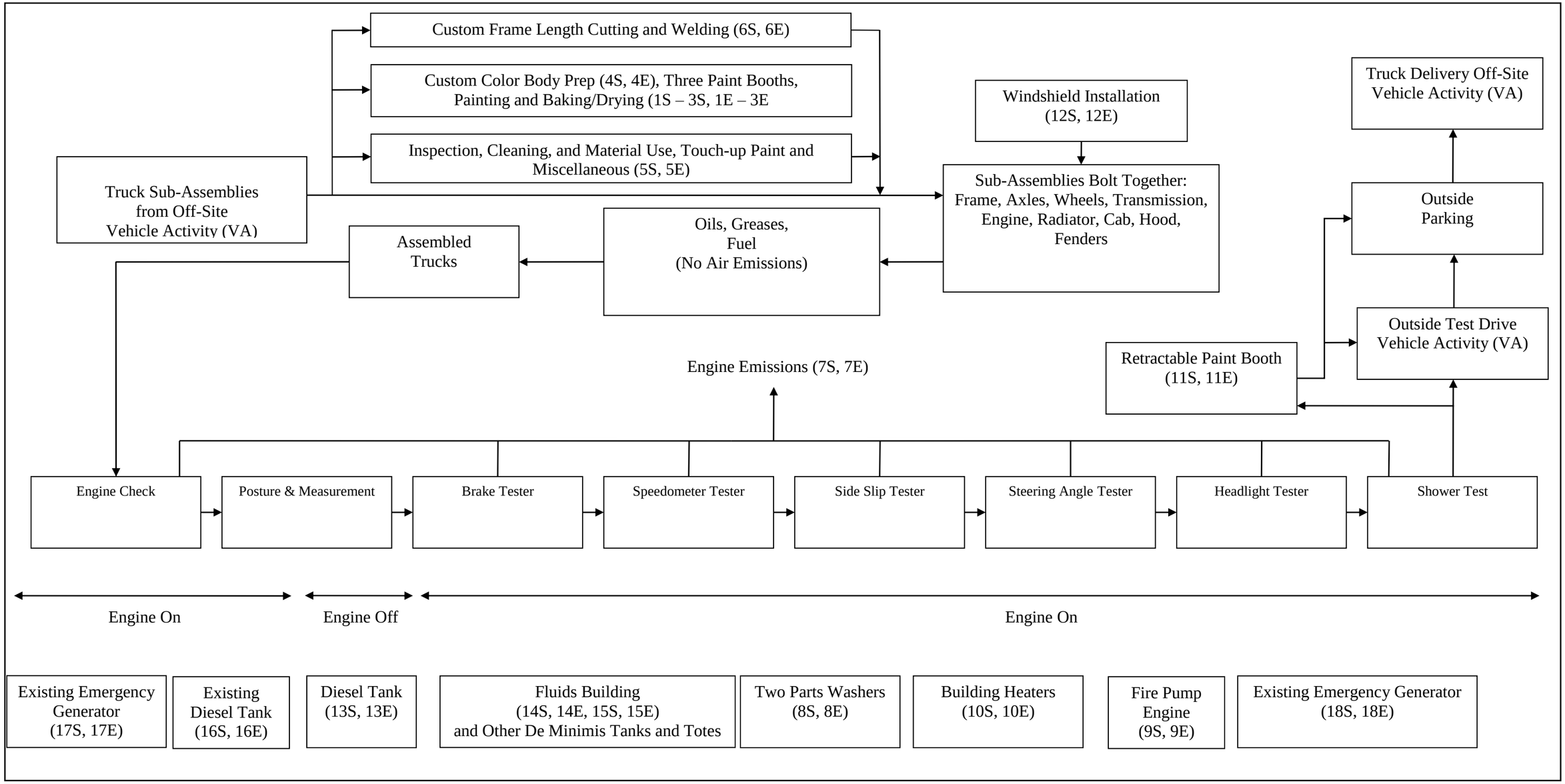
Client: HINO MOTORS MANUFACTURING, U.S.A., INC.
FARMINGTON HILLS, MICHIGAN

Title: PLOT PLAN
HINO WEST VIRGINIA SOUTH
COLD WATER CREEK DRIVE
PARKERSBURG, WEST VIRGINIA

1
Drawing No.

ATTACHMENT F

DETAILED PROCESS FLOW DIAGRAM



POTESTA
Engineers and Environmental Consultants

7012 MacCorkle Avenue, S.E
Charleston, West Virginia 25304
Phone: (304) 342-1400
Fax: (304) 343-9031

Process Flow Diagram
Hino West Virginia South
Hino Motors Manufacturing U.S.A., Inc.
Wood County, West Virginia
Project No. 0101-17-0079-007

ATTACHMENT G

PROCESS DESCRIPTION

ATTACHMENT G

PROCESS DESCRIPTION

Introduction to Process Description

Hino Motors Manufacturing U.S.A., Inc. (HINO) proposes to move its truck assembly facility located in Williamstown to Parkersburg, West Virginia. This permit request is for a new permit at the Parkersburg location. The existing permit at Williamstown will stay in-place until a later date. Some of the processes from Williamstown will actually be moved to Parkersburg. Others may be replaced during the installation at Parkersburg which will allow continued manufacturing of trucks. The following is a description of each part of the process.

Truck Assembly Description

HINO assembles medium duty trucks. Sub-assemblies arrive via truck from offsite. The trucks are assembled by building the frame (side members and cross pieces) and adding the axles, wheels and brake components. The transmission, engine and radiator are added, along with their peripheral equipment (tanks, wiring, pedals, clutch assembly, differential, drive train, steering components, etc.). The cab, fenders and hood are the final components of the assembly process. The assembly does not include placement of the truck bed on the vehicle. Beds will be installed at other locations as required for the customers' use. The sub-assemblies are units which bolt or otherwise are clipped or fastened together to form completed trucks.

During assembly, fluids are added to the trucks. Typical motor vehicle fluids are kept on hand. The materials are coolant fluids (antifreeze), diesel fuel, engine oil, transmission oil (manual and automatic transmissions), differential oil, power steering oil/fluid, brake oil/fluid, clutch oil/fluid, diesel emission fluid, and greases for the steering, pedal assembly, clutch, parking brake control, and transmissions. Some of these materials are stored in the containers in which they are delivered (for example, 5 gallon pails, 55 gallon drums and totes). Bulk delivery to tanks in the fluids building occur for larger volume fluids.

After fluid addition, the truck engines are tested as the vehicles move to an inspection area. With the engine switched off, the trucks are inspected for posture and measurement. The truck engines are restarted, and the vehicles are tested by a brake tester, speedometer tester, side slip tester, steering angle tester, and a headlight tester. The trucks are then shower tested for water tightness of the windshield and windows. This operation occurs inside the facility. The total engine run time for this process (engine testing and all subsequent testing) is approximately 40 minutes inside the facility. The assembled trucks then run a test track and are re-inspected and, after approval, are sent to the sales lot/truck parking.

The following are the identified emission sources at this facility:

Custom Color Operation

Equipment - Paint Booths with Heaters (1S-3S) and Body Prep Area (4S)

The custom color operation includes two paint booths with heaters and a body prep area. A third paint booth is proposed for future operations. Currently, all cabs delivered to the site are painted white. The white paint is prepped in the body prep area to allow the custom color to adhere to the existing paint. This operation is a scuffing type operation to remove the glossy finish of the existing paint. The body of the truck is then moved into the paint booths and the custom color (primer, paint, and clearcoat) is applied. Although the operation includes mostly custom color application and not a complete body painting, the existing permit is to allow for a quantity of primer, paint, and clearcoat (approximately one gallon of each per vehicle) to allow for approximately 5,000 truck cabs to be painted, whether it is a complete paint job or custom color application. We are requesting that there be no limit on the amount of trucks that can be painted, but a limit on the amount of materials used in the painting operation. Therefore, if less paint is used on a body, then the total number of bodies to be repainted can be higher than 5,000 per year.

The painting sequences are intermittent with the application of a coating, then a 15 minute tack time prior to the next coating application. After the clearcoat is applied, the paint booths are closed, and the temperature raised to accelerate drying. At least two color layers must be applied and two clearcoat layers with a 15 minute tack time between the applications of each layer. The drying time lasts approximately 30 minutes. This also includes paint mixing.

Miscellaneous Touch-Up, Cleaning, and Material Use (5S)

Equipment - Various uses of aerosol and other paints to touch up scratches during inspections, cleaners for the painting operations, and materials which contain VOCs and HAPs that are used on the assembly floor.

HINO receives parts from numerous suppliers which are shipped in and stored at the site. The main two colors that are used for touchup are black and white (since this is the current major color scheme). The frame and other major parts under the body are painted black. The current main color for the body is white. The facility uses Rustoleum products for touch up at the inspection stations. These paints only release VOC from the facility (no overspray particulate released from building). Additionally, at the beginning of the assembly line, there is a pot sprayer with Asian paint. This paint is VOC free. Other products are used, such as a rubberized undercoating, Magnaflux Spotcheck, WD-40, brakleen, and cleaners for the painting operation. The VOC and HAP constituents of these materials are released from the building.

Welding (6S)

Equipment - Welders

Welding occurs when the facility shortens a wheel base for the trucks. The frames are cut with a saw and then the ends need to be refinished to replace the endcaps on the frames. Welding emissions are based on the worst-case emissions estimate from each type of welding electrode in AP-42, Section 12.19-2.

Truck Engine Emissions (7S)

Equipment - Assembled Vehicles on the Inspection Line

After assembly is completed on a vehicle, it is inspected. The inspection has several steps (see the process flow diagram) where the engine is on or off depending on what is being inspected. The emissions from the engines are based on certified manufacturers emissions, AP-42, and an approximate run time of 40 minutes per engine. Once the trucks leave the building, they are mobile equipment and the engine emissions are not counted toward the potential to emit.

Parts Washers (8S)

Equipment - Parts Washer (2)

Two parts washers are located at the site. There is one in the maintenance area and one in the inspection area. The emissions from the parts washers are based on AP-42. Fluids are only refreshed as needed.

Fire Pump Engine (9S)

An existing 368 horsepower fire pump engine is located at the site. The emissions from the engine are based on AP-42. Information on the engine is in the Appendix.

Building Heaters (10S)

Equipment - Multiple Trane, Lennox, Reznor, and Horizon Natural Gas Fueled Heaters

The existing building has fifty (50) natural gas fired heaters with heat ratings ranging from 50,000 Btu/hr to 2,800,000 Btu/hr. Nineteen (19) new natural gas fired heaters with heat ratings ranging from 224,000 Btu/hr to 310,000 Btu/hr will be added to the facility. The emissions from the heaters are based on the total heat rating of the heaters and AP-42 factors. The sixty-nine (69) heaters at the facility have a total heat rating of 25.948 MMBtu/hr.

Retractable Paint Booth (11S)

Equipment – Retractable Paint Booth for Scratch Repair

The Retractable Paint Booth is portable and can be retracted to 20 – 25 percent of its length. The booth will be used to repair scratches or other similar cosmetic damage to truck cabs and parts. It is designed to intake fresh air through pre-filters in the main entry doors and the air is vented through a filter unit at the opposite end.

Because the booth will be used for repairs on an as-needed basis, with existing paint colors, we are not requesting additional paint just for this booth. For the emissions estimate, the hourly painting in the retractable paint booth are based on the paint gun capacity. Total yearly paint booth emissions are shown with 1S – 3S.

Windshield Installation (12S)

The Windshield Installation operation will be located in the Unpacking and Sub-Assembly area of the facility. Windshields will be attached to trucks with Sika Aktivator-100 and Sikaflex-255 FC, a polyurethane based adhesive system with VOC and HAP components. The safety data sheets for these materials are included in Attachment H. This adhesive system, or a similar adhesive system, will be used to install the windshields.

Fluids Building (13S, 14S, 15S)

The fluids building and piping system includes multiple tanks and totes within the fluids building and a stand-alone diesel tank which is located separate from the fluids building. The piping systems will include totes pumping systems along with the tank pumping systems. The diesel tank is located separately outside the fluids building; however, it is part of the fluids handling operation.

Emissions for three (3) tanks have been determined using Tanks 4.0.9d. These tanks are the fluids with higher vapor pressures relative to the other materials stored [windshield washer fluid (14S), diesel exhaust fluid (15S), and diesel fuel (13S)]. Calculations have been performed even though the vapor pressure of each of these fluids is less than the 1.5 psia cutoff for the Regulation 13 de minimis exemption to demonstrate annual aggregate emissions. The remaining tanks have much lower vapor pressures and are stated as de minimis in the application. Per Regulation 13, Table 45-13B, De Minimis Sources, No. 58, each of these tanks and the tanks in total are de minimis in size and vapor pressure of the contents. Additionally, the total yearly emissions will not exceed 2 tons per year for hazardous air pollutants or volatile organic compounds.

Generators and Diesel Tank (16S, 17S, 18S)

There are two existing emergency generators which include a 1,490-horsepower engine (17S) and a 755-horsepower engine (18S). Data sheets for the engines are in the Appendix. In addition, there is an existing 2,000 gallon diesel tank at the site (16S).

Vehicle Activity (VA)

Equipment - Assembled vehicles moving on paved and gravel surfaces and delivery vehicles on paved surfaces

Approximately 26,000 trucks will be assembled annually. The trucks leave the assembly building, operate on the test track, are inspected, and then driven to the truck sales lot. The trucks are then sold and driven off the gravel area for delivery to the customer.

Additionally, this facility receives the parts to assemble the trucks in shipping containers and other delivery trucks. These vehicles drive to either the unloading docks or to the container storage area at the back of the property. Delivery vehicles are on paved road surfaces while at the site.

ATTACHMENT H

SAFETY DATA SHEETS

Custom Paint

Base Information — Axalta Imron Elite Basecoat + Clearcoat System

Paint System for Hino WV	Part #	Description	Usage	Mix Ratio
Base Coat	CAS981	Imron Elite Productive Basecoat - White	Basecoat for every truck painted. Will be one of 16 stock colors	3
	CAS993	Imron Elite Productive Basecoat - Black		
	CAS1037	Imron Elite Productive Basecoat - Red		
	CAS992	Imron Elite Productive Basecoat - Beige		
	CAS200	Imron Elite Productive Basecoat - Brown		
	CAS250	Imron Elite Productive Basecoat - Yellow		
	CAS364	Imron Elite Productive Basecoat - Lt. Green		
	CAS367	Imron Elite Productive Basecoat - Green		
	CAS523	Imron Elite Productive Basecoat - Lt. Blue		
	CAS525	Imron Elite Productive Basecoat - Blue		
	CAS667	Imron Elite Productive Basecoat - Lt. Purple		
	CAE505	Imron Elite Productive Basecoat - Silver Metallic		
	CAE76	Imron Elite Productive Basecoat - Red Metallic		
	CAE153	Imron Elite Productive Basecoat - Gold Metallic		
	CAE254	Imron Elite Productive Basecoat - Green Metallic		
	CAE413	Imron Elite Productive Basecoat - Blue Metallic		
	15305S	Imron Elite Productive 15305S Mid Temp Activator Reducer	Will be mixed will all basecoats	1
	189S	Accelorator	Will be used rarely.	optional 2oz
	89S	Pot Life Extender	Will be used rarely.	optional 2oz
Clearcoat	8430S	Imron Elite Appearance Clearcoat	Clearcoat for every truck painted.	2
	15305S	Imron Elite Clearcoat Activator Reducer		1
	389S	Accelorator		optional 2oz
Sealer	825P32760	Gray Hybrid Epoxy Primer Sealer	For sealing only. Will be used very rarely.	4
	FGP32765	Hybrid Primer Medium Activator		1
Primer	1220S	Gray Urethane Sandable Primer	For spot repair priming only. Will be used very rarely.	4
	194S	Primer Activator Reducer		1
Cleaning Solvent	3901S	Final Klean Fast Dry Kleaner	Gun cleaning at end of shift and at color change	No Mixing
	3909S	Low VOC Final Klean		No Mixing
Gun Cleaning Solvent	106	Thinner - Gun Cleaner	Will be used in a gun cleaning machine and waste distiller. 95% of solvent will be recycled.	No Mixing
	108	Solvent - Low Haps Gun Cleaner		No Mixing

1. Identification of the substance/mixture and of the company/undertaking

Product name	COLOR ATLAS WHITE	
Product code	CAS981	
Intended use	Coating for professional use	
	Axalta Coating Systems, LLC Applied Corporate Center 50 Applied Card Way, Suite 300 US Glen Mills, PA 19342	
Telephone	Product information Medical emergency Transportation emergency	(855) 6-AXALTA (855) 274-5698 (800) 424-9300 (CHEMTREC)

2. Hazards identification

This preparation is hazardous per the following GHS criteria

GHS-Classification

Flammable liquids Category 3

Endpoints which are ""not classified"", ""cannot classified"" and ""not applicable"" are not shown

GHS-Labelling

Hazard symbols	
Signal word	Warning
Hazard statements	Flammable liquid and vapour.
Precautionary statements	Ground/bond container and receiving equipment. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Take precautionary measures against static discharge. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Wear protective gloves/ eye protection/ face protection. IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower. Store in a well-ventilated place. Keep cool. Dispose of contents/container in accordance with local regulations.

Other hazards which do not result in classification
None known.

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity:
7.4 %

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3. Composition/information on ingredients

Mixture of synthetic resins, pigments, and solvents

Components

CAS-No.	Chemical Name	Concentration	GHS Hazardous
13463-67-7	Titanium dioxide	37.2%	
No information available.	Acrylic polymer	10 - 20%	
69153-52-2	Polyester resin	5 - 10%	
67-64-1	Acetone	4 - 15%	√
123-86-4	Butyl acetate	4 - 15%	√
110-43-0	Methyl amyl ketone	4 - 15%	√
No information available.	Acrylic resin	1 - 5%	
21645-51-2	Aluminum hydroxide	1 - 5%	
7631-86-9	Amorphous silica	1 - 5%	
763-69-9	Ethyl 3-ethoxy propionate	1 - 4%	√
141-78-6	Ethyl acetate	1 - 4%	√
78-93-3	Methyl ethyl ketone	1 - 4%	√

OSHA Hazardous: Yes
* Assigned CAS No. - An official CAS No. does not exist. The CAS No. shown is for a similar chemical.

4. First aid measures

Eye contact
Remove contact lenses. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Seek medical advice.

Skin contact
Do NOT use solvents or thinners. Take off all contaminated clothing immediately. Wash skin thoroughly with soap and water or use recognized skin cleanser. If skin irritation persists, call a physician.

Inhalation
Avoid inhalation of vapour or mist. Move to fresh air in case of accidental inhalation of vapours. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

Ingestion
If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting. Keep at rest.

Most Important Symptoms/effects, acute and delayed

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Inhalation
Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Indication of immediate medical attention and special treatment needed if necessary
No data available on the product. See section 3 and 11 for hazardous ingredients found in the product.

5. Firefighting measures

Suitable extinguishing media
Extinguishing media which shall not be used for safety reasons
High volume water jet

Hazardous combustion products
CO, CO2, smoke, and oxides of any heavy metals that are reported in "Composition, Information on Ingredients" section.

Fire and Explosion Hazards
Combustible liquid. When heated above the flashpoint, emits vapors which, when mixed with air, will burn if an ignition source is present. Fine mist or sprays could ignite at temperatures below the flashpoint.

Special Protective Equipment and Fire Fighting Procedures
Full protective flameproof clothing should be worn as appropriate. Wear self contained breathing apparatus for fire fighting if necessary. In the event of fire, cool tanks with water spray. Do not allow run-off from fire fighting to enter public sewer systems or public waterways.

6. Accidental release measures

Procedures for cleaning up spills or leaks
Ventilate area. If heated above the flashpoint, remove sources of ignition. Prevent skin and eye contact and breathing of vapor. Wear a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C), eye protection, gloves and protective clothing. Confine, remove with inert absorbent, and dispose of properly.

Environmental precautions
Do not let product enter drains. Notify the respective authorities in accordance with local law in the case of contamination of rivers, lakes or waste water systems.

7. Handling and storage

Precautions for safe handling
Observe label precautions. Keep away from heat, flame and other sources of ignition. When heated above its flash point, this must be handled as if it were a flammable liquid. Close container after each use. Do not transfer contents to bottles or unlabeled containers. Wash thoroughly after handling and before eating or smoking.
If material is a coating: do not sand, flame cut, braze or weld dry coating without a NIOSH approved air purifying respirator with particulate filters or appropriate ventilation, and gloves. Combustible dust clouds may be created where operations produce fine material (dust). Avoid formation of significant deposits of material as they may become airborne and form combustible dust clouds. Build up of fine material should be cleaned using gentle sweeping or vacuuming in accordance with best practices. Cleaning methods (e.g. compressed air) which can generate potentially combustible dust clouds should not be used.

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Advice on protection against fire and explosion
Solvent vapours are heavier than air and may spread along floors. Vapors may form explosive mixtures with air and will burn when an ignition source is present. Always keep in containers of same material as the original one. Never use pressure to empty container: container is not a pressure vessel. The accumulation of contaminated rags may result in spontaneous combustion. Good housekeeping standards and regular safe removal of waste materials will minimize the risks of spontaneous combustion and other fire hazards.

Storage
Requirements for storage areas and containers
Observe label precautions. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. No smoking. Prevent unauthorized access. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Advice on common storage
Store separately from oxidizing agents and strongly alkaline and strongly acidic materials.

OSHA/NFPA Storage Classification: II

8. Exposure controls/personal protection

Engineering controls and work practices
Provide adequate ventilation. This should be achieved by a good general extraction and -if practically feasible- by the use of a local exhaust ventilation. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn.

National occupational exposure limits

CAS-No.	Chemical Name	Source	Time	Type	Value	Note
13463-67-7	Titanium dioxide	OSHA	8 hr	TWA	15 mg/m3	Total Dust
		Dupont	8 & 12 hour	TWA	10 mg/m3	Total Dust
			8 & 12 hour	TWA	5 mg/m3	Respirable Dust
67-64-1	Acetone	ACGIH	15 min	STEL	750 ppm	
			8 hr	TWA	500 ppm	
		OSHA	8 hr	TWA	1,000 ppm	
		Dupont	8 & 12 hour	TWA	500 ppm	
123-86-4	Butyl acetate	ACGIH	15 min	STEL	200 ppm	
			8 hr	TWA	150 ppm	
		OSHA	8 hr	TWA	150 ppm	
110-43-0	Methyl amyl ketone	ACGIH	8 hr	TWA	50 ppm	
		OSHA	8 hr	TWA	100 ppm	
21645-51-2	Aluminum hydroxide	ACGIH	8 hr	TWA	1 mg/m3	
7631-86-9	Amorphous silica	ACGIH	8 hr	TWA	3 mg/m3	Respirable Dust
		OSHA	8 hr	TWA	20 mppcf	

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CAS-No.	Chemical Name	Source	Time	Type	Value	Note
		Dupont	8 hr	PEL	3 mg/m3	
			8 hr	TWA	6 mg/m3	
141-78-6	Ethyl acetate	ACGIH	8 hr	TWA	400 ppm	
		OSHA	8 hr	TWA	400 ppm	
78-93-3	Methyl ethyl ketone	ACGIH	15 min	STEL	300 ppm	
			8 hr	TWA	200 ppm	
		OSHA	8 hr	TWA	200 ppm	
		Dupont	15 min	TWA	300 ppm	
			8 & 12 hour	TWA	200 ppm	

** TWA = Time-weighted average.
STEL = Short term exposure limit.
PEL = Permissible Exposure Limit.

Protective equipment
Personal protective equipment should be worn to prevent contact with eyes, skin or clothing.

Respiratory protection
Do not breathe vapors or mists. Wear an appropriate, properly fitted NIOSH approved respirator during application and until all vapors and spray mists are exhausted unless air monitoring demonstrates vapor/mist levels are below applicable limits. If respirators are required, use a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C) and particulate filter (NIOSH TC-84A). In confined spaces, or in situations where continuous spray operations are typical, or if proper air-purifying respirator fit is not possible, wear a positive pressure, supplied-air respirator (NIOSH TC-19C). In all cases, follow respirator manufacturer's directions for respirator use.'

Eye protection
Desirable in all industrial situations. Goggles are preferred to prevent eye irritation. If safety glasses are substituted, include splash guard or side shields.

Skin and body protection
Neoprene gloves and coveralls are recommended.

Hygiene measures
Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Environmental exposure controls
Do not let product enter drains. For ecological information, refer to Ecological Information Section 12.

9. Physical and chemical properties

Appearance

Form: liquid Colour:

Flash point	104 °F

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Ignition temperature	377 °C	
Lower Explosive Limit	1.1 %	
Upper Explosive Limit	10.3 %	
Evapouration rate	Slower than Ether	
Vapor pressure of principal solvent	19.1 hPa	
Water solubility	moderate	
Vapor density of principal solvent (Air = 1)	4	
Approx. Boiling Range	152 °C	
Approx. Freezing Range	Not applicable.	
Gallon Weight (lbs/gal)	11.46	
Specific Gravity	1.37	
Percent Volatile By Volume	54.89%	
Percent Volatile By Weight	34.06%	
Percent Solids By Volume	45.11%	
Percent Solids By Weight	65.94%	
pH (waterborne systems only)	Not applicable.	
Partition coefficient: n-octanol/water	no data available	
Ignition temperature	377 °C	DIN 51794
Decomposition temperature		
Viscosity (23 °C)	Not applicable.	ISO 2431-1993
VOC* less exempt (lbs/gal)	3.7	
VOC* as packaged (lbs/gal)	3.4	

* VOC less exempt (theoretical) and VOC as packaged (theoretical) are based upon the VOC of the packaged material at the point of manufacture.

10. Stability and reactivity

Stability
Stable

Conditions to avoid
Stable under recommended storage conditions.

Materials to avoid
None reasonably foreseeable.

Hazardous decomposition products
When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen.

Hazardous Polymerization
Will not occur.

Sensitivity to Static Discharge
If heated above the flash point, solvent vapors in air may explode if static grounding and bonding is not used during transfer of this product.

Sensitivity to Mechanical Impact
None known.

11. Toxicological information

Information on likely routes of exposure

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Inhalation
Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Delayed and immediate effects and also chronic effects from short and long term exposure:

Acute oral toxicity
not hazardous

Acute dermal toxicity
not hazardous

Acute inhalation toxicity
not hazardous

% of unknown composition 7.4 %

Skin corrosion/irritation
Not classified according to GHS criteria

Serious eye damage/eye irritation
Not classified according to GHS criteria

Respiratory sensitisation
Not classified according to GHS criteria

Skin sensitisation
Not classified according to GHS criteria

Germ cell mutagenicity
Not classified according to GHS criteria

Carcinogenicity
Not classified according to GHS criteria

Toxicity for reproduction
Not classified according to GHS criteria

Target Organ Systemic Toxicant - Single exposure
Not classified according to GHS criteria

Target Organ Systemic Toxicant - Repeated exposure
Not classified according to GHS criteria

Aspiration toxicity
Not classified according to GHS criteria

Numerical measures of toxicity (acute toxicity estimation (ATE),etc.)
No information available.

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Symptoms related to the physical, chemical and toxicological characteristics
Exposure to component solvents vapours concentration in excess of the stated occupational exposure limit may result in adverse health effect such as mucous membrane and respiratory system irritation and adverse effect on kidney, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Through skin resorbtion, solvents can cause some of the effects described here. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin. The liquid splashed in the eyes may cause irritation and reversible damage.

Whether the hazardous chemical is listed by NTP, IARC or OSHA

Titanium dioxide IARC 2B

12. Ecological information

There are no data available on the product itself. The product should not be allowed to enter drains or watercourses.

13. Disposal considerations

Waste Disposal Method
Do not allow material to contaminate ground water systems. Incinerate or otherwise dispose of waste material in accordance with Federal, State, Provincial, and local requirements. Do not incinerate in closed containers.

14. Transport information

International transport regulations

IMDG (Sea transport)

UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III
Marine Pollutant:	no

ICAO/IATA (Air transport)

UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III

DOT

UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III
Marine Pollutant:	no
EmS:	F-E,S-E

Matters needing attention for transportation
Confirm that there is no breakage, corrosion, or leakage from the container before shipping. Be sure to prevent damage to cargo by loading so as to avoid falling, dropping, or collapse. Ship in appropriate containers with denotation of the content in accordance with the relevant statutes and rules.

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15. Regulatory information

TSCA Status
In compliance with TSCA Inventory requirements for commercial purposes.

DSL Status
Product is not DSL listed because one or more ingredients are not on the DSL inventory.

Photochemical Reactivity
Non-photochemically reactive

Regulatory information

		EPCRA					CERCLA	CAA
CAS #	Ingredient	302	TPQ	RQ	311 - 312	313	RQ(lbs)	HAP
13463-67-7	Titanium dioxide	N	NR	NR	,A,C,F,N,R	N	NR	N
No information available.	Acrylic polymer	N	NR	NR	NA	N	NR	N
69153-52-2	Polyester resin	N	NR	NR	NA	N	NR	N
67-64-1	Acetone	N	NR	NR	A,C,F	N	5,000	N
123-86-4	Butyl acetate	N	NR	NR	A,C,F	N	NR	N
110-43-0	Methyl amyl ketone	N	NR	NR	A,C,F	N	NR	N
No information available.	Acrylic resin	N	NR	NR	NA	N	NR	N
21645-51-2	Aluminum hydroxide	N	NR	NR	,A,C,F,N,R	N	NR	N
7631-86-9	Amorphous silica	N	NR	NR	,A,C,F,N,R	N	NR	N
763-69-9	Ethyl 3-ethoxy propionate	N	NR	NR	NA	N	NR	N
141-78-6	Ethyl acetate	N	NR	NR	C,F	N	NR	N
78-93-3	Methyl ethyl ketone	N	NR	NR	A,C,F	N	5,000	N

Key:

EPCRA	Emergency Planning and Community Right-to-know Act (aka Title III, SARA)
302	Extremely hazardous substances
311/312 Categories	F = Fire Hazard R = Reactivity Hazard P = Pressure Related Hazard A = Acute Hazard C = Chronic Hazard
313 Information	Section 313 Supplier Notification - The chemicals listed above with a 'Y' in the 313 column are subject to reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know act of 1986 and of 40 CFR 372.
CERCLA	Comprehensive Emergency Response, Compensation and Liability Act of 1980.
HAP	Listed as a Clean Air Act Hazardous Air Pollutant.
TPQ	Threshold Planning Quantity.
RQ	Reportable Quantity
NA	not available
NR	not regulated

16. Other information

HMIS rating H: 2 F: 2 R: 0

Glossary of Terms:

ACGIH	American Conference of Governmental Industrial Hygienists.
IARC	International Agency for Research on Cancer.

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NTP	National Toxicology Program.
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration.
STEL	Short term exposure limit.
TWA	Time-weighted average.
PNOR	Particles not otherwise regulated.
PNOC	Particles not otherwise classified.

NOTE: The list (above) of glossary terms may be modified.

Notice from Axalta Coating Systems
The document reflects information provided to Axalta Coating Systems by its suppliers. Information is accurate to the best of our knowledge and is subject to change as new data is received by Axalta Coating Systems. Persons receiving this information should make their own determination as to its suitability for their purposes prior to use. The information on this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.
SDS prepared by:
Axalta Coating Systems Regulatory Affairs
Report version

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1. Identification of the substance/mixture and of the company/undertaking

Product name	COLOR ATLAS BLACK	
Product code	CAS993	
Intended use	Coating for professional use	
	Axalta Coating Systems, LLC Applied Corporate Center 50 Applied Card Way, Suite 300 US Glen Mills, PA 19342	
Telephone	Product information	(855) 6-AXALTA
	Medical emergency	(855) 274-5698
	Transportation emergency	(800) 424-9300 (CHEMTREC)

2. Hazards identification

This preparation is hazardous per the following GHS criteria

GHS-Classification

Flammable liquids	Category 3
Serious eye damage/eye irritation	Category 2A

Endpoints which are ""not classified"", ""cannot classified"" and ""not applicable"" are not shown

GHS-Labelling

Hazard symbols	
Signal word	Warning
Hazard statements	Flammable liquid and vapour. Causes serious eye irritation.
Precautionary statements	Wear eye protection/ face protection. Ground/bond container and receiving equipment. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Take precautionary measures against static discharge. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Wear protective gloves/ eye protection/ face protection. If eye irritation persists: Get medical advice/ attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower. Store in a well-ventilated place. Keep cool. Dispose of contents/container in accordance with local regulations.

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Other hazards which do not result in classification
None known.

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity:
13.5 %

3. Composition/information on ingredients

Mixture of synthetic resins, pigments, and solvents

Components

CAS-No.	Chemical Name	Concentration	GHS Hazardous
No information available.	Acrylic polymer	20 - 30%	
69153-52-2	Polyester resin	10 - 20%	
67-64-1	Acetone	4 - 15%	√
123-86-4	Butyl acetate	4 - 15%	√
141-78-6	Ethyl acetate	4 - 15%	√
110-43-0	Methyl amyl ketone	4 - 15%	√
78-93-3	Methyl ethyl ketone	4 - 15%	√
No information available.	Acrylic resin	1 - 5%	
92797-60-9	Amorphous silica	1 - 5%	
763-69-9	Ethyl 3-ethoxy propionate	1 - 4%	√
67-63-0	Isopropyl alcohol	1 - 4%	√
169276-18-0*	Synthetic resin	1 - 5%	
13463-67-7	Titanium dioxide	1.7%	
1333-86-4	Carbon black	0.8%	

OSHA Hazardous: Yes
* Assigned CAS No. - An official CAS No. does not exist. The CAS No. shown is for a similar chemical.

4. First aid measures

Eye contact
Remove contact lenses. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Seek medical advice.

Skin contact
Do NOT use solvents or thinners. Take off all contaminated clothing immediately. Wash skin thoroughly with soap and water or use recognized skin cleanser. If skin irritation persists, call a physician.

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Inhalation
Avoid inhalation of vapour or mist. Move to fresh air in case of accidental inhalation of vapours. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

Ingestion
If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting. Keep at rest.

Most Important Symptoms/effects, acute and delayed

Inhalation
Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Indication of immediate medical attention and special treatment needed if necessary
No data available on the product. See section 3 and 11 for hazardous ingredients found in the product.

5. Firefighting measures

Suitable extinguishing media
Extinguishing media which shall not be used for safety reasons
High volume water jet

Hazardous combustion products
CO, CO2, smoke, and oxides of any heavy metals that are reported in "Composition, Information on Ingredients" section.

Fire and Explosion Hazards
Combustible liquid. When heated above the flashpoint, emits vapors which, when mixed with air, will burn if an ignition source is present. Fine mist or sprays could ignite at temperatures below the flashpoint.

Special Protective Equipment and Fire Fighting Procedures
Full protective flameproof clothing should be worn as appropriate. Wear self contained breathing apparatus for fire fighting if necessary. In the event of fire, cool tanks with water spray. Do not allow run-off from fire fighting to enter public sewer systems or public waterways.

6. Accidental release measures

Procedures for cleaning up spills or leaks
Ventilate area. If heated above the flashpoint, remove sources of ignition. Prevent skin and eye contact and breathing of vapor. Wear a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C), eye protection, gloves and protective clothing. Confine, remove with inert absorbent, and dispose of properly.

Environmental precautions
Do not let product enter drains. Notify the respective authorities in accordance with local law in the case of contamination of rivers, lakes or waste water systems.

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7. Handling and storage

Precautions for safe handling
Observe label precautions. Keep away from heat, flame and other sources of ignition. When heated above its flash point, this must be handled as if it were a flammable liquid. Close container after each use. Do not transfer contents to bottles or unlabeled containers. Wash thoroughly after handling and before eating or smoking.
If material is a coating: do not sand, flame cut, braze or weld dry coating without a NIOSH approved air purifying respirator with particulate filters or appropriate ventilation, and gloves. Combustible dust clouds may be created where operations produce fine material (dust). Avoid formation of significant deposits of material as they may become airborne and form combustible dust clouds. Build up of fine material should be cleaned using gentle sweeping or vacuuming in accordance with best practices. Cleaning methods (e.g. compressed air) which can generate potentially combustible dust clouds should not be used.

Advice on protection against fire and explosion
Solvent vapours are heavier than air and may spread along floors. Vapors may form explosive mixtures with air and will burn when an ignition source is present. Always keep in containers of same material as the original one. Never use pressure to empty container: container is not a pressure vessel. The accumulation of contaminated rags may result in spontaneous combustion. Good housekeeping standards and regular safe removal of waste materials will minimize the risks of spontaneous combustion and other fire hazards.

Storage
Requirements for storage areas and containers
Observe label precautions. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. No smoking. Prevent unauthorized access. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Advice on common storage
Store separately from oxidizing agents and strongly alkaline and strongly acidic materials.

OSHA/NFPA Storage Classification: II

8. Exposure controls/personal protection

Engineering controls and work practices
Provide adequate ventilation. This should be achieved by a good general extraction and -if practically feasible- by the use of a local exhaust ventilation. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn.

National occupational exposure limits

CAS-No.	Chemical Name	Source	Time	Type	Value	Note
67-64-1	Acetone	ACGIH	15 min	STEL	750 ppm	
			8 hr	TWA	500 ppm	
		OSHA	8 hr	TWA	1,000 ppm	
		Dupont	8 & 12 hour	TWA	500 ppm	
123-86-4	Butyl acetate	ACGIH	15 min	STEL	200 ppm	
			8 hr	TWA	150 ppm	
		OSHA	8 hr	TWA	150 ppm	
141-78-6	Ethyl acetate	ACGIH	8 hr	TWA	400 ppm	
		OSHA	8 hr	TWA	400 ppm	
110-43-0	Methyl amyl ketone	ACGIH	8 hr	TWA	50 ppm	

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CAS-No.	Chemical Name	Source	Time	Type	Value	Note
		OSHA	8 hr	TWA	100 ppm	
78-93-3	Methyl ethyl ketone	ACGIH	15 min	STEL	300 ppm	
			8 hr	TWA	200 ppm	
		OSHA	8 hr	TWA	200 ppm	
		Dupont	15 min	TWA	300 ppm	
			8 & 12 hour	TWA	200 ppm	
92797-60-9	Amorphous silica	ACGIH	8 hr	TWA	2 mg/m3	Respirable Dust
		OSHA	15 min	STEL	1 mg/m3	
		Dupont	8 hr	TWA	1 mg/m3	
13463-67-7	Titanium dioxide	OSHA	8 hr	TWA	15 mg/m3	Total Dust
		Dupont	8 & 12 hour	TWA	10 mg/m3	Total Dust
			8 & 12 hour	TWA	5 mg/m3	Respirable Dust
1333-86-4	Carbon black	ACGIH	8 hr	TWA	3 mg/m3	
		OSHA	8 hr	TWA	3.5 mg/m3	
		Dupont	8 & 12 hour	TWA	0.5 mg/m3	

** STEL = Short term exposure limit.
TWA = Time-weighted average.

Protective equipment
Personal protective equipment should be worn to prevent contact with eyes, skin or clothing.

Respiratory protection
Do not breathe vapors or mists. Wear an appropriate, properly fitted NIOSH approved respirator during application and until all vapors and spray mists are exhausted unless air monitoring demonstrates vapor/mist levels are below applicable limits. If respirators are required, use a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C) and particulate filter (NIOSH TC-84A). In confined spaces, or in situations where continuous spray operations are typical, or if proper air-purifying respirator fit is not possible, wear a positive pressure, supplied-air respirator (NIOSH TC-19C). In all cases, follow respirator manufacturer's directions for respirator use.'

Eye protection
Desirable in all industrial situations. Goggles are preferred to prevent eye irritation. If safety glasses are substituted, include splash guard or side shields.

Skin and body protection
Neoprene gloves and coveralls are recommended.

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Hygiene measures
Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Environmental exposure controls
Do not let product enter drains. For ecological information, refer to Ecological Information Section 12.

9. Physical and chemical properties

Appearance

Form: liquid Colour:

Flash point	104 °F	
Ignition temperature	377 °C	
Lower Explosive Limit	1.1 %	
Upper Explosive Limit	12.8 %	
Evapouration rate	Slower than Ether	
Vapor pressure of principal solvent	31.0 hPa	
Water solubility	appreciable	
Vapor density of principal solvent (Air = 1)	3.9	
Approx. Boiling Range	152 °C	
Approx. Freezing Range	Not applicable.	
Gallon Weight (lbs/gal)	8.2	
Specific Gravity	0.98	
Percent Volatile By Volume	56.73%	
Percent Volatile By Weight	48.47%	
Percent Solids By Volume	43.27%	
Percent Solids By Weight	51.53%	
pH (waterborne systems only)	Not applicable.	
Partition coefficient: n-octanol/water	no data available	
Ignition temperature	377 °C	DIN 51794
Decomposition temperature		
Viscosity (23 °C)	Not applicable.	ISO 2431-1993
VOC* less exempt (lbs/gal)	3.7	
VOC* as packaged (lbs/gal)	3.3	

* VOC less exempt (theoretical) and VOC as packaged (theoretical) are based upon the VOC of the packaged material at the point of manufacture.

10. Stability and reactivity

Stability
Stable

Conditions to avoid
Stable under recommended storage conditions.

Materials to avoid
None reasonably foreseeable.

Hazardous decomposition products
When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen.

Hazardous Polymerization
Will not occur.

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Sensitivity to Static Discharge
If heated above the flash point, solvent vapors in air may explode if static grounding and bonding is not used during transfer of this product.

Sensitivity to Mechanical Impact
None known.

11. Toxicological information

Information on likely routes of exposure

Inhalation
Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Delayed and immediate effects and also chronic effects from short and long term exposure:

Acute oral toxicity
not hazardous

Acute dermal toxicity
not hazardous

Acute inhalation toxicity
not hazardous

% of unknown composition 13.5 %

Skin corrosion/irritation
Not classified according to GHS criteria

Serious eye damage/eye irritation

acetone	Category 2A
ethyl acetate	Category 2A
heptan-2-one	Category 2B
butanone	Category 2A
propan-2-ol	Category 2A

Respiratory sensitisation
Not classified according to GHS criteria

Skin sensitisation
Not classified according to GHS criteria

Germ cell mutagenicity
Not classified according to GHS criteria

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Carcinogenicity
Not classified according to GHS criteria

Toxicity for reproduction
Not classified according to GHS criteria

Target Organ Systemic Toxicant - Single exposure
Not classified according to GHS criteria

Target Organ Systemic Toxicant - Repeated exposure
Not classified according to GHS criteria

Aspiration toxicity
Not classified according to GHS criteria

Numerical measures of toxicity (acute toxicity estimation (ATE),etc.)
No information available.

Symptoms related to the physical, chemical and toxicological characteristics
Exposure to component solvents vapours concentration in excess of the stated occupational exposure limit may result in adverse health effect such as mucous membrane and respiratory system irritation and adverse effect on kidney, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Through skin resorbtion, solvents can cause some of the effects described here. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin. The liquid splashed in the eyes may cause irritation and reversible damage.

Whether the hazardous chemical is listed by NTP, IARC or OSHA

Titanium dioxide	IARC 2B
carbon black	IARC 2B

12. Ecological information

There are no data available on the product itself. The product should not be allowed to enter drains or watercourses.

13. Disposal considerations

Waste Disposal Method
Do not allow material to contaminate ground water systems. Incinerate or otherwise dispose of waste material in accordance with Federal, State, Provincial, and local requirements. Do not incinerate in closed containers.

14. Transport information

International transport regulations

IMDG (Sea transport)

UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III
Marine Pollutant:	no

ICAO/IATA (Air transport)

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UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III

DOT

UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III
Marine Pollutant:	no
EmS:	F-E,S-E

Matters needing attention for transportation
Confirm that there is no breakage, corrosion, or leakage from the container before shipping. Be sure to prevent damage to cargo by loading so as to avoid falling, dropping, or collapse. Ship in appropriate containers with denotation of the content in accordance with the relevant statutes and rules.

15. Regulatory information

TSCA Status
In compliance with TSCA Inventory requirements for commercial purposes.

DSL Status
Product is not DSL listed because one or more ingredients are not on the DSL inventory.

Photochemical Reactivity
Non-photochemically reactive

US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)
WARNING! This product contains a chemical known to the State of California to cause cancer.

Regulatory information

		EPCRA					CERCLA	CAA
CAS #	Ingredient	302	TPQ	RQ	311 - 312	313	RQ(lbs)	HAP
No information available.	Acrylic polymer	N	NR	NR	NA	N	NR	N
69153-52-2	Polyester resin	N	NR	NR	NA	N	NR	N
67-64-1	Acetone	N	NR	NR	A,C,F	N	5,000	N
123-86-4	Butyl acetate	N	NR	NR	A,C,F	N	NR	N
141-78-6	Ethyl acetate	N	NR	NR	C,F	N	NR	N
110-43-0	Methyl amyl ketone	N	NR	NR	A,C,F	N	NR	N
78-93-3	Methyl ethyl ketone	N	NR	NR	A,C,F	N	5,000	N
No information available.	Acrylic resin	N	NR	NR	NA	N	NR	N
92797-60-9	Amorphous silica	N	NR	NR	,A,C,F,N,R	N	NR	N
763-69-9	Ethyl 3-ethoxy propionate	N	NR	NR	NA	N	NR	N
67-63-0	Isopropyl alcohol	N	NR	NR	,A,C,F,N,R	N	NR	N
169276-18-0*	Synthetic resin	N	NR	NR	NA	N	NR	N
13463-67-7	Titanium dioxide	N	NR	NR	,A,C,F,N,R	N	NR	N
1333-86-4	Carbon black	N	NR	NR	,A,C,F,N,R	N	NR	N

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Key:

EPCRA	Emergency Planning and Community Right-to-know Act (aka Title III, SARA)
302	Extremely hazardous substances
311/312 Categories	F = Fire Hazard R = Reactivity Hazard P = Pressure Related Hazard A = Acute Hazard C = Chronic Hazard
313 Information	Section 313 Supplier Notification - The chemicals listed above with a 'Y' in the 313 column are subject to reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know act of 1986 and of 40 CFR 372.
CERCLA	Comprehensive Emergency Response, Compensation and Liability Act of 1980.
HAP	Listed as a Clean Air Act Hazardous Air Pollutant.
TPQ	Threshold Planning Quantity.
RQ	Reportable Quantity
NA	not available
NR	not regulated

16. Other information

HMIS rating H: 2 F: 2 R: 0

Glossary of Terms:

ACGIH	American Conference of Governmental Industrial Hygienists.
IARC	International Agency for Research on Cancer.
NTP	National Toxicology Program.
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration.
STEL	Short term exposure limit.
TWA	Time-weighted average.
PNOR	Particles not otherwise regulated.
PNOC	Particles not otherwise classified.

NOTE: The list (above) of glossary terms may be modified.

Notice from Axalta Coating Systems
The document reflects information provided to Axalta Coating Systems by its suppliers. Information is accurate to the best of our knowledge and is subject to change as new data is received by Axalta Coating Systems. Persons receiving this information should make their own determination as to its suitability for their purposes prior to use. The information on this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.
SDS prepared by:
Axalta Coating Systems Regulatory Affairs
Report version

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1. Identification of the substance/mixture and of the company/undertaking

Product name	COLOR ATLAS RED	
Product code	CAS1037	
Intended use	Coating for professional use	
	Axalta Coating Systems, LLC Applied Corporate Center 50 Applied Card Way, Suite 300 US Glen Mills, PA 19342	
Telephone	Product information Medical emergency Transportation emergency	(855) 6-AXALTA (855) 274-5698 (800) 424-9300 (CHEMTREC)

2. Hazards identification

This preparation is hazardous per the following GHS criteria

GHS-Classification

Flammable liquids	Category 3
Serious eye damage/eye irritation	Category 2A

Endpoints which are ""not classified"", ""cannot classified"" and ""not applicable"" are not shown

GHS-Labelling

Hazard symbols	
Signal word	Warning
Hazard statements	Flammable liquid and vapour. Causes serious eye irritation.
Precautionary statements	Wear eye protection/ face protection. Ground/bond container and receiving equipment. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Take precautionary measures against static discharge. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Wear protective gloves/ eye protection/ face protection. If eye irritation persists: Get medical advice/ attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower. Store in a well-ventilated place. Keep cool. Dispose of contents/container in accordance with local regulations.

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Other hazards which do not result in classification
None known.

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity:
14.1 %

3. Composition/information on ingredients

Mixture of synthetic resins, pigments, and solvents

Components

CAS-No.	Chemical Name	Concentration	GHS Hazardous
No information available.	Acrylic polymer	20 - 30%	
123-86-4	Butyl acetate	15 - 26%	√
84632-65-5	C.i. pigment red 254	5 - 10%	
12236-62-3	Monoazo pigment	5 - 10%	
69153-52-2	Polyester resin	5 - 10%	
67-64-1	Acetone	4 - 15%	√
110-43-0	Methyl amyl ketone	4 - 15%	√
13463-67-7	Titanium dioxide	3.0%	
No information available.	Acrylic resin	1 - 5%	
763-69-9	Ethyl 3-ethoxy propionate	1 - 4%	√
141-78-6	Ethyl acetate	1 - 4%	√
67-63-0	Isopropyl alcohol	1 - 4%	√
78-93-3	Methyl ethyl ketone	1 - 4%	√
169276-18-0*	Synthetic resin	1 - 5%	

OSHA Hazardous: Yes
* Assigned CAS No. - An official CAS No. does not exist. The CAS No. shown is for a similar chemical.

4. First aid measures

Eye contact
Remove contact lenses. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Seek medical advice.

Skin contact
Do NOT use solvents or thinners. Take off all contaminated clothing immediately. Wash skin thoroughly with soap and water or use recognized skin cleanser. If skin irritation persists, call a physician.

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Inhalation
Avoid inhalation of vapour or mist. Move to fresh air in case of accidental inhalation of vapours. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

Ingestion
If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting. Keep at rest.

Most Important Symptoms/effects, acute and delayed

Inhalation
Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Indication of Immediate medical attention and special treatment needed if necessary
No data available on the product. See section 3 and 11 for hazardous ingredients found in the product.

5. Firefighting measures

Suitable extinguishing media
Extinguishing media which shall not be used for safety reasons
High volume water jet

Hazardous combustion products
CO, CO2, smoke, and oxides of any heavy metals that are reported in "Composition, Information on Ingredients" section.

Fire and Explosion Hazards
Combustible liquid. When heated above the flashpoint, emits vapors which, when mixed with air, will burn if an ignition source is present. Fine mist or sprays could ignite at temperatures below the flashpoint.

Special Protective Equipment and Fire Fighting Procedures
Full protective flameproof clothing should be worn as appropriate. Wear self contained breathing apparatus for fire fighting if necessary. In the event of fire, cool tanks with water spray. Do not allow run-off from fire fighting to enter public sewer systems or public waterways.

6. Accidental release measures

Procedures for cleaning up spills or leaks
Ventilate area. If heated above the flashpoint, remove sources of ignition. Prevent skin and eye contact and breathing of vapor. Wear a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C), eye protection, gloves and protective clothing. Confine, remove with inert absorbent, and dispose of properly.

Environmental precautions
Do not let product enter drains. Notify the respective authorities in accordance with local law in the case of contamination of rivers, lakes or waste water systems.

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7. Handling and storage

Precautions for safe handling
Observe label precautions. Keep away from heat, flame and other sources of ignition. When heated above its flash point, this must be handled as if it were a flammable liquid. Close container after each use. Do not transfer contents to bottles or unlabeled containers. Wash thoroughly after handling and before eating or smoking.
If material is a coating: do not sand, flame cut, braze or weld dry coating without a NIOSH approved air purifying respirator with particulate filters or appropriate ventilation, and gloves. Combustible dust clouds may be created where operations produce fine material (dust). Avoid formation of significant deposits of material as they may become airborne and form combustible dust clouds. Build up of fine material should be cleaned using gentle sweeping or vacuuming in accordance with best practices. Cleaning methods (e.g. compressed air) which can generate potentially combustible dust clouds should not be used.

Advice on protection against fire and explosion
Solvent vapours are heavier than air and may spread along floors. Vapors may form explosive mixtures with air and will burn when an ignition source is present. Always keep in containers of same material as the original one. Never use pressure to empty container: container is not a pressure vessel. The accumulation of contaminated rags may result in spontaneous combustion. Good housekeeping standards and regular safe removal of waste materials will minimize the risks of spontaneous combustion and other fire hazards.

Storage
Requirements for storage areas and containers
Observe label precautions. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. No smoking. Prevent unauthorized access. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Advice on common storage
Store separately from oxidizing agents and strongly alkaline and strongly acidic materials.

OSHA/NFPA Storage Classification: II

8. Exposure controls/personal protection

Engineering controls and work practices
Provide adequate ventilation. This should be achieved by a good general extraction and -if practically feasible- by the use of a local exhaust ventilation. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn.

National occupational exposure limits

CAS-No.	Chemical Name	Source	Time	Type	Value	Note
123-86-4	Butyl acetate	ACGIH	15 min	STEL	200 ppm	
			8 hr	TWA	150 ppm	
		OSHA	8 hr	TWA	150 ppm	
12236-62-3	Monoazo pigment	ACGIH	8 hr	TWA	10 mg/m3	inhalable dust particulate
		OSHA	8 hr	TWA	15 mg/m3	Total Dust
			8 hr	TWA	5 mg/m3	Respirable Dust
67-64-1	Acetone	ACGIH	15 min	STEL	750 ppm	
			8 hr	TWA	500 ppm	
		OSHA	8 hr	TWA	1,000 ppm	

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CAS-No.	Chemical Name	Source	Time	Type	Value	Note
		Dupont	8 & 12 hour	TWA	500 ppm	
110-43-0	Methyl amyl ketone	ACGIH	8 hr	TWA	50 ppm	
		OSHA	8 hr	TWA	100 ppm	
13463-67-7	Titanium dioxide	OSHA	8 hr	TWA	15 mg/m3	Total Dust
		Dupont	8 & 12 hour	TWA	10 mg/m3	Total Dust
			8 & 12 hour	TWA	5 mg/m3	Respirable Dust
141-78-6	Ethyl acetate	ACGIH	8 hr	TWA	400 ppm	
		OSHA	8 hr	TWA	400 ppm	
78-93-3	Methyl ethyl ketone	ACGIH	15 min	STEL	300 ppm	
			8 hr	TWA	200 ppm	
		OSHA	8 hr	TWA	200 ppm	
		Dupont	15 min	TWA	300 ppm	
			8 & 12 hour	TWA	200 ppm	

** STEL = Short term exposure limit.
TWA = Time-weighted average.

Protective equipment
Personal protective equipment should be worn to prevent contact with eyes, skin or clothing.

Respiratory protection
Do not breathe vapors or mists. Wear an appropriate, properly fitted NIOSH approved respirator during application and until all vapors and spray mists are exhausted unless air monitoring demonstrates vapor/mist levels are below applicable limits. If respirators are required, use a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C) and particulate filter (NIOSH TC-84A). In confined spaces, or in situations where continuous spray operations are typical, or if proper air-purifying respirator fit is not possible, wear a positive pressure, supplied-air respirator (NIOSH TC-19C). In all cases, follow respirator manufacturer's directions for respirator use.'

Eye protection
Desirable in all industrial situations. Goggles are preferred to prevent eye irritation. If safety glasses are substituted, include splash guard or side shields.

Skin and body protection
Neoprene gloves and coveralls are recommended.

Hygiene measures
Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Environmental exposure controls
Do not let product enter drains. For ecological information, refer to Ecological Information Section 12.

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9. Physical and chemical properties

Appearance

Form: liquid Colour:

Flash point	104 °F	
Ignition temperature	320 °C	
Lower Explosive Limit	1.1 %	
Upper Explosive Limit	12.8 %	
Evapouration rate	Slower than Ether	
Vapor pressure of principal solvent	24.5 hPa	
Water solubility	appreciable	
Vapor density of principal solvent (Air = 1)	4	
Approx. Boiling Range	152 °C	
Approx. Freezing Range	Not applicable.	
Gallon Weight (lbs/gal)	8.68	
Specific Gravity	1.04	
Percent Volatile By Volume	54.74%	
Percent Volatile By Weight	44.49%	
Percent Solids By Volume	45.26%	
Percent Solids By Weight	55.51%	
pH (waterborne systems only)	Not applicable.	
Partition coefficient: n-octanol/water	no data available	
Ignition temperature	320 °C	DIN 51794
Decomposition temperature		
Viscosity (23 °C)	Not applicable.	ISO 2431-1993
VOC* less exempt (lbs/gal)	3.6	
VOC* as packaged (lbs/gal)	3.4	
VOC LE (TBAC)	3.6	
VOC AP (TBAC)	3.4	

* VOC less exempt (theoretical) and VOC as packaged (theoretical) are based upon the VOC of the packaged material at the point of manufacture.
TBAC is not universally recognized as an exempt solvent.
Users should consult the applicable regulations for their region.

10. Stability and reactivity

Stability
Stable

Conditions to avoid
Stable under recommended storage conditions.

Materials to avoid
None reasonably foreseeable.

Hazardous decomposition products
When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen.

Hazardous Polymerization
Will not occur.

Sensitivity to Static Discharge
If heated above the flash point, solvent vapors in air may explode if static grounding and bonding is not used during transfer of this product.

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Sensitivity to Mechanical Impact
None known.

11. Toxicological information

Information on likely routes of exposure

Inhalation
Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Delayed and immediate effects and also chronic effects from short and long term exposure:

Acute oral toxicity
not hazardous

Acute dermal toxicity
not hazardous

Acute inhalation toxicity
not hazardous

% of unknown composition 14.1 %

Skin corrosion/irritation
Not classified according to GHS criteria

Serious eye damage/eye irritation

acetone	Category 2A
heptan-2-one	Category 2B
ethyl acetate	Category 2A
propan-2-ol	Category 2A
butanone	Category 2A

Respiratory sensitisation
Not classified according to GHS criteria

Skin sensitisation
Not classified according to GHS criteria

Germ cell mutagenicity
Not classified according to GHS criteria

Carcinogenicity
Not classified according to GHS criteria

Toxicity for reproduction
Not classified according to GHS criteria

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Target Organ Systemic Toxicant - Single exposure
Not classified according to GHS criteria

Target Organ Systemic Toxicant - Repeated exposure
Not classified according to GHS criteria

Aspiration toxicity
Not classified according to GHS criteria

Numerical measures of toxicity (acute toxicity estimation (ATE),etc.)
No information available.

Symptoms related to the physical, chemical and toxicological characteristics
Exposure to component solvents vapours concentration in excess of the stated occupational exposure limit may result in adverse health effect such as mucous membrane and respiratory system irritation and adverse effect on kidney, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Through skin resorbtion, solvents can cause some of the effects described here. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin. The liquid splashed in the eyes may cause irritation and reversible damage.

Whether the hazardous chemical is listed by NTP, IARC or OSHA

Titanium dioxide	IARC 2B

12. Ecological information

There are no data available on the product itself. The product should not be allowed to enter drains or watercourses. The product contains an organic linked halogen. It may contribute to the AOX-value.

13. Disposal considerations

Waste Disposal Method
Do not allow material to contaminate ground water systems. Incinerate or otherwise dispose of waste material in accordance with Federal, State, Provincial, and local requirements. Do not incinerate in closed containers.

14. Transport information

International transport regulations

IMDG (Sea transport)	
UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III
Marine Pollutant:	no
ICAO/IATA (Air transport)	
UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III

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DOT

UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III
Marine Pollutant:	no
EmS:	F-E,S-E

Matters needing attention for transportation
Confirm that there is no breakage, corrosion, or leakage from the container before shipping. Be sure to prevent damage to cargo by loading so as to avoid falling, dropping, or collapse. Ship in appropriate containers with denotation of the content in accordance with the relevant statutes and rules.

15. Regulatory information

TSCA Status
In compliance with TSCA Inventory requirements for commercial purposes.

DSL Status
Product is not DSL listed because one or more ingredients are not on the DSL inventory.

Photochemical Reactivity
Non-photochemically reactive

Regulatory information

		EPCRA					CERCLA	CAA
CAS #	Ingredient	302	TPQ	RQ	311 - 312	313	RQ(lbs)	HAP
No information available.	Acrylic polymer	N	NR	NR	NA	N	NR	N
123-86-4	Butyl acetate	N	NR	NR	A,C,F	N	NR	N
84632-65-5	C.i. pigment red 254	N	NR	NR	,A,C,F,N,R	N	NR	N
12236-62-3	Monoazo pigment	N	NR	NR	,A,C,F,N,R	N	NR	N
69153-52-2	Polyester resin	N	NR	NR	NA	N	NR	N
67-64-1	Acetone	N	NR	NR	A,C,F	N	5,000	N
110-43-0	Methyl amyl ketone	N	NR	NR	A,C,F	N	NR	N
13463-67-7	Titanium dioxide	N	NR	NR	,A,C,F,N,R	N	NR	N
No information available.	Acrylic resin	N	NR	NR	NA	N	NR	N
763-69-9	Ethyl 3-ethoxy propionate	N	NR	NR	NA	N	NR	N
141-78-6	Ethyl acetate	N	NR	NR	C,F	N	NR	N
67-63-0	Isopropyl alcohol	N	NR	NR	,A,C,F,N,R	N	NR	N
78-93-3	Methyl ethyl ketone	N	NR	NR	A,C,F	N	5,000	N
169276-18-0*	Synthetic resin	N	NR	NR	NA	N	NR	N

Key:

EPCRA	Emergency Planning and Community Right-to-know Act (aka Title III, SARA)
302	Extremely hazardous substances
311/312 Categories	F = Fire Hazard R = Reactivity Hazard P = Pressure Related Hazard A = Acute Hazard C = Chronic Hazard
313 Information	Section 313 Supplier Notification - The chemicals listed above with a 'Y' in the 313 column are subject to reporting requirements of Section 313 of the Emergency Planning and Community

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	Right-to-Know act of 1986 and of 40 CFR 372.
CERCLA	Comprehensive Emergency Response, Compensation and Liability Act of 1980.
HAP	Listed as a Clean Air Act Hazardous Air Pollutant.
TPQ	Threshold Planning Quantity.
RQ	Reportable Quantity
NA	not available
NR	not regulated

16. Other information

HMIS rating H: 2 F: 2 R: 0

Glossary of Terms:

ACGIH	American Conference of Governmental Industrial Hygienists.
IARC	International Agency for Research on Cancer.
NTP	National Toxicology Program.
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration.
STEL	Short term exposure limit.
TWA	Time-weighted average.
PNOR	Particles not otherwise regulated.
PNOC	Particles not otherwise classified.

NOTE: The list (above) of glossary terms may be modified.

Notice from Axalta Coating Systems
The document reflects information provided to Axalta Coating Systems by its suppliers. Information is accurate to the best of our knowledge and is subject to change as new data is received by Axalta Coating Systems. Persons receiving this information should make their own determination as to its suitability for their purposes prior to use. The information on this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.
SDS prepared by:
Axalta Coating Systems Regulatory Affairs
Report version

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1. Identification of the substance/mixture and of the company/undertaking

Product name	COLOR ATLAS WHITE	
Product code	CAS992	
Intended use	Coating for professional use	
	Axalta Coating Systems, LLC Applied Corporate Center 50 Applied Card Way, Suite 300 US Glen Mills, PA 19342	
Telephone	Product information Medical emergency Transportation emergency	(855) 6-AXALTA (855) 274-5698 (800) 424-9300 (CHEMTREC)

2. Hazards identification

This preparation is hazardous per the following GHS criteria

GHS-Classification

Flammable liquids Category 3

Endpoints which are ""not classified"", ""cannot classified"" and ""not applicable"" are not shown

GHS-Labelling

Hazard symbols	
Signal word	Warning
Hazard statements	Flammable liquid and vapour.
Precautionary statements	Ground/bond container and receiving equipment. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Take precautionary measures against static discharge. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Wear protective gloves/ eye protection/ face protection. IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower. Store in a well-ventilated place. Keep cool. Dispose of contents/container in accordance with local regulations.

Other hazards which do not result in classification
None known.

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity:
7.9 %

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3. Composition/information on ingredients

Mixture of synthetic resins, pigments, and solvents

Components

CAS-No.	Chemical Name	Concentration	GHS Hazardous
13463-67-7	Titanium dioxide	37.2%	
No information available.	Acrylic polymer	10 - 20%	
69153-52-2	Polyester resin	5 - 10%	
67-64-1	Acetone	4 - 15%	√
123-86-4	Butyl acetate	4 - 15%	√
110-43-0	Methyl amyl ketone	4 - 15%	√
No information available.	Acrylic resin	1 - 5%	
21645-51-2	Aluminum hydroxide	1 - 5%	
7631-86-9	Amorphous silica	1 - 5%	
763-69-9	Ethyl 3-ethoxy propionate	1 - 4%	√
141-78-6	Ethyl acetate	1 - 4%	√
78-93-3	Methyl ethyl ketone	1 - 4%	√

OSHA Hazardous: Yes
* Assigned CAS No. - An official CAS No. does not exist. The CAS No. shown is for a similar chemical.

4. First aid measures

Eye contact
Remove contact lenses. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Seek medical advice.

Skin contact
Do NOT use solvents or thinners. Take off all contaminated clothing immediately. Wash skin thoroughly with soap and water or use recognized skin cleanser. If skin irritation persists, call a physician.

Inhalation
Avoid inhalation of vapour or mist. Move to fresh air in case of accidental inhalation of vapours. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

Ingestion
If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting. Keep at rest.

Most Important Symptoms/effects, acute and delayed

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Inhalation
Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Indication of immediate medical attention and special treatment needed if necessary
No data available on the product. See section 3 and 11 for hazardous ingredients found in the product.

5. Firefighting measures

Suitable extinguishing media
Extinguishing media which shall not be used for safety reasons
High volume water jet

Hazardous combustion products
CO, CO2, smoke, and oxides of any heavy metals that are reported in "Composition, Information on Ingredients" section.

Fire and Explosion Hazards
Combustible liquid. When heated above the flashpoint, emits vapors which, when mixed with air, will burn if an ignition source is present. Fine mist or sprays could ignite at temperatures below the flashpoint.

Special Protective Equipment and Fire Fighting Procedures
Full protective flameproof clothing should be worn as appropriate. Wear self contained breathing apparatus for fire fighting if necessary. In the event of fire, cool tanks with water spray. Do not allow run-off from fire fighting to enter public sewer systems or public waterways.

6. Accidental release measures

Procedures for cleaning up spills or leaks
Ventilate area. If heated above the flashpoint, remove sources of ignition. Prevent skin and eye contact and breathing of vapor. Wear a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C), eye protection, gloves and protective clothing. Confine, remove with inert absorbent, and dispose of properly.

Environmental precautions
Do not let product enter drains. Notify the respective authorities in accordance with local law in the case of contamination of rivers, lakes or waste water systems.

7. Handling and storage

Precautions for safe handling
Observe label precautions. Keep away from heat, flame and other sources of ignition. When heated above its flash point, this must be handled as if it were a flammable liquid. Close container after each use. Do not transfer contents to bottles or unlabeled containers. Wash thoroughly after handling and before eating or smoking.
If material is a coating: do not sand, flame cut, braze or weld dry coating without a NIOSH approved air purifying respirator with particulate filters or appropriate ventilation, and gloves. Combustible dust clouds may be created where operations produce fine material (dust). Avoid formation of significant deposits of material as they may become airborne and form combustible dust clouds. Build up of fine material should be cleaned using gentle sweeping or vacuuming in accordance with best practices. Cleaning methods (e.g. compressed air) which can generate potentially combustible dust clouds should not be used.

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Advice on protection against fire and explosion
Solvent vapours are heavier than air and may spread along floors. Vapors may form explosive mixtures with air and will burn when an ignition source is present. Always keep in containers of same material as the original one. Never use pressure to empty container: container is not a pressure vessel. The accumulation of contaminated rags may result in spontaneous combustion. Good housekeeping standards and regular safe removal of waste materials will minimize the risks of spontaneous combustion and other fire hazards.

Storage
Requirements for storage areas and containers
Observe label precautions. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. No smoking. Prevent unauthorized access. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Advice on common storage
Store separately from oxidizing agents and strongly alkaline and strongly acidic materials.

OSHA/NFPA Storage Classification: II

8. Exposure controls/personal protection

Engineering controls and work practices
Provide adequate ventilation. This should be achieved by a good general extraction and -if practically feasible- by the use of a local exhaust ventilation. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn.

National occupational exposure limits

CAS-No.	Chemical Name	Source	Time	Type	Value	Note
13463-67-7	Titanium dioxide	OSHA	8 hr	TWA	15 mg/m3	Total Dust
		Dupont	8 & 12 hour	TWA	10 mg/m3	Total Dust
			8 & 12 hour	TWA	5 mg/m3	Respirable Dust
67-64-1	Acetone	ACGIH	15 min	STEL	750 ppm	
			8 hr	TWA	500 ppm	
		OSHA	8 hr	TWA	1,000 ppm	
		Dupont	8 & 12 hour	TWA	500 ppm	
123-86-4	Butyl acetate	ACGIH	15 min	STEL	200 ppm	
			8 hr	TWA	150 ppm	
		OSHA	8 hr	TWA	150 ppm	
110-43-0	Methyl amyl ketone	ACGIH	8 hr	TWA	50 ppm	
		OSHA	8 hr	TWA	100 ppm	
21645-51-2	Aluminum hydroxide	ACGIH	8 hr	TWA	1 mg/m3	
7631-86-9	Amorphous silica	ACGIH	8 hr	TWA	3 mg/m3	Respirable Dust
		OSHA	8 hr	TWA	20 mppcf	

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CAS-No.	Chemical Name	Source	Time	Type	Value	Note
		Dupont	8 hr	PEL	3 mg/m3	
			8 hr	TWA	6 mg/m3	
141-78-6	Ethyl acetate	ACGIH	8 hr	TWA	400 ppm	
		OSHA	8 hr	TWA	400 ppm	
78-93-3	Methyl ethyl ketone	ACGIH	15 min	STEL	300 ppm	
			8 hr	TWA	200 ppm	
		OSHA	8 hr	TWA	200 ppm	
		Dupont	15 min	TWA	300 ppm	
			8 & 12 hour	TWA	200 ppm	

** TWA = Time-weighted average.
STEL = Short term exposure limit.
PEL = Permissible Exposure Limit.

Protective equipment
Personal protective equipment should be worn to prevent contact with eyes, skin or clothing.

Respiratory protection
Do not breathe vapors or mists. Wear an appropriate, properly fitted NIOSH approved respirator during application and until all vapors and spray mists are exhausted unless air monitoring demonstrates vapor/mist levels are below applicable limits. If respirators are required, use a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C) and particulate filter (NIOSH TC-84A). In confined spaces, or in situations where continuous spray operations are typical, or if proper air-purifying respirator fit is not possible, wear a positive pressure, supplied-air respirator (NIOSH TC-19C). In all cases, follow respirator manufacturer's directions for respirator use.'

Eye protection
Desirable in all industrial situations. Goggles are preferred to prevent eye irritation. If safety glasses are substituted, include splash guard or side shields.

Skin and body protection
Neoprene gloves and coveralls are recommended.

Hygiene measures
Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Environmental exposure controls
Do not let product enter drains. For ecological information, refer to Ecological Information Section 12.

9. Physical and chemical properties

Appearance

Form: liquid Colour:

Flash point	104 °F

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Ignition temperature	377 °C	
Lower Explosive Limit	1.1 %	
Upper Explosive Limit	10.3 %	
Evapouration rate	Slower than Ether	
Vapor pressure of principal solvent	18.7 hPa	
Water solubility	moderate	
Vapor density of principal solvent (Air = 1)	4	
Approx. Boiling Range	152 °C	
Approx. Freezing Range	Not applicable.	
Gallon Weight (lbs/gal)	11.49	
Specific Gravity	1.38	
Percent Volatile By Volume	54.80%	
Percent Volatile By Weight	33.91%	
Percent Solids By Volume	45.20%	
Percent Solids By Weight	66.09%	
pH (waterborne systems only)	Not applicable.	
Partition coefficient: n-octanol/water	no data available	
Ignition temperature	377 °C	DIN 51794
Decomposition temperature		
Viscosity (23 °C)	Not applicable.	ISO 2431-1993
VOC* less exempt (lbs/gal)	3.7	
VOC* as packaged (lbs/gal)	3.4	
VOC LE (TBAC)	3.7	
VOC AP (TBAC)	3.4	

* VOC less exempt (theoretical) and VOC as packaged (theoretical) are based upon the VOC of the packaged material at the point of manufacture.
TBAC is not universally recognized as an exempt solvent.
Users should consult the applicable regulations for their region.

10. Stability and reactivity

Stability
Stable

Conditions to avoid
Stable under recommended storage conditions.

Materials to avoid
None reasonably foreseeable.

Hazardous decomposition products
When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen.

Hazardous Polymerization
Will not occur.

Sensitivity to Static Discharge
If heated above the flash point, solvent vapors in air may explode if static grounding and bonding is not used during transfer of this product.

Sensitivity to Mechanical Impact
None known.

11. Toxicological information

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Information on likely routes of exposure

Inhalation
Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Delayed and immediate effects and also chronic effects from short and long term exposure:

Acute oral toxicity
not hazardous

Acute dermal toxicity
not hazardous

Acute inhalation toxicity
not hazardous

% of unknown composition 7.9 %

Skin corrosion/irritation
Not classified according to GHS criteria

Serious eye damage/eye irritation
Not classified according to GHS criteria

Respiratory sensitisation
Not classified according to GHS criteria

Skin sensitisation
Not classified according to GHS criteria

Germ cell mutagenicity
Not classified according to GHS criteria

Carcinogenicity
Not classified according to GHS criteria

Toxicity for reproduction
Not classified according to GHS criteria

Target Organ Systemic Toxicant - Single exposure
Not classified according to GHS criteria

Target Organ Systemic Toxicant - Repeated exposure
Not classified according to GHS criteria

Aspiration toxicity
Not classified according to GHS criteria

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MMTRX-02469

Numerical measures of toxicity (acute toxicity estimation (ATE),etc.)
No information available.

Symptoms related to the physical, chemical and toxicological characteristics
Exposure to component solvents vapours concentration in excess of the stated occupational exposure limit may result in adverse health effect such as mucous membrane and respiratory system irritation and adverse effect on kidney, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Through skin resorbtion, solvents can cause some of the effects described here. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin. The liquid splashed in the eyes may cause irritation and reversible damage.

Whether the hazardous chemical is listed by NTP, IARC or OSHA

Titanium dioxide	IARC 2B

12. Ecological information

There are no data available on the product itself. The product should not be allowed to enter drains or watercourses.

13. Disposal considerations

Waste Disposal Method
Do not allow material to contaminate ground water systems. Incinerate or otherwise dispose of waste material in accordance with Federal, State, Provincial, and local requirements. Do not incinerate in closed containers.

14. Transport information

International transport regulations

IMDG (Sea transport)	
UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III
Marine Pollutant:	no
ICAO/IATA (Air transport)	
UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III
DOT	
UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III
Marine Pollutant:	no
EmS:	F-E,S-E

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Matters needing attention for transportation
Confirm that there is no breakage, corrosion, or leakage from the container before shipping. Be sure to prevent damage to cargo by loading so as to avoid falling, dropping, or collapse. Ship in appropriate containers with denotation of the content in accordance with the relevant statutes and rules.

15. Regulatory information

TSCA Status
In compliance with TSCA Inventory requirements for commercial purposes.

DSL Status
Product is not DSL listed because one or more ingredients are not on the DSL inventory.

Photochemical Reactivity
Non-photochemically reactive

Regulatory information

		EPCRA					CERCLA	CAA
CAS #	Ingredient	302	TPQ	RQ	311 - 312	313	RQ(lbs)	HAP
13463-67-7	Titanium dioxide	N	NR	NR	,A,C,F,N,R	N	NR	N
No information available.	Acrylic polymer	N	NR	NR	NA	N	NR	N
69153-52-2	Polyester resin	N	NR	NR	NA	N	NR	N
67-64-1	Acetone	N	NR	NR	A,C,F	N	5,000	N
123-86-4	Butyl acetate	N	NR	NR	A,C,F	N	NR	N
110-43-0	Methyl amyl ketone	N	NR	NR	A,C,F	N	NR	N
No information available.	Acrylic resin	N	NR	NR	NA	N	NR	N
21645-51-2	Aluminum hydroxide	N	NR	NR	,A,C,F,N,R	N	NR	N
7631-86-9	Amorphous silica	N	NR	NR	,A,C,F,N,R	N	NR	N
763-69-9	Ethyl 3-ethoxy propionate	N	NR	NR	NA	N	NR	N
141-78-6	Ethyl acetate	N	NR	NR	C,F	N	NR	N
78-93-3	Methyl ethyl ketone	N	NR	NR	A,C,F	N	5,000	N

Key:

EPCRA	Emergency Planning and Community Right-to-know Act (aka Title III, SARA)
302	Extremely hazardous substances
311/312 Categories	F = Fire Hazard R = Reactivity Hazard P = Pressure Related Hazard A = Acute Hazard C = Chronic Hazard
313 Information	Section 313 Supplier Notification - The chemicals listed above with a 'Y' in the 313 column are subject to reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know act of 1986 and of 40 CFR 372.
CERCLA	Comprehensive Emergency Response, Compensation and Liability Act of 1980.
HAP	Listed as a Clean Air Act Hazardous Air Pollutant.
TPQ	Threshold Planning Quantity.
RQ	Reportable Quantity
NA	not available
NR	not regulated

16. Other information

HMIS rating H: 2 F: 2 R: 0

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Glossary of Terms:

ACGIH	American Conference of Governmental Industrial Hygienists.
IARC	International Agency for Research on Cancer.
NTP	National Toxicology Program.
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration.
STEL	Short term exposure limit.
TWA	Time-weighted average.
PNOR	Particles not otherwise regulated.
PNOC	Particles not otherwise classified.

NOTE: The list (above) of glossary terms may be modified.

Notice from Axalta Coating Systems
The document reflects information provided to Axalta Coating Systems by its suppliers. Information is accurate to the best of our knowledge and is subject to change as new data is received by Axalta Coating Systems. Persons receiving this information should make their own determination as to its suitability for their purposes prior to use. The information on this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.
SDS prepared by:
Axalta Coating Systems Regulatory Affairs
Report version

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MMRX-002469

1. Identification of the substance/mixture and of the company/undertaking

Product name	COLOR ATLAS YELLOW	
Product code	CAS200	
Intended use	Coating for professional use	
	Axalta Coating Systems, LLC Applied Corporate Center 50 Applied Card Way, Suite 300 US Glen Mills, PA 19342	
Telephone	Product information Medical emergency Transportation emergency	(855) 6-AXALTA (855) 274-5698 (800) 424-9300 (CHEMTREC)

2. Hazards identification

This preparation is hazardous per the following GHS criteria

GHS-Classification

Flammable liquids	Category 3
Serious eye damage/eye irritation	Category 2A

Endpoints which are ""not classified"", ""cannot classified"" and ""not applicable"" are not shown

GHS-Labelling

Hazard symbols	
Signal word	Warning
Hazard statements	Flammable liquid and vapour. Causes serious eye irritation.
Precautionary statements	Wear eye protection/ face protection. Ground/bond container and receiving equipment. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Take precautionary measures against static discharge. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Wear protective gloves/ eye protection/ face protection. If eye irritation persists: Get medical advice/ attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower. Store in a well-ventilated place. Keep cool. Dispose of contents/container in accordance with local regulations.

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Other hazards which do not result in classification
None known.

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity:
17.9 %

3. Composition/information on ingredients

Mixture of synthetic resins, pigments, and solvents

Components

CAS-No.	Chemical Name	Concentration	GHS Hazardous
No information available.	Acrylic polymer	20 - 30%	
51274-00-1	Light yellow lemon yellow oxide pigment	5 - 10%	
69153-52-2	Polyester resin	5 - 10%	
67-64-1	Acetone	4 - 15%	√
123-86-4	Butyl acetate	4 - 15%	√
1309-37-1	Iron oxide	4 - 15%	√
110-43-0	Methyl amyl ketone	4 - 15%	√
No information available.	Acrylic resin	1 - 5%	
763-69-9	Ethyl 3-ethoxy propionate	1 - 4%	√
141-78-6	Ethyl acetate	1 - 4%	√
67-63-0	Isopropyl alcohol	1 - 4%	√
78-93-3	Methyl ethyl ketone	1 - 4%	√
1333-86-4	Carbon black	0.5%	

OSHA Hazardous: Yes
* Assigned CAS No. - An official CAS No. does not exist. The CAS No. shown is for a similar chemical.

4. First aid measures

Eye contact
Remove contact lenses. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Seek medical advice.

Skin contact
Do NOT use solvents or thinners. Take off all contaminated clothing immediately. Wash skin thoroughly with soap and water or use recognized skin cleanser. If skin irritation persists, call a physician.

Inhalation
Avoid inhalation of vapour or mist. Move to fresh air in case of accidental inhalation of vapours. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

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Ingestion
If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting. Keep at rest.

Most Important Symptoms/effects, acute and delayed

Inhalation
Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Indication of immediate medical attention and special treatment needed if necessary
No data available on the product. See section 3 and 11 for hazardous ingredients found in the product.

5. Firefighting measures

Suitable extinguishing media
Extinguishing media which shall not be used for safety reasons
High volume water jet

Hazardous combustion products
CO, CO2, smoke, and oxides of any heavy metals that are reported in "Composition, Information on Ingredients" section.

Fire and Explosion Hazards
Combustible liquid. When heated above the flashpoint, emits vapors which, when mixed with air, will burn if an ignition source is present. Fine mist or sprays could ignite at temperatures below the flashpoint.

Special Protective Equipment and Fire Fighting Procedures
Full protective flameproof clothing should be worn as appropriate. Wear self contained breathing apparatus for fire fighting if necessary. In the event of fire, cool tanks with water spray. Do not allow run-off from fire fighting to enter public sewer systems or public waterways.

6. Accidental release measures

Procedures for cleaning up spills or leaks
Ventilate area. If heated above the flashpoint, remove sources of ignition. Prevent skin and eye contact and breathing of vapor. Wear a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C), eye protection, gloves and protective clothing. Confine, remove with inert absorbent, and dispose of properly.

Environmental precautions
Do not let product enter drains. Notify the respective authorities in accordance with local law in the case of contamination of rivers, lakes or waste water systems.

7. Handling and storage

Precautions for safe handling
Observe label precautions. Keep away from heat, flame and other sources of ignition. When heated above its flash point, this must be handled as if it were a flammable liquid. Close container after each use. Do not transfer contents to bottles or unlabeled containers. Wash thoroughly after handling and before eating or smoking.
If material is a coating: do not sand, flame cut, braze or weld dry coating without a NIOSH approved air purifying respirator with particulate filters or appropriate ventilation, and gloves. Combustible dust clouds may be created where operations produce fine material (dust). Avoid formation of significant deposits of material as they may become airborne and form combustible dust clouds. Build up of fine material should be cleaned using gentle sweeping or vacuuming in accordance with best practices. Cleaning methods (e.g. compressed air) which can generate potentially combustible dust clouds should not be used.

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Advice on protection against fire and explosion
Solvent vapours are heavier than air and may spread along floors. Vapors may form explosive mixtures with air and will burn when an ignition source is present. Always keep in containers of same material as the original one. Never use pressure to empty container: container is not a pressure vessel. The accumulation of contaminated rags may result in spontaneous combustion. Good housekeeping standards and regular safe removal of waste materials will minimize the risks of spontaneous combustion and other fire hazards.

Storage
Requirements for storage areas and containers
Observe label precautions. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. No smoking. Prevent unauthorized access. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Advice on common storage
Store separately from oxidizing agents and strongly alkaline and strongly acidic materials.

OSHA/NFPA Storage Classification: II

8. Exposure controls/personal protection

Engineering controls and work practices
Provide adequate ventilation. This should be achieved by a good general extraction and -if practically feasible- by the use of a local exhaust ventilation. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn.

National occupational exposure limits

CAS-No.	Chemical Name	Source	Time	Type	Value	Note
67-64-1	Acetone	ACGIH	15 min	STEL	750 ppm	
			8 hr	TWA	500 ppm	
		OSHA	8 hr	TWA	1,000 ppm	
		Dupont	8 & 12 hour	TWA	500 ppm	
123-86-4	Butyl acetate	ACGIH	15 min	STEL	200 ppm	
			8 hr	TWA	150 ppm	
		OSHA	8 hr	TWA	150 ppm	
1309-37-1	Iron oxide	ACGIH	8 hr	TWA	5 mg/m3	Respirable Dust
		OSHA	8 hr	TWA	10 mg/m3	
		Dupont	8 hr	TWA	3 mg/m3	
110-43-0	Methyl amyl ketone	ACGIH	8 hr	TWA	50 ppm	
		OSHA	8 hr	TWA	100 ppm	
141-78-6	Ethyl acetate	ACGIH	8 hr	TWA	400 ppm	
		OSHA	8 hr	TWA	400 ppm	
78-93-3	Methyl ethyl ketone	ACGIH	15 min	STEL	300 ppm	
			8 hr	TWA	200 ppm	

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CAS-No.	Chemical Name	Source	Time	Type	Value	Note
		OSHA	8 hr	TWA	200 ppm	
		Dupont	15 min	TWA	300 ppm	
			8 & 12 hour	TWA	200 ppm	
1333-86-4	Carbon black	ACGIH	8 hr	TWA	3 mg/m3	
		OSHA	8 hr	TWA	3.5 mg/m3	
		Dupont	8 & 12 hour	TWA	0.5 mg/m3	

** STEL = Short term exposure limit.
TWA = Time-weighted average.

Protective equipment
Personal protective equipment should be worn to prevent contact with eyes, skin or clothing.

Respiratory protection
Do not breathe vapors or mists. Wear an appropriate, properly fitted NIOSH approved respirator during application and until all vapors and spray mists are exhausted unless air monitoring demonstrates vapor/mist levels are below applicable limits. If respirators are required, use a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C) and particulate filter (NIOSH TC-84A). In confined spaces, or in situations where continuous spray operations are typical, or if proper air-purifying respirator fit is not possible, wear a positive pressure, supplied-air respirator (NIOSH TC-19C). In all cases, follow respirator manufacturer's directions for respirator use.'

Eye protection
Desirable in all industrial situations. Goggles are preferred to prevent eye irritation. If safety glasses are substituted, include splash guard or side shields.

Skin and body protection
Neoprene gloves and coveralls are recommended.

Hygiene measures
Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Environmental exposure controls
Do not let product enter drains. For ecological information, refer to Ecological Information Section 12.

9. Physical and chemical properties

Appearance

Form: liquid Colour:

Flash point	104 °F
Ignition temperature	377 °C
Lower Explosive Limit	1.1 %
Upper Explosive Limit	10.3 %
Evapouration rate	Slower than Ether
Vapor pressure of principal solvent	21.2 hPa

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Water solubility	moderate	
Vapor density of principal solvent (Air = 1)	3.9	
Approx. Boiling Range	152 °C	
Approx. Freezing Range	Not applicable.	
Gallon Weight (lbs/gal)	8.97	
Specific Gravity	1.08	
Percent Volatile By Volume	54.82%	
Percent Volatile By Weight	42.98%	
Percent Solids By Volume	45.18%	
Percent Solids By Weight	57.02%	
pH (waterborne systems only)	Not applicable.	
Partition coefficient: n-octanol/water	no data available	
Ignition temperature	377 °C	DIN 51794
Decomposition temperature		
Viscosity (23 °C)	Not applicable.	ISO 2431-1993
VOC* less exempt (lbs/gal)	3.7	
VOC* as packaged (lbs/gal)	3.4	

* VOC less exempt (theoretical) and VOC as packaged (theoretical) are based upon the VOC of the packaged material at the point of manufacture.

10. Stability and reactivity

Stability
Stable

Conditions to avoid
Stable under recommended storage conditions.

Materials to avoid
None reasonably foreseeable.

Hazardous decomposition products
When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen.

Hazardous Polymerization
Will not occur.

Sensitivity to Static Discharge
If heated above the flash point, solvent vapors in air may explode if static grounding and bonding is not used during transfer of this product.

Sensitivity to Mechanical Impact
None known.

11. Toxicological information

Information on likely routes of exposure

Inhalation
Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

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Delayed and immediate effects and also chronic effects from short and long term exposure:

Acute oral toxicity
not hazardous

Acute dermal toxicity
not hazardous

Acute inhalation toxicity
not hazardous

% of unknown composition 17.9 %

Skin corrosion/irritation
Not classified according to GHS criteria

Serious eye damage/eye irritation

acetone	Category 2A
Iron oxide	Category 1
heptan-2-one	Category 2B
ethyl acetate	Category 2A
propan-2-ol	Category 2A
butanone	Category 2A

Respiratory sensitisation
Not classified according to GHS criteria

Skin sensitisation
Not classified according to GHS criteria

Germ cell mutagenicity
Not classified according to GHS criteria

Carcinogenicity
Not classified according to GHS criteria

Toxicity for reproduction
Not classified according to GHS criteria

Target Organ Systemic Toxicant - Single exposure
Not classified according to GHS criteria

Target Organ Systemic Toxicant - Repeated exposure
Not classified according to GHS criteria

Aspiration toxicity
Not classified according to GHS criteria

Numerical measures of toxicity (acute toxicity estimation (ATE),etc.)
No information available.

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MMFIX-324558

Symptoms related to the physical, chemical and toxicological characteristics
Exposure to component solvents vapours concentration in excess of the stated occupational exposure limit may result in adverse health effect such as mucous membrane and respiratory system irritation and adverse effect on kidney, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Through skin resorbtion, solvents can cause some of the effects described here. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin. The liquid splashed in the eyes may cause irritation and reversible damage.

Whether the hazardous chemical is listed by NTP, IARC or OSHA

carbon black IARC 2B

12. Ecological information

There are no data available on the product itself. The product should not be allowed to enter drains or watercourses.

13. Disposal considerations

Waste Disposal Method
Do not allow material to contaminate ground water systems. Incinerate or otherwise dispose of waste material in accordance with Federal, State, Provincial, and local requirements. Do not incinerate in closed containers.

14. Transport information

International transport regulations

IMDG (Sea transport)	
UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III
Marine Pollutant:	no
ICAO/IATA (Air transport)	
UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III
DOT	
UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III
Marine Pollutant:	no
EmS:	F-E,S-E

Matters needing attention for transportation
Confirm that there is no breakage, corrosion, or leakage from the container before shipping. Be sure to prevent damage to cargo by loading so as to avoid falling, dropping, or collapse. Ship in appropriate containers with denotation of the content in accordance with the relevant statutes and rules.

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15. Regulatory information

TSCA Status
In compliance with TSCA Inventory requirements for commercial purposes.

DSL Status
Product is not DSL listed because one or more ingredients are not on the DSL inventory.

Photochemical Reactivity
Non-photochemically reactive

US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)
WARNING! This product contains a chemical known to the State of California to cause cancer.

Regulatory information

		EPCRA					CERCLA	CAA
CAS #	Ingredient	302	TPQ	RQ	311 - 312	313	RQ(lbs)	HAP
No information available.	Acrylic polymer	N	NR	NR	NA	N	NR	N
51274-00-1	Light yellow lemon yellow oxide pigment	N	NR	NR	,A,C,F,N,R	N	NR	N
69153-52-2	Polyester resin	N	NR	NR	NA	N	NR	N
67-64-1	Acetone	N	NR	NR	A,C,F	N	5,000	N
123-86-4	Butyl acetate	N	NR	NR	A,C,F	N	NR	N
1309-37-1	Iron oxide	N	NR	NR	N	N	NR	N
110-43-0	Methyl amyl ketone	N	NR	NR	A,C,F	N	NR	N
No information available.	Acrylic resin	N	NR	NR	NA	N	NR	N
763-69-9	Ethyl 3-ethoxy propionate	N	NR	NR	NA	N	NR	N
141-78-6	Ethyl acetate	N	NR	NR	C,F	N	NR	N
67-63-0	Isopropyl alcohol	N	NR	NR	,A,C,F,N,R	N	NR	N
78-93-3	Methyl ethyl ketone	N	NR	NR	A,C,F	N	5,000	N
1333-86-4	Carbon black	N	NR	NR	,A,C,F,N,R	N	NR	N

Key:

EPCRA	Emergency Planning and Community Right-to-know Act (aka Title III, SARA)
302	Extremely hazardous substances
311/312 Categories	F = Fire Hazard R = Reactivity Hazard P = Pressure Related Hazard A = Acute Hazard C = Chronic Hazard
313 Information	Section 313 Supplier Notification - The chemicals listed above with a 'Y' in the 313 column are subject to reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know act of 1986 and of 40 CFR 372.
CERCLA	Comprehensive Emergency Response, Compensation and Liability Act of 1980.
HAP	Listed as a Clean Air Act Hazardous Air Pollutant.
TPQ	Threshold Planning Quantity.
RQ	Reportable Quantity
NA	not available
NR	not regulated

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16. Other information

HMIS rating H: 2 F: 2 R: 0

Glossary of Terms:

ACGIH	American Conference of Governmental Industrial Hygienists.
IARC	International Agency for Research on Cancer.
NTP	National Toxicology Program.
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration.
STEL	Short term exposure limit.
TWA	Time-weighted average.
PNOR	Particles not otherwise regulated.
PNOC	Particles not otherwise classified.

NOTE: The list (above) of glossary terms may be modified.

Notice from Axalta Coating Systems
The document reflects information provided to Axalta Coating Systems by its suppliers. Information is accurate to the best of our knowledge and is subject to change as new data is received by Axalta Coating Systems. Persons receiving this information should make their own determination as to its suitability for their purposes prior to use. The information on this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.
SDS prepared by:
Axalta Coating Systems Regulatory Affairs
Report version

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MMRX-02458

1. Identification of the substance/mixture and of the company/undertaking

Product name	COLOR ATLAS YELLOW	
Product code	CAS250	
Intended use	Coating for professional use	
	Axalta Coating Systems, LLC Applied Corporate Center 50 Applied Card Way, Suite 300 US Glen Mills, PA 19342	
Telephone	Product information Medical emergency Transportation emergency	(855) 6-AXALTA (855) 274-5698 (800) 424-9300 (CHEMTREC)

2. Hazards identification

This preparation is hazardous per the following GHS criteria

GHS-Classification

Flammable liquids	Category 3
Serious eye damage/eye irritation	Category 2A

Endpoints which are ""not classified"", ""cannot classified"" and ""not applicable"" are not shown

GHS-Labelling

Hazard symbols	
Signal word	Warning
Hazard statements	Flammable liquid and vapour. Causes serious eye irritation.
Precautionary statements	Wear eye protection/ face protection. Ground/bond container and receiving equipment. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Take precautionary measures against static discharge. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Wear protective gloves/ eye protection/ face protection. If eye irritation persists: Get medical advice/ attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower. Store in a well-ventilated place. Keep cool. Dispose of contents/container in accordance with local regulations.

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MM/TX-02460

Other hazards which do not result in classification
None known.

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity:
11.8 %

3. Composition/information on ingredients

Mixture of synthetic resins, pigments, and solvents

Components

CAS-No.	Chemical Name	Concentration	GHS Hazardous
No information available.	Acrylic polymer	20 - 30%	
68134-22-5	C.i. pigment yellow 154	10 - 20%	
69153-52-2	Polyester resin	5 - 10%	
67-64-1	Acetone	4 - 15%	√
123-86-4	Butyl acetate	4 - 15%	√
110-43-0	Methyl amyl ketone	4 - 15%	√
13463-67-7	Titanium dioxide	2.1%	
763-69-9	Ethyl 3-ethoxy propionate	1 - 4%	√
141-78-6	Ethyl acetate	1 - 4%	√
78-93-3	Methyl ethyl ketone	1 - 4%	√
100-41-4	Ethylbenzene	0.1%	√

OSHA Hazardous: Yes
* Assigned CAS No. - An official CAS No. does not exist. The CAS No. shown is for a similar chemical.

4. First aid measures

Eye contact
Remove contact lenses. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Seek medical advice.

Skin contact
Do NOT use solvents or thinners. Take off all contaminated clothing immediately. Wash skin thoroughly with soap and water or use recognized skin cleanser. If skin irritation persists, call a physician.

Inhalation
Avoid inhalation of vapour or mist. Move to fresh air in case of accidental inhalation of vapours. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

Ingestion
If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting. Keep at rest.

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Most Important Symptoms/effects, acute and delayed

Inhalation
Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Indication of immediate medical attention and special treatment needed if necessary
No data available on the product. See section 3 and 11 for hazardous ingredients found in the product.

5. Firefighting measures

Suitable extinguishing media
Extinguishing media which shall not be used for safety reasons
High volume water jet

Hazardous combustion products
CO, CO2, smoke, and oxides of any heavy metals that are reported in "Composition, Information on Ingredients" section.

Fire and Explosion Hazards
Combustible liquid. When heated above the flashpoint, emits vapors which, when mixed with air, will burn if an ignition source is present. Fine mist or sprays could ignite at temperatures below the flashpoint.

Special Protective Equipment and Fire Fighting Procedures
Full protective flameproof clothing should be worn as appropriate. Wear self contained breathing apparatus for fire fighting if necessary. In the event of fire, cool tanks with water spray. Do not allow run-off from fire fighting to enter public sewer systems or public waterways.

6. Accidental release measures

Procedures for cleaning up spills or leaks
Ventilate area. If heated above the flashpoint, remove sources of ignition. Prevent skin and eye contact and breathing of vapor. Wear a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C), eye protection, gloves and protective clothing. Confine, remove with inert absorbent, and dispose of properly.

Environmental precautions
Do not let product enter drains. Notify the respective authorities in accordance with local law in the case of contamination of rivers, lakes or waste water systems.

7. Handling and storage

Precautions for safe handling
Observe label precautions. Keep away from heat, flame and other sources of ignition. When heated above its flash point, this must be handled as if it were a flammable liquid. Close container after each use. Do not transfer contents to bottles or unlabeled containers. Wash thoroughly after handling and before eating or smoking.
If material is a coating: do not sand, flame cut, braze or weld dry coating without a NIOSH approved air purifying respirator with particulate filters or appropriate ventilation, and gloves. Combustible dust clouds may be created where operations produce fine material (dust). Avoid formation of significant deposits of material as they may become airborne and form combustible dust clouds. Build up of fine material should be cleaned using gentle sweeping or vacuuming in accordance with best practices. Cleaning methods (e.g. compressed air) which can generate potentially combustible dust clouds should not be used.

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NMRX-024460

Advice on protection against fire and explosion
Solvent vapours are heavier than air and may spread along floors. Vapors may form explosive mixtures with air and will burn when an ignition source is present. Always keep in containers of same material as the original one. Never use pressure to empty container: container is not a pressure vessel. The accumulation of contaminated rags may result in spontaneous combustion. Good housekeeping standards and regular safe removal of waste materials will minimize the risks of spontaneous combustion and other fire hazards.

Storage
Requirements for storage areas and containers
Observe label precautions. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. No smoking. Prevent unauthorized access. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Advice on common storage
Store separately from oxidizing agents and strongly alkaline and strongly acidic materials.

OSHA/NFPA Storage Classification: II

8. Exposure controls/personal protection

Engineering controls and work practices
Provide adequate ventilation. This should be achieved by a good general extraction and -if practically feasible- by the use of a local exhaust ventilation. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn.

National occupational exposure limits

CAS-No.	Chemical Name	Source	Time	Type	Value	Note
67-64-1	Acetone	ACGIH	15 min	STEL	750 ppm	
			8 hr	TWA	500 ppm	
		OSHA	8 hr	TWA	1,000 ppm	
		Dupont	8 & 12 hour	TWA	500 ppm	
123-86-4	Butyl acetate	ACGIH	15 min	STEL	200 ppm	
			8 hr	TWA	150 ppm	
		OSHA	8 hr	TWA	150 ppm	
110-43-0	Methyl amyl ketone	ACGIH	8 hr	TWA	50 ppm	
		OSHA	8 hr	TWA	100 ppm	
13463-67-7	Titanium dioxide	OSHA	8 hr	TWA	15 mg/m3	Total Dust
		Dupont	8 & 12 hour	TWA	10 mg/m3	Total Dust
			8 & 12 hour	TWA	5 mg/m3	Respirable Dust
141-78-6	Ethyl acetate	ACGIH	8 hr	TWA	400 ppm	
		OSHA	8 hr	TWA	400 ppm	
78-93-3	Methyl ethyl ketone	ACGIH	15 min	STEL	300 ppm	

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CAS-No.	Chemical Name	Source	Time	Type	Value	Note
			8 hr	TWA	200 ppm	
		OSHA	8 hr	TWA	200 ppm	
		Dupont	15 min	TWA	300 ppm	
			8 & 12 hour	TWA	200 ppm	
100-41-4	Ethylbenzene	ACGIH	8 hr	TWA	20 ppm	
		OSHA	8 hr	TWA	100 ppm	
		Dupont	8 & 12 hour	TWA	25 ppm	

** STEL = Short term exposure limit.
TWA = Time-weighted average.

Protective equipment
Personal protective equipment should be worn to prevent contact with eyes, skin or clothing.

Respiratory protection
Do not breathe vapors or mists. Wear an appropriate, properly fitted NIOSH approved respirator during application and until all vapors and spray mists are exhausted unless air monitoring demonstrates vapor/mist levels are below applicable limits. If respirators are required, use a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C) and particulate filter (NIOSH TC-84A). In confined spaces, or in situations where continuous spray operations are typical, or if proper air-purifying respirator fit is not possible, wear a positive pressure, supplied-air respirator (NIOSH TC-19C). In all cases, follow respirator manufacturer's directions for respirator use.'

Eye protection
Desirable in all industrial situations. Goggles are preferred to prevent eye irritation. If safety glasses are substituted, include splash guard or side shields.

Skin and body protection
Neoprene gloves and coveralls are recommended.

Hygiene measures
Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Environmental exposure controls
Do not let product enter drains. For ecological information, refer to Ecological Information Section 12.

9. Physical and chemical properties

Appearance

Form: liquid Colour:

Flash point	104 °F
Ignition temperature	290 °C
Lower Explosive Limit	1.1 %
Upper Explosive Limit	12.8 %
Evapouration rate	Slower than Ether

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MMTDX-432460

Vapor pressure of principal solvent	28.6 hPa	
Water solubility	appreciable	
Vapor density of principal solvent (Air = 1)	3.9	
Approx. Boiling Range	152 °C	
Approx. Freezing Range	Not applicable.	
Gallon Weight (lbs/gal)	8.55	
Specific Gravity	1.02	
Percent Volatile By Volume	55.99%	
Percent Volatile By Weight	46.10%	
Percent Solids By Volume	44.01%	
Percent Solids By Weight	53.90%	
pH (waterborne systems only)	Not applicable.	
Partition coefficient: n-octanol/water	no data available	
Ignition temperature	290 °C	DIN 51794
Decomposition temperature		
Viscosity (23 °C)	Not applicable.	ISO 2431-1993
VOC* less exempt (lbs/gal)	3.7	
VOC* as packaged (lbs/gal)	3.3	
VOC LE (TBAC)	3.6	
VOC AP (TBAC)	3.2	

* VOC less exempt (theoretical) and VOC as packaged (theoretical) are based upon the VOC of the packaged material at the point of manufacture.
TBAC is not universally recognized as an exempt solvent.
Users should consult the applicable regulations for their region.

10. Stability and reactivity

Stability
Stable

Conditions to avoid
Stable under recommended storage conditions.

Materials to avoid
None reasonably foreseeable.

Hazardous decomposition products
When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen.

Hazardous Polymerization
Will not occur.

Sensitivity to Static Discharge
If heated above the flash point, solvent vapors in air may explode if static grounding and bonding is not used during transfer of this product.

Sensitivity to Mechanical Impact
None known.

11. Toxicological information

Information on likely routes of exposure

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Inhalation
Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Delayed and immediate effects and also chronic effects from short and long term exposure:

Acute oral toxicity
not hazardous

Acute dermal toxicity
not hazardous

Acute inhalation toxicity
not hazardous

% of unknown composition 11.8 %

Skin corrosion/irritation
Not classified according to GHS criteria

Serious eye damage/eye irritation

acetone	Category 2A
heptan-2-one	Category 2B
ethyl acetate	Category 2A
butanone	Category 2A
ethylbenzene	Category 2B

Respiratory sensitisation
Not classified according to GHS criteria

Skin sensitisation
Not classified according to GHS criteria

Germ cell mutagenicity
Not classified according to GHS criteria

Carcinogenicity
Not classified according to GHS criteria

Toxicity for reproduction
Not classified according to GHS criteria

Target Organ Systemic Toxicant - Single exposure
Not classified according to GHS criteria

Target Organ Systemic Toxicant - Repeated exposure
Not classified according to GHS criteria

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Aspiration toxicity
Not classified according to GHS criteria

Numerical measures of toxicity (acute toxicity estimation (ATE),etc.)
No information available.

Symptoms related to the physical, chemical and toxicological characteristics
Exposure to component solvents vapours concentration in excess of the stated occupational exposure limit may result in adverse health effect such as mucous membrane and respiratory system irritation and adverse effect on kidney, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Through skin resorbtion, solvents can cause some of the effects described here. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin. The liquid splashed in the eyes may cause irritation and reversible damage.

Whether the hazardous chemical is listed by NTP, IARC or OSHA

Titanium dioxide	IARC 2B
ethylbenzene	IARC 2B

12. Ecological information

There are no data available on the product itself. The product should not be allowed to enter drains or watercourses.

13. Disposal considerations

Waste Disposal Method
Do not allow material to contaminate ground water systems. Incinerate or otherwise dispose of waste material in accordance with Federal, State, Provincial, and local requirements. Do not incinerate in closed containers.

14. Transport information

International transport regulations

IMDG (Sea transport)	
UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III
Marine Pollutant:	no
ICAO/IATA (Air transport)	
UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III
DOT	
UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III

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Marine Pollutant:	no
EmS:	F-E,S-E

Matters needing attention for transportation
Confirm that there is no breakage, corrosion, or leakage from the container before shipping. Be sure to prevent damage to cargo by loading so as to avoid falling, dropping, or collapse. Ship in appropriate containers with denotation of the content in accordance with the relevant statutes and rules.

15. Regulatory information

TSCA Status
In compliance with TSCA Inventory requirements for commercial purposes.

DSL Status
Product is not DSL listed because one or more ingredients are not on the DSL inventory.

Photochemical Reactivity
Non-photochemically reactive

US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)
WARNING! This product contains a chemical known to the State of California to cause cancer.

Regulatory information

		EPCRA					CERCLA	CAA
CAS #	Ingredient	302	TPQ	RQ	311 - 312	313	RQ(lbs)	HAP
No information available.	Acrylic polymer	N	NR	NR	NA	N	NR	N
68134-22-5	C.i. pigment yellow 154	N	NR	NR	NA	N	NR	N
69153-52-2	Polyester resin	N	NR	NR	NA	N	NR	N
67-64-1	Acetone	N	NR	NR	A,C,F	N	5,000	N
123-86-4	Butyl acetate	N	NR	NR	A,C,F	N	NR	N
110-43-0	Methyl amyl ketone	N	NR	NR	A,C,F	N	NR	N
13463-67-7	Titanium dioxide	N	NR	NR	,A,C,F,N,R	N	NR	N
763-69-9	Ethyl 3-ethoxy propionate	N	NR	NR	NA	N	NR	N
141-78-6	Ethyl acetate	N	NR	NR	C,F	N	NR	N
78-93-3	Methyl ethyl ketone	N	NR	NR	A,C,F	N	5,000	N
100-41-4	Ethylbenzene	N	NR	NR	A,C,F	Y	1,000	Y

Key:

EPCRA	Emergency Planning and Community Right-to-know Act (aka Title III, SARA)
302	Extremely hazardous substances
311/312 Categories	F = Fire Hazard R = Reactivity Hazard P = Pressure Related Hazard A = Acute Hazard C = Chronic Hazard
313 Information	Section 313 Supplier Notification - The chemicals listed above with a 'Y' in the 313 column are subject to reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know act of 1986 and of 40 CFR 372.
CERCLA	Comprehensive Emergency Response, Compensation and Liability Act of 1980.
HAP	Listed as a Clean Air Act Hazardous Air Pollutant.
TPQ	Threshold Planning Quantity.
RQ	Reportable Quantity
NA	not available

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NR	not regulated

16. Other information

HMIS rating H: 2 F: 2 R: 0

Glossary of Terms:

ACGIH	American Conference of Governmental Industrial Hygienists.
IARC	International Agency for Research on Cancer.
NTP	National Toxicology Program.
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration.
STEL	Short term exposure limit.
TWA	Time-weighted average.
PNOR	Particles not otherwise regulated.
PNOC	Particles not otherwise classified.

NOTE: The list (above) of glossary terms may be modified.

Notice from Axalta Coating Systems
The document reflects information provided to Axalta Coating Systems by its suppliers. Information is accurate to the best of our knowledge and is subject to change as new data is received by Axalta Coating Systems. Persons receiving this information should make their own determination as to its suitability for their purposes prior to use. The information on this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.
SDS prepared by:
Axalta Coating Systems Regulatory Affairs
Report version

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MMRX-02460

1. Identification of the substance/mixture and of the company/undertaking

Product name	COLOR ATLAS GREEN	
Product code	CAS364	
Intended use	Coating for professional use	
	Axalta Coating Systems, LLC Applied Corporate Center 50 Applied Card Way, Suite 300 US Glen Mills, PA 19342	
Telephone	Product information Medical emergency Transportation emergency	(855) 6-AXALTA (855) 274-5698 (800) 424-9300 (CHEMTREC)

2. Hazards identification

This preparation is hazardous per the following GHS criteria

GHS-Classification

Flammable liquids	Category 3
Target Organ Systemic Toxicant - Repeated exposure	Category 2

Endpoints which are ""not classified"", ""cannot classified"" and ""not applicable"" are not shown

GHS-Labelling

Hazard symbols	
Signal word	Warning
Hazard statements	Flammable liquid and vapour. May cause damage to organs through prolonged or repeated exposure.
Precautionary statements	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. Ground/bond container and receiving equipment. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Take precautionary measures against static discharge. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Wear protective gloves/ eye protection/ face protection. Get medical advice/ attention if you feel unwell. IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower. Store in a well-ventilated place. Keep cool. Dispose of contents/container in accordance with local regulations.

Other hazards which do not result in classification
None known.

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The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity:
13.5 %

3. Composition/information on ingredients

Mixture of synthetic resins, pigments, and solvents

Components

CAS-No.	Chemical Name	Concentration	GHS Hazardous
No information available.	Acrylic polymer	20 - 30%	
123-86-4	Butyl acetate	15 - 26%	√
13463-67-7	Titanium dioxide	14.9%	
14059-33-7	Bismuth vanadium oxide	9%	
69153-52-2	Polyester resin	5 - 10%	
110-43-0	Methyl amyl ketone	4 - 15%	√
67-64-1	Acetone	1 - 4%	√
No information available.	Acrylic resin	1 - 5%	
68134-22-5	C.i. pigment yellow 154	1 - 5%	
141-78-6	Ethyl acetate	1 - 4%	√
67-63-0	Isopropyl alcohol	1 - 4%	√
78-93-3	Methyl ethyl ketone	1 - 4%	√
1328-53-6	Phthalocyanine green	1 - 5%	
14059-33-7	Yellow bismuth vandate pigment	1%	√

OSHA Hazardous: Yes
* Assigned CAS No. - An official CAS No. does not exist. The CAS No. shown is for a similar chemical.

4. First aid measures

Eye contact
Remove contact lenses. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Seek medical advice.

Skin contact
Do NOT use solvents or thinners. Take off all contaminated clothing immediately. Wash skin thoroughly with soap and water or use recognized skin cleanser. If skin irritation persists, call a physician.

Inhalation
Avoid inhalation of vapour or mist. Move to fresh air in case of accidental inhalation of vapours. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

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Ingestion
If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting. Keep at rest.

Most Important Symptoms/effects, acute and delayed

Inhalation
Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Indication of immediate medical attention and special treatment needed if necessary
No data available on the product. See section 3 and 11 for hazardous ingredients found in the product.

5. Firefighting measures

Suitable extinguishing media
Extinguishing media which shall not be used for safety reasons
High volume water jet

Hazardous combustion products
CO, CO2, smoke, and oxides of any heavy metals that are reported in "Composition, Information on Ingredients" section.

Fire and Explosion Hazards
Combustible liquid. When heated above the flashpoint, emits vapors which, when mixed with air, will burn if an ignition source is present. Fine mist or sprays could ignite at temperatures below the flashpoint.

Special Protective Equipment and Fire Fighting Procedures
Full protective flameproof clothing should be worn as appropriate. Wear self contained breathing apparatus for fire fighting if necessary. In the event of fire, cool tanks with water spray. Do not allow run-off from fire fighting to enter public sewer systems or public waterways.

6. Accidental release measures

Procedures for cleaning up spills or leaks
Ventilate area. If heated above the flashpoint, remove sources of ignition. Prevent skin and eye contact and breathing of vapor. Wear a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C), eye protection, gloves and protective clothing. Confine, remove with inert absorbent, and dispose of properly.

Environmental precautions
Do not let product enter drains. Notify the respective authorities in accordance with local law in the case of contamination of rivers, lakes or waste water systems.

7. Handling and storage

Precautions for safe handling
Observe label precautions. Keep away from heat, flame and other sources of ignition. When heated above its flash point, this must be handled as if it were a flammable liquid. Close container after each use. Do not transfer contents to bottles or unlabeled containers. Wash thoroughly after handling and before eating or smoking.
If material is a coating: do not sand, flame cut, braze or weld dry coating without a NIOSH approved air purifying respirator with particulate filters or appropriate ventilation, and gloves. Combustible dust clouds may be created where operations produce fine material (dust). Avoid formation of significant deposits of material as they may become airborne and form combustible dust clouds. Build up of fine material should be cleaned using gentle sweeping or vacuuming in accordance with best practices. Cleaning methods (e.g. compressed air) which can generate potentially combustible dust clouds should not be used.

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Advice on protection against fire and explosion
Solvent vapours are heavier than air and may spread along floors. Vapors may form explosive mixtures with air and will burn when an ignition source is present. Always keep in containers of same material as the original one. Never use pressure to empty container: container is not a pressure vessel. The accumulation of contaminated rags may result in spontaneous combustion. Good housekeeping standards and regular safe removal of waste materials will minimize the risks of spontaneous combustion and other fire hazards.

Storage
Requirements for storage areas and containers
Observe label precautions. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. No smoking. Prevent unauthorized access. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Advice on common storage
Store separately from oxidizing agents and strongly alkaline and strongly acidic materials.

OSHA/NFPA Storage Classification: II

8. Exposure controls/personal protection

Engineering controls and work practices
Provide adequate ventilation. This should be achieved by a good general extraction and -if practically feasible- by the use of a local exhaust ventilation. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn.

National occupational exposure limits

CAS-No.	Chemical Name	Source	Time	Type	Value	Note
123-86-4	Butyl acetate	ACGIH	15 min	STEL	200 ppm	
			8 hr	TWA	150 ppm	
		OSHA	8 hr	TWA	150 ppm	
13463-67-7	Titanium dioxide	OSHA	8 hr	TWA	15 mg/m3	Total Dust
		Dupont	8 & 12 hour	TWA	10 mg/m3	Total Dust
			8 & 12 hour	TWA	5 mg/m3	Respirable Dust
110-43-0	Methyl amyl ketone	ACGIH	8 hr	TWA	50 ppm	
		OSHA	8 hr	TWA	100 ppm	
67-64-1	Acetone	ACGIH	15 min	STEL	750 ppm	
			8 hr	TWA	500 ppm	
		OSHA	8 hr	TWA	1,000 ppm	
		Dupont	8 & 12 hour	TWA	500 ppm	
141-78-6	Ethyl acetate	ACGIH	8 hr	TWA	400 ppm	
		OSHA	8 hr	TWA	400 ppm	
78-93-3	Methyl ethyl ketone	ACGIH	15 min	STEL	300 ppm	

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CAS-No.	Chemical Name	Source	Time	Type	Value	Note
			8 hr	TWA	200 ppm	
		OSHA	8 hr	TWA	200 ppm	
		Dupont	15 min	TWA	300 ppm	
			8 & 12 hour	TWA	200 ppm	
1328-53-6	Phthalocyanine green	ACGIH		TWA	3 mg/m3	Respirable Dust
				TWA	10 mg/m3	Inhalable dust
		OSHA		TWA	15 mg/m3	Total Dust
				TWA	5 mg/m3	Respirable Dust

** STEL = Short term exposure limit.
TWA = Time-weighted average,

Protective equipment
Personal protective equipment should be worn to prevent contact with eyes, skin or clothing.

Respiratory protection
Do not breathe vapors or mists. Wear an appropriate, properly fitted NIOSH approved respirator during application and until all vapors and spray mists are exhausted unless air monitoring demonstrates vapor/mist levels are below applicable limits. If respirators are required, use a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C) and particulate filter (NIOSH TC-84A). In confined spaces, or in situations where continuous spray operations are typical, or if proper air-purifying respirator fit is not possible, wear a positive pressure, supplied-air respirator (NIOSH TC-19C). In all cases, follow respirator manufacturer's directions for respirator use.'

Eye protection
Desirable in all industrial situations. Goggles are preferred to prevent eye irritation. If safety glasses are substituted, include splash guard or side shields.

Skin and body protection
Neoprene gloves and coveralls are recommended.

Hygiene measures
Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Environmental exposure controls
Do not let product enter drains. For ecological information, refer to Ecological Information Section 12.

9. Physical and chemical properties

Appearance

Form: liquid Colour:

Flash point	104 °F

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Ignition temperature	290 °C	
Lower Explosive Limit	1.1 %	
Upper Explosive Limit	10.3 %	
Evapouration rate	Slower than Ether	
Vapor pressure of principal solvent	12.2 hPa	
Water solubility	moderate	
Vapor density of principal solvent (Air = 1)	4	
Approx. Boiling Range	152 °C	
Approx. Freezing Range	Not applicable.	
Gallon Weight (lbs/gal)	10.52	
Specific Gravity	1.26	
Percent Volatile By Volume	52.77%	
Percent Volatile By Weight	35.75%	
Percent Solids By Volume	47.23%	
Percent Solids By Weight	64.25%	
pH (waterborne systems only)	Not applicable.	
Partition coefficient: n-octanol/water	no data available	
Ignition temperature	290 °C	DIN 51794
Decomposition temperature		
Viscosity (23 °C)	Not applicable.	ISO 2431-1993
VOC* less exempt (lbs/gal)	3.7	
VOC* as packaged (lbs/gal)	3.6	
VOC LE (TBAC)	3.7	
VOC AP (TBAC)	3.5	

* VOC less exempt (theoretical) and VOC as packaged (theoretical) are based upon the VOC of the packaged material at the point of manufacture.
TBAC is not universally recognized as an exempt solvent.
Users should consult the applicable regulations for their region.

10. Stability and reactivity

Stability
Stable

Conditions to avoid
Stable under recommended storage conditions.

Materials to avoid
None reasonably foreseeable.

Hazardous decomposition products
When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen.

Hazardous Polymerization
Will not occur.

Sensitivity to Static Discharge
If heated above the flash point, solvent vapors in air may explode if static grounding and bonding is not used during transfer of this product.

Sensitivity to Mechanical Impact
None known.

11. Toxicological information

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MMRX-02465

Information on likely routes of exposure

Inhalation
Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Delayed and immediate effects and also chronic effects from short and long term exposure:

Acute oral toxicity
not hazardous

Acute dermal toxicity
Not classified according to GHS criteria

Acute inhalation toxicity
not hazardous

% of unknown composition 13.5 %

Skin corrosion/irritation
Not classified according to GHS criteria

Serious eye damage/eye irritation
Not classified according to GHS criteria

Respiratory sensitisation
Not classified according to GHS criteria

Skin sensitisation
Not classified according to GHS criteria

Germ cell mutagenicity
Not classified according to GHS criteria

Carcinogenicity
Not classified according to GHS criteria

Toxicity for reproduction
Not classified according to GHS criteria

Target Organ Systemic Toxicant - Single exposure
Not classified according to GHS criteria

Target Organ Systemic Toxicant - Repeated exposure

- **Skin Absorption**

  Body weight effects ethyl acetate

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Aspiration toxicity
Not classified according to GHS criteria

Numerical measures of toxicity (acute toxicity estimation (ATE),etc.)
No information available.

Symptoms related to the physical, chemical and toxicological characteristics
Exposure to component solvents vapours concentration in excess of the stated occupational exposure limit may result in adverse health effect such as mucous membrane and respiratory system irritation and adverse effect on kidney, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Through skin resorbtion, solvents can cause some of the effects described here. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin. The liquid splashed in the eyes may cause irritation and reversible damage.

Whether the hazardous chemical is listed by NTP, IARC or OSHA

Titanium dioxide	IARC 2B

12. Ecological information

There are no data available on the product itself. The product should not be allowed to enter drains or watercourses. The product contains an organic linked halogen. It may contribute to the AOX-value.

13. Disposal considerations

Waste Disposal Method
Do not allow material to contaminate ground water systems. Incinerate or otherwise dispose of waste material in accordance with Federal, State, Provincial, and local requirements. Do not incinerate in closed containers.

14. Transport information

International transport regulations

IMDG (Sea transport)	
UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III
Marine Pollutant:	no
ICAO/IATA (Air transport)	
UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III
DOT	
UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III

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Marine Pollutant:	no
EmS:	F-E,S-E

Matters needing attention for transportation
Confirm that there is no breakage, corrosion, or leakage from the container before shipping. Be sure to prevent damage to cargo by loading so as to avoid falling, dropping, or collapse. Ship in appropriate containers with denotation of the content in accordance with the relevant statutes and rules.

15. Regulatory information

TSCA Status
In compliance with TSCA Inventory requirements for commercial purposes.

DSL Status
Product is not DSL listed because one or more ingredients are not on the DSL inventory.

Photochemical Reactivity
Non-photochemically reactive

Regulatory information

		EPCRA					CERCLA	CAA
CAS #	Ingredient	302	TPQ	RQ	311 - 312	313	RQ(lbs)	HAP
No information available.	Acrylic polymer	N	NR	NR	NA	N	NR	N
123-86-4	Butyl acetate	N	NR	NR	A,C,F	N	NR	N
13463-67-7	Titanium dioxide	N	NR	NR	,A,C,F,N,R	N	NR	N
14059-33-7	Bismuth vanadium oxide	N	NR	NR	,A,C,F,N,R	Y	NR	N
69153-52-2	Polyester resin	N	NR	NR	NA	N	NR	N
110-43-0	Methyl amyl ketone	N	NR	NR	A,C,F	N	NR	N
67-64-1	Acetone	N	NR	NR	A,C,F	N	5,000	N
No information available.	Acrylic resin	N	NR	NR	NA	N	NR	N
68134-22-5	C.I. pigment yellow 154	N	NR	NR	NA	N	NR	N
141-78-6	Ethyl acetate	N	NR	NR	C,F	N	NR	N
67-63-0	Isopropyl alcohol	N	NR	NR	,A,C,F,N,R	N	NR	N
78-93-3	Methyl ethyl ketone	N	NR	NR	A,C,F	N	5,000	N
1328-53-6	Phthalocyanine green	N	NR	NR	,A,C,F,N,R	N	NR	N
14059-33-7	Yellow bismuth vandate pigment	N	NR	NR	NA	Y	NR	N

Key:

EPCRA	Emergency Planning and Community Right-to-know Act (aka Title III, SARA)
302	Extremely hazardous substances
311/312 Categories	F = Fire Hazard R = Reactivity Hazard P = Pressure Related Hazard A = Acute Hazard C = Chronic Hazard
313 Information	Section 313 Supplier Notification - The chemicals listed above with a 'Y' in the 313 column are subject to reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know act of 1986 and of 40 CFR 372.
CERCLA	Comprehensive Emergency Response, Compensation and Liability Act of 1980.
HAP	Listed as a Clean Air Act Hazardous Air Pollutant.
TPQ	Threshold Planning Quantity.
RQ	Reportable Quantity

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MMRX-02465

NA	not available
NR	not regulated

16. Other information

HMIS rating H: 2 F: 2 R: 0

Glossary of Terms:

ACGIH	American Conference of Governmental Industrial Hygienists.
IARC	International Agency for Research on Cancer.
NTP	National Toxicology Program.
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration.
STEL	Short term exposure limit.
TWA	Time-weighted average.
PNOR	Particles not otherwise regulated.
PNOC	Particles not otherwise classified.

NOTE: The list (above) of glossary terms may be modified.

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The document reflects information provided to Axalta Coating Systems by its suppliers. Information is accurate to the best of our knowledge and is subject to change as new data is received by Axalta Coating Systems. Persons receiving this information should make their own determination as to its suitability for their purposes prior to use. The information on this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.
SDS prepared by:
Axalta Coating Systems Regulatory Affairs
Report version

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MMRX-02465

1. Identification of the substance/mixture and of the company/undertaking

Product name	COLOR ATLAS GREEN	
Product code	CAS367	
Intended use	Coating for professional use	
	Axalta Coating Systems, LLC Applied Corporate Center 50 Applied Card Way, Suite 300 US Glen Mills, PA 19342	
Telephone	Product information Medical emergency Transportation emergency	(855) 6-AXALTA (855) 274-5698 (800) 424-9300 (CHEMTREC)

2. Hazards identification

This preparation is hazardous per the following GHS criteria

GHS-Classification

Flammable liquids Category 3

Endpoints which are ""not classified"", ""cannot classified"" and ""not applicable"" are not shown

GHS-Labelling

Hazard symbols	
Signal word	Warning
Hazard statements	Flammable liquid and vapour.
Precautionary statements	Ground/bond container and receiving equipment. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Take precautionary measures against static discharge. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Wear protective gloves/ eye protection/ face protection. IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower. Store in a well-ventilated place. Keep cool. Dispose of contents/container in accordance with local regulations.

Other hazards which do not result in classification
None known.

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity:
16.6 %

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3. Composition/information on ingredients

Mixture of synthetic resins, pigments, and solvents

Components

CAS-No.	Chemical Name	Concentration	GHS Hazardous
No information available.	Acrylic polymer	30 - 40%	
123-86-4	Butyl acetate	15 - 26%	√
68134-22-5	C.i. pigment yellow 154	5 - 10%	
69153-52-2	Polyester resin	5 - 10%	
110-43-0	Methyl amyl ketone	4 - 15%	√
67-64-1	Acetone	1 - 4%	√
No information available.	Acrylic resin	1 - 5%	
763-69-9	Ethyl 3-ethoxy propionate	1 - 4%	√
141-78-6	Ethyl acetate	1 - 4%	√
67-63-0	Isopropyl alcohol	1 - 4%	√
78-93-3	Methyl ethyl ketone	1 - 4%	√
1328-53-6	Phthalocyanine green	1 - 5%	
13463-67-7	Titanium dioxide	0.4%	

OSHA Hazardous: Yes
* Assigned CAS No. - An official CAS No. does not exist. The CAS No. shown is for a similar chemical.

4. First aid measures

Eye contact
Remove contact lenses. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Seek medical advice.

Skin contact
Do NOT use solvents or thinners. Take off all contaminated clothing immediately. Wash skin thoroughly with soap and water or use recognized skin cleanser. If skin irritation persists, call a physician.

Inhalation
Avoid inhalation of vapour or mist. Move to fresh air in case of accidental inhalation of vapours. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

Ingestion
If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting. Keep at rest.

Most Important Symptoms/effects, acute and delayed

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Inhalation
Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Indication of immediate medical attention and special treatment needed if necessary
No data available on the product. See section 3 and 11 for hazardous ingredients found in the product.

5. Firefighting measures

Suitable extinguishing media
Extinguishing media which shall not be used for safety reasons
High volume water jet

Hazardous combustion products
CO, CO2, smoke, and oxides of any heavy metals that are reported in "Composition, Information on Ingredients" section.

Fire and Explosion Hazards
Combustible liquid. When heated above the flashpoint, emits vapors which, when mixed with air, will burn if an ignition source is present. Fine mist or sprays could ignite at temperatures below the flashpoint.

Special Protective Equipment and Fire Fighting Procedures
Full protective flameproof clothing should be worn as appropriate. Wear self contained breathing apparatus for fire fighting if necessary. In the event of fire, cool tanks with water spray. Do not allow run-off from fire fighting to enter public sewer systems or public waterways.

6. Accidental release measures

Procedures for cleaning up spills or leaks
Ventilate area. If heated above the flashpoint, remove sources of ignition. Prevent skin and eye contact and breathing of vapor. Wear a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C), eye protection, gloves and protective clothing. Confine, remove with inert absorbent, and dispose of properly.

Environmental precautions
Do not let product enter drains. Notify the respective authorities in accordance with local law in the case of contamination of rivers, lakes or waste water systems.

7. Handling and storage

Precautions for safe handling
Observe label precautions. Keep away from heat, flame and other sources of ignition. When heated above its flash point, this must be handled as if it were a flammable liquid. Close container after each use. Do not transfer contents to bottles or unlabeled containers. Wash thoroughly after handling and before eating or smoking.
If material is a coating: do not sand, flame cut, braze or weld dry coating without a NIOSH approved air purifying respirator with particulate filters or appropriate ventilation, and gloves. Combustible dust clouds may be created where operations produce fine material (dust). Avoid formation of significant deposits of material as they may become airborne and form combustible dust clouds. Build up of fine material should be cleaned using gentle sweeping or vacuuming in accordance with best practices. Cleaning methods (e.g. compressed air) which can generate potentially combustible dust clouds should not be used.

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Advice on protection against fire and explosion
Solvent vapours are heavier than air and may spread along floors. Vapors may form explosive mixtures with air and will burn when an ignition source is present. Always keep in containers of same material as the original one. Never use pressure to empty container: container is not a pressure vessel. The accumulation of contaminated rags may result in spontaneous combustion. Good housekeeping standards and regular safe removal of waste materials will minimize the risks of spontaneous combustion and other fire hazards.

Storage
Requirements for storage areas and containers
Observe label precautions. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. No smoking. Prevent unauthorized access. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Advice on common storage
Store separately from oxidizing agents and strongly alkaline and strongly acidic materials.

OSHA/NFPA Storage Classification: II

8. Exposure controls/personal protection

Engineering controls and work practices
Provide adequate ventilation. This should be achieved by a good general extraction and -if practically feasible- by the use of a local exhaust ventilation. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn.

National occupational exposure limits

CAS-No.	Chemical Name	Source	Time	Type	Value	Note
123-86-4	Butyl acetate	ACGIH	15 min	STEL	200 ppm	
			8 hr	TWA	150 ppm	
		OSHA	8 hr	TWA	150 ppm	
110-43-0	Methyl amyl ketone	ACGIH	8 hr	TWA	50 ppm	
		OSHA	8 hr	TWA	100 ppm	
67-64-1	Acetone	ACGIH	15 min	STEL	750 ppm	
			8 hr	TWA	500 ppm	
		OSHA	8 hr	TWA	1,000 ppm	
		Dupont	8 & 12 hour	TWA	500 ppm	
141-78-6	Ethyl acetate	ACGIH	8 hr	TWA	400 ppm	
		OSHA	8 hr	TWA	400 ppm	
78-93-3	Methyl ethyl ketone	ACGIH	15 min	STEL	300 ppm	
			8 hr	TWA	200 ppm	
		OSHA	8 hr	TWA	200 ppm	
		Dupont	15 min	TWA	300 ppm	
			8 & 12 hour	TWA	200 ppm	

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CAS-No.	Chemical Name	Source	Time	Type	Value	Note
1328-53-6	Phthalocyanine green	ACGIH		TWA	3 mg/m3	Respirable Dust
				TWA	10 mg/m3	inhalable dust
		OSHA		TWA	15 mg/m3	Total Dust
				TWA	5 mg/m3	Respirable Dust
13463-67-7	Titanium dioxide	OSHA	8 hr	TWA	15 mg/m3	Total Dust
		Dupont	8 & 12 hour	TWA	10 mg/m3	Total Dust
			8 & 12 hour	TWA	5 mg/m3	Respirable Dust

** STEL = Short term exposure limit.
TWA = Time-weighted average.

Protective equipment
Personal protective equipment should be worn to prevent contact with eyes, skin or clothing.

Respiratory protection
Do not breathe vapors or mists. Wear an appropriate, properly fitted NIOSH approved respirator during application and until all vapors and spray mists are exhausted unless air monitoring demonstrates vapor/mist levels are below applicable limits. If respirators are required, use a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C) and particulate filter (NIOSH TC-84A). In confined spaces, or in situations where continuous spray operations are typical, or if proper air-purifying respirator fit is not possible, wear a positive pressure, supplied-air respirator (NIOSH TC-19C). In all cases, follow respirator manufacturer's directions for respirator use.'

Eye protection
Desirable in all industrial situations. Goggles are preferred to prevent eye irritation. If safety glasses are substituted, include splash guard or side shields.

Skin and body protection
Neoprene gloves and coveralls are recommended.

Hygiene measures
Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Environmental exposure controls
Do not let product enter drains. For ecological information, refer to Ecological Information Section 12.

9. Physical and chemical properties

Appearance

Form: liquid Colour:

Flash point	104 °F

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Ignition temperature	290 °C	
Lower Explosive Limit	1.1 %	
Upper Explosive Limit	10.3 %	
Evapouration rate	Slower than Ether	
Vapor pressure of principal solvent	18.0 hPa	
Water solubility	moderate	
Vapor density of principal solvent (Air = 1)	4	
Approx. Boiling Range	152 °C	
Approx. Freezing Range	Not applicable.	
Gallon Weight (lbs/gal)	8.52	
Specific Gravity	1.02	
Percent Volatile By Volume	53.67%	
Percent Volatile By Weight	44.66%	
Percent Solids By Volume	46.33%	
Percent Solids By Weight	55.34%	
pH (waterborne systems only)	Not applicable.	
Partition coefficient: n-octanol/water	no data available	
Ignition temperature	290 °C	DIN 51794
Decomposition temperature		
Viscosity (23 °C)	Not applicable.	ISO 2431-1993
VOC* less exempt (lbs/gal)	3.7	
VOC* as packaged (lbs/gal)	3.5	
VOC LE (TBAC)	3.6	
VOC AP (TBAC)	3.4	

* VOC less exempt (theoretical) and VOC as packaged (theoretical) are based upon the VOC of the packaged material at the point of manufacture.
TBAC is not universally recognized as an exempt solvent.
Users should consult the applicable regulations for their region.

10. Stability and reactivity

Stability
Stable

Conditions to avoid
Stable under recommended storage conditions.

Materials to avoid
None reasonably foreseeable.

Hazardous decomposition products
When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen.

Hazardous Polymerization
Will not occur.

Sensitivity to Static Discharge
If heated above the flash point, solvent vapors in air may explode if static grounding and bonding is not used during transfer of this product.

Sensitivity to Mechanical Impact
None known.

11. Toxicological information

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Information on likely routes of exposure

Inhalation
Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Delayed and immediate effects and also chronic effects from short and long term exposure:

Acute oral toxicity
not hazardous

Acute dermal toxicity
not hazardous

Acute inhalation toxicity
not hazardous

% of unknown composition 16.6 %

Skin corrosion/irritation
Not classified according to GHS criteria

Serious eye damage/eye irritation
Not classified according to GHS criteria

Respiratory sensitisation
Not classified according to GHS criteria

Skin sensitisation
Not classified according to GHS criteria

Germ cell mutagenicity
Not classified according to GHS criteria

Carcinogenicity
Not classified according to GHS criteria

Toxicity for reproduction
Not classified according to GHS criteria

Target Organ Systemic Toxicant - Single exposure
Not classified according to GHS criteria

Target Organ Systemic Toxicant - Repeated exposure
Not classified according to GHS criteria

Aspiration toxicity
Not classified according to GHS criteria

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Numerical measures of toxicity (acute toxicity estimation (ATE),etc.)
No information available.

Symptoms related to the physical, chemical and toxicological characteristics
Exposure to component solvents vapours concentration in excess of the stated occupational exposure limit may result in adverse health effect such as mucous membrane and respiratory system irritation and adverse effect on kidney, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Through skin resorbtion, solvents can cause some of the effects described here. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin. The liquid splashed in the eyes may cause irritation and reversible damage.

Whether the hazardous chemical is listed by NTP, IARC or OSHA

Titanium dioxide	IARC 2B

12. Ecological information

There are no data available on the product itself. The product should not be allowed to enter drains or watercourses. The product contains an organic linked halogen. It may contribute to the AOX-value.

13. Disposal considerations

Waste Disposal Method
Do not allow material to contaminate ground water systems. Incinerate or otherwise dispose of waste material in accordance with Federal, State, Provincial, and local requirements. Do not incinerate in closed containers.

14. Transport information

International transport regulations

IMDG (Sea transport)	
UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III
Marine Pollutant:	no
ICAO/IATA (Air transport)	
UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III
DOT	
UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III
Marine Pollutant:	no
EmS:	F-E,S-E

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Matters needing attention for transportation
Confirm that there is no breakage, corrosion, or leakage from the container before shipping. Be sure to prevent damage to cargo by loading so as to avoid falling, dropping, or collapse. Ship in appropriate containers with denotation of the content in accordance with the relevant statutes and rules.

15. Regulatory information

TSCA Status
In compliance with TSCA Inventory requirements for commercial purposes.

DSL Status
Product is not DSL listed because one or more ingredients are not on the DSL inventory.

Photochemical Reactivity
Non-photochemically reactive

Regulatory information

		EPCRA					CERCLA	CAA
CAS #	Ingredient	302	TPQ	RQ	311 - 312	313	RQ(lbs)	HAP
No information available.	Acrylic polymer	N	NR	NR	NA	N	NR	N
123-86-4	Butyl acetate	N	NR	NR	A,C,F	N	NR	N
68134-22-5	C.i. pigment yellow 154	N	NR	NR	NA	N	NR	N
69153-52-2	Polyester resin	N	NR	NR	NA	N	NR	N
110-43-0	Methyl amyl ketone	N	NR	NR	A,C,F	N	NR	N
67-64-1	Acetone	N	NR	NR	A,C,F	N	5,000	N
No information available.	Acrylic resin	N	NR	NR	NA	N	NR	N
763-69-9	Ethyl 3-ethoxy propionate	N	NR	NR	NA	N	NR	N
141-78-6	Ethyl acetate	N	NR	NR	C,F	N	NR	N
67-63-0	Isopropyl alcohol	N	NR	NR	,A,C,F,N,R	N	NR	N
78-93-3	Methyl ethyl ketone	N	NR	NR	A,C,F	N	5,000	N
1328-53-6	Phthalocyanine green	N	NR	NR	,A,C,F,N,R	N	NR	N
13463-67-7	Titanium dioxide	N	NR	NR	,A,C,F,N,R	N	NR	N

Key:

EPCRA	Emergency Planning and Community Right-to-know Act (aka Title III, SARA)
302	Extremely hazardous substances
311/312 Categories	F = Fire Hazard R = Reactivity Hazard P = Pressure Related Hazard A = Acute Hazard C = Chronic Hazard
313 Information	Section 313 Supplier Notification - The chemicals listed above with a 'Y' in the 313 column are subject to reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know act of 1986 and of 40 CFR 372.
CERCLA	Comprehensive Emergency Response, Compensation and Liability Act of 1980.
HAP	Listed as a Clean Air Act Hazardous Air Pollutant.
TPQ	Threshold Planning Quantity.
RQ	Reportable Quantity
NA	not available
NR	not regulated

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16. Other information

HMIS rating H: 2 F: 2 R: 0

Glossary of Terms:

ACGIH	American Conference of Governmental Industrial Hygienists.
IARC	International Agency for Research on Cancer.
NTP	National Toxicology Program.
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration.
STEL	Short term exposure limit.
TWA	Time-weighted average.
PNOR	Particles not otherwise regulated.
PNOC	Particles not otherwise classified.

NOTE: The list (above) of glossary terms may be modified.

Notice from Axalta Coating Systems
The document reflects information provided to Axalta Coating Systems by its suppliers. Information is accurate to the best of our knowledge and is subject to change as new data is received by Axalta Coating Systems. Persons receiving this information should make their own determination as to its suitability for their purposes prior to use. The information on this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.
SDS prepared by:
Axalta Coating Systems Regulatory Affairs
Report version

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1. Identification of the substance/mixture and of the company/undertaking

Product name	COLOR ATLAS BLUE	
Product code	CAS523EW	
Intended use	Coating for professional use	
	Axalta Coating Systems, LLC Applied Corporate Center 50 Applied Card Way, Suite 300 US Glen Mills, PA 19342	
Telephone	Product information Medical emergency Transportation emergency	(855) 6-AXALTA (855) 274-5698 (800) 424-9300 (CHEMTREC)
Chemical Family	No data available.	

2. Composition/information on ingredients

CAS-No.	Chemical Name	Concentration
13463-67-7	Titanium dioxide	32.8%
No information available.	Acrylic polymer	10 - 20%
123-86-4	Butyl acetate	10 - 20%
110-43-0	Methyl amyl ketone	5 - 10%
69153-52-2	Polyester resin	5 - 10%
67-64-1	Acetone	1 - 5%
No information available.	Acrylic resin	1 - 5%
21645-51-2	Aluminum hydroxide	1 - 5%
7631-86-9	Amorphous silica	1 - 5%
763-69-9	Ethyl 3-ethoxy propionate	1 - 5%
141-78-6	Ethyl acetate	1 - 5%
78-93-3	Methyl ethyl ketone	1 - 5%

OSHA Hazardous: Yes

3. Hazards identification

Emergency Overview
WARNING! COMBUSTIBLE LIQUID AND VAPOR. VAPORS AND SPRAY MIST HARMFUL IF INHALED. MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS SUCH AS DIZZINESS, HEADACHE, OR NAUSEA. MAY CAUSE NOSE, THROAT, EYE AND SKIN IRRITATION. CAN BE ABSORBED THROUGH THE SKIN.

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Potential Health Effects
Inhalation
Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Other Potential Health Effects in addition to those listed above
Titanium dioxide
Is an IARC, NTP or OSHA carcinogen. In a lifetime inhalation test, lung cancers were found in some rats exposed to 250 mg/m3 respirable titanium dust. Analysis of the titanium dioxide concentrations in the rat's lungs showed that the lung clearance mechanism was overwhelmed and that the results at the massive 250 mg/m3 level are not relevant to the workplace.'Results of a DuPont epidemiology study showed that employees who had been exposed to Titanium Dioxide were at no greater risk of developing lung cancer than were employees who had not been exposed to Titanium dioxide. No pulmonary fibrosis was found in any of the employees and no association was observed between Titanium dioxide exposure and chronic respiratory disease or x-ray abnormalities. Based on the results of this study DuPont concludes that titanium dioxide will not cause lung cancer or chronic respiratory disease in humans at concentrations experienced in the workplace.'

Butyl acetate
May cause abnormal liver function. The following medical conditions may be aggravated by exposure: respiratory system. Tests for embryotoxic activity in animals has been inconclusive. Rats exposed to very high airborne levels have exhibited high frequency hearing deficits. The significance of this to man is unknown. Has been toxic to the fetus in laboratory animals at doses that are toxic to the mother.

Polyester resin
Contact may cause skin irritation with discomfort or rash. May cause eye irritation with discomfort, tearing, or blurred vision.

Acetone
The following medical conditions may be aggravated by exposure: lung disease, eye disorders, skin disorders. Overexposure may cause damage to any of the following organs/systems: blood, central nervous system, eyes, kidneys, liver, respiratory system, skin.

Ethyl acetate
Increased susceptibility to the effects of this material may be observed in people with preexisting disease of any of the following: eyes, respiratory system, skin. Tests in laboratory animals have shown effects on any of the following organs/systems: blood, kidneys, liver.

Methyl ethyl ketone
Material is irritating to mucous membranes and upper respiratory tract. Increased susceptibility to the effects of this material may be observed in people with preexisting disease of any of the following: central nervous system, eyes, respiratory system, skin. Prolonged or repeated overexposure may cause any of the following: conjunctivitis, dermatitis. High concentrations have caused embryotoxic effects in laboratory animals. Aspiration may occur during swallowing or vomiting, resulting in lung damage. Ingestion may cause headache, nausea, vomiting, dizziness, and drowsiness.

Note
If a chemical listed above is not identified as a carcinogen, it is not an "IARC, NTP or OSHA carcinogen."

4. First aid measures

General advice
When symptoms persist or in all cases of doubt seek medical advice. Never give anything by mouth to an unconscious person.

Inhalation
Avoid inhalation of vapour or mist. Move to fresh air in case of accidental inhalation of vapours. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

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Skin contact
Do NOT use solvents or thinners. Take off all contaminated clothing immediately. Wash skin thoroughly with soap and water or use recognized skin cleanser. If skin irritation persists, call a physician.

Eye contact
Remove contact lenses. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Seek medical advice.

Ingestion
In the unlikely event of ingestion, DO NOT INDUCE VOMITING. Call a physician immediately and have names of ingredients available. Keep at rest.

5. Firefighting measures

Suitable extinguishing media
Hazardous combustion products
CO, CO2, smoke, and oxides of any heavy metals that are reported in "Composition, Information on Ingredients" section.

Fire and Explosion Hazards
Combustible liquid. When heated above the flashpoint, emits vapors which, when mixed with air, will burn if an ignition source is present. Fine mist or sprays could ignite at temperatures below the flashpoint.

Special Protective Equipment and Fire Fighting Procedures
Full protective flameproof clothing should be worn as appropriate. Wear self contained breathing apparatus for fire fighting if necessary. In the event of fire, cool tanks with water spray. Do not allow run-off from fire fighting to enter public sewer systems or public waterways.

6. Accidental release measures

Procedures for cleaning up spills or leaks
Ventilate area. If heated above the flashpoint, remove sources of ignition. Prevent skin and eye contact and breathing of vapor. Wear a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C), eye protection, gloves and protective clothing. Confine, remove with inert absorbent, and dispose of properly.

7. Handling and storage

Safe handling advice
Observe label precautions. Keep away from heat, flame and other sources of ignition. When heated above its flash point, this must be handled as if it were a flammable liquid. Close container after each use. Do not transfer contents to bottles or unlabeled containers. Wash thoroughly after handling and before eating or smoking.
If material is a coating: do not sand, flame cut, braze or weld dry coating without a NIOSH approved air purifying respirator with particulate filters or appropriate ventilation, and gloves. Combustible dust clouds may be created where operations produce fine material (dust). Avoid formation of significant deposits of material as they may become airborne and form combustible dust clouds. Build up of fine material should be cleaned using gentle sweeping or vacuuming in accordance with best practices. Cleaning methods (e.g. compressed air) which can generate potentially combustible dust clouds should not be used.

Advice on protection against fire and explosion
Solvent vapours are heavier than air and may spread along floors. Vapors may form explosive mixtures with air and will burn when an ignition source is present. Always keep in containers of same material as the original one. Never use pressure to empty container: container is not a pressure vessel. The accumulation of contaminated rags may result in spontaneous combustion. Good housekeeping standards and regular safe removal of waste materials will minimize the risks of spontaneous combustion and other fire hazards.

Storage

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Requirements for storage areas and containers
Observe label precautions. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. No smoking. Prevent unauthorized access. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Advice on common storage
Store separately from oxidizing agents and strongly alkaline and strongly acidic materials.

OSHA/NFPA Storage Classification: II

8. Exposure controls/personal protection

Engineering controls and work practices
Provide adequate ventilation. This should be achieved by a good general extraction and -if practically feasible- by the use of a local exhaust ventilation. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn.

National occupational exposure limits

CAS-No.	Chemical Name	Source	Time	Type	Value	Note
13463-67-7	Titanium dioxide	OSHA	8 hr	TWA	15 mg/m3	Total Dust
		Dupont	8 & 12 hour	TWA	10 mg/m3	Total Dust
			8 & 12 hour	TWA	5 mg/m3	Respirable Dust
123-86-4	Butyl acetate	ACGIH	15 min	STEL	200 ppm	
			8 hr	TWA	150 ppm	
		OSHA	8 hr	TWA	150 ppm	
110-43-0	Methyl amyl ketone	ACGIH	8 hr	TWA	50 ppm	
		OSHA	8 hr	TWA	100 ppm	
67-64-1	Acetone	ACGIH	15 min	STEL	750 ppm	
			8 hr	TWA	500 ppm	
		OSHA	8 hr	TWA	1,000 ppm	
		Dupont	8 & 12 hour	TWA	500 ppm	
21645-51-2	Aluminum hydroxide	ACGIH	8 hr	TWA	1 mg/m3	
7631-86-9	Amorphous silica	ACGIH	8 hr	TWA	3 mg/m3	Respirable Dust
		OSHA	8 hr	TWA	20 mppcf	
		Dupont	8 hr	PEL	3 mg/m3	
			8 hr	TWA	6 mg/m3	
141-78-6	Ethyl acetate	ACGIH	8 hr	TWA	400 ppm	
		OSHA	8 hr	TWA	400 ppm	

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CAS-No.	Chemical Name	Source	Time	Type	Value	Note
78-93-3	Methyl ethyl ketone	ACGIH	15 min	STEL	300 ppm	
			8 hr	TWA	200 ppm	
		OSHA	8 hr	TWA	200 ppm	
		Dupont	15 min	TWA	300 ppm	
			8 & 12 hour	TWA	200 ppm	

** TWA = Time-weighted average.
STEL = Short term exposure limit.
PEL = Permissible Exposure Limit.

Protective equipment
Personal protective equipment should be worn to prevent contact with eyes, skin or clothing.

Respiratory protection
Do not breathe vapors or mists. Wear an appropriate, properly fitted NIOSH approved respirator during application and until all vapors and spray mists are exhausted unless air monitoring demonstrates vapor/mist levels are below applicable limits. If respirators are required, use a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C) and particulate filter (NIOSH TC-84A). In confined spaces, or in situations where continuous spray operations are typical, or if proper air-purifying respirator fit is not possible, wear a positive pressure, supplied-air respirator (NIOSH TC-19C). In all cases, follow respirator manufacturer's directions for respirator use.'

Eye protection
Desirable in all industrial situations. Goggles are preferred to prevent eye irritation. If safety glasses are substituted, include splash guard or side shields.

Skin and body protection
Neoprene gloves and coveralls are recommended.

Hygiene measures
Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Environmental exposure controls
Do not let product enter drains. For ecological information, refer to Ecological Information Section 12.

9. Physical and chemical properties

Appearance

Form: liquid Colour:

Flash point	104 °F
Ignition temperature	377 °C
Lower Explosive Limit	1.1 %
Upper Explosive Limit	10.3 %
Evapouration rate	Slower than Ether
Vapor pressure of principal solvent	20.9 hPa
Water solubility	moderate
Vapor density of principal solvent (Air = 1)	4
Approx. Boiling Range	152 °C

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Approx. Freezing Range	Not applicable.
Gallon Weight (lbs/gal)	10.92
Specific Gravity	1.31
Percent Volatile By Volume	55.13%
Percent Volatile By Weight	35.82%
Percent Solids By Volume	44.87%
Percent Solids By Weight	64.18%
pH (waterborne systems only)	Not applicable.
VOC* less exempt (lbs/gal)	3.7
VOC* as packaged (lbs/gal)	3.4

* VOC less exempt (theoretical) and VOC as packaged (theoretical) are based upon the VOC of the packaged material at the point of manufacture.

10. Stability and reactivity

Stability
Stable

Conditions to avoid
Stable under recommended storage conditions.

Materials to avoid
None reasonably foreseeable.

Hazardous decomposition products
When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen.

Hazardous Polymerization
Will not occur.

Sensitivity to Static Discharge
If heated above the flash point, solvent vapors in air may explode if static grounding and bonding is not used during transfer of this product.

Sensitivity to Mechanical Impact
None known.

11. Toxicological information

No data available on the product. See Hazards Identification Section 3 for health effects of the product components.

12. Ecological information

There are no data available on the product itself. The product should not be allowed to enter drains or watercourses. The product contains an organic linked halogen. It may contribute to the AOX-value.

13. Disposal considerations

Waste Disposal Method
Do not allow material to contaminate ground water systems. Incinerate or otherwise dispose of waste material in accordance with Federal, State, Provincial, and local requirements. Do not incinerate in closed containers.

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14. Transport information

No information available.

15. Regulatory information

TSCA Status
In compliance with TSCA Inventory requirements for commercial purposes.

DSL Status
Product is not DSL listed because one or more ingredients are not on the DSL inventory.

WHMIS Classification

- Class B Division 3
- Class D Division 2 Subdivision A 53
- Class D Division 2 Subdivision A 54
- Class D Division 2 Subdivision B 60

WHMIS symbols

Photochemical Reactivity
Non-photochemically reactive

Regulatory information

		EPCRA					CERCLA	CAA
CAS #	Ingredient	302	TPQ	RQ	311 - 312	313	RQ(lbs)	HAP
13463-67-7	Titanium dioxide	N	NR	NR	,A,C,F,N,R	N	NR	N
No information available.	Acrylic polymer	N	NR	NR	NA	N	NR	N
123-86-4	Butyl acetate	N	NR	NR	A,C,F	N	NR	N
110-43-0	Methyl amyl ketone	N	NR	NR	A,C,F	N	NR	N
69153-52-2	Polyester resin	N	NR	NR	NA	N	NR	N
67-64-1	Acetone	N	NR	NR	A,C,F	N	5,000	N
No information available.	Acrylic resin	N	NR	NR	NA	N	NR	N
21645-51-2	Aluminum hydroxide	N	NR	NR	,A,C,F,N,R	N	NR	N
7631-86-9	Amorphous silica	N	NR	NR	,A,C,F,N,R	N	NR	N
763-69-9	Ethyl 3-ethoxy propionate	N	NR	NR	NA	N	NR	N
141-78-6	Ethyl acetate	N	NR	NR	C,F	N	NR	N
78-93-3	Methyl ethyl ketone	N	NR	NR	A,C,F	N	5,000	N

Key:

EPCRA	Emergency Planning and Community Right-to-know Act (aka Title III, SARA)
302	Extremely hazardous substances
311/312 Categories	F = Fire Hazard R = Reactivity Hazard P = Pressure Related Hazard A = Acute Hazard C = Chronic Hazard
313 Information	Section 313 Supplier Notification - The chemicals listed above with a 'Y' in the 313 column are subject to reporting requirements of

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	Section 313 of the Emergency Planning and Community Right-to-Know act of 1986 and of 40 CFR 372.
CERCLA	Comprehensive Emergency Response, Compensation and Liability Act of 1980.
HAP	Listed as a Clean Air Act Hazardous Air Pollutant.
TPQ	Threshold Planning Quantity.
RQ	Reportable Quantity
NA	not available
NR	not regulated

16. Other information

HMIS rating H: 2 F: 2 R: 0

Glossary of Terms:

ACGIH	American Conference of Governmental Industrial Hygienists.
IARC	International Agency for Research on Cancer.
NTP	National Toxicology Program.
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration.
STEL	Short term exposure limit.
TWA	Time-weighted average.
PNOR	Particles not otherwise regulated.
PNOC	Particles not otherwise classified.

NOTE: The list (above) of glossary terms may be modified.

Notice from Axalta Coating Systems
The document reflects information provided to Axalta Coating Systems by its suppliers. Information is accurate to the best of our knowledge and is subject to change as new data is received by Axalta Coating Systems. Persons receiving this information should make their own determination as to its suitability for their purposes prior to use. The information on this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.
SDS prepared by:
Axalta Coating Systems Regulatory Affairs
Report version

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1. Identification of the substance/mixture and of the company/undertaking

Product name	COLOR ATLAS BLUE	
Product code	CAS525 EW	
Intended use	Coating for professional use	
	Axalta Coating Systems, LLC Applied Corporate Center 50 Applied Card Way, Suite 300 US Glen Mills, PA 19342	
Telephone	Product information	(855) 6-AXALTA
	Medical emergency	(855) 274-5698
	Transportation emergency	(800) 424-9300 (CHEMTREC)

2. Hazards identification

This preparation is hazardous per the following GHS criteria

GHS-Classification

Flammable liquids	Category 3
Serious eye damage/eye irritation	Category 2A

Endpoints which are ""not classified"", ""cannot classified"" and ""not applicable"" are not shown

GHS-Labelling

Hazard symbols	
Signal word	Warning
Hazard statements	Flammable liquid and vapour. Causes serious eye irritation.
Precautionary statements	Wear eye protection/ face protection. Ground/bond container and receiving equipment. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Take precautionary measures against static discharge. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Wear protective gloves/ eye protection/ face protection. If eye irritation persists: Get medical advice/ attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower. Store in a well-ventilated place. Keep cool. Dispose of contents/container in accordance with local regulations.

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Other hazards which do not result in classification
None known.

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity:
7.8 %

3. Composition/information on ingredients

Mixture of synthetic resins, pigments, and solvents

Components

CAS-No.	Chemical Name	Concentration	GHS Hazardous
No information available.	Acrylic polymer	20 - 30%	
13463-67-7	Titanium dioxide	19.2%	
69153-52-2	Polyester resin	10 - 20%	
67-64-1	Acetone	4 - 15%	√
123-86-4	Butyl acetate	4 - 15%	√
110-43-0	Methyl amyl ketone	4 - 15%	√
No information available.	Acrylic resin	1 - 5%	
7631-86-9	Amorphous silica	1 - 5%	
763-69-9	Ethyl 3-ethoxy propionate	1 - 4%	√
141-78-6	Ethyl acetate	1 - 4%	√
67-63-0	Isopropyl alcohol	1 - 4%	√
78-93-3	Methyl ethyl ketone	1 - 4%	√
147-14-8	Phthalocyanine blue pigment	1 - 5%	

OSHA Hazardous: Yes
* Assigned CAS No. - An official CAS No. does not exist. The CAS No. shown is for a similar chemical.

4. First aid measures

Eye contact
Remove contact lenses. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Seek medical advice.

Skin contact
Do NOT use solvents or thinners. Take off all contaminated clothing immediately. Wash skin thoroughly with soap and water or use recognized skin cleanser. If skin irritation persists, call a physician.

Inhalation
Avoid inhalation of vapour or mist. Move to fresh air in case of accidental inhalation of vapours. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

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Ingestion
If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting. Keep at rest.

Most Important Symptoms/effects, acute and delayed

Inhalation
Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Indication of immediate medical attention and special treatment needed if necessary
No data available on the product. See section 3 and 11 for hazardous ingredients found in the product.

5. Firefighting measures

Suitable extinguishing media
Extinguishing media which shall not be used for safety reasons
High volume water jet

Hazardous combustion products
CO, CO2, smoke, and oxides of any heavy metals that are reported in "Composition, Information on Ingredients" section.

Fire and Explosion Hazards
Combustible liquid. When heated above the flashpoint, emits vapors which, when mixed with air, will burn if an ignition source is present. Fine mist or sprays could ignite at temperatures below the flashpoint.

Special Protective Equipment and Fire Fighting Procedures
Full protective flameproof clothing should be worn as appropriate. Wear self contained breathing apparatus for fire fighting if necessary. In the event of fire, cool tanks with water spray. Do not allow run-off from fire fighting to enter public sewer systems or public waterways.

6. Accidental release measures

Procedures for cleaning up spills or leaks
Ventilate area. If heated above the flashpoint, remove sources of ignition. Prevent skin and eye contact and breathing of vapor. Wear a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C), eye protection, gloves and protective clothing. Confine, remove with inert absorbent, and dispose of properly.

Environmental precautions
Do not let product enter drains. Notify the respective authorities in accordance with local law in the case of contamination of rivers, lakes or waste water systems.

7. Handling and storage

Precautions for safe handling
Observe label precautions. Keep away from heat, flame and other sources of ignition. When heated above its flash point, this must be handled as if it were a flammable liquid. Close container after each use. Do not transfer contents to bottles or unlabeled containers. Wash thoroughly after handling and before eating or smoking.
If material is a coating: do not sand, flame cut, braze or weld dry coating without a NIOSH approved air purifying respirator with particulate filters or appropriate ventilation, and gloves. Combustible dust clouds may be created where operations produce fine material (dust). Avoid formation of significant deposits of material as they may become airborne and form combustible dust clouds. Build up of fine material should be cleaned using gentle sweeping or vacuuming in accordance with best practices. Cleaning methods (e.g. compressed air) which can generate potentially combustible dust clouds should not be used.

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Advice on protection against fire and explosion
Solvent vapours are heavier than air and may spread along floors. Vapors may form explosive mixtures with air and will burn when an ignition source is present. Always keep in containers of same material as the original one. Never use pressure to empty container: container is not a pressure vessel. The accumulation of contaminated rags may result in spontaneous combustion. Good housekeeping standards and regular safe removal of waste materials will minimize the risks of spontaneous combustion and other fire hazards.

Storage
Requirements for storage areas and containers
Observe label precautions. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. No smoking. Prevent unauthorized access. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Advice on common storage
Store separately from oxidizing agents and strongly alkaline and strongly acidic materials.

OSHA/NFPA Storage Classification: II

8. Exposure controls/personal protection

Engineering controls and work practices
Provide adequate ventilation. This should be achieved by a good general extraction and -if practically feasible- by the use of a local exhaust ventilation. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn.

National occupational exposure limits

CAS-No.	Chemical Name	Source	Time	Type	Value	Note
13463-67-7	Titanium dioxide	OSHA	8 hr	TWA	15 mg/m3	Total Dust
		Dupont	8 & 12 hour	TWA	10 mg/m3	Total Dust
			8 & 12 hour	TWA	5 mg/m3	Respirable Dust
67-64-1	Acetone	ACGIH	15 min	STEL	750 ppm	
			8 hr	TWA	500 ppm	
		OSHA	8 hr	TWA	1,000 ppm	
		Dupont	8 & 12 hour	TWA	500 ppm	
123-86-4	Butyl acetate	ACGIH	15 min	STEL	200 ppm	
			8 hr	TWA	150 ppm	
		OSHA	8 hr	TWA	150 ppm	
110-43-0	Methyl amyl ketone	ACGIH	8 hr	TWA	50 ppm	
		OSHA	8 hr	TWA	100 ppm	
7631-86-9	Amorphous silica	ACGIH	8 hr	TWA	3 mg/m3	Respirable Dust
		OSHA	8 hr	TWA	20 mppcf	
		Dupont	8 hr	PEL	3 mg/m3	

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CAS-No.	Chemical Name	Source	Time	Type	Value	Note
			8 hr	TWA	6 mg/m3	
141-78-6	Ethyl acetate	ACGIH	8 hr	TWA	400 ppm	
		OSHA	8 hr	TWA	400 ppm	
78-93-3	Methyl ethyl ketone	ACGIH	15 min	STEL	300 ppm	
			8 hr	TWA	200 ppm	
		OSHA	8 hr	TWA	200 ppm	
		Dupont	15 min	TWA	300 ppm	
			8 & 12 hour	TWA	200 ppm	
147-14-8	Phthalocyanine blue pigment	ACGIH	8 hr	TWA	10 mg/m3	inhalable dust PNOC
			8 hr	TWA	3 mg/m3	respirable particulate PNOC
		OSHA		TWA	5 mg/m3	Respirable Dust PNOR
			8 hr	TWA	15 mg/m3	Total Dust PNOR

** TWA = Time-weighted average.
STEL = Short term exposure limit.
PEL = Permissible Exposure Limit.

Protective equipment
Personal protective equipment should be worn to prevent contact with eyes, skin or clothing.

Respiratory protection
Do not breathe vapors or mists. Wear an appropriate, properly fitted NIOSH approved respirator during application and until all vapors and spray mists are exhausted unless air monitoring demonstrates vapor/mist levels are below applicable limits. If respirators are required, use a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C) and particulate filter (NIOSH TC-84A). In confined spaces, or in situations where continuous spray operations are typical, or if proper air-purifying respirator fit is not possible, wear a positive pressure, supplied-air respirator (NIOSH TC-19C). In all cases, follow respirator manufacturer's directions for respirator use.

Eye protection
Desirable in all industrial situations. Goggles are preferred to prevent eye irritation. If safety glasses are substituted, include splash guard or side shields.

Skin and body protection
Neoprene gloves and coveralls are recommended.

Hygiene measures
Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

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Environmental exposure controls
Do not let product enter drains. For ecological information, refer to Ecological Information Section 12.

9. Physical and chemical properties

Appearance

Form: liquid Colour:

Flash point	104 °F	
Ignition temperature	377 °C	
Lower Explosive Limit	1.1 %	
Upper Explosive Limit	12.8 %	
Evapouration rate	Slower than Ether	
Vapor pressure of principal solvent	27.8 hPa	
Water solubility	appreciable	
Vapor density of principal solvent (Air = 1)	4	
Approx. Boiling Range	152 °C	
Approx. Freezing Range	Not applicable.	
Gallon Weight (lbs/gal)	9.54	
Specific Gravity	1.14	
Percent Volatile By Volume	56.42%	
Percent Volatile By Weight	41.66%	
Percent Solids By Volume	43.58%	
Percent Solids By Weight	58.34%	
pH (waterborne systems only)	Not applicable.	
Partition coefficient: n-octanol/water	no data available	
Ignition temperature	377 °C	DIN 51794
Decomposition temperature		
Viscosity (23 °C)	Not applicable.	ISO 2431-1993
VOC* less exempt (lbs/gal)	3.7	
VOC* as packaged (lbs/gal)	3.3	

* VOC less exempt (theoretical) and VOC as packaged (theoretical) are based upon the VOC of the packaged material at the point of manufacture.

10. Stability and reactivity

Stability
Stable

Conditions to avoid
Stable under recommended storage conditions.

Materials to avoid
None reasonably foreseeable.

Hazardous decomposition products
When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen.

Hazardous Polymerization
Will not occur.

Sensitivity to Static Discharge
If heated above the flash point, solvent vapors in air may explode if static grounding and bonding is not used during transfer of this product.

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Sensitivity to Mechanical Impact
None known.

11. Toxicological information

Information on likely routes of exposure

Inhalation
Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Delayed and immediate effects and also chronic effects from short and long term exposure:

Acute oral toxicity
not hazardous

Acute dermal toxicity
not hazardous

Acute inhalation toxicity
not hazardous

% of unknown composition 7.8 %

Skin corrosion/irritation
Not classified according to GHS criteria

Serious eye damage/eye irritation

acetone	Category 2A
heptan-2-one	Category 2B
ethyl acetate	Category 2A
propan-2-ol	Category 2A
butanone	Category 2A

Respiratory sensitisation
Not classified according to GHS criteria

Skin sensitisation
Not classified according to GHS criteria

Germ cell mutagenicity
Not classified according to GHS criteria

Carcinogenicity
Not classified according to GHS criteria

Toxicity for reproduction
Not classified according to GHS criteria

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Target Organ Systemic Toxicant - Single exposure
Not classified according to GHS criteria

Target Organ Systemic Toxicant - Repeated exposure
Not classified according to GHS criteria

Aspiration toxicity
Not classified according to GHS criteria

Numerical measures of toxicity (acute toxicity estimation (ATE),etc.)
No information available.

Symptoms related to the physical, chemical and toxicological characteristics
Exposure to component solvents vapours concentration in excess of the stated occupational exposure limit may result in adverse health effect such as mucous membrane and respiratory system irritation and adverse effect on kidney, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Through skin resorbtion, solvents can cause some of the effects described here. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin. The liquid splashed in the eyes may cause irritation and reversible damage.

Whether the hazardous chemical is listed by NTP, IARC or OSHA

Titanium dioxide	IARC 2B

12. Ecological information

There are no data available on the product itself. The product should not be allowed to enter drains or watercourses. The product contains an organic linked halogen. It may contribute to the AOX-value.

13. Disposal considerations

Waste Disposal Method
Do not allow material to contaminate ground water systems. Incinerate or otherwise dispose of waste material in accordance with Federal, State, Provincial, and local requirements. Do not incinerate in closed containers.

14. Transport information

International transport regulations

IMDG (Sea transport)	
UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III
Marine Pollutant:	no
ICAO/IATA (Air transport)	
UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III

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DOT	
UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III
Marine Pollutant:	no
EmS:	F-E,S-E

Matters needing attention for transportation
Confirm that there is no breakage, corrosion, or leakage from the container before shipping. Be sure to prevent damage to cargo by loading so as to avoid falling, dropping, or collapse. Ship in appropriate containers with denotation of the content in accordance with the relevant statutes and rules.

15. Regulatory information

TSCA Status
In compliance with TSCA Inventory requirements for commercial purposes.

DSL Status
Product is not DSL listed because one or more ingredients are not on the DSL inventory.

Photochemical Reactivity
Non-photochemically reactive

Regulatory information

		EPCRA					CERCLA	CAA
CAS #	Ingredient	302	TPQ	RQ	311 - 312	313	RQ(lbs)	HAP
No information available.	Acrylic polymer	N	NR	NR	NA	N	NR	N
13463-67-7	Titanium dioxide	N	NR	NR	,A,C,F,N,R	N	NR	N
69153-52-2	Polyester resin	N	NR	NR	NA	N	NR	N
67-64-1	Acetone	N	NR	NR	A,C,F	N	5,000	N
123-86-4	Butyl acetate	N	NR	NR	A,C,F	N	NR	N
110-43-0	Methyl amyl ketone	N	NR	NR	A,C,F	N	NR	N
No information available.	Acrylic resin	N	NR	NR	NA	N	NR	N
7631-86-9	Amorphous silica	N	NR	NR	,A,C,F,N,R	N	NR	N
763-69-9	Ethyl 3-ethoxy propionate	N	NR	NR	NA	N	NR	N
141-78-6	Ethyl acetate	N	NR	NR	C,F	N	NR	N
67-63-0	Isopropyl alcohol	N	NR	NR	,A,C,F,N,R	N	NR	N
78-93-3	Methyl ethyl ketone	N	NR	NR	A,C,F	N	5,000	N
147-14-8	Phthalocyanine blue pigment	N	NR	NR	,A,C,F,N,R	N	NR	N

Key:

EPCRA	Emergency Planning and Community Right-to-know Act (aka Title III, SARA)
302	Extremely hazardous substances
311/312 Categories	F = Fire Hazard R = Reactivity Hazard P = Pressure Related Hazard A = Acute Hazard C = Chronic Hazard
313 Information	Section 313 Supplier Notification - The chemicals listed above with a 'Y' in the 313 column are subject to reporting requirements of Section 313 of the Emergency Planning and Community

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	Right-to-Know act of 1986 and of 40 CFR 372.
CERCLA	Comprehensive Emergency Response, Compensation and Liability Act of 1980.
HAP	Listed as a Clean Air Act Hazardous Air Pollutant.
TPQ	Threshold Planning Quantity.
RQ	Reportable Quantity
NA	not available
NR	not regulated

16. Other information

HMIS rating H: 2 F: 2 R: 0

Glossary of Terms:

ACGIH	American Conference of Governmental Industrial Hygienists.
IARC	International Agency for Research on Cancer.
NTP	National Toxicology Program.
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration.
STEL	Short term exposure limit.
TWA	Time-weighted average.
PNOR	Particles not otherwise regulated.
PNOC	Particles not otherwise classified.

NOTE: The list (above) of glossary terms may be modified.

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SDS prepared by:
Axalta Coating Systems Regulatory Affairs
Report version

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1. Identification of the substance/mixture and of the company/undertaking

Product name	COLOR ATLAS BLUE	
Product code	CAS667 EW	
Intended use	Coating for professional use	
	Axalta Coating Systems, LLC Applied Corporate Center 50 Applied Card Way, Suite 300 US Glen Mills, PA 19342	
Telephone	Product information Medical emergency Transportation emergency	(855) 6-AXALTA (855) 274-5698 (800) 424-9300 (CHEMTREC)

2. Hazards identification

This preparation is hazardous per the following GHS criteria

GHS-Classification

Flammable liquids	Category 3
Serious eye damage/eye irritation	Category 2A

Endpoints which are ""not classified"", ""cannot classified"" and ""not applicable"" are not shown

GHS-Labelling

Hazard symbols	
Signal word	Warning
Hazard statements	Flammable liquid and vapour. Causes serious eye irritation.
Precautionary statements	Wear eye protection/ face protection. Ground/bond container and receiving equipment. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Take precautionary measures against static discharge. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Wear protective gloves/ eye protection/ face protection. If eye irritation persists: Get medical advice/ attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower. Store in a well-ventilated place. Keep cool. Dispose of contents/container in accordance with local regulations.

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NAMRX-02471

Other hazards which do not result in classification
None known.

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity:
8.1 %

3. Composition/information on ingredients

Mixture of synthetic resins, pigments, and solvents

Components

CAS-No.	Chemical Name	Concentration	GHS Hazardous
13463-67-7	Titanium dioxide	32.6%	
No information available.	Acrylic polymer	10 - 20%	
69153-52-2	Polyester resin	5 - 10%	
67-64-1	Acetone	4 - 15%	√
123-86-4	Butyl acetate	4 - 15%	√
110-43-0	Methyl amyl ketone	4 - 15%	√
No information available.	Acrylic resin	1 - 5%	
21645-51-2	Aluminum hydroxide	1 - 5%	
7631-86-9	Amorphous silica	1 - 5%	
763-69-9	Ethyl 3-ethoxy propionate	1 - 4%	√
141-78-6	Ethyl acetate	1 - 4%	√
78-93-3	Methyl ethyl ketone	1 - 4%	√

OSHA Hazardous: Yes
* Assigned CAS No. - An official CAS No. does not exist. The CAS No. shown is for a similar chemical.

4. First aid measures

Eye contact
Remove contact lenses. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Seek medical advice.

Skin contact
Do NOT use solvents or thinners. Take off all contaminated clothing immediately. Wash skin thoroughly with soap and water or use recognized skin cleanser. If skin irritation persists, call a physician.

Inhalation
Avoid inhalation of vapour or mist. Move to fresh air in case of accidental inhalation of vapours. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

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Ingestion
If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting. Keep at rest.

Most Important Symptoms/effects, acute and delayed

Inhalation
Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Indication of immediate medical attention and special treatment needed if necessary
No data available on the product. See section 3 and 11 for hazardous ingredients found in the product.

5. Firefighting measures

Suitable extinguishing media
Extinguishing media which shall not be used for safety reasons
High volume water jet

Hazardous combustion products
CO, CO2, smoke, and oxides of any heavy metals that are reported in "Composition, Information on Ingredients" section.

Fire and Explosion Hazards
Combustible liquid. When heated above the flashpoint, emits vapors which, when mixed with air, will burn if an ignition source is present. Fine mist or sprays could ignite at temperatures below the flashpoint.

Special Protective Equipment and Fire Fighting Procedures
Full protective flameproof clothing should be worn as appropriate. Wear self contained breathing apparatus for fire fighting if necessary. In the event of fire, cool tanks with water spray. Do not allow run-off from fire fighting to enter public sewer systems or public waterways.

6. Accidental release measures

Procedures for cleaning up spills or leaks
Ventilate area. If heated above the flashpoint, remove sources of ignition. Prevent skin and eye contact and breathing of vapor. Wear a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C), eye protection, gloves and protective clothing. Confine, remove with inert absorbent, and dispose of properly.

Environmental precautions
Do not let product enter drains. Notify the respective authorities in accordance with local law in the case of contamination of rivers, lakes or waste water systems.

7. Handling and storage

Precautions for safe handling
Observe label precautions. Keep away from heat, flame and other sources of ignition. When heated above its flash point, this must be handled as if it were a flammable liquid. Close container after each use. Do not transfer contents to bottles or unlabeled containers. Wash thoroughly after handling and before eating or smoking.
If material is a coating: do not sand, flame cut, braze or weld dry coating without a NIOSH approved air purifying respirator with particulate filters or appropriate ventilation, and gloves. Combustible dust clouds may be created where operations produce fine material (dust). Avoid formation of significant deposits of material as they may become airborne and form combustible dust clouds. Build up of fine material should be cleaned using gentle sweeping or vacuuming in accordance with best practices. Cleaning methods (e.g. compressed air) which can generate potentially combustible dust clouds should not be used.

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Advice on protection against fire and explosion
Solvent vapours are heavier than air and may spread along floors. Vapors may form explosive mixtures with air and will burn when an ignition source is present. Always keep in containers of same material as the original one. Never use pressure to empty container: container is not a pressure vessel. The accumulation of contaminated rags may result in spontaneous combustion. Good housekeeping standards and regular safe removal of waste materials will minimize the risks of spontaneous combustion and other fire hazards.

Storage
Requirements for storage areas and containers
Observe label precautions. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. No smoking. Prevent unauthorized access. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Advice on common storage
Store separately from oxidizing agents and strongly alkaline and strongly acidic materials.

OSHA/NFPA Storage Classification: II

8. Exposure controls/personal protection

Engineering controls and work practices
Provide adequate ventilation. This should be achieved by a good general extraction and -if practically feasible- by the use of a local exhaust ventilation. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn.

National occupational exposure limits

CAS-No.	Chemical Name	Source	Time	Type	Value	Note
13463-67-7	Titanium dioxide	OSHA	8 hr	TWA	15 mg/m3	Total Dust
		Dupont	8 & 12 hour	TWA	10 mg/m3	Total Dust
			8 & 12 hour	TWA	5 mg/m3	Respirable Dust
67-64-1	Acetone	ACGIH	15 min	STEL	750 ppm	
			8 hr	TWA	500 ppm	
		OSHA	8 hr	TWA	1,000 ppm	
		Dupont	8 & 12 hour	TWA	500 ppm	
123-86-4	Butyl acetate	ACGIH	15 min	STEL	200 ppm	
			8 hr	TWA	150 ppm	
		OSHA	8 hr	TWA	150 ppm	
110-43-0	Methyl amyl ketone	ACGIH	8 hr	TWA	50 ppm	
		OSHA	8 hr	TWA	100 ppm	
21645-51-2	Aluminum hydroxide	ACGIH	8 hr	TWA	1 mg/m3	
7631-86-9	Amorphous silica	ACGIH	8 hr	TWA	3 mg/m3	Respirable Dust
		OSHA	8 hr	TWA	20 mppcf	

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CAS-No.	Chemical Name	Source	Time	Type	Value	Note
		Dupont	8 hr	PEL	3 mg/m3	
			8 hr	TWA	6 mg/m3	
141-78-6	Ethyl acetate	ACGIH	8 hr	TWA	400 ppm	
		OSHA	8 hr	TWA	400 ppm	
78-93-3	Methyl ethyl ketone	ACGIH	15 min	STEL	300 ppm	
			8 hr	TWA	200 ppm	
		OSHA	8 hr	TWA	200 ppm	
		Dupont	15 min	TWA	300 ppm	
			8 & 12 hour	TWA	200 ppm	

** TWA = Time-weighted average.
STEL = Short term exposure limit.
PEL = Permissible Exposure Limit.

Protective equipment
Personal protective equipment should be worn to prevent contact with eyes, skin or clothing.

Respiratory protection
Do not breathe vapors or mists. Wear an appropriate, properly fitted NIOSH approved respirator during application and until all vapors and spray mists are exhausted unless air monitoring demonstrates vapor/mist levels are below applicable limits. If respirators are required, use a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C) and particulate filter (NIOSH TC-84A). In confined spaces, or in situations where continuous spray operations are typical, or if proper air-purifying respirator fit is not possible, wear a positive pressure, supplied-air respirator (NIOSH TC-19C). In all cases, follow respirator manufacturer's directions for respirator use.'

Eye protection
Desirable in all industrial situations. Goggles are preferred to prevent eye irritation. If safety glasses are substituted, include splash guard or side shields.

Skin and body protection
Neoprene gloves and coveralls are recommended.

Hygiene measures
Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Environmental exposure controls
Do not let product enter drains. For ecological information, refer to Ecological Information Section 12.

9. Physical and chemical properties

Appearance

Form: liquid Colour:

Flash point	104 °F

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Ignition temperature	377 °C	
Lower Explosive Limit	1.1 %	
Upper Explosive Limit	10.3 %	
Evapouration rate	Slower than Ether	
Vapor pressure of principal solvent	21.2 hPa	
Water solubility	moderate	
Vapor density of principal solvent (Air = 1)	4	
Approx. Boiling Range	152 °C	
Approx. Freezing Range	Not applicable.	
Gallon Weight (lbs/gal)	10.88	
Specific Gravity	1.30	
Percent Volatile By Volume	55.24%	
Percent Volatile By Weight	36.01%	
Percent Solids By Volume	44.76%	
Percent Solids By Weight	63.99%	
pH (waterborne systems only)	Not applicable.	
Partition coefficient: n-octanol/water	no data available	
Ignition temperature	377 °C	DIN 51794
Decomposition temperature		
Viscosity (23 °C)	Not applicable.	ISO 2431-1993
VOC* less exempt (lbs/gal)	3.7	
VOC* as packaged (lbs/gal)	3.4	

* VOC less exempt (theoretical) and VOC as packaged (theoretical) are based upon the VOC of the packaged material at the point of manufacture.

10. Stability and reactivity

Stability
Stable

Conditions to avoid
Stable under recommended storage conditions.

Materials to avoid
None reasonably foreseeable.

Hazardous decomposition products
When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen.

Hazardous Polymerization
Will not occur.

Sensitivity to Static Discharge
If heated above the flash point, solvent vapors in air may explode if static grounding and bonding is not used during transfer of this product.

Sensitivity to Mechanical Impact
None known.

11. Toxicological information

Information on likely routes of exposure

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Inhalation
Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Delayed and immediate effects and also chronic effects from short and long term exposure:

Acute oral toxicity
not hazardous

Acute dermal toxicity
not hazardous

Acute inhalation toxicity
not hazardous

% of unknown composition 8.1 %

Skin corrosion/irritation
Not classified according to GHS criteria

Serious eye damage/eye irritation

acetone	Category 2A
heptan-2-one	Category 2B
ethyl acetate	Category 2A
butanone	Category 2A

Respiratory sensitisation
Not classified according to GHS criteria

Skin sensitisation
Not classified according to GHS criteria

Germ cell mutagenicity
Not classified according to GHS criteria

Carcinogenicity
Not classified according to GHS criteria

Toxicity for reproduction
Not classified according to GHS criteria

Target Organ Systemic Toxicant - Single exposure
Not classified according to GHS criteria

Target Organ Systemic Toxicant - Repeated exposure
Not classified according to GHS criteria

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Aspiration toxicity
Not classified according to GHS criteria

Numerical measures of toxicity (acute toxicity estimation (ATE),etc.)
No information available.

Symptoms related to the physical, chemical and toxicological characteristics
Exposure to component solvents vapours concentration in excess of the stated occupational exposure limit may result in adverse health effect such as mucous membrane and respiratory system irritation and adverse effect on kidney, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Through skin resorbtion, solvents can cause some of the effects described here. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin. The liquid splashed in the eyes may cause irritation and reversible damage.

Whether the hazardous chemical is listed by NTP, IARC or OSHA

Titanium dioxide	IARC 2B

12. Ecological information

There are no data available on the product itself. The product should not be allowed to enter drains or watercourses. The product contains an organic linked halogen. It may contribute to the AOX-value.

13. Disposal considerations

Waste Disposal Method
Do not allow material to contaminate ground water systems. Incinerate or otherwise dispose of waste material in accordance with Federal, State, Provincial, and local requirements. Do not incinerate in closed containers.

14. Transport information

International transport regulations

IMDG (Sea transport)	
UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III
Marine Pollutant:	no
ICAO/IATA (Air transport)	
UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III
DOT	
UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III

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Marine Pollutant:	no
EmS:	F-E,S-E

Matters needing attention for transportation
Confirm that there is no breakage, corrosion, or leakage from the container before shipping. Be sure to prevent damage to cargo by loading so as to avoid falling, dropping, or collapse. Ship in appropriate containers with denotation of the content in accordance with the relevant statutes and rules.

15. Regulatory information

TSCA Status
In compliance with TSCA Inventory requirements for commercial purposes.

DSL Status
Product is not DSL listed because one or more ingredients are not on the DSL inventory.

Photochemical Reactivity
Non-photochemically reactive

Regulatory information

		EPCRA					CERCLA	CAA
CAS #	Ingredient	302	TPQ	RQ	311 - 312	313	RQ(lbs)	HAP
13463-67-7	Titanium dioxide	N	NR	NR	,A,C,F,N,R	N	NR	N
No information available.	Acrylic polymer	N	NR	NR	NA	N	NR	N
69153-52-2	Polyester resin	N	NR	NR	NA	N	NR	N
67-64-1	Acetone	N	NR	NR	A,C,F	N	5,000	N
123-86-4	Butyl acetate	N	NR	NR	A,C,F	N	NR	N
110-43-0	Methyl amyl ketone	N	NR	NR	A,C,F	N	NR	N
No information available.	Acrylic resin	N	NR	NR	NA	N	NR	N
21645-51-2	Aluminum hydroxide	N	NR	NR	,A,C,F,N,R	N	NR	N
7631-86-9	Amorphous silica	N	NR	NR	,A,C,F,N,R	N	NR	N
763-69-9	Ethyl 3-ethoxy propionate	N	NR	NR	NA	N	NR	N
141-78-6	Ethyl acetate	N	NR	NR	C,F	N	NR	N
78-93-3	Methyl ethyl ketone	N	NR	NR	A,C,F	N	5,000	N

Key:

EPCRA	Emergency Planning and Community Right-to-know Act (aka Title III, SARA)
302	Extremely hazardous substances
311/312 Categories	F = Fire Hazard R = Reactivity Hazard P = Pressure Related Hazard A = Acute Hazard C = Chronic Hazard
313 Information	Section 313 Supplier Notification - The chemicals listed above with a 'Y' in the 313 column are subject to reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know act of 1986 and of 40 CFR 372.
CERCLA	Comprehensive Emergency Response, Compensation and Liability Act of 1980.
HAP	Listed as a Clean Air Act Hazardous Air Pollutant.
TPQ	Threshold Planning Quantity.
RQ	Reportable Quantity
NA	not available
NR	not regulated

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16. Other information

HMIS rating H: 2 F: 2 R: 0

Glossary of Terms:

ACGIH	American Conference of Governmental Industrial Hygienists.
IARC	International Agency for Research on Cancer.
NTP	National Toxicology Program.
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration.
STEL	Short term exposure limit.
TWA	Time-weighted average.
PNOR	Particles not otherwise regulated.
PNOC	Particles not otherwise classified.

NOTE: The list (above) of glossary terms may be modified.

Notice from Axalta Coating Systems
The document reflects information provided to Axalta Coating Systems by its suppliers. Information is accurate to the best of our knowledge and is subject to change as new data is received by Axalta Coating Systems. Persons receiving this information should make their own determination as to its suitability for their purposes prior to use. The information on this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.
SDS prepared by:
Axalta Coating Systems Regulatory Affairs
Report version

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1. Identification of the substance/mixture and of the company/undertaking

Product name	Color Atlas Neutral	
Product code	CAS505EW	
Intended use	Coating for professional use	
	Axalta Coating Systems, LLC Applied Corporate Center 50 Applied Card Way, Suite 300 US Glen Mills, PA 19342	
Telephone	Product information Medical emergency Transportation emergency	(855) 6-AXALTA (855) 274-5698 (800) 424-9300 (CHEMTREC)

2. Hazards identification

This preparation is hazardous per the following GHS criteria

GHS-Classification

Flammable liquids	Category 3
Serious eye damage/eye irritation	Category 2A

Endpoints which are ""not classified"", ""cannot classified"" and ""not applicable"" are not shown

GHS-Labelling

Hazard symbols	
Signal word	Warning
Hazard statements	Flammable liquid and vapour. Causes serious eye irritation.
Precautionary statements	Wear eye protection/ face protection. Ground/bond container and receiving equipment. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Take precautionary measures against static discharge. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Wear protective gloves/ eye protection/ face protection. If eye irritation persists: Get medical advice/ attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower. Store in a well-ventilated place. Keep cool. Dispose of contents/container in accordance with local regulations.

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Other hazards which do not result in classification
None known.

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity:
1.6 %

3. Composition/information on ingredients

Mixture of synthetic resins, pigments, and solvents

Components

CAS-No.	Chemical Name	Concentration	GHS Hazardous
No information available.	Acrylic polymer	20 - 30%	
110-43-0	Methyl amyl ketone	15 - 26%	√
69153-52-2	Polyester resin	10 - 20%	
7429-90-5	Aluminum	6%	√
67-64-1	Acetone	4 - 15%	√
123-86-4	Butyl acetate	4 - 15%	√
No information available.	Acrylic resin	1 - 5%	
92797-60-9	Amorphous silica	1 - 5%	
763-69-9	Ethyl 3-ethoxy propionate	1 - 4%	√
141-78-6	Ethyl acetate	1 - 4%	√
64742-48-9	Hydrotreated heavy naphtha (petroleum)	1 - 4%	√
67-63-0	Isopropyl alcohol	1 - 4%	√
78-93-3	Methyl ethyl ketone	1 - 4%	√
8052-41-3	Stoddard solvent	1 - 4%	√
169276-18-0*	Synthetic resin	1 - 5%	
1333-86-4	Carbon black	0.2%	
100-41-4	Ethylbenzene	0.1%	√

OSHA Hazardous: Yes
* Assigned CAS No. - An official CAS No. does not exist. The CAS No. shown is for a similar chemical.

4. First aid measures

Eye contact
Remove contact lenses. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Seek medical advice.

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Skin contact
Do NOT use solvents or thinners. Take off all contaminated clothing immediately. Wash skin thoroughly with soap and water or use recognized skin cleanser. If skin irritation persists, call a physician.

Inhalation
Avoid inhalation of vapour or mist. Move to fresh air in case of accidental inhalation of vapours. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

Ingestion
If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting. Keep at rest.

Most Important Symptoms/effects, acute and delayed

Inhalation
Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Indication of immediate medical attention and special treatment needed if necessary
No data available on the product. See section 3 and 11 for hazardous ingredients found in the product.

5. Firefighting measures

Suitable extinguishing media
Extinguishing media which shall not be used for safety reasons
High volume water jet

Hazardous combustion products
CO, CO2, smoke, and oxides of any heavy metals that are reported in "Composition, Information on Ingredients" section.

Fire and Explosion Hazards
Combustible liquid. When heated above the flashpoint, emits vapors which, when mixed with air, will burn if an ignition source is present. Fine mist or sprays could ignite at temperatures below the flashpoint.

Special Protective Equipment and Fire Fighting Procedures
Full protective flameproof clothing should be worn as appropriate. Wear self contained breathing apparatus for fire fighting if necessary. In the event of fire, cool tanks with water spray. Do not allow run-off from fire fighting to enter public sewer systems or public waterways.

6. Accidental release measures

Procedures for cleaning up spills or leaks
Ventilate area. If heated above the flashpoint, remove sources of ignition. Prevent skin and eye contact and breathing of vapor. Wear a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C), eye protection, gloves and protective clothing. Confine, remove with inert absorbent, and dispose of properly.

Environmental precautions
Do not let product enter drains. Notify the respective authorities in accordance with local law in the case of contamination of rivers, lakes or waste water systems.

7. Handling and storage

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Precautions for safe handling
Observe label precautions. Keep away from heat, flame and other sources of ignition. When heated above its flash point, this must be handled as if it were a flammable liquid. Close container after each use. Do not transfer contents to bottles or unlabeled containers. Wash thoroughly after handling and before eating or smoking.
If material is a coating: do not sand, flame cut, braze or weld dry coating without a NIOSH approved air purifying respirator with particulate filters or appropriate ventilation, and gloves. Combustible dust clouds may be created where operations produce fine material (dust). Avoid formation of significant deposits of material as they may become airborne and form combustible dust clouds. Build up of fine material should be cleaned using gentle sweeping or vacuuming in accordance with best practices. Cleaning methods (e.g. compressed air) which can generate potentially combustible dust clouds should not be used.

Advice on protection against fire and explosion
Solvent vapours are heavier than air and may spread along floors. Vapors may form explosive mixtures with air and will burn when an ignition source is present. Always keep in containers of same material as the original one. Never use pressure to empty container: container is not a pressure vessel. The accumulation of contaminated rags may result in spontaneous combustion. Good housekeeping standards and regular safe removal of waste materials will minimize the risks of spontaneous combustion and other fire hazards.

Storage
Requirements for storage areas and containers
Observe label precautions. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. No smoking. Prevent unauthorized access. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Advice on common storage
Store separately from oxidizing agents and strongly alkaline and strongly acidic materials.

OSHA/NFPA Storage Classification: II

8. Exposure controls/personal protection

Engineering controls and work practices
Provide adequate ventilation. This should be achieved by a good general extraction and -if practically feasible- by the use of a local exhaust ventilation. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn.

National occupational exposure limits

CAS-No.	Chemical Name	Source	Time	Type	Value	Note
110-43-0	Methyl amyl ketone	ACGIH	8 hr	TWA	50 ppm	
		OSHA	8 hr	TWA	100 ppm	
7429-90-5	Aluminum	OSHA	8 hr	TWA	15 mg/m3	Total Dust
			8 hr	TWA	5 mg/m3	Respirable Dust
		Dupont	8 & 12 hour	TWA	0.5 mg/m3	
67-64-1	Acetone	ACGIH	15 min	STEL	750 ppm	
			8 hr	TWA	500 ppm	
		OSHA	8 hr	TWA	1,000 ppm	
		Dupont	8 & 12 hour	TWA	500 ppm	
123-86-4	Butyl acetate	ACGIH	15 min	STEL	200 ppm	

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CAS-No.	Chemical Name	Source	Time	Type	Value	Note
			8 hr	TWA	150 ppm	
		OSHA	8 hr	TWA	150 ppm	
92797-60-9	Amorphous silica	ACGIH	8 hr	TWA	2 mg/m3	Respirable Dust
		OSHA	15 min	STEL	1 mg/m3	
		Dupont	8 hr	TWA	1 mg/m3	
141-78-6	Ethyl acetate	ACGIH	8 hr	TWA	400 ppm	
		OSHA	8 hr	TWA	400 ppm	
64742-48-9	Hydrotreated heavy naphtha (petroleum)	ACGIH	8 hr	TWA	100 ppm	
		OSHA	8 hr	TWA	500 ppm	
		Dupont	8 hr	TWA	100 ppm	
78-93-3	Methyl ethyl ketone	ACGIH	15 min	STEL	300 ppm	
			8 hr	TWA	200 ppm	
		OSHA	8 hr	TWA	200 ppm	
		Dupont	15 min	TWA	300 ppm	
			8 & 12 hour	TWA	200 ppm	
8052-41-3	Stoddard solvent	ACGIH	8 hr	TWA	100 ppm	
		OSHA		TWA	500 ppm	
		Dupont	15 min	STEL	100 ppm	
			8 & 12 hour	TWA	50 ppm	
1333-86-4	Carbon black	ACGIH	8 hr	TWA	3 mg/m3	
		OSHA	8 hr	TWA	3.5 mg/m3	
		Dupont	8 & 12 hour	TWA	0.5 mg/m3	
100-41-4	Ethylbenzene	ACGIH	8 hr	TWA	20 ppm	
		OSHA	8 hr	TWA	100 ppm	
		Dupont	8 & 12 hour	TWA	25 ppm	

** TWA = Time-weighted average.
STEL = Short term exposure limit.

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M/MRX-02464

Protective equipment
Personal protective equipment should be worn to prevent contact with eyes, skin or clothing.

Respiratory protection
Do not breathe vapors or mists. Wear an appropriate, properly fitted NIOSH approved respirator during application and until all vapors and spray mists are exhausted unless air monitoring demonstrates vapor/mist levels are below applicable limits. If respirators are required, use a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C) and particulate filter (NIOSH TC-84A). In confined spaces, or in situations where continuous spray operations are typical, or if proper air-purifying respirator fit is not possible, wear a positive pressure, supplied-air respirator (NIOSH TC-19C). In all cases, follow respirator manufacturer's directions for respirator use.

Eye protection
Desirable in all industrial situations. Goggles are preferred to prevent eye irritation. If safety glasses are substituted, include splash guard or side shields.

Skin and body protection
Neoprene gloves and coveralls are recommended.

Hygiene measures
Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Environmental exposure controls
Do not let product enter drains. For ecological information, refer to Ecological Information Section 12.

9. Physical and chemical properties

Appearance

Form: liquid Colour:

Flash point	104 °F	
Ignition temperature	232 °C	
Lower Explosive Limit	1.1 %	
Upper Explosive Limit	12.8 %	
Evapouration rate	Slower than Ether	
Vapor pressure of principal solvent	26.0 hPa	
Water solubility	appreciable	
Vapor density of principal solvent (Air = 1)	3.9	
Approx. Boiling Range	152 °C	
Approx. Freezing Range	Not applicable.	
Gallon Weight (lbs/gal)	8.25	
Specific Gravity	0.99	
Percent Volatile By Volume	56.68%	
Percent Volatile By Weight	47.55%	
Percent Solids By Volume	43.32%	
Percent Solids By Weight	52.45%	
pH (waterborne systems only)	Not applicable.	
Partition coefficient: n-octanol/water	no data available	
Ignition temperature	232 °C	DIN 51794
Decomposition temperature		
Viscosity (23 °C)	Not applicable.	ISO 2431-1993
VOC* less exempt (lbs/gal)	3.7	
VOC* as packaged (lbs/gal)	3.4	

* VOC less exempt (theoretical) and VOC as packaged (theoretical) are based upon the VOC of the packaged material at the point of manufacture.

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10. Stability and reactivity

Stability
Stable

Conditions to avoid
Stable under recommended storage conditions.

Materials to avoid
None reasonably foreseeable.

Hazardous decomposition products
When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen.

Hazardous Polymerization
Will not occur.

Sensitivity to Static Discharge
If heated above the flash point, solvent vapors in air may explode if static grounding and bonding is not used during transfer of this product.

Sensitivity to Mechanical Impact
None known.

11. Toxicological information

Information on likely routes of exposure

Inhalation
Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Delayed and immediate effects and also chronic effects from short and long term exposure:

Acute oral toxicity
not hazardous

Acute dermal toxicity
not hazardous

Acute inhalation toxicity
not hazardous

% of unknown composition 1.6 %

Skin corrosion/irritation
Not classified according to GHS criteria

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Serious eye damage/eye irritation

heptan-2-one	Category 2B
acetone	Category 2A
ethyl acetate	Category 2A
propan-2-ol	Category 2A
butanone	Category 2A
ethylbenzene	Category 2B

Respiratory sensitisation
Not classified according to GHS criteria

Skin sensitisation
Not classified according to GHS criteria

Germ cell mutagenicity
Not classified according to GHS criteria

Carcinogenicity
Not classified according to GHS criteria

Toxicity for reproduction
Not classified according to GHS criteria

Target Organ Systemic Toxicant - Single exposure
Not classified according to GHS criteria

Target Organ Systemic Toxicant - Repeated exposure
Not classified according to GHS criteria

Aspiration toxicity
Not classified according to GHS criteria

Numerical measures of toxicity (acute toxicity estimation (ATE),etc.)
No information available.

Symptoms related to the physical, chemical and toxicological characteristics
Exposure to component solvents vapours concentration in excess of the stated occupational exposure limit may result in adverse health effect such as mucous membrane and respiratory system irritation and adverse effect on kidney, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Through skin resorbtion, solvents can cause some of the effects described here. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin. The liquid splashed in the eyes may cause irritation and reversible damage.

Whether the hazardous chemical is listed by NTP, IARC or OSHA

carbon black	IARC 2B
ethylbenzene	IARC 2B

12. Ecological information

There are no data available on the product itself. The product should not be allowed to enter drains or watercourses. The product contains an organic linked halogen. It may contribute to the AOX-value.

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13. Disposal considerations

Waste Disposal Method
Do not allow material to contaminate ground water systems. Incinerate or otherwise dispose of waste material in accordance with Federal, State, Provincial, and local requirements. Do not incinerate in closed containers.

14. Transport information

International transport regulations

IMDG (Sea transport)	
UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III
Marine Pollutant:	no
ICAO/IATA (Air transport)	
UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III
DOT	
UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III
Marine Pollutant:	no
EmS:	F-E,S-E

Matters needing attention for transportation
Confirm that there is no breakage, corrosion, or leakage from the container before shipping. Be sure to prevent damage to cargo by loading so as to avoid falling, dropping, or collapse. Ship in appropriate containers with denotation of the content in accordance with the relevant statutes and rules.

15. Regulatory information

TSCA Status
In compliance with TSCA Inventory requirements for commercial purposes.

DSL Status
Product is not DSL listed because one or more ingredients are not on the DSL inventory.

Photochemical Reactivity
Photochemically reactive

US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)
WARNING! This product contains a chemical known to the State of California to cause cancer.

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Regulatory information

CAS #	Ingredient	EPCRA 302	EPCRA TPQ	EPCRA RQ	EPCRA 311 - 312	EPCRA 313	CERCLA RQ(lbs)	CAA HAP
No information available.	Acrylic polymer	N	NR	NR	NA	N	NR	N
110-43-0	Methyl amyl ketone	N	NR	NR	A,C,F	N	NR	N
69153-52-2	Polyester resin	N	NR	NR	NA	N	NR	N
7429-90-5	Aluminum	N	NR	NR	,A,C,F,N,R	Y	NR	N
67-64-1	Acetone	N	NR	NR	A,C,F	N	5,000	N
123-86-4	Butyl acetate	N	NR	NR	A,C,F	N	NR	N
No information available.	Acrylic resin	N	NR	NR	NA	N	NR	N
92797-60-9	Amorphous silica	N	NR	NR	,A,C,F,N,R	N	NR	N
763-69-9	Ethyl 3-ethoxy propionate	N	NR	NR	NA	N	NR	N
141-78-6	Ethyl acetate	N	NR	NR	C,F	N	NR	N
64742-48-9	Hydrotreated heavy naphtha (petroleum)	N	NR	NR	,A,C,F,N,R	N	NR	N
67-63-0	Isopropyl alcohol	N	NR	NR	,A,C,F,N,R	N	NR	N
78-93-3	Methyl ethyl ketone	N	NR	NR	A,C,F	N	5,000	N
8052-41-3	Stoddard solvent	N	NR	NR	,A,C,F,N,R	N	NR	N
169276-18-0*	Synthetic resin	N	NR	NR	NA	N	NR	N
1333-86-4	Carbon black	N	NR	NR	,A,C,F,N,R	N	NR	N
100-41-4	Ethylbenzene	N	NR	NR	A,C,F	Y	1,000	Y

Key:

EPCRA	Emergency Planning and Community Right-to-know Act (aka Title III, SARA)
302	Extremely hazardous substances
311/312 Categories	F = Fire Hazard R = Reactivity Hazard P = Pressure Related Hazard A = Acute Hazard C = Chronic Hazard
313 Information	Section 313 Supplier Notification - The chemicals listed above with a 'Y' in the 313 column are subject to reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know act of 1986 and of 40 CFR 372.
CERCLA	Comprehensive Emergency Response, Compensation and Liability Act of 1980.
HAP	Listed as a Clean Air Act Hazardous Air Pollutant.
TPQ	Threshold Planning Quantity.
RQ	Reportable Quantity
NA	not available
NR	not regulated

16. Other information

HMIS rating H: 2 F: 2 R: 1

Glossary of Terms:

ACGIH	American Conference of Governmental Industrial Hygienists.
IARC	International Agency for Research on Cancer.
NTP	National Toxicology Program.
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration.
STEL	Short term exposure limit.
TWA	Time-weighted average.
PNOR	Particles not otherwise regulated.
PNOC	Particles not otherwise classified.

NOTE: The list (above) of glossary terms may be modified.

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Notice from Axalta Coating Systems
The document reflects information provided to Axalta Coating Systems by its suppliers. Information is accurate to the best of our knowledge and is subject to change as new data is received by Axalta Coating Systems. Persons receiving this information should make their own determination as to its suitability for their purposes prior to use. The information on this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.
SDS prepared by:
Axalta Coating Systems Regulatory Affairs
Report version

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1. Identification of the substance/mixture and of the company/undertaking

Product name	COLOR ATLAS BLUE	
Product code	CAE76 SDS	
Intended use	Coating for professional use	
	Axalta Coating Systems, LLC Applied Corporate Center 50 Applied Card Way, Suite 300 US Glen Mills, PA 19342	
Telephone	Product information	(855) 6-AXALTA
	Medical emergency	(855) 274-5698
	Transportation emergency	(800) 424-9300 (CHEMTREC)

2. Hazards identification

This preparation is hazardous per the following GHS criteria

GHS-Classification

Flammable liquids	Category 3
Serious eye damage/eye irritation	Category 2A

Endpoints which are ""not classified"", ""cannot classified"" and ""not applicable"" are not shown

GHS-Labelling

Hazard symbols	
Signal word	Warning
Hazard statements	Flammable liquid and vapour. Causes serious eye irritation.
Precautionary statements	Wear eye protection/ face protection. Ground/bond container and receiving equipment. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Take precautionary measures against static discharge. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Wear protective gloves/ eye protection/ face protection. If eye irritation persists: Get medical advice/ attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower. Store in a well-ventilated place. Keep cool. Dispose of contents/container in accordance with local regulations.

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Other hazards which do not result in classification
None known.

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity:
15.1 %

3. Composition/information on ingredients

Mixture of synthetic resins, pigments, and solvents

Components

CAS-No.	Chemical Name	Concentration	GHS Hazardous
No information available.	Acrylic polymer	20 - 30%	
69153-52-2	Polyester resin	10 - 20%	
67-64-1	Acetone	4 - 15%	√
123-86-4	Butyl acetate	4 - 15%	√
141-78-6	Ethyl acetate	4 - 15%	√
110-43-0	Methyl amyl ketone	4 - 15%	√
78-93-3	Methyl ethyl ketone	4 - 15%	√
No information available.	Acrylic resin	1 - 5%	
763-69-9	Ethyl 3-ethoxy propionate	1 - 4%	√
67-63-0	Isopropyl alcohol	1 - 4%	√
12001-26-2	Mica	1 - 5%	
5521-31-3	Perylene maroon	1 - 5%	
169276-18-0*	Synthetic resin	1 - 5%	
13463-67-7	Titanium dioxide	1.1%	

OSHA Hazardous: Yes
* Assigned CAS No. - An official CAS No. does not exist. The CAS No. shown is for a similar chemical.

4. First aid measures

Eye contact
Remove contact lenses. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Seek medical advice.

Skin contact
Do NOT use solvents or thinners. Take off all contaminated clothing immediately. Wash skin thoroughly with soap and water or use recognized skin cleanser. If skin irritation persists, call a physician.

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Inhalation
Avoid inhalation of vapour or mist. Move to fresh air in case of accidental inhalation of vapours. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

Ingestion
If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting. Keep at rest.

Most Important Symptoms/effects, acute and delayed

Inhalation
Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Indication of Immediate medical attention and special treatment needed if necessary
No data available on the product. See section 3 and 11 for hazardous ingredients found in the product.

5. Firefighting measures

Suitable extinguishing media
Extinguishing media which shall not be used for safety reasons
High volume water jet

Hazardous combustion products
CO, CO2, smoke, and oxides of any heavy metals that are reported in "Composition, Information on Ingredients" section.

Fire and Explosion Hazards
Combustible liquid. When heated above the flashpoint, emits vapors which, when mixed with air, will burn if an ignition source is present. Fine mist or sprays could ignite at temperatures below the flashpoint.

Special Protective Equipment and Fire Fighting Procedures
Full protective flameproof clothing should be worn as appropriate. Wear self contained breathing apparatus for fire fighting if necessary. In the event of fire, cool tanks with water spray. Do not allow run-off from fire fighting to enter public sewer systems or public waterways.

6. Accidental release measures

Procedures for cleaning up spills or leaks
Ventilate area. If heated above the flashpoint, remove sources of ignition. Prevent skin and eye contact and breathing of vapor. Wear a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C), eye protection, gloves and protective clothing. Confine, remove with inert absorbent, and dispose of properly.

Environmental precautions
Do not let product enter drains. Notify the respective authorities in accordance with local law in the case of contamination of rivers, lakes or waste water systems.

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7. Handling and storage

Precautions for safe handling
Observe label precautions. Keep away from heat, flame and other sources of ignition. When heated above its flash point, this must be handled as if it were a flammable liquid. Close container after each use. Do not transfer contents to bottles or unlabeled containers. Wash thoroughly after handling and before eating or smoking.
If material is a coating: do not sand, flame cut, braze or weld dry coating without a NIOSH approved air purifying respirator with particulate filters or appropriate ventilation, and gloves. Combustible dust clouds may be created where operations produce fine material (dust). Avoid formation of significant deposits of material as they may become airborne and form combustible dust clouds. Build up of fine material should be cleaned using gentle sweeping or vacuuming in accordance with best practices. Cleaning methods (e.g. compressed air) which can generate potentially combustible dust clouds should not be used.

Advice on protection against fire and explosion
Solvent vapours are heavier than air and may spread along floors. Vapors may form explosive mixtures with air and will burn when an ignition source is present. Always keep in containers of same material as the original one. Never use pressure to empty container: container is not a pressure vessel. The accumulation of contaminated rags may result in spontaneous combustion. Good housekeeping standards and regular safe removal of waste materials will minimize the risks of spontaneous combustion and other fire hazards.

Storage
Requirements for storage areas and containers
Observe label precautions. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. No smoking. Prevent unauthorized access. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Advice on common storage
Store separately from oxidizing agents and strongly alkaline and strongly acidic materials.

OSHA/NFPA Storage Classification: II

8. Exposure controls/personal protection

Engineering controls and work practices
Provide adequate ventilation. This should be achieved by a good general extraction and -if practically feasible- by the use of a local exhaust ventilation. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn.

National occupational exposure limits

CAS-No.	Chemical Name	Source	Time	Type	Value	Note
67-64-1	Acetone	ACGIH	15 min	STEL	750 ppm	
			8 hr	TWA	500 ppm	
		OSHA	8 hr	TWA	1,000 ppm	
		Dupont	8 & 12 hour	TWA	500 ppm	
123-86-4	Butyl acetate	ACGIH	15 min	STEL	200 ppm	
			8 hr	TWA	150 ppm	
		OSHA	8 hr	TWA	150 ppm	
141-78-6	Ethyl acetate	ACGIH	8 hr	TWA	400 ppm	
		OSHA	8 hr	TWA	400 ppm	
110-43-0	Methyl amyl ketone	ACGIH	8 hr	TWA	50 ppm	

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CAS-No.	Chemical Name	Source	Time	Type	Value	Note
		OSHA	8 hr	TWA	100 ppm	
78-93-3	Methyl ethyl ketone	ACGIH	15 min	STEL	300 ppm	
			8 hr	TWA	200 ppm	
		OSHA	8 hr	TWA	200 ppm	
		Dupont	15 min	TWA	300 ppm	
			8 & 12 hour	TWA	200 ppm	
12001-26-2	Mica	ACGIH	8 hr	TWA	3 mg/m3	Respirable Dust None None
		OSHA	8 hr	PEL	20 mppcf	None None None
			8 hr	TWA	3 mg/m3	Respirable Dust None None
13463-67-7	Titanium dioxide	OSHA	8 hr	TWA	15 mg/m3	Total Dust
		Dupont	8 & 12 hour	TWA	10 mg/m3	Total Dust
			8 & 12 hour	TWA	5 mg/m3	Respirable Dust

** STEL = Short term exposure limit.
TWA = Time-weighted average.
PEL = Permissible Exposure Limit.

Protective equipment
Personal protective equipment should be worn to prevent contact with eyes, skin or clothing.

Respiratory protection
Do not breathe vapors or mists. Wear an appropriate, properly fitted NIOSH approved respirator during application and until all vapors and spray mists are exhausted unless air monitoring demonstrates vapor/mist levels are below applicable limits. If respirators are required, use a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C) and particulate filter (NIOSH TC-84A). In confined spaces, or in situations where continuous spray operations are typical, or if proper air-purifying respirator fit is not possible, wear a positive pressure, supplied-air respirator (NIOSH TC-19C). In all cases, follow respirator manufacturer's directions for respirator use.'

Eye protection
Desirable in all industrial situations. Goggles are preferred to prevent eye irritation. If safety glasses are substituted, include splash guard or side shields.

Skin and body protection
Neoprene gloves and coveralls are recommended.

Hygiene measures
Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

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Environmental exposure controls
Do not let product enter drains. For ecological information, refer to Ecological Information Section 12.

9. Physical and chemical properties

Appearance

Form: liquid Colour:

Flash point	104 °F	
Ignition temperature	377 °C	
Lower Explosive Limit	1.1 %	
Upper Explosive Limit	12.8 %	
Evapouration rate	Slower than Ether	
Vapor pressure of principal solvent	28.1 hPa	
Water solubility	appreciable	
Vapor density of principal solvent (Air = 1)	3.9	
Approx. Boiling Range	152 °C	
Approx. Freezing Range	Not applicable.	
Gallon Weight (lbs/gal)	8.42	
Specific Gravity	1.01	
Percent Volatile By Volume	55.83%	
Percent Volatile By Weight	46.49%	
Percent Solids By Volume	44.17%	
Percent Solids By Weight	53.51%	
pH (waterborne systems only)	Not applicable.	
Partition coefficient: n-octanol/water	no data available	
Ignition temperature	377 °C	DIN 51794
Decomposition temperature		
Viscosity (23 °C)	Not applicable.	ISO 2431-1993
VOC* less exempt (lbs/gal)	3.7	
VOC* as packaged (lbs/gal)	3.4	

* VOC less exempt (theoretical) and VOC as packaged (theoretical) are based upon the VOC of the packaged material at the point of manufacture.

10. Stability and reactivity

Stability
Stable

Conditions to avoid
Stable under recommended storage conditions.

Materials to avoid
None reasonably foreseeable.

Hazardous decomposition products
When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen.

Hazardous Polymerization
Will not occur.

Sensitivity to Static Discharge
If heated above the flash point, solvent vapors in air may explode if static grounding and bonding is not used during transfer of this product.

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Sensitivity to Mechanical Impact
None known.

11. Toxicological information

Information on likely routes of exposure

Inhalation
Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Delayed and immediate effects and also chronic effects from short and long term exposure:

Acute oral toxicity
not hazardous

Acute dermal toxicity
not hazardous

Acute inhalation toxicity
not hazardous

% of unknown composition 15.1 %

Skin corrosion/irritation
Not classified according to GHS criteria

Serious eye damage/eye irritation

acetone	Category 2A
ethyl acetate	Category 2A
heptan-2-one	Category 2B
butanone	Category 2A
propan-2-ol	Category 2A

Respiratory sensitisation
Not classified according to GHS criteria

Skin sensitisation
Not classified according to GHS criteria

Germ cell mutagenicity
Not classified according to GHS criteria

Carcinogenicity
Not classified according to GHS criteria

Toxicity for reproduction
Not classified according to GHS criteria

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Target Organ Systemic Toxicant - Single exposure
Not classified according to GHS criteria

Target Organ Systemic Toxicant - Repeated exposure
Not classified according to GHS criteria

Aspiration toxicity
Not classified according to GHS criteria

Numerical measures of toxicity (acute toxicity estimation (ATE),etc.)
No information available.

Symptoms related to the physical, chemical and toxicological characteristics
Exposure to component solvents vapours concentration in excess of the stated occupational exposure limit may result in adverse health effect such as mucous membrane and respiratory system irritation and adverse effect on kidney, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Through skin resorbtion, solvents can cause some of the effects described here. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin. The liquid splashed in the eyes may cause irritation and reversible damage.

Whether the hazardous chemical is listed by NTP, IARC or OSHA

Titanium dioxide	IARC 2B

12. Ecological information

There are no data available on the product itself. The product should not be allowed to enter drains or watercourses. The product contains an organic linked halogen. It may contribute to the AOX-value.

13. Disposal considerations

Waste Disposal Method
Do not allow material to contaminate ground water systems. Incinerate or otherwise dispose of waste material in accordance with Federal, State, Provincial, and local requirements. Do not incinerate in closed containers.

14. Transport information

International transport regulations

IMDG (Sea transport)	
UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III
Marine Pollutant:	no
ICAO/IATA (Air transport)	
UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III

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DOT

UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III
Marine Pollutant:	no
EmS:	F-E,S-E

Matters needing attention for transportation
Confirm that there is no breakage, corrosion, or leakage from the container before shipping. Be sure to prevent damage to cargo by loading so as to avoid falling, dropping, or collapse. Ship in appropriate containers with denotation of the content in accordance with the relevant statutes and rules.

15. Regulatory information

TSCA Status
In compliance with TSCA Inventory requirements for commercial purposes.

DSL Status
Product is not DSL listed because one or more ingredients are not on the DSL inventory.

Photochemical Reactivity
Non-photochemically reactive

Regulatory information

		EPCRA					CERCLA	CAA
CAS #	Ingredient	302	TPQ	RQ	311 - 312	313	RQ(lbs)	HAP
No information available.	Acrylic polymer	N	NR	NR	NA	N	NR	N
69153-52-2	Polyester resin	N	NR	NR	NA	N	NR	N
67-64-1	Acetone	N	NR	NR	A,C,F	N	5,000	N
123-86-4	Butyl acetate	N	NR	NR	A,C,F	N	NR	N
141-78-6	Ethyl acetate	N	NR	NR	C,F	N	NR	N
110-43-0	Methyl amyl ketone	N	NR	NR	A,C,F	N	NR	N
78-93-3	Methyl ethyl ketone	N	NR	NR	A,C,F	N	5,000	N
No information available.	Acrylic resin	N	NR	NR	NA	N	NR	N
763-69-9	Ethyl 3-ethoxy propionate	N	NR	NR	NA	N	NR	N
67-63-0	Isopropyl alcohol	N	NR	NR	,A,C,F,N,R	N	NR	N
12001-26-2	Mica	N	NR	NR	,A,C,F,N,R	N	NR	N
5521-31-3	Perylene maroon	N	NR	NR	,A,C,F,N,R	N	NR	N
169276-18-0*	Synthetic resin	N	NR	NR	NA	N	NR	N
13463-67-7	Titanium dioxide	N	NR	NR	,A,C,F,N,R	N	NR	N

Key:

EPCRA	Emergency Planning and Community Right-to-know Act (aka Title III, SARA)
302	Extremely hazardous substances
311/312 Categories	F = Fire Hazard R = Reactivity Hazard P = Pressure Related Hazard A = Acute Hazard C = Chronic Hazard
313 Information	Section 313 Supplier Notification - The chemicals listed above with a 'Y' in the 313 column are subject to reporting requirements of Section 313 of the Emergency Planning and Community

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	Right-to-Know act of 1986 and of 40 CFR 372.
CERCLA	Comprehensive Emergency Response, Compensation and Liability Act of 1980.
HAP	Listed as a Clean Air Act Hazardous Air Pollutant.
TPQ	Threshold Planning Quantity.
RQ	Reportable Quantity
NA	not available
NR	not regulated

16. Other information

HMIS rating H: 2 F: 2 R: 0

Glossary of Terms:

ACGIH	American Conference of Governmental Industrial Hygienists.
IARC	International Agency for Research on Cancer.
NTP	National Toxicology Program.
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration.
STEL	Short term exposure limit.
TWA	Time-weighted average.
PNOR	Particles not otherwise regulated.
PNOC	Particles not otherwise classified.

NOTE: The list (above) of glossary terms may be modified.

Notice from Axalta Coating Systems
The document reflects information provided to Axalta Coating Systems by its suppliers. Information is accurate to the best of our knowledge and is subject to change as new data is received by Axalta Coating Systems. Persons receiving this information should make their own determination as to its suitability for their purposes prior to use. The information on this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.
SDS prepared by:
Axalta Coating Systems Regulatory Affairs
Report version

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1. Identification of the substance/mixture and of the company/undertaking

Product name	YELLOW	
Product code	CAE153EW	
Intended use	Coating for professional use	
	Axalta Coating Systems, LLC Applied Corporate Center 50 Applied Card Way, Suite 300 US Glen Mills, PA 19342	
Telephone	Product information	(855) 6-AXALTA
	Medical emergency	(855) 274-5698
	Transportation emergency	(800) 424-9300 (CHEMTREC)

2. Hazards identification

This preparation is hazardous per the following GHS criteria

GHS-Classification

Flammable liquids	Category 3
Serious eye damage/eye irritation	Category 2A

Endpoints which are ""not classified"", ""cannot classified"" and ""not applicable"" are not shown

GHS-Labelling

Hazard symbols	
Signal word	Warning
Hazard statements	Flammable liquid and vapour. Causes serious eye irritation.
Precautionary statements	Wear eye protection/ face protection. Ground/bond container and receiving equipment. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Take precautionary measures against static discharge. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Wear protective gloves/ eye protection/ face protection. If eye irritation persists: Get medical advice/ attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower. Store in a well-ventilated place. Keep cool. Dispose of contents/container in accordance with local regulations.

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Other hazards which do not result in classification
None known.

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity:
0 %

3. Composition/information on ingredients

Mixture of synthetic resins, pigments, and solvents

Components

CAS-No.	Chemical Name	Concentration	GHS Hazardous
No information available.	Acrylic polymer	20 - 30%	
110-43-0	Methyl amyl ketone	15 - 26%	√
69153-52-2	Polyester resin	10 - 20%	
7429-90-5	Aluminum	6%	√
67-64-1	Acetone	4 - 15%	√
123-86-4	Butyl acetate	4 - 15%	√
No information available.	Acrylic resin	1 - 5%	
92797-60-9	Amorphous silica	1 - 5%	
763-69-9	Ethyl 3-ethoxy propionate	1 - 4%	√
141-78-6	Ethyl acetate	1 - 4%	√
64742-47-8	Hydrotreated heavy naphtha (petroleum)	1 - 4%	√
64742-48-9	Hydrotreated heavy naphtha (petroleum)	1 - 4%	√
67-63-0	Isopropyl alcohol	1 - 4%	√
78-93-3	Methyl ethyl ketone	1 - 4%	√
8052-41-3	Stoddard solvent	1 - 4%	√
169276-18-0*	Synthetic resin	1 - 5%	
100-41-4	Ethylbenzene	0.1%	√

OSHA Hazardous: Yes
* Assigned CAS No. - An official CAS No. does not exist. The CAS No. shown is for a similar chemical.

4. First aid measures

Eye contact
Remove contact lenses. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Seek medical advice.

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Skin contact
Do NOT use solvents or thinners. Take off all contaminated clothing immediately. Wash skin thoroughly with soap and water or use recognized skin cleanser. If skin irritation persists, call a physician.

Inhalation
Avoid inhalation of vapour or mist. Move to fresh air in case of accidental inhalation of vapours. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

Ingestion
If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting. Keep at rest.

Most Important Symptoms/effects, acute and delayed

Inhalation
Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Indication of immediate medical attention and special treatment needed if necessary
No data available on the product. See section 3 and 11 for hazardous ingredients found in the product.

5. Firefighting measures

Suitable extinguishing media
Extinguishing media which shall not be used for safety reasons
High volume water jet

Hazardous combustion products
CO, CO2, smoke, and oxides of any heavy metals that are reported in "Composition, Information on Ingredients" section.

Fire and Explosion Hazards
Combustible liquid. When heated above the flashpoint, emits vapors which, when mixed with air, will burn if an ignition source is present. Fine mist or sprays could ignite at temperatures below the flashpoint.

Special Protective Equipment and Fire Fighting Procedures
Full protective flameproof clothing should be worn as appropriate. Wear self contained breathing apparatus for fire fighting if necessary. In the event of fire, cool tanks with water spray. Do not allow run-off from fire fighting to enter public sewer systems or public waterways.

6. Accidental release measures

Procedures for cleaning up spills or leaks
Ventilate area. If heated above the flashpoint, remove sources of ignition. Prevent skin and eye contact and breathing of vapor. Wear a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C), eye protection, gloves and protective clothing. Confine, remove with inert absorbent, and dispose of properly.

Environmental precautions
Do not let product enter drains. Notify the respective authorities in accordance with local law in the case of contamination of rivers, lakes or waste water systems.

7. Handling and storage

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Precautions for safe handling
Observe label precautions. Keep away from heat, flame and other sources of ignition. When heated above its flash point, this must be handled as if it were a flammable liquid. Close container after each use. Do not transfer contents to bottles or unlabeled containers. Wash thoroughly after handling and before eating or smoking.
If material is a coating: do not sand, flame cut, braze or weld dry coating without a NIOSH approved air purifying respirator with particulate filters or appropriate ventilation, and gloves. Combustible dust clouds may be created where operations produce fine material (dust). Avoid formation of significant deposits of material as they may become airborne and form combustible dust clouds. Build up of fine material should be cleaned using gentle sweeping or vacuuming in accordance with best practices. Cleaning methods (e.g. compressed air) which can generate potentially combustible dust clouds should not be used.

Advice on protection against fire and explosion
Solvent vapours are heavier than air and may spread along floors. Vapors may form explosive mixtures with air and will burn when an ignition source is present. Always keep in containers of same material as the original one. Never use pressure to empty container: container is not a pressure vessel. The accumulation of contaminated rags may result in spontaneous combustion. Good housekeeping standards and regular safe removal of waste materials will minimize the risks of spontaneous combustion and other fire hazards.

Storage
Requirements for storage areas and containers
Observe label precautions. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. No smoking. Prevent unauthorized access. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Advice on common storage
Store separately from oxidizing agents and strongly alkaline and strongly acidic materials.

OSHA/NFPA Storage Classification: II

8. Exposure controls/personal protection

Engineering controls and work practices
Provide adequate ventilation. This should be achieved by a good general extraction and -if practically feasible- by the use of a local exhaust ventilation. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn.

National occupational exposure limits

CAS-No.	Chemical Name	Source	Time	Type	Value	Note
110-43-0	Methyl amyl ketone	ACGIH	8 hr	TWA	50 ppm	
		OSHA	8 hr	TWA	100 ppm	
7429-90-5	Aluminum	OSHA	8 hr	TWA	15 mg/m3	Total Dust
			8 hr	TWA	5 mg/m3	Respirable Dust
		Dupont	8 & 12 hour	TWA	0.5 mg/m3	
67-64-1	Acetone	ACGIH	15 min	STEL	750 ppm	
			8 hr	TWA	500 ppm	
		OSHA	8 hr	TWA	1,000 ppm	
		Dupont	8 & 12 hour	TWA	500 ppm	
123-86-4	Butyl acetate	ACGIH	15 min	STEL	200 ppm	

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CAS-No.	Chemical Name	Source	Time	Type	Value	Note
			8 hr	TWA	150 ppm	
		OSHA	8 hr	TWA	150 ppm	
92797-60-9	Amorphous silica	ACGIH	8 hr	TWA	2 mg/m3	Respirable Dust
		OSHA	15 min	STEL	1 mg/m3	
		Dupont	8 hr	TWA	1 mg/m3	
141-78-6	Ethyl acetate	ACGIH	8 hr	TWA	400 ppm	
		OSHA	8 hr	TWA	400 ppm	
64742-48-9	Hydrotreated heavy naphtha (petroleum)	ACGIH	8 hr	TWA	100 ppm	
		OSHA	8 hr	TWA	500 ppm	
		Dupont	8 hr	TWA	100 ppm	
78-93-3	Methyl ethyl ketone	ACGIH	15 min	STEL	300 ppm	
			8 hr	TWA	200 ppm	
		OSHA	8 hr	TWA	200 ppm	
		Dupont	15 min	TWA	300 ppm	
			8 & 12 hour	TWA	200 ppm	
8052-41-3	Stoddard solvent	ACGIH	8 hr	TWA	100 ppm	
		OSHA		TWA	500 ppm	
		Dupont	15 min	STEL	100 ppm	
			8 & 12 hour	TWA	50 ppm	
100-41-4	Ethylbenzene	ACGIH	8 hr	TWA	20 ppm	
		OSHA	8 hr	TWA	100 ppm	
		Dupont	8 & 12 hour	TWA	25 ppm	

** TWA = Time-weighted average.
STEL = Short term exposure limit.

Protective equipment
Personal protective equipment should be worn to prevent contact with eyes, skin or clothing.

Respiratory protection
Do not breathe vapors or mists. Wear an appropriate, properly fitted NIOSH approved respirator during application and until all vapors and spray mists are exhausted unless air monitoring demonstrates vapor/mist levels are below applicable limits. If respirators are required, use a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C) and particulate filter (NIOSH TC-84A). In confined spaces, or in situations where continuous spray operations are typical, or if proper air-purifying

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respirator fit is not possible, wear a positive pressure, supplied-air respirator (NIOSH TC-19C). In all cases, follow respirator manufacturer's directions for respirator use.'

Eye protection
Desirable in all industrial situations. Goggles are preferred to prevent eye irritation. If safety glasses are substituted, include splash guard or side shields.

Skin and body protection
Neoprene gloves and coveralls are recommended.

Hygiene measures
Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Environmental exposure controls
Do not let product enter drains. For ecological information, refer to Ecological Information Section 12.

9. Physical and chemical properties

Appearance

Form: liquid Colour:

Flash point	104 °F	
Ignition temperature	232 °C	
Lower Explosive Limit	1.1 %	
Upper Explosive Limit	12.8 %	
Evapouration rate	Slower than Ether	
Vapor pressure of principal solvent	23.5 hPa	
Water solubility	appreciable	
Vapor density of principal solvent (Air = 1)	3.9	
Approx. Boiling Range	152 °C	
Approx. Freezing Range	Not applicable.	
Gallon Weight (lbs/gal)	8.34	
Specific Gravity	1.00	
Percent Volatile By Volume	56.28%	
Percent Volatile By Weight	46.75%	
Percent Solids By Volume	43.72%	
Percent Solids By Weight	53.25%	
pH (waterborne systems only)	Not applicable.	
Partition coefficient: n-octanol/water	no data available	
Ignition temperature	232 °C	DIN 51794
Decomposition temperature		
Viscosity (23 °C)	Not applicable.	ISO 2431-1993
VOC* less exempt (lbs/gal)	3.7	
VOC* as packaged (lbs/gal)	3.4	

* VOC less exempt (theoretical) and VOC as packaged (theoretical) are based upon the VOC of the packaged material at the point of manufacture.

10. Stability and reactivity

Stability
Stable

Conditions to avoid
Stable under recommended storage conditions.

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Materials to avoid
None reasonably foreseeable.

Hazardous decomposition products
When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen.

Hazardous Polymerization
Will not occur.

Sensitivity to Static Discharge
If heated above the flash point, solvent vapors in air may explode if static grounding and bonding is not used during transfer of this product.

Sensitivity to Mechanical Impact
None known.

11. Toxicological information

Information on likely routes of exposure

Inhalation
Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Delayed and immediate effects and also chronic effects from short and long term exposure:

Acute oral toxicity
not hazardous

Acute dermal toxicity
not hazardous

Acute inhalation toxicity
not hazardous

% of unknown composition 0 %

Skin corrosion/irritation
Not classified according to GHS criteria

Serious eye damage/eye irritation

heptan-2-one	Category 2B
acetone	Category 2A
ethyl acetate	Category 2A
propan-2-ol	Category 2A
butanone	Category 2A
ethylbenzene	Category 2B

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Respiratory sensitisation
Not classified according to GHS criteria

Skin sensitisation
Not classified according to GHS criteria

Germ cell mutagenicity
Not classified according to GHS criteria

Carcinogenicity
Not classified according to GHS criteria

Toxicity for reproduction
Not classified according to GHS criteria

Target Organ Systemic Toxicant - Single exposure
Not classified according to GHS criteria

Target Organ Systemic Toxicant - Repeated exposure
Not classified according to GHS criteria

Aspiration toxicity
Not classified according to GHS criteria

Numerical measures of toxicity (acute toxicity estimation (ATE),etc.)
No information available.

Symptoms related to the physical, chemical and toxicological characteristics
Exposure to component solvents vapours concentration in excess of the stated occupational exposure limit may result in adverse health effect such as mucous membrane and respiratory system irritation and adverse effect on kidney, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Through skin resorbtion, solvents can cause some of the effects described here. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin. The liquid splashed in the eyes may cause irritation and reversible damage.

Whether the hazardous chemical is listed by NTP, IARC or OSHA

ethylbenzene	IARC 2B

12. Ecological information

There are no data available on the product itself. The product should not be allowed to enter drains or watercourses.

13. Disposal considerations

Waste Disposal Method
Do not allow material to contaminate ground water systems. Incinerate or otherwise dispose of waste material in accordance with Federal, State, Provincial, and local requirements. Do not incinerate in closed containers.

14. Transport information

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International transport regulations

IMDG (Sea transport)

UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III
Marine Pollutant:	no

ICAO/IATA (Air transport)

UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III

DOT

UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III
Marine Pollutant:	no
EmS:	F-E,S-E

Matters needing attention for transportation
Confirm that there is no breakage, corrosion, or leakage from the container before shipping. Be sure to prevent damage to cargo by loading so as to avoid falling, dropping, or collapse. Ship in appropriate containers with denotation of the content in accordance with the relevant statutes and rules.

15. Regulatory information

TSCA Status
In compliance with TSCA Inventory requirements for commercial purposes.

DSL Status
Product is not DSL listed because one or more ingredients are not on the DSL inventory.

Photochemical Reactivity
Photochemically reactive

US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)
WARNING! This product contains a chemical known to the State of California to cause cancer.

Regulatory information

		EPCRA					CERCLA	CAA
CAS #	Ingredient	302	TPQ	RQ	311 - 312	313	RQ(lbs)	HAP
No information available.	Acrylic polymer	N	NR	NR	NA	N	NR	N
110-43-0	Methyl amyl ketone	N	NR	NR	A,C,F	N	NR	N
69153-52-2	Polyester resin	N	NR	NR	NA	N	NR	N
7429-90-5	Aluminum	N	NR	NR	,A,C,F,N,R	Y	NR	N
67-64-1	Acetone	N	NR	NR	A,C,F	N	5,000	N
123-86-4	Butyl acetate	N	NR	NR	A,C,F	N	NR	N
No information available.	Acrylic resin	N	NR	NR	NA	N	NR	N

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CAS #	Ingredient	EPCRA 302	EPCRA TPQ	EPCRA RQ	EPCRA 311 - 312	EPCRA 313	CERCLA RQ(lbs)	CAA HAP
92797-60-9	Amorphous silica	N	NR	NR	,A,C,F,N,R	N	NR	N
763-69-9	Ethyl 3-ethoxy propionate	N	NR	NR	NA	N	NR	N
141-78-6	Ethyl acetate	N	NR	NR	C,F	N	NR	N
64742-47-8	Hydrotreated heavy naphtha (petroleum)	N	NR	NR	A,C,F	N	NR	N
64742-48-9	Hydrotreated heavy naphtha (petroleum)	N	NR	NR	,A,C,F,N,R	N	NR	N
67-63-0	Isopropyl alcohol	N	NR	NR	,A,C,F,N,R	N	NR	N
78-93-3	Methyl ethyl ketone	N	NR	NR	A,C,F	N	5,000	N
8052-41-3	Stoddard solvent	N	NR	NR	,A,C,F,N,R	N	NR	N
169276-18-0*	Synthetic resin	N	NR	NR	NA	N	NR	N
100-41-4	Ethylbenzene	N	NR	NR	A,C,F	Y	1,000	Y

Key:

EPCRA	Emergency Planning and Community Right-to-know Act (aka Title III, SARA)
302	Extremely hazardous substances
311/312 Categories	F = Fire Hazard R = Reactivity Hazard P = Pressure Related Hazard A = Acute Hazard C = Chronic Hazard
313 Information	Section 313 Supplier Notification - The chemicals listed above with a 'Y' in the 313 column are subject to reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know act of 1986 and of 40 CFR 372.
CERCLA	Comprehensive Emergency Response, Compensation and Liability Act of 1980.
HAP	Listed as a Clean Air Act Hazardous Air Pollutant.
TPQ	Threshold Planning Quantity.
RQ	Reportable Quantity
NA	not available
NR	not regulated

16. Other information

HMIS rating H: 2 F: 2 R: 1

Glossary of Terms:

ACGIH	American Conference of Governmental Industrial Hygienists.
IARC	International Agency for Research on Cancer.
NTP	National Toxicology Program.
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration.
STEL	Short term exposure limit.
TWA	Time-weighted average.
PNOR	Particles not otherwise regulated.
PNOC	Particles not otherwise classified.

NOTE: The list (above) of glossary terms may be modified.

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Axalta Coating Systems Regulatory Affairs

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1. Identification of the substance/mixture and of the company/undertaking

Product name	GREEN	
Product code	CAE254EW	
Intended use	Coating for professional use	
	Axalta Coating Systems, LLC Applied Corporate Center 50 Applied Card Way, Suite 300 US Glen Mills, PA 19342	
Telephone	Product information	(855) 6-AXALTA
	Medical emergency	(855) 274-5698
	Transportation emergency	(800) 424-9300 (CHEMTREC)

2. Hazards identification

This preparation is hazardous per the following GHS criteria

GHS-Classification

Flammable liquids	Category 3
Serious eye damage/eye irritation	Category 2A

Endpoints which are ""not classified"", ""cannot classified"" and ""not applicable"" are not shown

GHS-Labelling

Hazard symbols	
Signal word	Warning
Hazard statements	Flammable liquid and vapour. Causes serious eye irritation.
Precautionary statements	Wear eye protection/ face protection. Ground/bond container and receiving equipment. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Take precautionary measures against static discharge. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Wear protective gloves/ eye protection/ face protection. If eye irritation persists: Get medical advice/ attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower. Store in a well-ventilated place. Keep cool. Dispose of contents/container in accordance with local regulations.

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Other hazards which do not result in classification
None known.

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity:
11.9 %

3. Composition/information on ingredients

Mixture of synthetic resins, pigments, and solvents

Components

CAS-No.	Chemical Name	Concentration	GHS Hazardous
No information available.	Acrylic polymer	20 - 30%	
69153-52-2	Polyester resin	10 - 20%	
67-64-1	Acetone	4 - 15%	√
123-86-4	Butyl acetate	4 - 15%	√
141-78-6	Ethyl acetate	4 - 15%	√
110-43-0	Methyl amyl ketone	4 - 15%	√
No information available.	Acrylic resin	1 - 5%	
763-69-9	Ethyl 3-ethoxy propionate	1 - 4%	√
67-63-0	Isopropyl alcohol	1 - 4%	√
78-93-3	Methyl ethyl ketone	1 - 4%	√
12001-26-2	Mica	1 - 5%	
1328-53-6	Phthalocyanine green	1 - 5%	
169276-18-0*	Synthetic resin	1 - 5%	
13463-67-7	Titanium dioxide	1.6%	

OSHA Hazardous: Yes
* Assigned CAS No. - An official CAS No. does not exist. The CAS No. shown is for a similar chemical.

4. First aid measures

Eye contact
Remove contact lenses. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Seek medical advice.

Skin contact
Do NOT use solvents or thinners. Take off all contaminated clothing immediately. Wash skin thoroughly with soap and water or use recognized skin cleanser. If skin irritation persists, call a physician.

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Inhalation
Avoid inhalation of vapour or mist. Move to fresh air in case of accidental inhalation of vapours. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

Ingestion
If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting. Keep at rest.

Most important Symptoms/effects, acute and delayed

Inhalation
Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Indication of immediate medical attention and special treatment needed if necessary
No data available on the product. See section 3 and 11 for hazardous ingredients found in the product.

5. Firefighting measures

Suitable extinguishing media
Extinguishing media which shall not be used for safety reasons
High volume water jet

Hazardous combustion products
CO, CO2, smoke, and oxides of any heavy metals that are reported in "Composition, Information on Ingredients" section.

Fire and Explosion Hazards
Combustible liquid. When heated above the flashpoint, emits vapors which, when mixed with air, will burn if an ignition source is present. Fine mist or sprays could ignite at temperatures below the flashpoint.

Special Protective Equipment and Fire Fighting Procedures
Full protective flameproof clothing should be worn as appropriate. Wear self contained breathing apparatus for fire fighting if necessary. In the event of fire, cool tanks with water spray. Do not allow run-off from fire fighting to enter public sewer systems or public waterways.

6. Accidental release measures

Procedures for cleaning up spills or leaks
Ventilate area. If heated above the flashpoint, remove sources of ignition. Prevent skin and eye contact and breathing of vapor. Wear a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C), eye protection, gloves and protective clothing. Confine, remove with inert absorbent, and dispose of properly.

Environmental precautions
Do not let product enter drains. Notify the respective authorities in accordance with local law in the case of contamination of rivers, lakes or waste water systems.

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7. Handling and storage

Precautions for safe handling
Observe label precautions. Keep away from heat, flame and other sources of ignition. When heated above its flash point, this must be handled as if it were a flammable liquid. Close container after each use. Do not transfer contents to bottles or unlabeled containers. Wash thoroughly after handling and before eating or smoking.
If material is a coating: do not sand, flame cut, braze or weld dry coating without a NIOSH approved air purifying respirator with particulate filters or appropriate ventilation, and gloves. Combustible dust clouds may be created where operations produce fine material (dust). Avoid formation of significant deposits of material as they may become airborne and form combustible dust clouds. Build up of fine material should be cleaned using gentle sweeping or vacuuming in accordance with best practices. Cleaning methods (e.g. compressed air) which can generate potentially combustible dust clouds should not be used.

Advice on protection against fire and explosion
Solvent vapours are heavier than air and may spread along floors. Vapors may form explosive mixtures with air and will burn when an ignition source is present. Always keep in containers of same material as the original one. Never use pressure to empty container: container is not a pressure vessel. The accumulation of contaminated rags may result in spontaneous combustion. Good housekeeping standards and regular safe removal of waste materials will minimize the risks of spontaneous combustion and other fire hazards.

Storage
Requirements for storage areas and containers
Observe label precautions. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. No smoking. Prevent unauthorized access. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Advice on common storage
Store separately from oxidizing agents and strongly alkaline and strongly acidic materials.

OSHA/NFPA Storage Classification: II

8. Exposure controls/personal protection

Engineering controls and work practices
Provide adequate ventilation. This should be achieved by a good general extraction and -if practically feasible- by the use of a local exhaust ventilation. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn.

National occupational exposure limits

CAS-No.	Chemical Name	Source	Time	Type	Value	Note
67-64-1	Acetone	ACGIH	15 min	STEL	750 ppm	
			8 hr	TWA	500 ppm	
		OSHA	8 hr	TWA	1,000 ppm	
		Dupont	8 & 12 hour	TWA	500 ppm	
123-86-4	Butyl acetate	ACGIH	15 min	STEL	200 ppm	
			8 hr	TWA	150 ppm	
		OSHA	8 hr	TWA	150 ppm	
141-78-6	Ethyl acetate	ACGIH	8 hr	TWA	400 ppm	
		OSHA	8 hr	TWA	400 ppm	
110-43-0	Methyl amyl ketone	ACGIH	8 hr	TWA	50 ppm	

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CAS-No.	Chemical Name	Source	Time	Type	Value	Note
		OSHA	8 hr	TWA	100 ppm	
78-93-3	Methyl ethyl ketone	ACGIH	15 min	STEL	300 ppm	
			8 hr	TWA	200 ppm	
		OSHA	8 hr	TWA	200 ppm	
		Dupont	15 min	TWA	300 ppm	
			8 & 12 hour	TWA	200 ppm	
12001-26-2	Mica	ACGIH	8 hr	TWA	3 mg/m3	Respirable Dust None None
		OSHA	8 hr	PEL	20 mppcf	None None None
			8 hr	TWA	3 mg/m3	Respirable Dust None None
1328-53-6	Phthalocyanine green	ACGIH		TWA	3 mg/m3	Respirable Dust
				TWA	10 mg/m3	inhalable dust
		OSHA		TWA	15 mg/m3	Total Dust
				TWA	5 mg/m3	Respirable Dust
13463-67-7	Titanium dioxide	OSHA	8 hr	TWA	15 mg/m3	Total Dust
		Dupont	8 & 12 hour	TWA	10 mg/m3	Total Dust
			8 & 12 hour	TWA	5 mg/m3	Respirable Dust

** STEL = Short term exposure limit.
TWA = Time-weighted average.
PEL = Permissible Exposure Limit.

Protective equipment
Personal protective equipment should be worn to prevent contact with eyes, skin or clothing.

Respiratory protection
Do not breathe vapors or mists. Wear an appropriate, properly fitted NIOSH approved respirator during application and until all vapors and spray mists are exhausted unless air monitoring demonstrates vapor/mist levels are below applicable limits. If respirators are required, use a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C) and particulate filter (NIOSH TC-84A). In confined spaces, or in situations where continuous spray operations are typical, or if proper air-purifying respirator fit is not possible, wear a positive pressure, supplied-air respirator (NIOSH TC-19C). In all cases, follow respirator manufacturer's directions for respirator use.'

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Eye protection
Desirable in all industrial situations. Goggles are preferred to prevent eye irritation. If safety glasses are substituted, include splash guard or side shields.

Skin and body protection
Neoprene gloves and coveralls are recommended.

Hygiene measures
Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Environmental exposure controls
Do not let product enter drains. For ecological information, refer to Ecological Information Section 12.

9. Physical and chemical properties

Appearance

Form: liquid Colour:

Flash point	104 °F	
Ignition temperature	330 °C	
Lower Explosive Limit	1.1 %	
Upper Explosive Limit	12.8 %	
Evapouration rate	Slower than Ether	
Vapor pressure of principal solvent	24.8 hPa	
Water solubility	appreciable	
Vapor density of principal solvent (Air = 1)	4	
Approx. Boiling Range	152 °C	
Approx. Freezing Range	Not applicable.	
Gallon Weight (lbs/gal)	8.45	
Specific Gravity	1.01	
Percent Volatile By Volume	54.92%	
Percent Volatile By Weight	45.92%	
Percent Solids By Volume	45.08%	
Percent Solids By Weight	54.08%	
pH (waterborne systems only)	Not applicable.	
Partition coefficient: n-octanol/water	no data available	
Ignition temperature	330 °C	DIN 51794
Decomposition temperature		
Viscosity (23 °C)	Not applicable.	ISO 2431-1993
VOC* less exempt (lbs/gal)	3.7	
VOC* as packaged (lbs/gal)	3.4	

* VOC less exempt (theoretical) and VOC as packaged (theoretical) are based upon the VOC of the packaged material at the point of manufacture.

10. Stability and reactivity

Stability
Stable

Conditions to avoid
Stable under recommended storage conditions.

Materials to avoid
None reasonably foreseeable.

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Hazardous decomposition products
When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen.

Hazardous Polymerization
Will not occur.

Sensitivity to Static Discharge
If heated above the flash point, solvent vapors in air may explode if static grounding and bonding is not used during transfer of this product.

Sensitivity to Mechanical Impact
None known.

11. Toxicological information

Information on likely routes of exposure

Inhalation
Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Delayed and immediate effects and also chronic effects from short and long term exposure:

Acute oral toxicity
not hazardous

Acute dermal toxicity
not hazardous

Acute inhalation toxicity
not hazardous

% of unknown composition 11.9 %

Skin corrosion/irritation
Not classified according to GHS criteria

Serious eye damage/eye irritation

acetone	Category 2A
ethyl acetate	Category 2A
heptan-2-one	Category 2B
propan-2-ol	Category 2A
butanone	Category 2A

Respiratory sensitisation
Not classified according to GHS criteria

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Skin sensitisation
Not classified according to GHS criteria

Germ cell mutagenicity
Not classified according to GHS criteria

Carcinogenicity
Not classified according to GHS criteria

Toxicity for reproduction
Not classified according to GHS criteria

Target Organ Systemic Toxicant - Single exposure
Not classified according to GHS criteria

Target Organ Systemic Toxicant - Repeated exposure
Not classified according to GHS criteria

Aspiration toxicity
Not classified according to GHS criteria

Numerical measures of toxicity (acute toxicity estimation (ATE),etc.)
No information available.

Symptoms related to the physical, chemical and toxicological characteristics
Exposure to component solvents vapours concentration in excess of the stated occupational exposure limit may result in adverse health effect such as mucous membrane and respiratory system irritation and adverse effect on kidney, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Through skin resorbtion, solvents can cause some of the effects described here. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin. The liquid splashed in the eyes may cause irritation and reversible damage.

Whether the hazardous chemical is listed by NTP, IARC or OSHA

Titanium dioxide	IARC 2B

12. Ecological information

There are no data available on the product itself. The product should not be allowed to enter drains or watercourses. The product contains an organic linked halogen. It may contribute to the AOX-value.

13. Disposal considerations

Waste Disposal Method
Do not allow material to contaminate ground water systems. Incinerate or otherwise dispose of waste material in accordance with Federal, State, Provincial, and local requirements. Do not incinerate in closed containers.

14. Transport information

International transport regulations

IMDG (Sea transport)	
UN number:	1263
Proper shipping name:	PAINT

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MMRX-02478

Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III
Marine Pollutant:	no

ICAO/IATA (Air transport)

UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III

DOT

UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III
Marine Pollutant:	no
EmS:	F-E,S-E

Matters needing attention for transportation
Confirm that there is no breakage, corrosion, or leakage from the container before shipping. Be sure to prevent damage to cargo by loading so as to avoid falling, dropping, or collapse. Ship in appropriate containers with denotation of the content in accordance with the relevant statutes and rules.

15. Regulatory information

TSCA Status
In compliance with TSCA Inventory requirements for commercial purposes.

DSL Status
Product is not DSL listed because one or more ingredients are not on the DSL inventory.

Photochemical Reactivity
Non-photochemically reactive

Regulatory information

		EPCRA					CERCLA	CAA
CAS #	Ingredient	302	TPQ	RQ	311 - 312	313	RQ(lbs)	HAP
No information available.	Acrylic polymer	N	NR	NR	NA	N	NR	N
69153-52-2	Polyester resin	N	NR	NR	NA	N	NR	N
67-64-1	Acetone	N	NR	NR	A,C,F	N	5,000	N
123-86-4	Butyl acetate	N	NR	NR	A,C,F	N	NR	N
141-78-6	Ethyl acetate	N	NR	NR	C,F	N	NR	N
110-43-0	Methyl amyl ketone	N	NR	NR	A,C,F	N	NR	N
No information available.	Acrylic resin	N	NR	NR	NA	N	NR	N
763-69-9	Ethyl 3-ethoxy propionate	N	NR	NR	NA	N	NR	N
67-63-0	Isopropyl alcohol	N	NR	NR	,A,C,F,N,R	N	NR	N
78-93-3	Methyl ethyl ketone	N	NR	NR	A,C,F	N	5,000	N
12001-26-2	Mica	N	NR	NR	,A,C,F,N,R	N	NR	N
1328-53-6	Phthalocyanine green	N	NR	NR	,A,C,F,N,R	N	NR	N
169276-18-0*	Synthetic resin	N	NR	NR	NA	N	NR	N
13463-67-7	Titanium dioxide	N	NR	NR	,A,C,F,N,R	N	NR	N

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Key:

EPCRA	Emergency Planning and Community Right-to-know Act (aka Title III, SARA)
302	Extremely hazardous substances
311/312 Categories	F = Fire Hazard R = Reactivity Hazard P = Pressure Related Hazard A = Acute Hazard C = Chronic Hazard
313 Information	Section 313 Supplier Notification - The chemicals listed above with a 'Y' in the 313 column are subject to reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know act of 1986 and of 40 CFR 372.
CERCLA	Comprehensive Emergency Response, Compensation and Liability Act of 1980.
HAP	Listed as a Clean Air Act Hazardous Air Pollutant.
TPQ	Threshold Planning Quantity.
RQ	Reportable Quantity
NA	not available
NR	not regulated

16. Other information

HMIS rating H: 2 F: 2 R: 0

Glossary of Terms:

ACGIH	American Conference of Governmental Industrial Hygienists.
IARC	International Agency for Research on Cancer.
NTP	National Toxicology Program.
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration.
STEL	Short term exposure limit.
TWA	Time-weighted average.
PNOR	Particles not otherwise regulated.
PNOC	Particles not otherwise classified.

NOTE: The list (above) of glossary terms may be modified.

Notice from Axalta Coating Systems
The document reflects information provided to Axalta Coating Systems by its suppliers. Information is accurate to the best of our knowledge and is subject to change as new data is received by Axalta Coating Systems. Persons receiving this information should make their own determination as to its suitability for their purposes prior to use. The information on this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.
SDS prepared by:
Axalta Coating Systems Regulatory Affairs
Report version

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1. Identification of the substance/mixture and of the company/undertaking

Product name	Color Atlas Blue	
Product code	CAS413 EW	
Intended use	Coating for professional use	
	Axalta Coating Systems, LLC Applied Corporate Center 50 Applied Card Way, Suite 300 US Glen Mills, PA 19342	
Telephone	Product information	(855) 6-AXALTA
	Medical emergency	(855) 274-5698
	Transportation emergency	(800) 424-9300 (CHEMTREC)

2. Hazards identification

This preparation is hazardous per the following GHS criteria

GHS-Classification

Flammable liquids	Category 3
Serious eye damage/eye irritation	Category 2A

Endpoints which are ""not classified"", ""cannot classified"" and ""not applicable"" are not shown

GHS-Labelling

Hazard symbols	
Signal word	Warning
Hazard statements	Flammable liquid and vapour. Causes serious eye irritation.
Precautionary statements	Wear eye protection/ face protection. Ground/bond container and receiving equipment. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Take precautionary measures against static discharge. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Wear protective gloves/ eye protection/ face protection. If eye irritation persists: Get medical advice/ attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower. Store in a well-ventilated place. Keep cool. Dispose of contents/container in accordance with local regulations.

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Other hazards which do not result in classification
None known.

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity:
7.1 %

3. Composition/information on ingredients

Mixture of synthetic resins, pigments, and solvents

Components

CAS-No.	Chemical Name	Concentration	GHS Hazardous
No information available.	Acrylic polymer	20 - 30%	
69153-52-2	Polyester resin	10 - 20%	
67-64-1	Acetone	4 - 15%	√
123-86-4	Butyl acetate	4 - 15%	√
141-78-6	Ethyl acetate	4 - 15%	√
110-43-0	Methyl amyl ketone	4 - 15%	√
78-93-3	Methyl ethyl ketone	4 - 15%	√
No information available.	Acrylic resin	1 - 5%	
763-69-9	Ethyl 3-ethoxy propionate	1 - 4%	√
67-63-0	Isopropyl alcohol	1 - 4%	√
12001-26-2	Mica	1 - 5%	
147-14-8	Phthalocyanine blue pigment	1 - 5%	
169276-18-0*	Synthetic resin	1 - 5%	
13463-67-7	Titanium dioxide	1.6%	

OSHA Hazardous: Yes
* Assigned CAS No. - An official CAS No. does not exist. The CAS No. shown is for a similar chemical.

4. First aid measures

Eye contact
Remove contact lenses. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Seek medical advice.

Skin contact
Do NOT use solvents or thinners. Take off all contaminated clothing immediately. Wash skin thoroughly with soap and water or use recognized skin cleanser. If skin irritation persists, call a physician.

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Inhalation
Avoid inhalation of vapour or mist. Move to fresh air in case of accidental inhalation of vapours. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

Ingestion
If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting. Keep at rest.

Most important Symptoms/effects, acute and delayed

Inhalation
Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Indication of immediate medical attention and special treatment needed if necessary
No data available on the product. See section 3 and 11 for hazardous ingredients found in the product.

5. Firefighting measures

Suitable extinguishing media
Extinguishing media which shall not be used for safety reasons
High volume water jet

Hazardous combustion products
CO, CO2, smoke, and oxides of any heavy metals that are reported in "Composition, Information on Ingredients" section.

Fire and Explosion Hazards
Combustible liquid. When heated above the flashpoint, emits vapors which, when mixed with air, will burn if an ignition source is present. Fine mist or sprays could ignite at temperatures below the flashpoint.

Special Protective Equipment and Fire Fighting Procedures
Full protective flameproof clothing should be worn as appropriate. Wear self contained breathing apparatus for fire fighting if necessary. In the event of fire, cool tanks with water spray. Do not allow run-off from fire fighting to enter public sewer systems or public waterways.

6. Accidental release measures

Procedures for cleaning up spills or leaks
Ventilate area. If heated above the flashpoint, remove sources of ignition. Prevent skin and eye contact and breathing of vapor. Wear a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C), eye protection, gloves and protective clothing. Confine, remove with inert absorbent, and dispose of properly.

Environmental precautions
Do not let product enter drains. Notify the respective authorities in accordance with local law in the case of contamination of rivers, lakes or waste water systems.

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7. Handling and storage

Precautions for safe handling
Observe label precautions. Keep away from heat, flame and other sources of ignition. When heated above its flash point, this must be handled as if it were a flammable liquid. Close container after each use. Do not transfer contents to bottles or unlabeled containers. Wash thoroughly after handling and before eating or smoking.
If material is a coating: do not sand, flame cut, braze or weld dry coating without a NIOSH approved air purifying respirator with particulate filters or appropriate ventilation, and gloves. Combustible dust clouds may be created where operations produce fine material (dust). Avoid formation of significant deposits of material as they may become airborne and form combustible dust clouds. Build up of fine material should be cleaned using gentle sweeping or vacuuming in accordance with best practices. Cleaning methods (e.g. compressed air) which can generate potentially combustible dust clouds should not be used.

Advice on protection against fire and explosion
Solvent vapours are heavier than air and may spread along floors. Vapors may form explosive mixtures with air and will burn when an ignition source is present. Always keep in containers of same material as the original one. Never use pressure to empty container: container is not a pressure vessel. The accumulation of contaminated rags may result in spontaneous combustion. Good housekeeping standards and regular safe removal of waste materials will minimize the risks of spontaneous combustion and other fire hazards.

Storage
Requirements for storage areas and containers
Observe label precautions. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. No smoking. Prevent unauthorized access. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Advice on common storage
Store separately from oxidizing agents and strongly alkaline and strongly acidic materials.

OSHA/NFPA Storage Classification: II

8. Exposure controls/personal protection

Engineering controls and work practices
Provide adequate ventilation. This should be achieved by a good general extraction and -if practically feasible- by the use of a local exhaust ventilation. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn.

National occupational exposure limits

CAS-No.	Chemical Name	Source	Time	Type	Value	Note
67-64-1	Acetone	ACGIH	15 min	STEL	750 ppm	
			8 hr	TWA	500 ppm	
		OSHA	8 hr	TWA	1,000 ppm	
		Dupont	8 & 12 hour	TWA	500 ppm	
123-86-4	Butyl acetate	ACGIH	15 min	STEL	200 ppm	
			8 hr	TWA	150 ppm	
		OSHA	8 hr	TWA	150 ppm	
141-78-6	Ethyl acetate	ACGIH	8 hr	TWA	400 ppm	
		OSHA	8 hr	TWA	400 ppm	
110-43-0	Methyl amyl ketone	ACGIH	8 hr	TWA	50 ppm	

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CAS-No.	Chemical Name	Source	Time	Type	Value	Note
		OSHA	8 hr	TWA	100 ppm	
78-93-3	Methyl ethyl ketone	ACGIH	15 min	STEL	300 ppm	
			8 hr	TWA	200 ppm	
		OSHA	8 hr	TWA	200 ppm	
		Dupont	15 min	TWA	300 ppm	
			8 & 12 hour	TWA	200 ppm	
12001-26-2	Mica	ACGIH	8 hr	TWA	3 mg/m3	Respirable Dust None None
		OSHA	8 hr	PEL	20 mppcf	None None None
			8 hr	TWA	3 mg/m3	Respirable Dust None None
147-14-8	Phthalocyanine blue pigment	ACGIH	8 hr	TWA	10 mg/m3	inhalable dust PNOC
			8 hr	TWA	3 mg/m3	respirable particulate PNOC
		OSHA		TWA	5 mg/m3	Respirable Dust PNOR
			8 hr	TWA	15 mg/m3	Total Dust PNOR
13463-67-7	Titanium dioxide	OSHA	8 hr	TWA	15 mg/m3	Total Dust
		Dupont	8 & 12 hour	TWA	10 mg/m3	Total Dust
			8 & 12 hour	TWA	5 mg/m3	Respirable Dust

** STEL = Short term exposure limit.
TWA = Time-weighted average.
PEL = Permissible Exposure Limit.

Protective equipment
Personal protective equipment should be worn to prevent contact with eyes, skin or clothing.

Respiratory protection
Do not breathe vapors or mists. Wear an appropriate, properly fitted NIOSH approved respirator during application and until all vapors and spray mists are exhausted unless air monitoring demonstrates vapor/mist levels are below applicable limits. If respirators are required, use a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C) and particulate filter (NIOSH TC-84A). In confined spaces, or in situations where continuous spray operations are typical, or if proper air-purifying respirator fit is not possible, wear a positive pressure, supplied-air respirator (NIOSH TC-19C). In all cases, follow respirator manufacturer's directions for respirator use.'

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Eye protection
Desirable in all industrial situations. Goggles are preferred to prevent eye irritation. If safety glasses are substituted, include splash guard or side shields.

Skin and body protection
Neoprene gloves and coveralls are recommended.

Hygiene measures
Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Environmental exposure controls
Do not let product enter drains. For ecological information, refer to Ecological Information Section 12.

9. Physical and chemical properties

Appearance

Form: liquid Colour:

Flash point	104 °F	
Ignition temperature	377 °C	
Lower Explosive Limit	1 %	
Upper Explosive Limit	12.8 %	
Evapouration rate	Slower than Ether	
Vapor pressure of principal solvent	34.7 hPa	
Water solubility	appreciable	
Vapor density of principal solvent (Air = 1)	3.9	
Approx. Boiling Range	78 °C	
Approx. Freezing Range	Not applicable.	
Gallon Weight (lbs/gal)	8.26	
Specific Gravity	0.99	
Percent Volatile By Volume	57.15%	
Percent Volatile By Weight	48.41%	
Percent Solids By Volume	42.86%	
Percent Solids By Weight	51.59%	
pH (waterborne systems only)	Not applicable.	
Partition coefficient: n-octanol/water	no data available	
Ignition temperature	377 °C	DIN 51794
Decomposition temperature		
Viscosity (23 °C)	Not applicable.	ISO 2431-1993
VOC* less exempt (lbs/gal)	3.7	
VOC* as packaged (lbs/gal)	3.3	

* VOC less exempt (theoretical) and VOC as packaged (theoretical) are based upon the VOC of the packaged material at the point of manufacture.

10. Stability and reactivity

Stability
Stable

Conditions to avoid
Stable under recommended storage conditions.

Materials to avoid
None reasonably foreseeable.

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Hazardous decomposition products
When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen.

Hazardous Polymerization
Will not occur.

Sensitivity to Static Discharge
If heated above the flash point, solvent vapors in air may explode if static grounding and bonding is not used during transfer of this product.

Sensitivity to Mechanical Impact
None known.

11. Toxicological information

Information on likely routes of exposure

Inhalation
Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Delayed and immediate effects and also chronic effects from short and long term exposure:

Acute oral toxicity
not hazardous

Acute dermal toxicity
not hazardous

Acute inhalation toxicity
not hazardous

% of unknown composition 7.1 %

Skin corrosion/irritation
Not classified according to GHS criteria

Serious eye damage/eye irritation

acetone	Category 2A
ethyl acetate	Category 2A
heptan-2-one	Category 2B
butanone	Category 2A
propan-2-ol	Category 2A

Respiratory sensitisation
Not classified according to GHS criteria

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MMRX-02466

Skin sensitisation
Not classified according to GHS criteria

Germ cell mutagenicity
Not classified according to GHS criteria

Carcinogenicity
Not classified according to GHS criteria

Toxicity for reproduction
Not classified according to GHS criteria

Target Organ Systemic Toxicant - Single exposure
Not classified according to GHS criteria

Target Organ Systemic Toxicant - Repeated exposure
Not classified according to GHS criteria

Aspiration toxicity
Not classified according to GHS criteria

Numerical measures of toxicity (acute toxicity estimation (ATE),etc.)
No information available.

Symptoms related to the physical, chemical and toxicological characteristics
Exposure to component solvents vapours concentration in excess of the stated occupational exposure limit may result in adverse health effect such as mucous membrane and respiratory system irritation and adverse effect on kidney, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Through skin resorbtion, solvents can cause some of the effects described here. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin. The liquid splashed in the eyes may cause irritation and reversible damage.

Whether the hazardous chemical is listed by NTP, IARC or OSHA

Titanium dioxide	IARC 2B

12. Ecological information

There are no data available on the product itself. The product should not be allowed to enter drains or watercourses. The product contains an organic linked halogen. It may contribute to the AOX-value.

13. Disposal considerations

Waste Disposal Method
Do not allow material to contaminate ground water systems. Incinerate or otherwise dispose of waste material in accordance with Federal, State, Provincial, and local requirements. Do not incinerate in closed containers.

14. Transport information

International transport regulations

IMDG (Sea transport)	
UN number:	1263
Proper shipping name:	PAINT

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Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III
Marine Pollutant:	no

ICAO/IATA (Air transport)

UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III

DOT

UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III
Marine Pollutant:	no
EmS:	F-E,S-E

Matters needing attention for transportation
Confirm that there is no breakage, corrosion, or leakage from the container before shipping. Be sure to prevent damage to cargo by loading so as to avoid falling, dropping, or collapse. Ship in appropriate containers with denotation of the content in accordance with the relevant statutes and rules.

15. Regulatory information

TSCA Status
In compliance with TSCA Inventory requirements for commercial purposes.

DSL Status
Product is not DSL listed because one or more ingredients are not on the DSL inventory.

Photochemical Reactivity
Non-photochemically reactive

Regulatory Information

		EPCRA					CERCLA	CAA
CAS #	Ingredient	302	TPQ	RQ	311 - 312	313	RQ(lbs)	HAP
No information available.	Acrylic polymer	N	NR	NR	NA	N	NR	N
69153-52-2	Polyester resin	N	NR	NR	NA	N	NR	N
67-64-1	Acetone	N	NR	NR	A,C,F	N	5,000	N
123-86-4	Butyl acetate	N	NR	NR	A,C,F	N	NR	N
141-78-6	Ethyl acetate	N	NR	NR	C,F	N	NR	N
110-43-0	Methyl amyl ketone	N	NR	NR	A,C,F	N	NR	N
78-93-3	Methyl ethyl ketone	N	NR	NR	A,C,F	N	5,000	N
No information available.	Acrylic resin	N	NR	NR	NA	N	NR	N
763-69-9	Ethyl 3-ethoxy propionate	N	NR	NR	NA	N	NR	N
67-63-0	Isopropyl alcohol	N	NR	NR	,A,C,F,N,R	N	NR	N
12001-26-2	Mica	N	NR	NR	,A,C,F,N,R	N	NR	N
147-14-8	Phthalocyanine blue pigment	N	NR	NR	,A,C,F,N,R	N	NR	N
169276-18-0*	Synthetic resin	N	NR	NR	NA	N	NR	N
13463-67-7	Titanium dioxide	N	NR	NR	,A,C,F,N,R	N	NR	N

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Key:

EPCRA	Emergency Planning and Community Right-to-know Act (aka Title III, SARA)
302	Extremely hazardous substances
311/312 Categories	F = Fire Hazard R = Reactivity Hazard P = Pressure Related Hazard A = Acute Hazard C = Chronic Hazard
313 Information	Section 313 Supplier Notification - The chemicals listed above with a 'Y' in the 313 column are subject to reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know act of 1986 and of 40 CFR 372.
CERCLA	Comprehensive Emergency Response, Compensation and Liability Act of 1980.
HAP	Listed as a Clean Air Act Hazardous Air Pollutant.
TPQ	Threshold Planning Quantity.
RQ	Reportable Quantity
NA	not available
NR	not regulated

16. Other information

HMIS rating H: 2 F: 2 R: 0

Glossary of Terms:

ACGIH	American Conference of Governmental Industrial Hygienists.
IARC	International Agency for Research on Cancer.
NTP	National Toxicology Program.
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration.
STEL	Short term exposure limit.
TWA	Time-weighted average.
PNOR	Particles not otherwise regulated.
PNOC	Particles not otherwise classified.

NOTE: The list (above) of glossary terms may be modified.

Notice from Axalta Coating Systems
The document reflects information provided to Axalta Coating Systems by its suppliers. Information is accurate to the best of our knowledge and is subject to change as new data is received by Axalta Coating Systems. Persons receiving this information should make their own determination as to its suitability for their purposes prior to use. The information on this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.
SDS prepared by:
Axalta Coating Systems Regulatory Affairs
Report version

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1. Identification of the substance/mixture and of the company/undertaking

Product name	Medium Temperature Activator	
Product code	15305S™	120524
Intended use	Hardener for professional use	
	Axalta Coating Systems, LLC Applied Corporate Center 50 Applied Card Way, Suite 300 US Glen Mills, PA 19342	
Telephone	Product information Medical emergency Transportation emergency	(855) 6-AXALTA (855) 274-5698 (800) 424-9300 (CHEMTREC)

2. Hazards identification

This preparation is hazardous per the following GHS criteria

GHS-Classification

Flammable liquids	Category 2
Serious eye damage/eye irritation	Category 2A
Respiratory sensitisation	Category 1
Skin sensitisation	Category 1
Target Organ Systemic Toxicant - Single exposure	Category 3

Endpoints which are ""not classified"", ""cannot classified"" and ""not applicable"" are not shown

GHS-Labelling

Hazard symbols

Signal word: Danger

Hazard statements:
Highly flammable liquid and vapour.
Causes serious eye irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
May cause respiratory irritation.

Precautionary statements:
Contaminated work clothing should not be allowed out of the workplace.
Ground/bond container and receiving equipment.
In case of inadequate ventilation wear respiratory protection.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Take precautionary measures against static discharge.
Use explosion-proof electrical/ventilating/lighting equipment.
Use only non-sparking tools.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
Avoid breathing dust/ vapours/ spray.
IF exposed or if you feel unwell: Call a POISON CENTER or doctor/ physician.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If experiencing respiratory symptoms: Call a POISON CENTER or doctor/ physician.
If eye irritation persists: Get medical advice/ attention.

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IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/ attention.
Specific treatment (see supplemental first aid instructions on this label).
Wash contaminated clothing before reuse.
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Dispose of contents/container to .?.

Other hazards which do not result in classification
Contains isocyanates. See information supplied by the manufacturer.

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity:
0 %

3. Composition/information on ingredients

Mixture of synthetic resins and solvents

Components

CAS-No.	Chemical Name	Concentration
28182-81-2	Aliphatic polyisocyanate resin	
79-20-9	Methyl acetate	
108-83-8	Diisobutyl ketone	
110-43-0	Methyl amyl ketone	

Non-regulated ingredients 1 - 5%
OSHA Hazardous: Yes

4. First aid measures

Eye contact
Remove contact lenses. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Seek medical advice.

Skin contact
Do NOT use solvents or thinners. Take off all contaminated clothing immediately. Wash skin thoroughly with soap and water or use recognized skin cleanser. If skin irritation persists, call a physician.

Inhalation
Avoid inhalation of vapour or mist. Move to fresh air in case of accidental inhalation of vapours. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

Ingestion
If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting. Keep at rest.

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Most Important Symptoms/effects, acute and delayed

Inhalation
May cause nose and throat irritation. May cause nervous system depression characterized by the following progressive steps: headache, dizziness, nausea, staggering gait, confusion, unconsciousness. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage. Exposure to isocyanates may cause respiratory sensitization. This effect may be permanent. Symptoms include an asthma-like reaction with shortness of breath, wheezing, cough or permanent lung sensitization. This effect may be delayed for several hours after exposure. Repeated overexposure to isocyanates may cause a decrease in lung function, which may be permanent. Individuals with lung or breathing problems or prior reactions to isocyanates must not be exposed to vapors or spray mist of this product.

Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis. Skin contact my cause skin sensitization.

Indication of immediate medical attention and special treatment needed if necessary
No data available on the product. See section 3 and 11 for hazardous ingredients found in the product.

5. Firefighting measures

Suitable extinguishing media
Universal aqueous film-forming foam, Carbon dioxide (CO2), Dry chemical

Extinguishing media which shall not be used for safety reasons
High volume water jet

Hazardous combustion products
CO, CO2, smoke, and oxides of any heavy metals that are reported in "Composition, Information on Ingredients" section.

Fire and Explosion Hazards
Flammable liquid. Vapor/air mixture will burn when an ignition source is present.

Special Protective Equipment and Fire Fighting Procedures
Full protective flameproof clothing should be worn as appropriate. Wear self contained breathing apparatus for fire fighting if necessary. In the event of fire, cool tanks with water spray. Do not allow run-off from fire fighting to enter public sewer systems or public waterways.

6. Accidental release measures

Procedures for cleaning up spills or leaks
Ventilate area. Remove sources of ignition. Do not breathe vapors. Do not get in eyes or on skin. Wear a positive-pressure, supplied-air respirator (NIOSH approved TC-19C), eye protection, gloves and protective clothing. Pour liquid decontamination solution over the spill and allow to sit at least 10 minutes. Typical decontamination solutions for isocyanate containing materials are: 20% Surfactant (Tergitol TM 10) and 80% Water OR 0-10% Ammonia, 2-5% Detergent and Water (balance) Confine and remove with inert absorbent. Pressure can be generated. Do not seal waste containers for 48 hours to allow C02 to vent. After 48 hours, material may be sealed and disposed of properly.

Environmental precautions
Do not let product enter drains. Notify the respective authorities in accordance with local law in the case of contamination of rivers, lakes or waste water systems.

7. Handling and storage

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Precautions for safe handling
Observe label precautions. Keep away from heat, sparks, flame, static discharge and other sources of ignition. VAPORS MAY CAUSE FLASH FIRE. Close container after each use. Ground containers when pouring. Do not transfer contents to bottles or unlabeled containers. Wash thoroughly after handling and before eating or smoking. Do not store above 120 deg F.
If material is a coating: do not sand, flame cut, braze or weld dry coating without a NIOSH approved air purifying respirator with particulate filters or appropriate ventilation, and gloves. Combustible dust clouds may be created where operations produce fine material (dust). Avoid formation of significant deposits of material as they may become airborne and form combustible dust clouds. Build up of fine material should be cleaned using gentle sweeping or vacuuming in accordance with best practices. Cleaning methods (e.g. compressed air) which can generate potentially combustible dust clouds should not be used.

Advice on protection against fire and explosion
Solvent vapours are heavier than air and may spread along floors. Vapors may form explosive mixtures with air and will burn when an ignition source is present. Always keep in containers of same material as the original one. Never use pressure to empty container: container is not a pressure vessel. The accumulation of contaminated rags may result in spontaneous combustion. Good housekeeping standards and regular safe removal of waste materials will minimize the risks of spontaneous combustion and other fire hazards.

Storage
Requirements for storage areas and containers
Observe label precautions. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. No smoking. Prevent unauthorized access. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Advice on common storage
Store separately from oxidizing agents, strongly alkaline and strongly acidic materials, amines, alcohols and water. Precautions should be taken to avoid exposure to atmospheric humidity or water. Evolution of CO2 in closed containers causes overpressure and produces a risk of bursting.

Additional information on storage conditions
Precautions should be taken to avoid exposure to atmospheric humidity or water. Humid air and/or water will produce carbon dioxide which will pressurize the container. Open drum carefully as content may be under pressure.

OSHA/NFPA Storage Classification: IB

8. Exposure controls/personal protection

Engineering controls and work practices
Provide adequate ventilation. Air-fed protective respiratory equipment must be worn by spray operator even when good ventilation is provided.

National occupational exposure limits

CAS-No.	Chemical Name	Source	Time	Type	Value	Note
28182-81-2	Aliphatic polyisocyanate resin	Supplier	8 hr	TWA	0.5 mg/m3	
79-20-9	Methyl acetate	ACGIH	15 min	STEL	250 ppm	
			8 hr	TWA	200 ppm	
		OSHA	8 hr	TWA	200 ppm	
108-83-8	Diisobutyl ketone	ACGIH	8 hr	TWA	25 ppm	
		OSHA	8 hr	TWA	50 ppm	
110-43-0	Methyl amyl ketone	ACGIH	8 hr	TWA	50 ppm	
		OSHA	8 hr	TWA	100 ppm	

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** TWA = Time-weighted average.
STEL = Short term exposure limit.

Protective equipment
Personal protective equipment should be worn to prevent contact with eyes, skin or clothing.

Respiratory protection
Do not breathe vapors or mists. Wear a positive-pressure, supplied air respirator (NIOSH approved TC-19C), while mixing activator with paint, during application and until all vapors and spray mists are exhausted. Follow respirator manufacturer s directions for respirator use. Do not permit anyone without protection in the painting area. Refer to the hardener/activator label instructions for further information. Individuals with history of lung or breathing problems or prior reaction to isocyanates should not use or be exposed to vapor or spray mist.

Eye protection
Desirable in all industrial situations. Goggles are preferred to prevent eye irritation. If safety glasses are substituted, include splash guard or side shields.

Skin and body protection
Neoprene gloves and coveralls are recommended.

Hygiene measures
Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Environmental exposure controls
Do not let product enter drains. For ecological information, refer to Ecological Information Section 12.

9. Physical and chemical properties

Appearance

Form: liquid Colour: clear

Flash point	25 °F	
Ignition temperature	345 °C	
Lower Explosive Limit	0.8 %	
Upper Explosive Limit	16 %	
Evapouration rate	Slower than Ether	
Vapor pressure of principal solvent	35.8 hPa	
Water solubility	appreciable	
Vapor density of principal solvent (Air = 1)	2.6	
Approx. Boiling Range	56 °C	
Approx. Freezing Range	Not applicable.	
Gallon Weight (lbs/gal)	8.72	
Specific Gravity	1.04	
Percent Volatile By Volume	41.06%	
Percent Volatile By Weight	34.00%	
Percent Solids By Volume	58.94%	
Percent Solids By Weight	66.00%	
pH (waterborne systems only)	No data available.	
Partition coefficient: n-octanol/water	no data available	
Ignition temperature	345 °C	DIN 51794
Decomposition temperature		
Viscosity (23 °C)	Not applicable.	ISO 2431-1993
VOC* less exempt (lbs/gal)	1.9	
VOC* as packaged (lbs/gal)	1.5	

* VOC less exempt (theoretical) and VOC as packaged (theoretical) are based upon the VOC of the packaged material at the point of manufacture.

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10. Stability and reactivity

Stability
Stable

Conditions to avoid
Stable under recommended storage conditions.

Materials to avoid
Keep away from oxidising agents and strongly acid or alkaline materials. Amines and alcohols cause exothermic reactions. Mixture reacts slowly with water resulting in evolution of CO2. Evolution of CO2 in closed containers causes overpressure and produces a risk of bursting.

Hazardous decomposition products
When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen as well as hydrogen cyanide, amines, alcohols and water.

Hazardous Polymerization
Will not occur.

Sensitivity to Static Discharge
Solvent vapors in air may explode if static grounding and bonding is not used during transfer of this product.

Sensitivity to Mechanical Impact
None known.

11. Toxicological information

Information on likely routes of exposure

Inhalation
May cause nose and throat irritation. May cause nervous system depression characterized by the following progressive steps: headache, dizziness, nausea, staggering gait, confusion, unconsciousness. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage. Exposure to isocyanates may cause respiratory sensitization. This effect may be permanent. Symptoms include an asthma-like reaction with shortness of breath, wheezing, cough or permanent lung sensitization. This effect may be delayed for several hours after exposure. Repeated overexposure to isocyanates may cause a decrease in lung function, which may be permanent. Individuals with lung or breathing problems or prior reactions to isocyanates must not be exposed to vapors or spray mist of this product.

Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Delayed and immediate effects and also chronic effects from short and long term exposure:

Acute oral toxicity
not hazardous

Acute dermal toxicity
Not classified according to GHS criteria

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Acute inhalation toxicity
not hazardous

% of unknown composition 0 %

Skin corrosion/irritation
Not classified according to GHS criteria

Serious eye damage/eye irritation

methyl acetate	Category 1
2,6-dimethylheptan-4-one	Category 2A
heptan-2-one	Category 2B

Respiratory sensitisation

Hexamethylene diisocyanate, oligomers	Category 1

Skin sensitisation

Hexamethylene diisocyanate, oligomers	Category 1

Germ cell mutagenicity
Not classified according to GHS criteria

Carcinogenicity
Not classified according to GHS criteria

Toxicity for reproduction
Not classified according to GHS criteria

Target Organ Systemic Toxicant - Single exposure

- **Inhalation**

  airway sensitivity heptan-2-one

  Narcotic effects heptan-2-one

  Respiratory system 2,6-dimethylheptan-4-one, methyl acetate

- **Ingestion**

  Respiratory tract irritation heptan-2-one

  Narcotic effects heptan-2-one

Target Organ Systemic Toxicant - Repeated exposure
Not classified according to GHS criteria

Aspiration toxicity
Not classified according to GHS criteria

Numerical measures of toxicity (acute toxicity estimation (ATE),etc.)
No information available.

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Symptoms related to the physical, chemical and toxicological characteristics
Based on the properties of the isocyanate components and considering toxicological data on similar products, the following applies: This formulation may cause acute irritation and/or sensitization of the respiratory system leading to an asthmatic condition, wheeziness and a tightness of the chest. Sensitized persons may subsequently show asthmatic symptoms when exposed to atmospheric concentrations well below the OEL. Repeated exposure may lead to permanent respiratory disability. Exposure to component solvents vapours concentration in excess of the stated occupational exposure limit may result in adverse health effect such as mucous membrane and respiratory system irritation and adverse effect on kidney, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Through skin resorbtion, solvents can cause some of the effects described here. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin. The liquid splashed in the eyes may cause irritation and reversible damage. Components of the product may be absorbed into the body through the skin.

Whether the hazardous chemical is listed by NTP, IARC or OSHA

12. Ecological information

There are no data available on the product itself. The product should not be allowed to enter drains or watercourses.

13. Disposal considerations

Waste Disposal Method
Do not allow material to contaminate ground water systems. Incinerate or otherwise dispose of waste material in accordance with Federal, State, Provincial, and local requirements. Do not incinerate in closed containers.

14. Transport information

International transport regulations

IMDG (Sea transport)	
UN number:	1263
Proper shipping name:	PAINT RELATED MATERIAL
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	II
Marine Pollutant:	no
ICAO/IATA (Air transport)	
UN number:	1263
Proper shipping name:	PAINT RELATED MATERIAL
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	II
DOT	
UN number:	1263
Proper shipping name:	PAINT RELATED MATERIAL
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	II
Marine Pollutant:	no
EmS:	F-E,S-E

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Matters needing attention for transportation
Confirm that there is no breakage, corrosion, or leakage from the container before shipping. Be sure to prevent damage to cargo by loading so as to avoid falling, dropping, or collapse. Ship in appropriate containers with denotation of the content in accordance with the relevant statutes and rules.

15. Regulatory information

TSCA Status
In compliance with TSCA Inventory requirements for commercial purposes.

DSL Status
All components of the mixture are listed on the DSL.

Photochemical Reactivity
Photochemically reactive

Regulatory information

		EPCRA					CERCLA	CAA
CAS #	Ingredient	302	TPQ	RQ	311 - 312	313	RQ(lbs)	HAP
28182-81-2	Aliphatic polyisocyanate resin	N	NR	NR	A,C,R	N	NR	N
79-20-9	Methyl acetate	N	NR	NR	A,C	N	100	N
108-83-8	Diisobutyl ketone	N	NR	NR	C,F	N	NR	N
110-43-0	Methyl amyl ketone	N	NR	NR	A,C,F	N	NR	N

Key:

EPCRA	Emergency Planning and Community Right-to-know Act (aka Title III, SARA)
302	Extremely hazardous substances
311/312 Categories	F = Fire Hazard R = Reactivity Hazard P = Pressure Related Hazard A = Acute Hazard C = Chronic Hazard
313 Information	Section 313 Supplier Notification - The chemicals listed above with a 'Y' in the 313 column are subject to reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know act of 1986 and of 40 CFR 372.
CERCLA	Comprehensive Emergency Response, Compensation and Liability Act of 1980.
HAP	Listed as a Clean Air Act Hazardous Air Pollutant.
TPQ	Threshold Planning Quantity.
RQ	Reportable Quantity
NA	not available
NR	not regulated

16. Other information

HMIS rating H: 3 F: 3 R: 1

Glossary of Terms:

ACGIH	American Conference of Governmental Industrial Hygienists.
IARC	International Agency for Research on Cancer.
NTP	National Toxicology Program.
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration.

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STEL	Short term exposure limit.
TWA	Time-weighted average.
PNOR	Particles not otherwise regulated.
PNOC	Particles not otherwise classified.

NOTE: The list (above) of glossary terms may be modified.

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SDS prepared by:
Axalta Coating Systems Regulatory Affairs
Report version

Version	Changes
5.1	16

Revision Date: 2014-10-06

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1. Identification of the substance/mixture and of the company/undertaking

Product name	Accelerator	
Product code	189S™	030404
Intended use	Intermediate	
	Axalta Coating Systems, LLC Applied Corporate Center 50 Applied Card Way, Suite 300 US Glen Mills, PA 19342	
Telephone	Product information Medical emergency Transportation emergency	(855) 6-AXALTA (855) 274-5698 (800) 424-9300 (CHEMTREC)

2. Hazards identification

This preparation is hazardous per the following GHS criteria

GHS-Classification

Flammable liquids	Category 3
Acute oral toxicity	Category 4
Acute dermal toxicity	Category 3
Acute inhalation toxicity	Category 3
Toxicity for reproduction	Category 1B

Endpoints which are ""not classified"", ""cannot classified"" and ""not applicable"" are not shown

GHS-Labelling

Hazard symbols

Signal word: Danger

Hazard statements:
Flammable liquid and vapour.
Harmful if swallowed.
Toxic in contact with skin.
Toxic if inhaled.
May damage fertility or the unborn child.

Precautionary statements:
Do not eat, drink or smoke when using this product.
Ground/bond container and receiving equipment.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Obtain special instructions before use.
Take precautionary measures against static discharge.
Use explosion-proof electrical/ventilating/lighting equipment.
Use only non-sparking tools.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/ eye protection/ face protection.
Wear protective gloves/ protective clothing.
Avoid breathing dust/ vapours/ spray.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF exposed or concerned: Get medical advice/ attention.
IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.

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IF ON SKIN: Wash with plenty of soap and water.
IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
Remove/Take off immediately all contaminated clothing.
Specific measures (see supplemental first aid instructions on this label).
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Dispose of contents/container to .?.

Other hazards which do not result in classification
None known.

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity:
0 %

3. Composition/information on ingredients

Mixture of synthetic resins and solvents

Components

CAS-No.	Chemical Name	Concentration
123-54-6	2,4-pentanedione	

Non-regulated ingredients 0.1 - 1.0%
OSHA Hazardous: Yes

4. First aid measures

Eye contact
Remove contact lenses. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Seek medical advice.

Skin contact
Do NOT use solvents or thinners. Take off all contaminated clothing immediately. Wash skin thoroughly with soap and water or use recognized skin cleanser. If skin irritation persists, call a physician.

Inhalation
Avoid inhalation of vapour or mist. Move to fresh air in case of accidental inhalation of vapours. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

Ingestion
If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting. Keep at rest.

Most Important Symptoms/effects, acute and delayed

Inhalation
May cause nose and throat irritation. May cause nervous system depression characterized by the following progressive steps: headache, dizziness, nausea, staggering gait, confusion, unconsciousness. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage. If this product mixed with an isocyanate activator/hardener (see MSDS for the activator), the following health effects may apply: Exposure to isocyanates may cause respiratory sensitization. This effect may be permanent. Symptoms include an asthma-like reaction with shortness of breath, wheezing, cough or permanent lung sensitization. This effect may be delayed for several hours after exposure. Repeated

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overexposure to isocyanates may cause a decrease in lung function, which may be permanent. Individuals with lung or breathing problems or prior reactions to isocyanates must not be exposed to vapors or spray mist of this product.

Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis. If this product is mixed with an isocyanate, skin contact may cause sensitization.

Indication of immediate medical attention and special treatment needed if necessary
No data available on the product. See section 3 and 11 for hazardous ingredients found in the product.

5. Firefighting measures

Suitable extinguishing media
Universal aqueous film-forming foam, Carbon dioxide (CO2), Dry chemical

Extinguishing media which shall not be used for safety reasons
High volume water jet

Hazardous combustion products
CO, CO2, smoke, and oxides of any heavy metals that are reported in "Composition, Information on Ingredients" section.

Fire and Explosion Hazards
Flammable liquid. Vapor/air mixture will burn when an ignition source is present.

Special Protective Equipment and Fire Fighting Procedures
Full protective flameproof clothing should be worn as appropriate. Wear self contained breathing apparatus for fire fighting if necessary. In the event of fire, cool tanks with water spray. Do not allow run-off from fire fighting to enter public sewer systems or public waterways.

6. Accidental release measures

Procedures for cleaning up spills or leaks
Ventilate area. Remove sources of ignition. Prevent skin and eye contact and breathing of vapor. If the material contains, or is mixed with an isocyanate activator/hardener: Wear a positive-pressure, supplied-air respirator (NIOSH approved TC-19C), eye protection, gloves and protective clothing. Pour liquid decontamination solution over the spill and allow to sit at least 10 minutes. Typical decontamination solutions for isocyanate containing materials are: 20% Surfactant (Tergitol TMN 10) and 80% Water OR 0 -10% Ammonia, 2-5% Detergent and Water (balance) Pressure can be generated. Do not seal waste containers for 48 hours to allow C02 to vent. After 48 hours, material may be sealed and disposed of properly. If material does not contain or is not mixed with an isocyanate activator/hardener: Wear a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C), eye protection, gloves and protective clothing. Confine, remove with inert absorbent, and dispose of properly.

Environmental precautions
Do not let product enter drains. Notify the respective authorities in accordance with local law in the case of contamination of rivers, lakes or waste water systems.

7. Handling and storage

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Precautions for safe handling
Observe label precautions. Keep away from heat, sparks, flame, static discharge and other sources of ignition. VAPORS MAY CAUSE FLASH FIRE. Close container after each use. Ground containers when pouring. Do not transfer contents to bottles or unlabeled containers. Wash thoroughly after handling and before eating or smoking. Do not store above 120 deg F.
If material is a coating: do not sand, flame cut, braze or weld dry coating without a NIOSH approved air purifying respirator with particulate filters or appropriate ventilation, and gloves. Combustible dust clouds may be created where operations produce fine material (dust). Avoid formation of significant deposits of material as they may become airborne and form combustible dust clouds. Build up of fine material should be cleaned using gentle sweeping or vacuuming in accordance with best practices. Cleaning methods (e.g. compressed air) which can generate potentially combustible dust clouds should not be used.

Advice on protection against fire and explosion
Solvent vapours are heavier than air and may spread along floors. Vapors may form explosive mixtures with air and will burn when an ignition source is present. Always keep in containers of same material as the original one. Never use pressure to empty container: container is not a pressure vessel. The accumulation of contaminated rags may result in spontaneous combustion. Good housekeeping standards and regular safe removal of waste materials will minimize the risks of spontaneous combustion and other fire hazards.

Storage
Requirements for storage areas and containers
Observe label precautions. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. No smoking. Prevent unauthorized access. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Advice on common storage
Store separately from oxidizing agents and strongly alkaline and strongly acidic materials.

OSHA/NFPA Storage Classification: IC

8. Exposure controls/personal protection

Engineering controls and work practices
Provide adequate ventilation. This should be achieved by a good general extraction and -if practically feasible- by the use of a local exhaust ventilation. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn.

National occupational exposure limits

CAS-No.	Chemical Name	Source	Time	Type	Value	Note
123-54-6	2,4-pentanedione	ACGIH	8 hr	TWA	25 ppm	Skin
		Dupont	8 & 12 hour	TWA	5 ppm	

** TWA = Time-weighted average.

Protective equipment
Personal protective equipment should be worn to prevent contact with eyes, skin or clothing.

Respiratory protection
Do not breathe vapors or mists. When this product is used with an isocyanate activator/hardener, wear a positive-pressure, supplied-air respirator (NIOSH approved TC-19C) while mixing activator/hardener with paint, during application and until all vapors and spray mist are exhausted. If product is used without isocyanate activator/hardener, a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH TC-23C) and particulate filter (NIOSH TC-84A) may be used. Follow respirator manufacturer's directions for respirator use. Do not permit anyone without protection in the painting area. Refer to the hardener/activator label instructions and MSDS for further information. Individuals with history of lung or breathing problems or prior reaction to isocyanates should not use or be exposed to this product if mixed with isocyanate activators/hardeners.

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Eye protection
Desirable in all industrial situations. Goggles are preferred to prevent eye irritation. If safety glasses are substituted, include splash guard or side shields.

Skin and body protection
Neoprene gloves and coveralls are recommended.

Hygiene measures
Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Environmental exposure controls
Do not let product enter drains. For ecological information, refer to Ecological Information Section 12.

9. Physical and chemical properties

Appearance

Form: liquid Colour: clear Odour: Characteristic Paint Odor

Flash point	87 °F	
Ignition temperature	350 °C	
Lower Explosive Limit	1.7 %	
Upper Explosive Limit	11.6 %	
Evapouration rate	Slower than Ether	
Vapor pressure of principal solvent	9.0 hPa	
Water solubility	appreciable	
Vapor density of principal solvent (Air = 1)	3.5	
Approx. Boiling Range	135 °C	
Approx. Freezing Range	Not applicable.	
Gallon Weight (lbs/gal)	8.14	
Specific Gravity	0.98	
Percent Volatile By Volume	99.75%	
Percent Volatile By Weight	99.73%	
Percent Solids By Volume	0.25%	
Percent Solids By Weight	0.27%	
pH (waterborne systems only)	No data available.	
Partition coefficient: n-octanol/water	no data available	
Ignition temperature	350 °C	DIN 51794
Decomposition temperature		
Viscosity (23 °C)	Not applicable.	ISO 2431-1993
VOC* less exempt (lbs/gal)	8.1	
VOC* as packaged (lbs/gal)	8.1	

* VOC less exempt (theoretical) and VOC as packaged (theoretical) are based upon the VOC of the packaged material at the point of manufacture.

10. Stability and reactivity

Stability
Stable

Conditions to avoid
Stable under recommended storage conditions.

Materials to avoid
None reasonably foreseeable.

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Hazardous decomposition products
When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen.

Hazardous Polymerization
Will not occur.

Sensitivity to Static Discharge
Solvent vapors in air may explode if static grounding and bonding is not used during transfer of this product.

Sensitivity to Mechanical Impact
None known.

11. Toxicological information

Information on likely routes of exposure

Inhalation
May cause nose and throat irritation. May cause nervous system depression characterized by the following progressive steps: headache, dizziness, nausea, staggering gait, confusion, unconsciousness. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage. If this product mixed with an isocyanate activator/hardener (see MSDS for the activator), the following health effects may apply: Exposure to isocyanates may cause respiratory sensitization. This effect may be permanent. Symptoms include an asthma-like reaction with shortness of breath, wheezing, cough or permanent lung sensitization. This effect may be delayed for several hours after exposure. Repeated overexposure to isocyanates may cause a decrease in lung function, which may be permanent. Individuals with lung or breathing problems or prior reactions to isocyanates must not be exposed to vapors or spray mist of this product.

Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Delayed and immediate effects and also chronic effects from short and long term exposure:

Acute oral toxicity

pentane-2,4-dione	Category 4

Acute dermal toxicity

pentane-2,4-dione	Category 3

Acute inhalation toxicity

pentane-2,4-dione	Category 3

% of unknown composition 0 %

Skin corrosion/irritation
Not classified according to GHS criteria

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Serious eye damage/eye irritation
Not classified according to GHS criteria

Respiratory sensitisation
Not classified according to GHS criteria

Skin sensitisation
not hazardous

Germ cell mutagenicity
Not classified according to GHS criteria

Carcinogenicity
Not classified according to GHS criteria

Toxicity for reproduction
No data available.

Target Organ Systemic Toxicant - Single exposure
not hazardous

Target Organ Systemic Toxicant - Repeated exposure
Not classified according to GHS criteria

Aspiration toxicity
Not classified according to GHS criteria

Numerical measures of toxicity (acute toxicity estimation (ATE),etc.)
No information available.

Symptoms related to the physical, chemical and toxicological characteristics
Exposure to component solvents vapours concentration in excess of the stated occupational exposure limit may result in adverse health effect such as mucous membrane and respiratory system irritation and adverse effect on kidney, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Through skin resorbtion, solvents can cause some of the effects described here. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin. The liquid splashed in the eyes may cause irritation and reversible damage.

Whether the hazardous chemical is listed by NTP, IARC or OSHA

12. Ecological information

There are no data available on the product itself. The product should not be allowed to enter drains or watercourses.

13. Disposal considerations

Waste Disposal Method
Do not allow material to contaminate ground water systems. Incinerate or otherwise dispose of waste material in accordance with Federal, State, Provincial, and local requirements. Do not incinerate in closed containers.

14. Transport information

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International transport regulations

IMDG (Sea transport)

UN number:	1263
Proper shipping name:	PAINT RELATED MATERIAL
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III
Marine Pollutant:	no

ICAO/IATA (Air transport)

UN number:	1263
Proper shipping name:	PAINT RELATED MATERIAL
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III

DOT

UN number:	1263
Proper shipping name:	PAINT RELATED MATERIAL
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III
Marine Pollutant:	no
EmS:	F-E,S-E

Matters needing attention for transportation
Confirm that there is no breakage, corrosion, or leakage from the container before shipping. Be sure to prevent damage to cargo by loading so as to avoid falling, dropping, or collapse. Ship in appropriate containers with denotation of the content in accordance with the relevant statutes and rules.

15. Regulatory information

TSCA Status
In compliance with TSCA Inventory requirements for commercial purposes.

DSL Status
All components of the mixture are listed on the DSL.

Photochemical Reactivity
Non-photochemically reactive

Regulatory information

		EPCRA					CERCLA	CAA
CAS #	Ingredient	302	TPQ	RQ	311 - 312	313	RQ(lbs)	HAP
123-54-6	2,4-pentanedione	N	NR	NR	A,C,F	N	NR	N

Key:

EPCRA	Emergency Planning and Community Right-to-know Act (aka Title III, SARA)	
302	Extremely hazardous substances	
311/312 Categories	F = Fire Hazard	A = Acute Hazard
	R = Reactivity Hazard	C = Chronic Hazard

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	P = Pressure Related Hazard
313 Information	Section 313 Supplier Notification - The chemicals listed above with a 'Y' in the 313 column are subject to reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know act of 1986 and of 40 CFR 372.
CERCLA	Comprehensive Emergency Response, Compensation and Liability Act of 1980.
HAP	Listed as a Clean Air Act Hazardous Air Pollutant.
TPQ	Threshold Planning Quantity.
RQ	Reportable Quantity
NA	not available
NR	not regulated

16. Other Information

HMIS rating H: 2 F: 3 R: 0

Glossary of Terms:

ACGIH	American Conference of Governmental Industrial Hygienists.
IARC	International Agency for Research on Cancer.
NTP	National Toxicology Program.
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration.
STEL	Short term exposure limit.
TWA	Time-weighted average.
PNOR	Particles not otherwise regulated.
PNOC	Particles not otherwise classified.

NOTE: The list (above) of glossary terms may be modified.

Notice from Axalta Coating Systems
The document reflects information provided to Axalta Coating Systems by its suppliers. Information is accurate to the best of our knowledge and is subject to change as new data is received by Axalta Coating Systems. Persons receiving this information should make their own determination as to its suitability for their purposes prior to use. The information on this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.
SDS prepared by:
Axalta Coating Systems Regulatory Affairs
Report version

Version	Changes
1.1	8, 12, 15, 16

Revision Date: 2014-10-06

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1. Identification of the substance/mixture and of the company/undertaking

Product name	POT LIFE EXTENDER	
Product code	89S	120314
Intended use	Intermediate	
	Axalta Coating Systems, LLC Applied Corporate Center 50 Applied Card Way, Suite 300 US Glen Mills, PA 19342	
Telephone	Product information Medical emergency Transportation emergency	(855) 6-AXALTA (855) 274-5698 (800) 424-9300 (CHEMTREC)

2. Hazards identification

The subtance is hazardous per the following GHS criteria.

GHS-Classification

Flammable liquids	Category 3
Acute oral toxicity	Category 4
Acute dermal toxicity	Category 3
Acute inhalation toxicity	Category 3

Endpoints which are ""not classified"", ""cannot classified"" and ""not applicable"" are not shown

GHS-Labelling

Hazard symbols

Signal word: Danger

Hazard statements:
Flammable liquid and vapour.
Harmful if swallowed.
Toxic in contact with skin.
Toxic if inhaled.

Precautionary statements:
Do not eat, drink or smoke when using this product.
Ground/bond container and receiving equipment.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Take precautionary measures against static discharge.
Use explosion-proof electrical/ventilating/lighting equipment.
Use only non-sparking tools.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/ eye protection/ face protection.
Wear protective gloves/ protective clothing.
Avoid breathing dust/ vapours/ spray.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
IF ON SKIN: Wash with plenty of soap and water.
IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
Remove/Take off immediately all contaminated clothing.

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Specific measures (see supplemental first aid instructions on this label).
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Dispose of contents/container in accordance with local regulations.

Other hazards which do not result in classification
None known.

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity:
0 %

3. Composition/information on ingredients

Mixture of synthetic resins and solvents

Components

CAS-No.	Chemical Name	Concentration	GHS Hazardous
123-54-6	2,4-pentanedione	92 - 100%	√

OSHA Hazardous: Yes

4. First aid measures

Eye contact
Remove contact lenses. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Seek medical advice.

Skin contact
Do NOT use solvents or thinners. Take off all contaminated clothing immediately. Wash skin thoroughly with soap and water or use recognized skin cleanser. If skin irritation persists, call a physician.

Inhalation
Avoid inhalation of vapour or mist. Move to fresh air in case of accidental inhalation of vapours. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

Ingestion
If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting. Keep at rest.

Most Important Symptoms/effects, acute and delayed

Inhalation
May cause nose and throat irritation. May cause nervous system depression characterized by the following progressive steps: headache, dizziness, nausea, staggering gait, confusion, unconsciousness. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

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Indication of immediate medical attention and special treatment needed if necessary
No data available on the product. See section 3 and 11 for hazardous ingredients found in the product.

5. Firefighting measures

Suitable extinguishing media
Universal aqueous film-forming foam, Carbon dioxide (CO2), Dry chemical

Extinguishing media which shall not be used for safety reasons
High volume water jet

Hazardous combustion products
CO, CO2, smoke, and oxides of any heavy metals that are reported in "Composition, Information on Ingredients" section.

Fire and Explosion Hazards
Flammable liquid. Vapor/air mixture will burn when an ignition source is present.

Special Protective Equipment and Fire Fighting Procedures
Full protective flameproof clothing should be worn as appropriate. Wear self contained breathing apparatus for fire fighting if necessary. In the event of fire, cool tanks with water spray. Do not allow run-off from fire fighting to enter public sewer systems or public waterways.

6. Accidental release measures

Procedures for cleaning up spills or leaks
Ventilate area. Remove sources of ignition. Prevent skin and eye contact and breathing of vapor. Wear a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C), eye protection, gloves and protective clothing. Confine, remove with inert absorbent, and dispose of properly.

Environmental precautions
Do not let product enter drains. Notify the respective authorities in accordance with local law in the case of contamination of rivers, lakes or waste water systems.

7. Handling and storage

Precautions for safe handling
Observe label precautions. Keep away from heat, sparks, flame, static discharge and other sources of ignition. VAPORS MAY CAUSE FLASH FIRE. Close container after each use. Ground containers when pouring. Do not transfer contents to bottles or unlabeled containers. Wash thoroughly after handling and before eating or smoking. Do not store above 120 deg F.
If material is a coating: do not sand, flame cut, braze or weld dry coating without a NIOSH approved air purifying respirator with particulate filters or appropriate ventilation, and gloves. Combustible dust clouds may be created where operations produce fine material (dust). Avoid formation of significant deposits of material as they may become airborne and form combustible dust clouds. Build up of fine material should be cleaned using gentle sweeping or vacuuming in accordance with best practices. Cleaning methods (e.g. compressed air) which can generate potentially combustible dust clouds should not be used.

Advice on protection against fire and explosion
Solvent vapours are heavier than air and may spread along floors. Vapors may form explosive mixtures with air and will burn when an ignition source is present. Always keep in containers of same material as the original one. Never use pressure to empty container: container is not a pressure vessel. The accumulation of contaminated rags may result in spontaneous combustion. Good housekeeping standards and regular safe removal of waste materials will minimize the risks of spontaneous combustion and other fire hazards.

Storage

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Requirements for storage areas and containers
Observe label precautions. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. No smoking. Prevent unauthorized access. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Advice on common storage
Store separately from oxidizing agents and strongly alkaline and strongly acidic materials.

OSHA/NFPA Storage Classification: IC

8. Exposure controls/personal protection

Engineering controls and work practices
Provide adequate ventilation. This should be achieved by a good general extraction and -if practically feasible- by the use of a local exhaust ventilation. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn.

National occupational exposure limits

CAS-No.	Chemical Name	Source	Time	Type	Value	Note
123-54-6	2,4-pentanedione	ACGIH	8 hr	TWA	25 ppm	Skin
		Dupont	8 & 12 hour	TWA	5 ppm	

** TWA = Time-weighted average.

Protective equipment
Personal protective equipment should be worn to prevent contact with eyes, skin or clothing.

Respiratory protection
Do not breathe vapors or mists. If respirator is required to meet applicable exposure limits, use a NIOSH approved respirator in accordance with regulatory requirements (in the US follow OSHA standard 20CFR1910.134) and the respirator manufacturer's directions. If material contains an isocyanate or is used with an isocyanate, wear a positive-pressure, supplied-air respirator (NIOSH approved TC-19C.) Do not breathe vapors or mists. Wear an appropriate, properly fitted NIOSH approved respirator during application and until all vapors and spray mists are exhausted unless air monitoring demonstrates vapor/mist levels are below applicable limits. If respirators are required, use a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C) and particulate filter (NIOSH TC-84A). In confined spaces, or in situations where continuous spray operations are typical, or if proper air-purifying respirator fit is not possible, wear a positive pressure, supplied-air respirator (NIOSH TC-19C). In all cases, follow respirator manufacturer's directions for respirator use.'

Eye protection
Desirable in all industrial situations. Goggles are preferred to prevent eye irritation. If safety glasses are substituted, include splash guard or side shields.

Skin and body protection
Neoprene gloves and coveralls are recommended.

Hygiene measures
Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Environmental exposure controls
Do not let product enter drains. For ecological information, refer to Ecological Information Section 12.

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9. Physical and chemical properties

Appearance

Form: liquid Colour: clear

Flash point	75 °F	
Ignition temperature	350 °C	
Lower Explosive Limit	1.7 %	
Upper Explosive Limit	11.6 %	
Evapouration rate	Slower than Ether	
Vapor pressure of principal solvent	9.0 hPa	
Water solubility	appreciable	
Vapor density of principal solvent (Air = 1)	3.5	
Approx. Boiling Range	135 °C	
Approx. Freezing Range	Not applicable.	
Gallon Weight (lbs/gal)	8.14	
Specific Gravity	0.98	
Percent Volatile By Volume	100.00%	
Percent Volatile By Weight	100.00%	
Percent Solids By Volume	0.00%	
Percent Solids By Weight	0.00%	
pH (waterborne systems only)	No data available.	
Partition coefficient: n-octanol/water	no data available	
Ignition temperature	350 °C	DIN 51794
Decomposition temperature		
Viscosity (23 °C)	Not applicable.	ISO 2431-1993
VOC* less exempt (lbs/gal)	8.1	
VOC* as packaged (lbs/gal)	8.1	

* VOC less exempt (theoretical) and VOC as packaged (theoretical) are based upon the VOC of the packaged material at the point of manufacture.

10. Stability and reactivity

Stability
Stable

Conditions to avoid
Stable under recommended storage conditions.

Materials to avoid
None reasonably foreseeable.

Hazardous decomposition products
When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen.

Hazardous Polymerization
Will not occur.

Sensitivity to Static Discharge
Solvent vapors in air may explode if static grounding and bonding is not used during transfer of this product.

Sensitivity to Mechanical Impact
None known.

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11. Toxicological information

Information on likely routes of exposure

Inhalation
May cause nose and throat irritation. May cause nervous system depression characterized by the following progressive steps: headache, dizziness, nausea, staggering gait, confusion, unconsciousness. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Delayed and immediate effects and also chronic effects from short and long term exposure:

Acute oral toxicity

pentane-2,4-dione	Category 4

Acute dermal toxicity

pentane-2,4-dione	Category 3

Acute inhalation toxicity

pentane-2,4-dione	Category 3

% of unknown composition 0 %

Skin corrosion/irritation
not hazardous

Serious eye damage/eye irritation
not hazardous

Respiratory sensitisation
Not classified according to GHS criteria

Skin sensitisation
not hazardous

Germ cell mutagenicity
not hazardous

Carcinogenicity
Not classified according to GHS criteria

Toxicity for reproduction
Not classified according to GHS criteria

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Target Organ Systemic Toxicant - Single exposure
not hazardous

Target Organ Systemic Toxicant - Repeated exposure
not hazardous

Aspiration toxicity
Not classified according to GHS criteria

Numerical measures of toxicity (acute toxicity estimation (ATE),etc.)
No information available.

Symptoms related to the physical, chemical and toxicological characteristics
Exposure to component solvents vapours concentration in excess of the stated occupational exposure limit may result in adverse health effect such as mucous membrane and respiratory system irritation and adverse effect on kidney, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Through skin resorbtion, solvents can cause some of the effects described here. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin. The liquid splashed in the eyes may cause irritation and reversible damage.

Whether the hazardous chemical is listed by NTP, IARC or OSHA

12. Ecological information

There are no data available on the product itself. The product should not be allowed to enter drains or watercourses.

13. Disposal considerations

Waste Disposal Method
Do not allow material to contaminate ground water systems. Incinerate or otherwise dispose of waste material in accordance with Federal, State, Provincial, and local requirements. Do not incinerate in closed containers.

14. Transport information

International transport regulations

IMDG (Sea transport)	
UN number:	2310
Proper shipping name:	PENTANE-2,4-DIONE
Hazard Class:	3
Subsidiary Hazard Class:	6.1
Packing group:	III
Marine Pollutant:	no
ICAO/IATA (Air transport)	
UN number:	2310
Proper shipping name:	PENTANE-2,4-DIONE
Hazard Class:	3
Subsidiary Hazard Class:	6.1
Packing group:	III
DOT	
UN number:	2310

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Proper shipping name:	PENTANE-2,4-DIONE
Hazard Class:	3
Subsidiary Hazard Class:	6.1
Packing group:	III
Marine Pollutant:	no
EmS:	F-E,S-D

Matters needing attention for transportation
Confirm that there is no breakage, corrosion, or leakage from the container before shipping. Be sure to prevent damage to cargo by loading so as to avoid falling, dropping, or collapse. Ship in appropriate containers with denotation of the content in accordance with the relevant statutes and rules.

15. Regulatory information

TSCA Status
In compliance with TSCA Inventory requirements for commercial purposes.

DSL Status
All components of the mixture are listed on the DSL.

Photochemical Reactivity
Non-photochemically reactive

Regulatory information

		EPCRA					CERCLA	CAA
CAS #	Ingredient	302	TPQ	RQ	311 - 312	313	RQ(lbs)	HAP
123-54-6	2,4-pentanedione	N	NR	NR	A,C,F	N	NR	N

Key:

EPCRA	Emergency Planning and Community Right-to-know Act (aka Title III, SARA)
302	Extremely hazardous substances
311/312 Categories	F = Fire Hazard R = Reactivity Hazard P = Pressure Related Hazard A = Acute Hazard C = Chronic Hazard
313 Information	Section 313 Supplier Notification - The chemicals listed above with a 'Y' in the 313 column are subject to reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know act of 1986 and of 40 CFR 372.
CERCLA	Comprehensive Emergency Response, Compensation and Liability Act of 1980.
HAP	Listed as a Clean Air Act Hazardous Air Pollutant.
TPQ	Threshold Planning Quantity.
RQ	Reportable Quantity
NA	not available
NR	not regulated

16. Other information

HMIS rating H: 2 F: 2 R: 0

Glossary of Terms:

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ACGIH	American Conference of Governmental Industrial Hygienists.
IARC	International Agency for Research on Cancer.
NTP	National Toxicology Program.
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration.
STEL	Short term exposure limit.
TWA	Time-weighted average.
PNOR	Particles not otherwise regulated.
PNOC	Particles not otherwise classified.

NOTE: The list (above) of glossary terms may be modified.

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SDS prepared by:
Axalta Coating Systems Regulatory Affairs
Report version

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1. Identification of the substance/mixture and of the company/undertaking

Product name	IMRON ELITE APPEARANCE CLEARCOAT	
Product code	8430S	
Intended use	Coating for professional use	
	Axalta Coating Systems, LLC Applied Corporate Center 50 Applied Card Way Suite 300 US Glen Mills PA 19342	
Telephone	Product information	(855) 6-AXALTA
	Medical emergency	(855) 274-5698
	Transportation emergency	(800) 424-9300 (CHEMTREC)

2. Hazards identification

This preparation is hazardous per the following GHS criteria

GHS-Classification

Flammable liquids	Category 3
Serious eye damage/eye irritation	Category 2A
Skin sensitisation	Category 1

Endpoints which are ""not classified"", ""cannot classified"" and ""not applicable"" are not shown

GHS-Labelling

Hazard symbols	
Signal word	Warning
Hazard statements	Flammable liquid and vapour. Causes serious eye irritation. May cause an allergic skin reaction.
Precautionary statements	Contaminated work clothing should not be allowed out of the workplace. Ground/bond container and receiving equipment. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Take precautionary measures against static discharge. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Wear protective gloves/protective clothing/eye protection/face protection. Avoid breathing dust/ vapours/ spray. If eye irritation persists: Get medical advice/ attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower. IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/ attention. Specific treatment (see supplemental first aid instructions on this label). Wash contaminated clothing before reuse.

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Store in a well-ventilated place. Keep cool.
Dispose of contents/container to .?.

Other hazards which do not result in classification
May produce an allergic reaction.

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity:
0 %

3. Composition/information on ingredients

Mixture of synthetic resins and solvents

Components

CAS-No.	Chemical Name	Concentration	GHS Hazardous
125128-40-7*	Acrylic resin	20 - 30%	
110-43-0	Methyl amyl ketone	15 - 26%	√
No information available.	Acrylic polymer	10 - 20%	
67-64-1	Acetone	4 - 15%	√
123-86-4	Butyl acetate	4 - 15%	√
110-12-3	Methyl isoamyl ketone	4 - 15%	√
624-54-4	N-pentyl propionate	4 - 15%	√
141-78-6	Ethyl acetate	1 - 4%	√
129922-22-1	Polyester resin	1 - 5%	
169276-18-0*	Synthetic resin	1 - 5%	

OSHA Hazardous: Yes
* Assigned CAS No. - An official CAS No. does not exist. The CAS No. shown is for a similar chemical.

4. First aid measures

Eye contact
Remove contact lenses. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Seek medical advice.

Skin contact
Do NOT use solvents or thinners. Take off all contaminated clothing immediately. Wash skin thoroughly with soap and water or use recognized skin cleanser. If skin irritation persists, call a physician.

Inhalation
Avoid inhalation of vapour or mist. Move to fresh air in case of accidental inhalation of vapours. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

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Ingestion
If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting. Keep at rest.

Most Important Symptoms/effects, acute and delayed

Inhalation
Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Indication of Immediate medical attention and special treatment needed if necessary
No data available on the product. See section 3 and 11 for hazardous ingredients found in the product.

5. Firefighting measures

Suitable extinguishing media
Extinguishing media which shall not be used for safety reasons
High volume water jet

Hazardous combustion products
CO, CO2, smoke, and oxides of any heavy metals that are reported in "Composition, Information on Ingredients" section.

Fire and Explosion Hazards
Combustible liquid. When heated above the flashpoint, emits vapors which, when mixed with air, will burn if an ignition source is present. Fine mist or sprays could ignite at temperatures below the flashpoint.

Special Protective Equipment and Fire Fighting Procedures
Full protective flameproof clothing should be worn as appropriate. Wear self contained breathing apparatus for fire fighting if necessary. In the event of fire, cool tanks with water spray. Do not allow run-off from fire fighting to enter public sewer systems or public waterways.

6. Accidental release measures

Procedures for cleaning up spills or leaks
Ventilate area. If heated above the flashpoint, remove sources of ignition. Prevent skin and eye contact and breathing of vapor. Wear a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C), eye protection, gloves and protective clothing. Confine, remove with inert absorbent, and dispose of properly.

Environmental precautions
Do not let product enter drains. Notify the respective authorities in accordance with local law in the case of contamination of rivers, lakes or waste water systems.

7. Handling and storage

Precautions for safe handling
Observe label precautions. Keep away from heat, flame and other sources of ignition. When heated above its flash point, this must be handled as if it were a flammable liquid. Close container after each use. Do not transfer contents to bottles or unlabeled containers. Wash thoroughly after handling and before eating or smoking.
If material is a coating: do not sand, flame cut, braze or weld dry coating without a NIOSH approved air purifying respirator with particulate filters or appropriate ventilation, and gloves. Combustible dust clouds may be created where operations produce fine material (dust). Avoid formation of significant deposits of material as they may become airborne and form combustible dust clouds. Build up of fine material should be cleaned using gentle sweeping or vacuuming in accordance with best practices. Cleaning methods (e.g. compressed air) which can generate potentially combustible dust clouds should not be used.

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Advice on protection against fire and explosion
Solvent vapours are heavier than air and may spread along floors. Vapors may form explosive mixtures with air and will burn when an ignition source is present. Always keep in containers of same material as the original one. Never use pressure to empty container: container is not a pressure vessel. The accumulation of contaminated rags may result in spontaneous combustion. Good housekeeping standards and regular safe removal of waste materials will minimize the risks of spontaneous combustion and other fire hazards.

Storage
Requirements for storage areas and containers
Observe label precautions. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. No smoking. Prevent unauthorized access. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Advice on common storage
Store separately from oxidizing agents and strongly alkaline and strongly acidic materials.

OSHA/NFPA Storage Classification: II

8. Exposure controls/personal protection

Engineering controls and work practices
Provide adequate ventilation. This should be achieved by a good general extraction and -if practically feasible- by the use of a local exhaust ventilation. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn.

National occupational exposure limits

CAS-No.	Chemical Name	Source	Time	Type	Value	Note
110-43-0	Methyl amyl ketone	ACGIH	8 hr	TWA	50 ppm	
		OSHA	8 hr	TWA	100 ppm	
67-64-1	Acetone	ACGIH	15 min	STEL	750 ppm	
			8 hr	TWA	500 ppm	
		OSHA	8 hr	TWA	1,000 ppm	
		Dupont	8 & 12 hour	TWA	500 ppm	
123-86-4	Butyl acetate	ACGIH	15 min	STEL	200 ppm	
			8 hr	TWA	150 ppm	
		OSHA	8 hr	TWA	150 ppm	
110-12-3	Methyl isoamyl ketone	ACGIH	8 hr	TWA	20 ppm	
141-78-6	Ethyl acetate	ACGIH	8 hr	TWA	400 ppm	
		OSHA	8 hr	TWA	400 ppm	

** TWA = Time-weighted average.
STEL = Short term exposure limit.

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Protective equipment
Personal protective equipment should be worn to prevent contact with eyes, skin or clothing.

Respiratory protection
Do not breathe vapors or mists. Wear an appropriate, properly fitted NIOSH approved respirator during application and until all vapors and spray mists are exhausted unless air monitoring demonstrates vapor/mist levels are below applicable limits. If respirators are required, use a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C) and particulate filter (NIOSH TC-84A). In confined spaces, or in situations where continuous spray operations are typical, or if proper air-purifying respirator fit is not possible, wear a positive pressure, supplied-air respirator (NIOSH TC-19C). In all cases, follow respirator manufacturer's directions for respirator use.'

Eye protection
Desirable in all industrial situations. Goggles are preferred to prevent eye irritation. If safety glasses are substituted, include splash guard or side shields.

Skin and body protection
Neoprene gloves and coveralls are recommended.

Hygiene measures
Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Environmental exposure controls
Do not let product enter drains. For ecological information, refer to Ecological Information Section 12.

9. Physical and chemical properties

Appearance

Form: liquid Colour:

Flash point	104 °F	
Ignition temperature	375 °C	
Lower Explosive Limit	1 %	
Upper Explosive Limit	12.8 %	
Evapouration rate	Slower than Ether	
Vapor pressure of principal solvent	23.6 hPa	
Water solubility	moderate	
Vapor density of principal solvent (Air = 1)	3.9	
Approx. Boiling Range	144 °C	
Approx. Freezing Range	Not applicable.	
Gallon Weight (lbs/gal)	7.99	
Specific Gravity	0.96	
Percent Volatile By Volume	57.81%	
Percent Volatile By Weight	50.11%	
Percent Solids By Volume	42.19%	
Percent Solids By Weight	49.90%	
pH (waterborne systems only)	Not applicable.	
Partition coefficient: n-octanol/water	no data available	
Ignition temperature	375 °C	DIN 51794
Decomposition temperature		
Viscosity (23 °C)	Not applicable.	ISO 2431-1993
VOC* less exempt (lbs/gal)	3.7	
VOC* as packaged (lbs/gal)	3.4	

* VOC less exempt (theoretical) and VOC as packaged (theoretical) are based upon the VOC of the packaged material at the point of manufacture.

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10. Stability and reactivity

Stability
Stable

Conditions to avoid
Stable under recommended storage conditions.

Materials to avoid
None reasonably foreseeable.

Hazardous decomposition products
When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen.

Hazardous Polymerization
Will not occur.

Sensitivity to Static Discharge
If heated above the flash point, solvent vapors in air may explode if static grounding and bonding is not used during transfer of this product.

Sensitivity to Mechanical Impact
None known.

11. Toxicological information

Information on likely routes of exposure

Inhalation
Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Delayed and immediate effects and also chronic effects from short and long term exposure:

Acute oral toxicity
not hazardous

Acute dermal toxicity
not hazardous

Acute inhalation toxicity
Not classified according to GHS criteria

% of unknown composition 0 %

Skin corrosion/irritation
Not classified according to GHS criteria

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Serious eye damage/eye irritation

heptan-2-one	Category 2B
acetone	Category 2A
5-methylhexan-2-one	Category 2A
ethyl acetate	Category 2A

Respiratory sensitisation
Not classified according to GHS criteria

Skin sensitisation
No data available.

Germ cell mutagenicity
Not classified according to GHS criteria

Carcinogenicity
Not classified according to GHS criteria

Toxicity for reproduction
Not classified according to GHS criteria

Target Organ Systemic Toxicant - Single exposure
Not classified according to GHS criteria

Target Organ Systemic Toxicant - Repeated exposure
Not classified according to GHS criteria

Aspiration toxicity
Not classified according to GHS criteria

Numerical measures of toxicity (acute toxicity estimation (ATE),etc.)
No information available.

Symptoms related to the physical, chemical and toxicological characteristics
Exposure to component solvents vapours concentration in excess of the stated occupational exposure limit may result in adverse health effect such as mucous membrane and respiratory system irritation and adverse effect on kidney, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Through skin resorbtion, solvents can cause some of the effects described here. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin. The liquid splashed in the eyes may cause irritation and reversible damage.

Whether the hazardous chemical is listed by NTP, IARC or OSHA

12. Ecological information

There are no data available on the product itself. The product should not be allowed to enter drains or watercourses.

13. Disposal considerations

Waste Disposal Method
Do not allow material to contaminate ground water systems. Incinerate or otherwise dispose of waste material in accordance with Federal, State, Provincial, and local requirements. Do not incinerate in closed containers.

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14. Transport information

International transport regulations

IMDG (Sea transport)

UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III
Marine Pollutant:	no

ICAO/IATA (Air transport)

UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III

DOT

UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III
Marine Pollutant:	no
EmS:	F-E,S-E

Matters needing attention for transportation
Confirm that there is no breakage, corrosion, or leakage from the container before shipping. Be sure to prevent damage to cargo by loading so as to avoid falling, dropping, or collapse. Ship in appropriate containers with denotation of the content in accordance with the relevant statutes and rules.

15. Regulatory information

TSCA Status
In compliance with TSCA Inventory requirements for commercial purposes.

DSL Status
All components of the mixture are listed on the DSL.

Photochemical Reactivity
Non-photochemically reactive

Regulatory information

		EPCRA					CERCLA	CAA
CAS #	Ingredient	302	TPQ	RQ	311 - 312	313	RQ(lbs)	HAP
125128-40-7*	Acrylic resin	N	NR	NR	NA	N	NR	N
110-43-0	Methyl amyl ketone	N	NR	NR	A,C,F	N	NR	N
No information available.	Acrylic polymer	N	NR	NR	NA	N	NR	N
67-64-1	Acetone	N	NR	NR	A,C,F	N	5,000	N
123-86-4	Butyl acetate	N	NR	NR	A,C,F	N	NR	N
110-12-3	Methyl isoamyl ketone	N	NR	NR	C	N	NR	N
624-54-4	N-pentyl propionate	N	NR	NR	NA	N	NR	N

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		EPCRA					CERCLA	CAA
CAS #	Ingredient	302	TPQ	RQ	311 - 312	313	RQ(lbs)	HAP
141-78-6	Ethyl acetate	N	NR	NR	C,F	N	NR	N
129922-22-1	Polyester resin	N	NR	NR	NA	N	NR	N
169276-18-0*	Synthetic resin	N	NR	NR	NA	N	NR	N

Key:

EPCRA	Emergency Planning and Community Right-to-know Act (aka Title III, SARA)
302	Extremely hazardous substances
311/312 Categories	F = Fire Hazard R = Reactivity Hazard P = Pressure Related Hazard A = Acute Hazard C = Chronic Hazard
313 Information	Section 313 Supplier Notification - The chemicals listed above with a 'Y' in the 313 column are subject to reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know act of 1986 and of 40 CFR 372.
CERCLA	Comprehensive Emergency Response, Compensation and Liability Act of 1980.
HAP	Listed as a Clean Air Act Hazardous Air Pollutant.
TPQ	Threshold Planning Quantity.
RQ	Reportable Quantity
NA	not available
NR	not regulated

16. Other information

HMIS rating H: 2 F: 2 R: 0

Glossary of Terms:

ACGIH	American Conference of Governmental Industrial Hygienists.
IARC	International Agency for Research on Cancer.
NTP	National Toxicology Program.
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration.
STEL	Short term exposure limit.
TWA	Time-weighted average.
PNOR	Particles not otherwise regulated.
PNOC	Particles not otherwise classified.

NOTE: The list (above) of glossary terms may be modified.

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SDS prepared by:
Axalta Coating Systems Regulatory Affairs
Report version

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1. Identification of the substance/mixture and of the company/undertaking

Product name	Medium Temperature Activator	
Product code	15305S™	120524
Intended use	Hardener for professional use	
	Axalta Coating Systems, LLC Applied Corporate Center 50 Applied Card Way, Suite 300 US Glen Mills, PA 19342	
Telephone	Product information Medical emergency Transportation emergency	(855) 6-AXALTA (855) 274-5698 (800) 424-9300 (CHEMTREC)

2. Hazards identification

This preparation is hazardous per the following GHS criteria

GHS-Classification

Flammable liquids	Category 2
Serious eye damage/eye irritation	Category 2A
Respiratory sensitisation	Category 1
Skin sensitisation	Category 1
Target Organ Systemic Toxicant - Single exposure	Category 3

Endpoints which are ""not classified"", ""cannot classified"" and ""not applicable"" are not shown

GHS-Labelling

Hazard symbols

Signal word: Danger

Hazard statements:
Highly flammable liquid and vapour.
Causes serious eye irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
May cause respiratory irritation.

Precautionary statements:
Contaminated work clothing should not be allowed out of the workplace.
Ground/bond container and receiving equipment.
In case of inadequate ventilation wear respiratory protection.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Take precautionary measures against static discharge.
Use explosion-proof electrical/ventilating/lighting equipment.
Use only non-sparking tools.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
Avoid breathing dust/ vapours/ spray.
IF exposed or if you feel unwell: Call a POISON CENTER or doctor/ physician.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If experiencing respiratory symptoms: Call a POISON CENTER or doctor/ physician.
If eye irritation persists: Get medical advice/ attention.

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IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/ attention.
Specific treatment (see supplemental first aid instructions on this label).
Wash contaminated clothing before reuse.
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Dispose of contents/container to .?.

Other hazards which do not result in classification
Contains isocyanates. See information supplied by the manufacturer.

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity:
0 %

3. Composition/information on ingredients

Mixture of synthetic resins and solvents

Components

CAS-No.	Chemical Name	Concentration
28182-81-2	Aliphatic polyisocyanate resin	
79-20-9	Methyl acetate	
108-83-8	Diisobutyl ketone	
110-43-0	Methyl amyl ketone	

Non-regulated ingredients 1 - 5%
OSHA Hazardous: Yes

4. First aid measures

Eye contact
Remove contact lenses. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Seek medical advice.

Skin contact
Do NOT use solvents or thinners. Take off all contaminated clothing immediately. Wash skin thoroughly with soap and water or use recognized skin cleanser. If skin irritation persists, call a physician.

Inhalation
Avoid inhalation of vapour or mist. Move to fresh air in case of accidental inhalation of vapours. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

Ingestion
If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting. Keep at rest.

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Most important Symptoms/effects, acute and delayed

Inhalation
May cause nose and throat irritation. May cause nervous system depression characterized by the following progressive steps: headache, dizziness, nausea, staggering gait, confusion, unconsciousness. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage. Exposure to isocyanates may cause respiratory sensitization. This effect may be permanent. Symptoms include an asthma-like reaction with shortness of breath, wheezing, cough or permanent lung sensitization. This effect may be delayed for several hours after exposure. Repeated overexposure to isocyanates may cause a decrease in lung function, which may be permanent. Individuals with lung or breathing problems or prior reactions to isocyanates must not be exposed to vapors or spray mist of this product.

Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis. Skin contact my cause skin sensitization.

Indication of immediate medical attention and special treatment needed if necessary
No data available on the product. See section 3 and 11 for hazardous ingredients found in the product.

5. Firefighting measures

Suitable extinguishing media
Universal aqueous film-forming foam, Carbon dioxide (CO2), Dry chemical

Extinguishing media which shall not be used for safety reasons
High volume water jet

Hazardous combustion products
CO, CO2, smoke, and oxides of any heavy metals that are reported in "Composition, Information on Ingredients" section.

Fire and Explosion Hazards
Flammable liquid. Vapor/air mixture will burn when an ignition source is present.

Special Protective Equipment and Fire Fighting Procedures
Full protective flameproof clothing should be worn as appropriate. Wear self contained breathing apparatus for fire fighting if necessary. In the event of fire, cool tanks with water spray. Do not allow run-off from fire fighting to enter public sewer systems or public waterways.

6. Accidental release measures

Procedures for cleaning up spills or leaks
Ventilate area. Remove sources of ignition. Do not breathe vapors. Do not get in eyes or on skin. Wear a positive-pressure, supplied-air respirator (NIOSH approved TC-19C), eye protection, gloves and protective clothing. Pour liquid decontamination solution over the spill and allow to sit at least 10 minutes. Typical decontamination solutions for isocyanate containing materials are: 20% Surfactant (Tergitol TM 10) and 80% Water OR 0-10% Ammonia, 2-5% Detergent and Water (balance) Confine and remove with inert absorbent. Pressure can be generated. Do not seal waste containers for 48 hours to allow C02 to vent. After 48 hours, material may be sealed and disposed of properly.

Environmental precautions
Do not let product enter drains. Notify the respective authorities in accordance with local law in the case of contamination of rivers, lakes or waste water systems.

7. Handling and storage

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Precautions for safe handling
Observe label precautions. Keep away from heat, sparks, flame, static discharge and other sources of ignition. VAPORS MAY CAUSE FLASH FIRE. Close container after each use. Ground containers when pouring. Do not transfer contents to bottles or unlabeled containers. Wash thoroughly after handling and before eating or smoking. Do not store above 120 deg F.
If material is a coating: do not sand, flame cut, braze or weld dry coating without a NIOSH approved air purifying respirator with particulate filters or appropriate ventilation, and gloves. Combustible dust clouds may be created where operations produce fine material (dust). Avoid formation of significant deposits of material as they may become airborne and form combustible dust clouds. Build up of fine material should be cleaned using gentle sweeping or vacuuming in accordance with best practices. Cleaning methods (e.g. compressed air) which can generate potentially combustible dust clouds should not be used.

Advice on protection against fire and explosion
Solvent vapours are heavier than air and may spread along floors. Vapors may form explosive mixtures with air and will burn when an ignition source is present. Always keep in containers of same material as the original one. Never use pressure to empty container: container is not a pressure vessel. The accumulation of contaminated rags may result in spontaneous combustion. Good housekeeping standards and regular safe removal of waste materials will minimize the risks of spontaneous combustion and other fire hazards.

Storage
Requirements for storage areas and containers
Observe label precautions. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. No smoking. Prevent unauthorized access. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Advice on common storage
Store separately from oxidizing agents, strongly alkaline and strongly acidic materials, amines, alcohols and water. Precautions should be taken to avoid exposure to atmospheric humidity or water. Evolution of CO2 in closed containers causes overpressure and produces a risk of bursting.

Additional information on storage conditions
Precautions should be taken to avoid exposure to atmospheric humidity or water. Humid air and/or water will produce carbon dioxide which will pressurize the container. Open drum carefully as content may be under pressure.

OSHA/NFPA Storage Classification: IB

8. Exposure controls/personal protection

Engineering controls and work practices
Provide adequate ventilation. Air-fed protective respiratory equipment must be worn by spray operator even when good ventilation is provided.

National occupational exposure limits

CAS-No.	Chemical Name	Source	Time	Type	Value	Note
28182-81-2	Aliphatic polyisocyanate resin	Supplier	8 hr	TWA	0.5 mg/m3	
79-20-9	Methyl acetate	ACGIH	15 min	STEL	250 ppm	
			8 hr	TWA	200 ppm	
		OSHA	8 hr	TWA	200 ppm	
108-83-8	Diisobutyl ketone	ACGIH	8 hr	TWA	25 ppm	
		OSHA	8 hr	TWA	50 ppm	
110-43-0	Methyl amyl ketone	ACGIH	8 hr	TWA	50 ppm	
		OSHA	8 hr	TWA	100 ppm	

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** TWA = Time-weighted average.
STEL = Short term exposure limit.

Protective equipment
Personal protective equipment should be worn to prevent contact with eyes, skin or clothing.

Respiratory protection
Do not breathe vapors or mists. Wear a positive-pressure, supplied air respirator (NIOSH approved TC-19C), while mixing activator with paint, during application and until all vapors and spray mists are exhausted. Follow respirator manufacturer s directions for respirator use. Do not permit anyone without protection in the painting area. Refer to the hardener/activator label instructions for further information. Individuals with history of lung or breathing problems or prior reaction to isocyanates should not use or be exposed to vapor or spray mist.

Eye protection
Desirable in all industrial situations. Goggles are preferred to prevent eye irritation. If safety glasses are substituted, include splash guard or side shields.

Skin and body protection
Neoprene gloves and coveralls are recommended.

Hygiene measures
Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Environmental exposure controls
Do not let product enter drains. For ecological information, refer to Ecological Information Section 12.

9. Physical and chemical properties

Appearance

Form: liquid Colour: clear

Flash point	25 °F	
Ignition temperature	345 °C	
Lower Explosive Limit	0.8 %	
Upper Explosive Limit	16 %	
Evapouration rate	Slower than Ether	
Vapor pressure of principal solvent	35.8 hPa	
Water solubility	appreciable	
Vapor density of principal solvent (Air = 1)	2.6	
Approx. Boiling Range	56 °C	
Approx. Freezing Range	Not applicable.	
Gallon Weight (lbs/gal)	8.72	
Specific Gravity	1.04	
Percent Volatile By Volume	41.06%	
Percent Volatile By Weight	34.00%	
Percent Solids By Volume	58.94%	
Percent Solids By Weight	66.00%	
pH (waterborne systems only)	No data available.	
Partition coefficient: n-octanol/water	no data available	
Ignition temperature	345 °C	DIN 51794
Decomposition temperature		
Viscosity (23 °C)	Not applicable.	ISO 2431-1993
VOC* less exempt (lbs/gal)	1.9	
VOC* as packaged (lbs/gal)	1.5	

* VOC less exempt (theoretical) and VOC as packaged (theoretical) are based upon the VOC of the packaged material at the point of manufacture.

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10. Stability and reactivity

Stability
Stable

Conditions to avoid
Stable under recommended storage conditions.

Materials to avoid
Keep away from oxidising agents and strongly acid or alkaline materials. Amines and alcohols cause exothermic reactions. Mixture reacts slowly with water resulting in evolution of CO2. Evolution of CO2 in closed containers causes overpressure and produces a risk of bursting.

Hazardous decomposition products
When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen as well as hydrogen cyanide, amines, alcohols and water.

Hazardous Polymerization
Will not occur.

Sensitivity to Static Discharge
Solvent vapors in air may explode if static grounding and bonding is not used during transfer of this product.

Sensitivity to Mechanical Impact
None known.

11. Toxicological information

Information on likely routes of exposure

Inhalation
May cause nose and throat irritation. May cause nervous system depression characterized by the following progressive steps: headache, dizziness, nausea, staggering gait, confusion, unconsciousness. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage. Exposure to isocyanates may cause respiratory sensitization. This effect may be permanent. Symptoms include an asthma-like reaction with shortness of breath, wheezing, cough or permanent lung sensitization. This effect may be delayed for several hours after exposure. Repeated overexposure to isocyanates may cause a decrease in lung function, which may be permanent. Individuals with lung or breathing problems or prior reactions to isocyanates must not be exposed to vapors or spray mist of this product.

Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Delayed and immediate effects and also chronic effects from short and long term exposure:

Acute oral toxicity
not hazardous

Acute dermal toxicity
Not classified according to GHS criteria

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Acute inhalation toxicity
not hazardous

% of unknown composition 0 %

Skin corrosion/irritation
Not classified according to GHS criteria

Serious eye damage/eye irritation

methyl acetate	Category 1
2,6-dimethylheptan-4-one	Category 2A
heptan-2-one	Category 2B

Respiratory sensitisation

Hexamethylene diisocyanate, oligomers	Category 1

Skin sensitisation

Hexamethylene diisocyanate, oligomers	Category 1

Germ cell mutagenicity
Not classified according to GHS criteria

Carcinogenicity
Not classified according to GHS criteria

Toxicity for reproduction
Not classified according to GHS criteria

Target Organ Systemic Toxicant - Single exposure

- **Inhalation**

  airway sensitivity heptan-2-one

  Narcotic effects heptan-2-one

  Respiratory system 2,6-dimethylheptan-4-one, methyl acetate

- **Ingestion**

  Respiratory tract irritation heptan-2-one

  Narcotic effects heptan-2-one

Target Organ Systemic Toxicant - Repeated exposure
Not classified according to GHS criteria

Aspiration toxicity
Not classified according to GHS criteria

Numerical measures of toxicity (acute toxicity estimation (ATE),etc.)
No information available.

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Symptoms related to the physical, chemical and toxicological characteristics
Based on the properties of the isocyanate components and considering toxicological data on similar products, the following applies: This formulation may cause acute irritation and/or sensitization of the respiratory system leading to an asthmatic condition, wheeziness and a tightness of the chest. Sensitized persons may subsequently show asthmatic symptoms when exposed to atmospheric concentrations well below the OEL. Repeated exposure may lead to permanent respiratory disability. Exposure to component solvents vapours concentration in excess of the stated occupational exposure limit may result in adverse health effect such as mucous membrane and respiratory system irritation and adverse effect on kidney, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Through skin resorbtion, solvents can cause some of the effects described here. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin. The liquid splashed in the eyes may cause irritation and reversible damage. Components of the product may be absorbed into the body through the skin.

Whether the hazardous chemical is listed by NTP, IARC or OSHA

12. Ecological information

There are no data available on the product itself. The product should not be allowed to enter drains or watercourses.

13. Disposal considerations

Waste Disposal Method
Do not allow material to contaminate ground water systems. Incinerate or otherwise dispose of waste material in accordance with Federal, State, Provincial, and local requirements. Do not incinerate in closed containers.

14. Transport information

International transport regulations

IMDG (Sea transport)	
UN number:	1263
Proper shipping name:	PAINT RELATED MATERIAL
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	II
Marine Pollutant:	no
ICAO/IATA (Air transport)	
UN number:	1263
Proper shipping name:	PAINT RELATED MATERIAL
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	II
DOT	
UN number:	1263
Proper shipping name:	PAINT RELATED MATERIAL
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	II
Marine Pollutant:	no
EmS:	F-E,S-E

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Matters needing attention for transportation
Confirm that there is no breakage, corrosion, or leakage from the container before shipping. Be sure to prevent damage to cargo by loading so as to avoid falling, dropping, or collapse. Ship in appropriate containers with denotation of the content in accordance with the relevant statutes and rules.

15. Regulatory information

TSCA Status
In compliance with TSCA Inventory requirements for commercial purposes.

DSL Status
All components of the mixture are listed on the DSL.

Photochemical Reactivity
Photochemically reactive

Regulatory information

		EPCRA					CERCLA	CAA
CAS #	Ingredient	302	TPQ	RQ	311 - 312	313	RQ(lbs)	HAP
28182-81-2	Aliphatic polyisocyanate resin	N	NR	NR	A,C,R	N	NR	N
79-20-9	Methyl acetate	N	NR	NR	A,C	N	100	N
108-83-8	Diisobutyl ketone	N	NR	NR	C,F	N	NR	N
110-43-0	Methyl amyl ketone	N	NR	NR	A,C,F	N	NR	N

Key:

EPCRA	Emergency Planning and Community Right-to-know Act (aka Title III, SARA)
302	Extremely hazardous substances
311/312 Categories	F = Fire Hazard R = Reactivity Hazard P = Pressure Related Hazard A = Acute Hazard C = Chronic Hazard
313 Information	Section 313 Supplier Notification - The chemicals listed above with a 'Y' in the 313 column are subject to reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know act of 1986 and of 40 CFR 372.
CERCLA	Comprehensive Emergency Response, Compensation and Liability Act of 1980.
HAP	Listed as a Clean Air Act Hazardous Air Pollutant.
TPQ	Threshold Planning Quantity.
RQ	Reportable Quantity
NA	not available
NR	not regulated

16. Other information

HMIS rating H: 3 F: 3 R: 1

Glossary of Terms:

ACGIH	American Conference of Governmental Industrial Hygienists.
IARC	International Agency for Research on Cancer.
NTP	National Toxicology Program.
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration.

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STEL	Short term exposure limit.
TWA	Time-weighted average.
PNOR	Particles not otherwise regulated.
PNOC	Particles not otherwise classified.

NOTE: The list (above) of glossary terms may be modified.

Notice from Axalta Coating Systems
The document reflects information provided to Axalta Coating Systems by its suppliers. Information is accurate to the best of our knowledge and is subject to change as new data is received by Axalta Coating Systems. Persons receiving this information should make their own determination as to its suitability for their purposes prior to use. The information on this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.
SDS prepared by:
Axalta Coating Systems Regulatory Affairs
Report version

Version	Changes
5.1	16

Revision Date: 2014-10-06

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1. Identification of the substance/mixture and of the company/undertaking

Product name	Accelerator	
Product code	389S™	131231
Intended use	Intermediate	
	Axalta Coating Systems, LLC Applied Corporate Center 50 Applied Card Way, Suite 300 US Glen Mills, PA 19342	
Telephone	Product information Medical emergency Transportation emergency	(855) 6-AXALTA (855) 274-5698 (800) 424-9300 (CHEMTREC)

2. Hazards identification

This preparation is hazardous per the following GHS criteria

GHS-Classification

Flammable liquids	Category 3
Acute oral toxicity	Category 4
Acute dermal toxicity	Category 3
Acute inhalation toxicity	Category 3
Germ cell mutagenicity	Category 2
Toxicity for reproduction	Category 1B
Target Organ Systemic Toxicant - Repeated exposure	Category 1

Endpoints which are ""not classified"", ""cannot classified"" and ""not applicable"" are not shown

GHS-Labelling

Hazard symbols

Signal word: Danger

Hazard statements:
Flammable liquid and vapour.
Harmful if swallowed.
Toxic in contact with skin.
Toxic if inhaled.
Suspected of causing genetic defects.
May damage fertility or the unborn child.
Causes damage to organs through prolonged or repeated exposure.

Precautionary statements:
Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
Do not eat, drink or smoke when using this product.
Ground/bond container and receiving equipment.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Obtain special instructions before use.
Take precautionary measures against static discharge.
Use explosion-proof electrical/ventilating/lighting equipment.
Use only non-sparking tools.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/ eye protection/ face protection.

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Wear protective gloves/ protective clothing.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF exposed or concerned: Get medical advice/ attention.
IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
IF ON SKIN: Wash with plenty of soap and water.
IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
Remove/Take off immediately all contaminated clothing.
Specific measures (see supplemental first aid instructions on this label).
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Dispose of contents/container to .?.

Other hazards which do not result in classification
None known.

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity:
0 %

3. Composition/information on ingredients

Mixture of synthetic resins and solvents

Components

CAS-No.	Chemical Name	Concentration
123-54-6	2,4-pentanedione	
77-58-7	Dibutyl tin dilaurate	

Non-regulated ingredients 0.0 - 0.1%
OSHA Hazardous: Yes

4. First aid measures

Eye contact
Remove contact lenses. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Seek medical advice.

Skin contact
Do NOT use solvents or thinners. Take off all contaminated clothing immediately. Wash skin thoroughly with soap and water or use recognized skin cleanser. If skin irritation persists, call a physician.

Inhalation
Avoid inhalation of vapour or mist. Move to fresh air in case of accidental inhalation of vapours. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

Ingestion
If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting. Keep at rest.

Most Important Symptoms/effects, acute and delayed

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Inhalation
May cause nose and throat irritation. May cause nervous system depression characterized by the following progressive steps: headache, dizziness, nausea, staggering gait, confusion, unconsciousness. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Indication of immediate medical attention and special treatment needed if necessary
No data available on the product. See section 3 and 11 for hazardous ingredients found in the product.

5. Firefighting measures

Suitable extinguishing media
Universal aqueous film-forming foam, Carbon dioxide (CO2), Dry chemical

Extinguishing media which shall not be used for safety reasons
High volume water jet

Hazardous combustion products
CO, CO2, smoke, and oxides of any heavy metals that are reported in "Composition, Information on Ingredients" section.

Fire and Explosion Hazards
Flammable liquid. Vapor/air mixture will burn when an ignition source is present.

Special Protective Equipment and Fire Fighting Procedures
Full protective flameproof clothing should be worn as appropriate. Wear self contained breathing apparatus for fire fighting if necessary. In the event of fire, cool tanks with water spray. Do not allow run-off from fire fighting to enter public sewer systems or public waterways.

6. Accidental release measures

Procedures for cleaning up spills or leaks
Ventilate area. Remove sources of ignition. Prevent skin and eye contact and breathing of vapor. Wear a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C), eye protection, gloves and protective clothing. Confine, remove with inert absorbent, and dispose of properly.

Environmental precautions
Do not let product enter drains. Notify the respective authorities in accordance with local law in the case of contamination of rivers, lakes or waste water systems.

7. Handling and storage

Precautions for safe handling
Observe label precautions. Keep away from heat, sparks, flame, static discharge and other sources of ignition. VAPORS MAY CAUSE FLASH FIRE. Close container after each use. Ground containers when pouring. Do not transfer contents to bottles or unlabeled containers. Wash thoroughly after handling and before eating or smoking. Do not store above 120 deg F.
If material is a coating: do not sand, flame cut, braze or weld dry coating without a NIOSH approved air purifying respirator with particulate filters or appropriate ventilation, and gloves. Combustible dust clouds may be created where operations produce fine material (dust). Avoid formation of significant deposits of material as they may become airborne and form combustible dust clouds. Build up of fine material should be cleaned using gentle sweeping or vacuuming in accordance with best practices. Cleaning methods (e.g. compressed air) which can generate potentially combustible dust clouds should not be used.

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Advice on protection against fire and explosion
Solvent vapours are heavier than air and may spread along floors. Vapors may form explosive mixtures with air and will burn when an ignition source is present. Always keep in containers of same material as the original one. Never use pressure to empty container: container is not a pressure vessel. The accumulation of contaminated rags may result in spontaneous combustion. Good housekeeping standards and regular safe removal of waste materials will minimize the risks of spontaneous combustion and other fire hazards.

Storage
Requirements for storage areas and containers
Observe label precautions. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. No smoking. Prevent unauthorized access. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Advice on common storage
Store separately from oxidizing agents and strongly alkaline and strongly acidic materials.

OSHA/NFPA Storage Classification: IC

8. Exposure controls/personal protection

Engineering controls and work practices
Provide adequate ventilation. This should be achieved by a good general extraction and -if practically feasible- by the use of a local exhaust ventilation. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn.

National occupational exposure limits

CAS-No.	Chemical Name	Source	Time	Type	Value	Note
123-54-6	2,4-pentanedione	ACGIH	8 hr	TWA	25 ppm	Skin
		Dupont	8 & 12 hour	TWA	5 ppm	
77-58-7	Dibutyl tin dilaurate	ACGIH	15 min	STEL	0.2 mg/m3	Sn
			8 hr	TWA	0.1 mg/m3	Sn
		OSHA	8 hr	TWA	0.1 mg/m3	Sn

** TWA = Time-weighted average.
STEL = Short term exposure limit.

Protective equipment
Personal protective equipment should be worn to prevent contact with eyes, skin or clothing.

Respiratory protection
Do not breathe vapors or mists. Wear a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C) and particulate filter (NIOSH TC-84A) during application and until all vapors and spray mists are exhausted. In confined spaces, or in situations where continuous spray operations are typical, or if proper air-purifying respirator fit is not possible, wear a positive pressure, supplied-air respirator (NIOSH TC-19C). In all cases, follow respirator manufacturer's directions for respirator use. Do not permit anyone without protection in the painting area.

Eye protection
Desirable in all industrial situations. Goggles are preferred to prevent eye irritation. If safety glasses are substituted, include splash guard or side shields.

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Skin and body protection
Neoprene gloves and coveralls are recommended.

Hygiene measures
Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Environmental exposure controls
Do not let product enter drains. For ecological information, refer to Ecological Information Section 12.

9. Physical and chemical properties

Appearance

Form: liquid Colour: clear Odour: Characteristic Paint Odor

Flash point	75 °F	
Ignition temperature	350 °C	
Lower Explosive Limit	1.7 %	
Upper Explosive Limit	11.6 %	
Evapouration rate	Slower than Ether	
Vapor pressure of principal solvent	8.9 hPa	
Water solubility	appreciable	
Vapor density of principal solvent (Air = 1)	3.5	
Approx. Boiling Range	135 °C	
Approx. Freezing Range	Not applicable.	
Gallon Weight (lbs/gal)	8.15	
Specific Gravity	0.98	
Percent Volatile By Volume	99.07%	
Percent Volatile By Weight	99.00%	
Percent Solids By Volume	0.93%	
Percent Solids By Weight	1.00%	
pH (waterborne systems only)	No data available.	
Partition coefficient: n-octanol/water	no data available	
Ignition temperature	350 °C	DIN 51794
Decomposition temperature		
Viscosity (23 °C)	Not applicable.	ISO 2431-1993
VOC* less exempt (lbs/gal)	8.1	
VOC* as packaged (lbs/gal)	8.1	

* VOC less exempt (theoretical) and VOC as packaged (theoretical) are based upon the VOC of the packaged material at the point of manufacture.

10. Stability and reactivity

Stability
Stable

Conditions to avoid
Stable under recommended storage conditions.

Materials to avoid
None reasonably foreseeable.

Hazardous decomposition products
When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen.

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Hazardous Polymerization
Will not occur.

Sensitivity to Static Discharge
Solvent vapors in air may explode if static grounding and bonding is not used during transfer of this product.

Sensitivity to Mechanical Impact
None known.

11. Toxicological information

Information on likely routes of exposure

Inhalation
May cause nose and throat irritation. May cause nervous system depression characterized by the following progressive steps: headache, dizziness, nausea, staggering gait, confusion, unconsciousness. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Delayed and immediate effects and also chronic effects from short and long term exposure:

Acute oral toxicity

pentane-2,4-dione	Category 4
dibutylbis((1-oxododecyl)oxy)stannane	Category 2

Acute dermal toxicity

pentane-2,4-dione	Category 3
dibutylbis((1-oxododecyl)oxy)stannane	Category 3

Acute inhalation toxicity

pentane-2,4-dione	Category 3
dibutylbis((1-oxododecyl)oxy)stannane	Category 2

% of unknown composition 0 %

Skin corrosion/irritation
Not classified according to GHS criteria

Serious eye damage/eye irritation
Not classified according to GHS criteria

Respiratory sensitisation
Not classified according to GHS criteria

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Skin sensitisation
not hazardous

Germ cell mutagenicity

pentane-2,4-dione	Category 2
dibutylbis((1-oxododecyl)oxy)stannane	Category 2

Carcinogenicity
Not classified according to GHS criteria

Toxicity for reproduction

dibutylbis((1-oxododecyl)oxy)stannane	Category 1A

Target Organ Systemic Toxicant - Single exposure
not hazardous

Target Organ Systemic Toxicant - Repeated exposure

- **Skin Absorption**

  Central nervous system pentane-2,4-dione

Aspiration toxicity
Not classified according to GHS criteria

Numerical measures of toxicity (acute toxicity estimation (ATE),etc.)
No information available.

Symptoms related to the physical, chemical and toxicological characteristics
Exposure to component solvents vapours concentration in excess of the stated occupational exposure limit may result in adverse health effect such as mucous membrane and respiratory system irritation and adverse effect on kidney, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Through skin resorbtion, solvents can cause some of the effects described here. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin. The liquid splashed in the eyes may cause irritation and reversible damage.

Whether the hazardous chemical is listed by NTP, IARC or OSHA

12. Ecological information

There are no data available on the product itself. The product should not be allowed to enter drains or watercourses.

13. Disposal considerations

Waste Disposal Method
Do not allow material to contaminate ground water systems. Incinerate or otherwise dispose of waste material in accordance with Federal, State, Provincial, and local requirements. Do not incinerate in closed containers.

14. Transport information

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International transport regulations

IMDG (Sea transport)

UN number:	1263
Proper shipping name:	PAINT RELATED MATERIAL
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III
Marine Pollutant:	no

ICAO/IATA (Air transport)

UN number:	1263
Proper shipping name:	PAINT RELATED MATERIAL
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III

DOT

UN number:	1263
Proper shipping name:	PAINT RELATED MATERIAL
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	III
Marine Pollutant:	no
EmS:	F-E,S-E

Matters needing attention for transportation
Confirm that there is no breakage, corrosion, or leakage from the container before shipping. Be sure to prevent damage to cargo by loading so as to avoid falling, dropping, or collapse. Ship in appropriate containers with denotation of the content in accordance with the relevant statutes and rules.

15. Regulatory information

TSCA Status
In compliance with TSCA Inventory requirements for commercial purposes.

DSL Status
All components of the mixture are listed on the DSL.

Photochemical Reactivity
Non-photochemically reactive

Regulatory information

		EPCRA					CERCLA	CAA
CAS #	Ingredient	302	TPQ	RQ	311 - 312	313	RQ(lbs)	HAP
123-54-6	2,4-pentanedione	N	NR	NR	A,C,F	N	NR	N
77-58-7	Dibutyl tin dilaurate	N	NR	NR	NA	N	NR	N

Key:

EPCRA	Emergency Planning and Community Right-to-know Act (aka Title III, SARA)
302	Extremely hazardous substances
311/312 Categories	F = Fire Hazard A = Acute Hazard

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	R = Reactivity Hazard C = Chronic Hazard P = Pressure Related Hazard
313 Information	Section 313 Supplier Notification - The chemicals listed above with a 'Y' in the 313 column are subject to reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know act of 1986 and of 40 CFR 372.
CERCLA	Comprehensive Emergency Response, Compensation and Liability Act of 1980.
HAP	Listed as a Clean Air Act Hazardous Air Pollutant.
TPQ	Threshold Planning Quantity.
RQ	Reportable Quantity
NA	not available
NR	not regulated

16. Other information

HMIS rating H: 2 F: 3 R: 0

Glossary of Terms:

ACGIH	American Conference of Governmental Industrial Hygienists.
IARC	International Agency for Research on Cancer.
NTP	National Toxicology Program.
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration.
STEL	Short term exposure limit.
TWA	Time-weighted average.
PNOR	Particles not otherwise regulated.
PNOC	Particles not otherwise classified.

NOTE: The list (above) of glossary terms may be modified.

Notice from Axalta Coating Systems
The document reflects information provided to Axalta Coating Systems by its suppliers. Information is accurate to the best of our knowledge and is subject to change as new data is received by Axalta Coating Systems. Persons receiving this information should make their own determination as to its suitability for their purposes prior to use. The information on this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.
SDS prepared by:
Axalta Coating Systems Regulatory Affairs
Report version

Version	Changes
2.3	16

Revision Date: 2014-11-18

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1. Identification of the substance/mixture and of the company/undertaking

Product name	GRAY HYBRID EPOXY PRIMER	
Product code	825P32760	150220
Intended use	Coating for professional use	
	Axalta Coating Systems, LLC Applied Corporate Center 50 Applied Card Way, Suite 300 US Glen Mills, PA 19342	
Telephone	Product information Medical emergency Transportation emergency	(855) 6-AXALTA (855) 274-5698 (800) 424-9300 (CHEMTREC)

2. Hazards identification

This preparation is hazardous per the following GHS criteria

GHS-Classification

Flammable liquids	Category 2
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Skin sensitisation	Category 1
Carcinogenicity	Category 2

Endpoints which are ""not classified"", ""cannot classified"" and ""not applicable"" are not shown

GHS-Labelling

Hazard symbols	
Signal word	Danger
Hazard statements	Highly flammable liquid and vapour. Causes skin irritation. Causes serious eye irritation. May cause an allergic skin reaction. Suspected of causing cancer.
Precautionary statements	Contaminated work clothing should not be allowed out of the workplace. Ground/bond container and receiving equipment. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Obtain special instructions before use. Take precautionary measures against static discharge. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Wear protective gloves/protective clothing/eye protection/face protection. Avoid breathing dust/ vapours/ spray. IF exposed or concerned: Get medical advice/ attention. If eye irritation persists: Get medical advice/ attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/ attention.
Specific treatment (see supplemental first aid instructions on this label).
Take off contaminated clothing and wash before reuse.
Store in a well-ventilated place. Keep cool.
Store locked up.
Dispose of contents/container in accordance with local regulations.

Other hazards which do not result in classification
Contains epoxy constituents. See information supplied by the manufacturer.

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity:
0 %

3. Composition/information on ingredients

Mixture of synthetic resins, pigments, and solvents

Components

CAS-No.	Chemical Name	Concentration	GHS Hazardous
7727-43-7	Barium sulfate	10 - 20%	
7779-90-0	Zinc phosphate	8%	√
13463-67-7	Titanium dioxide	6.9%	
14807-96-6	Hydrous magnesium silicate	5 - 10%	
1332-58-7	Kaolin	5 - 10%	
25068-38-6	Bisphenol-epichlorohydrin type polymer	4 - 15%	√
25068-38-6	Epoxy resin	4 - 15%	√
110-12-3	Methyl isoamyl ketone	4 - 15%	√
540-88-5	T-butyl acetate	4 - 15%	√
71-36-3	N-butyl alcohol	2%	√
1330-20-7	Xylene	2%	√
67-64-1	Acetone	1 - 4%	√
No information available.	Acrylic polymer	1 - 5%	
64742-94-5	Aromatic hydrocarbon	1 - 4%	√
1317-65-3	Limestone (calcium carbonate)	1 - 5%	
100-41-4	Ethylbenzene	0.4%	√
91-20-3	Naphthalene	0.3%	√

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OSHA Hazardous: Yes
* Assigned CAS No. - An official CAS No. does not exist. The CAS No. shown is for a similar chemical.

4. First aid measures

Eye contact
Remove contact lenses. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Seek medical advice.

Skin contact
Do NOT use solvents or thinners. Take off all contaminated clothing immediately. Wash skin thoroughly with soap and water or use recognized skin cleanser. If skin irritation persists, call a physician.

Inhalation
Avoid inhalation of vapour or mist. Move to fresh air in case of accidental inhalation of vapours. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

Ingestion
If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting. Keep at rest.

Most important Symptoms/effects, acute and delayed

Inhalation
May cause nose and throat irritation. May cause nervous system depression characterized by the following progressive steps: headache, dizziness, nausea, staggering gait, confusion, unconsciousness. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Indication of immediate medical attention and special treatment needed if necessary
No data available on the product. See section 3 and 11 for hazardous ingredients found in the product.

5. Firefighting measures

Suitable extinguishing media
Universal aqueous film-forming foam, Carbon dioxide (CO2), Dry chemical

Extinguishing media which shall not be used for safety reasons
High volume water jet

Hazardous combustion products
CO, CO2, smoke, and oxides of any heavy metals that are reported in "Composition, Information on Ingredients" section.

Fire and Explosion Hazards
Flammable liquid. Vapor/air mixture will burn when an ignition source is present.

Special Protective Equipment and Fire Fighting Procedures
Full protective flameproof clothing should be worn as appropriate. Wear self contained breathing apparatus for fire fighting if necessary. In the event of fire, cool tanks with water spray. Do not allow run-off from fire fighting to enter public sewer systems or public waterways.

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6. Accidental release measures

Procedures for cleaning up spills or leaks
Ventilate area. Remove sources of ignition. Prevent skin and eye contact and breathing of vapor. Wear a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C), eye protection, gloves and protective clothing. Confine, remove with inert absorbent, and dispose of properly.

Environmental precautions
Do not let product enter drains. Notify the respective authorities in accordance with local law in the case of contamination of rivers, lakes or waste water systems.

7. Handling and storage

Precautions for safe handling
Observe label precautions. Keep away from heat, sparks, flame, static discharge and other sources of ignition. VAPORS MAY CAUSE FLASH FIRE. Close container after each use. Ground containers when pouring. Do not transfer contents to bottles or unlabeled containers. Wash thoroughly after handling and before eating or smoking. Do not store above 120 deg F.
If material is a coating: do not sand, flame cut, braze or weld dry coating without a NIOSH approved air purifying respirator with particulate filters or appropriate ventilation, and gloves. Combustible dust clouds may be created where operations produce fine material (dust). Avoid formation of significant deposits of material as they may become airborne and form combustible dust clouds. Build up of fine material should be cleaned using gentle sweeping or vacuuming in accordance with best practices. Cleaning methods (e.g. compressed air) which can generate potentially combustible dust clouds should not be used.

Advice on protection against fire and explosion
Solvent vapours are heavier than air and may spread along floors. Vapors may form explosive mixtures with air and will burn when an ignition source is present. Always keep in containers of same material as the original one. Never use pressure to empty container: container is not a pressure vessel. The accumulation of contaminated rags may result in spontaneous combustion. Good housekeeping standards and regular safe removal of waste materials will minimize the risks of spontaneous combustion and other fire hazards.

Storage
Requirements for storage areas and containers
Observe label precautions. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. No smoking. Prevent unauthorized access. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Advice on common storage
Store separately from oxidizing agents and strongly alkaline and strongly acidic materials.

OSHA/NFPA Storage Classification: IB

8. Exposure controls/personal protection

Engineering controls and work practices
Provide adequate ventilation. This should be achieved by a good general extraction and -if practically feasible- by the use of a local exhaust ventilation. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn.

National occupational exposure limits

CAS-No.	Chemical Name	Source	Time	Type	Value	Note
7727-43-7	Barium sulfate	OSHA	8 hr	TWA	15 mg/m3	Total Dust
			8 hr	TWA	5 mg/m3	Respirable Dust
		Dupont	8 & 12 hour	TWA	10 mg/m3	Total Dust

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CAS-No.	Chemical Name	Source	Time	Type	Value	Note
			8 & 12 hour	TWA	5 mg/m3	Respirable Dust
7779-90-0	Zinc phosphate	OSHA	8 hr	TWA	5 mg/m3	Respirable Dust
13463-67-7	Titanium dioxide	OSHA	8 hr	TWA	15 mg/m3	Total Dust
		Dupont	8 & 12 hour	TWA	10 mg/m3	Total Dust
			8 & 12 hour	TWA	5 mg/m3	Respirable Dust
14807-96-6	Hydrous magnesium silicate	ACGIH	8 hr	TWA	2 mg/m3	Respirable Dust
		Dupont	8 & 12 hour	TWA	0.5 mg/m3	Respirable Dust
1332-58-7	Kaolin	ACGIH	8 hr	TWA	2 mg/m3	Respirable Dust
		OSHA		TWA	15 mg/m3	Total Dust
				TWA	5 mg/m3	Respirable Dust
110-12-3	Methyl isoamyl ketone	ACGIH	8 hr	TWA	20 ppm	
540-88-5	T-butyl acetate	ACGIH	8 hr	TWA	200 ppm	
		OSHA	8 hr	TWA	200 ppm	
71-36-3	N-butyl alcohol	ACGIH	8 hr	TWA	20 ppm	
		OSHA	8 hr	TWA	100 ppm	
		Dupont	15 min	TWA	50 ppm	
			8 & 12 hour	TWA	25 ppm	
1330-20-7	Xylene	ACGIH	15 min	STEL	150 ppm	
			8 hr	TWA	100 ppm	
		OSHA	8 hr	TWA	100 ppm	
		Dupont	8 & 12 hour	TWA	100 ppm	
67-64-1	Acetone	ACGIH	15 min	STEL	750 ppm	
			8 hr	TWA	500 ppm	
		OSHA	8 hr	TWA	1,000 ppm	
		Dupont	8 & 12 hour	TWA	500 ppm	

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CAS-No.	Chemical Name	Source	Time	Type	Value	Note
64742-94-5	Aromatic hydrocarbon	Dupont	8 & 12 hour	TWA	100 ppm	
1317-65-3	Limestone (calcium carbonate)	ACGIH	8 hr	TWA	10 mg/m3	
		OSHA	8 hr	TWA	15 mg/m3	Total Dust
			8 hr	TWA	5 mg/m3	Respirable Dust
100-41-4	Ethylbenzene	ACGIH	8 hr	TWA	20 ppm	
		OSHA	8 hr	TWA	100 ppm	
		Dupont	8 & 12 hour	TWA	25 ppm	
91-20-3	Naphthalene	ACGIH		CEIL	15 ppm	Skin
			8 hr	TWA	10 ppm	Skin
		OSHA	8 hr	TWA	10 ppm	
		Dupont	8 & 12 hour	TWA	0.1 ppm	

** TWA = Time-weighted average.
STEL = Short term exposure limit.
CEIL = Ceiling.

Protective equipment
Personal protective equipment should be worn to prevent contact with eyes, skin or clothing.

Respiratory protection
Do not breathe vapors or mists. Wear an appropriate, properly fitted NIOSH approved respirator during application and until all vapors and spray mists are exhausted unless air monitoring demonstrates vapor/mist levels are below applicable limits. If respirators are required, use a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C) and particulate filter (NIOSH TC-84A). In confined spaces, or in situations where continuous spray operations are typical, or if proper air-purifying respirator fit is not possible, wear a positive pressure, supplied-air respirator (NIOSH TC-19C). In all cases, follow respirator manufacturer's directions for respirator use.'

Eye protection
Desirable in all industrial situations. Goggles are preferred to prevent eye irritation. If safety glasses are substituted, include splash guard or side shields.

Skin and body protection
Neoprene gloves and coveralls are recommended.

Hygiene measures
Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Environmental exposure controls
Do not let product enter drains. For ecological information, refer to Ecological Information Section 12.

9. Physical and chemical properties

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Appearance

Form: liquid Colour: grey

Flash point	59 °F	
Ignition temperature	301 °C	
Lower Explosive Limit	1 %	
Upper Explosive Limit	8.2 %	
Evapouration rate	Slower than Ether	
Vapor pressure of principal solvent	11.3 hPa	
Water solubility	moderate	
Vapor density of principal solvent (Air = 1)	3.9	
Approx. Boiling Range	56 °C	
Approx. Freezing Range	Not applicable.	
Gallon Weight (lbs/gal)	12.28	
Specific Gravity	1.47	
Percent Volatile By Volume	49.70%	
Percent Volatile By Weight	28.30%	
Percent Solids By Volume	50.30%	
Percent Solids By Weight	71.70%	
pH (waterborne systems only)	not applicable	
Partition coefficient: n-octanol/water	no data available	
Ignition temperature	301 °C	DIN 51794
Decomposition temperature		
Viscosity (23 °C)	Not applicable.	ISO 2431-1993
VOC* less exempt (lbs/gal)	3.3	
VOC* as packaged (lbs/gal)	3.1	
VOC LE (TBAC)	2.7	
VOC AP (TBAC)	2.2	

* VOC less exempt (theoretical) and VOC as packaged (theoretical) are based upon the VOC of the packaged material at the point of manufacture.
TBAC is not universally recognized as an exempt solvent.
Users should consult the applicable regulations for their region.

10. Stability and reactivity

Stability
Stable

Conditions to avoid
Stable under recommended storage conditions.

Materials to avoid
None reasonably foreseeable.

Hazardous decomposition products
When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen.

Hazardous Polymerization
Will not occur.

Sensitivity to Static Discharge
Solvent vapors in air may explode if static grounding and bonding is not used during transfer of this product.

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Sensitivity to Mechanical impact
None known.

11. Toxicological information

Information on likely routes of exposure

Inhalation
May cause nose and throat irritation. May cause nervous system depression characterized by the following progressive steps: headache, dizziness, nausea, staggering gait, confusion, unconsciousness. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Delayed and immediate effects and also chronic effects from short and long term exposure:

Acute oral toxicity
not hazardous

Acute dermal toxicity
not hazardous

Acute inhalation toxicity
not hazardous

% of unknown composition 0 %

Skin corrosion/irritation

epoxy resin (number average molecular weight <= 700)	Category 2
epoxy resin (number average molecular weight 700 <= 1200)	Category 2
5-methylhexan-2-one	Category 3
tert-butyl acetate	Category 3
n-butanol	Category 2
xylene	Category 2
acetone	Category 3
Solvent naphtha (petroleum), heavy arom.	Category 2
ethylbenzene	Category 3

Serious eye damage/eye irritation

epoxy resin (number average molecular weight <= 700)	Category 2A
epoxy resin (number average molecular weight 700 <= 1200)	Category 2A
5-methylhexan-2-one	Category 2A
tert-butyl acetate	Category 2A
n-butanol	Category 1
xylene	Category 2A
acetone	Category 2A
ethylbenzene	Category 2B

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Respiratory sensitisation
Not classified according to GHS criteria

Skin sensitisation

epoxy resin (number average molecular weight <= 700)	Category 1
epoxy resin (number average molecular weight 700 <= 1200)	Category 1

Germ cell mutagenicity
Not classified according to GHS criteria

Carcinogenicity

Naphthalene	Category 2

Toxicity for reproduction
Not classified according to GHS criteria

Target Organ Systemic Toxicant - Single exposure
Not classified according to GHS criteria

Target Organ Systemic Toxicant - Repeated exposure
Not classified according to GHS criteria

Aspiration toxicity
Not classified according to GHS criteria

Numerical measures of toxicity (acute toxicity estimation (ATE),etc.)
No information available.

Symptoms related to the physical, chemical and toxicological characteristics
Exposure to component solvents vapours concentration in excess of the stated occupational exposure limit may result in adverse health effect such as mucous membrane and respiratory system irritation and adverse effect on kidney, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Through skin resorbtion, solvents can cause some of the effects described here. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin. The liquid splashed in the eyes may cause irritation and reversible damage. Based on the properties of the epoxy constituent(s) and considering toxicological data on similar preparations, this preparation may be a skin sensitiser and an irritant. Low molecular epoxy constituents are irritating to eyes, mucous membranes and skin. Repeated skin contact may lead to irritation and to sensitization, possibly with cross-sensitization to other epoxies. Avoid skin and eye contact. Avoid inhalation of vapour or mist.

Whether the hazardous chemical is listed by NTP, IARC or OSHA

Titanium dioxide	IARC 2B
ethylbenzene	IARC 2B
Naphthalene	IARC 2B
Naphthalene	NTP Anticipated
Titanium dioxide	IARC 2B

12. Ecological information

There are no data available on the product itself. The product should not be allowed to enter drains or watercourses.

13. Disposal considerations

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Waste Disposal Method
Do not allow material to contaminate ground water systems. Incinerate or otherwise dispose of waste material in accordance with Federal, State, Provincial, and local requirements. Do not incinerate in closed containers.

14. Transport information

International transport regulations

IMDG (Sea transport)	
UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	II
Marine Pollutant:	yes [trizinc bis(orthophosphate)]
ICAO/IATA (Air transport)	
UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	II
DOT	
UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	II
Marine Pollutant:	yes [trizinc bis(orthophosphate)]
EmS:	F-E,S-E

Matters needing attention for transportation
Confirm that there is no breakage, corrosion, or leakage from the container before shipping. Be sure to prevent damage to cargo by loading so as to avoid falling, dropping, or collapse. Ship in appropriate containers with denotation of the content in accordance with the relevant statutes and rules.

15. Regulatory information

TSCA Status
In compliance with TSCA Inventory requirements for commercial purposes.

DSL Status
All components of the mixture are listed on the DSL.

Photochemical Reactivity
Photochemically reactive

US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)
WARNING! This product contains a chemical known to the State of California to cause cancer.

Regulatory information

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CAS #	Ingredient	EPCRA 302	EPCRA TPQ	EPCRA RQ	EPCRA 311 - 312	EPCRA 313	CERCLA RQ(lbs)	CAA HAP
7727-43-7	Barium sulfate	N	NR	NR	,A,C,F,N,R	N	NR	N
7779-90-0	Zinc phosphate	N	NR	NR	,A,C,F,N,R	Y	NR	N
13463-67-7	Titanium dioxide	N	NR	NR	,A,C,F,N,R	N	NR	N
14807-96-6	Hydrous magnesium silicate	N	NR	NR	C	N	NR	N
1332-58-7	Kaolin	N	NR	NR	,A,C,F,N,R	N	NR	N
25068-38-6	Bisphenol-epichlorohydrin type polymer	N	NR	NR	,A,C,F,N,R	N	NR	N
25068-38-6	Epoxy resin	N	NR	NR	,A,C,F,N,R	N	NR	N
110-12-3	Methyl isoamyl ketone	N	NR	NR	C	N	NR	N
540-88-5	T-butyl acetate	N	NR	NR	A,C,F	N	NA	N
71-36-3	N-butyl alcohol	N	NR	NR	,A,C,F,N,R	Y	5,000	N
1330-20-7	Xylene	N	NR	NR	,A,C,F,N,R	Y	100	Y
67-64-1	Acetone	N	NR	NR	A,C,F	N	5,000	N
No information available.	Acrylic polymer	N	NR	NR	NA	N	NR	N
64742-94-5	Aromatic hydrocarbon	N	NR	NR	,A,C,F,N,R	N	NR	N
1317-65-3	Limestone (calcium carbonate)	N	NR	NR	,A,C,F,N,R	N	NR	N
100-41-4	Ethylbenzene	N	NR	NR	A,C,F	Y	1,000	Y
91-20-3	Naphthalene	N	NR	NR	A,C,F	Y	100	Y

Key:

EPCRA	Emergency Planning and Community Right-to-know Act (aka Title III, SARA)
302	Extremely hazardous substances
311/312 Categories	F = Fire Hazard R = Reactivity Hazard P = Pressure Related Hazard A = Acute Hazard C = Chronic Hazard
313 Information	Section 313 Supplier Notification - The chemicals listed above with a 'Y' in the 313 column are subject to reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know act of 1986 and of 40 CFR 372.
CERCLA	Comprehensive Emergency Response, Compensation and Liability Act of 1980.
HAP	Listed as a Clean Air Act Hazardous Air Pollutant.
TPQ	Threshold Planning Quantity.
RQ	Reportable Quantity
NA	not available
NR	not regulated

16. Other information

HMIS rating H: 2 F: 3 R: 0

Glossary of Terms:

ACGIH	American Conference of Governmental Industrial Hygienists.
IARC	International Agency for Research on Cancer.
NTP	National Toxicology Program.
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration.
STEL	Short term exposure limit.
TWA	Time-weighted average.
PNOR	Particles not otherwise regulated.
PNOC	Particles not otherwise classified.

NOTE: The list (above) of glossary terms may be modified.

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SDS prepared by:
Axalta Coating Systems Regulatory Affairs
Report version

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1. Identification of the substance/mixture and of the company/undertaking

Product name	HYBRID PRIMER MEDIUM ACTIVATOR	
Product code	FGP32765	140506
Intended use	Hardener for professional use	
	Axalta Coating Systems, LLC Applied Corporate Center 50 Applied Card Way, Suite 300 US Glen Mills, PA 19342	
Telephone	Product information Medical emergency Transportation emergency	(855) 6-AXALTA (855) 274-5698 (800) 424-9300 (CHEMTREC)

2. Hazards identification

This preparation is hazardous per the following GHS criteria

GHS-Classification

Flammable liquids	Category 2
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1
Skin sensitisation	Category 1
Toxicity for reproduction	Category 2

Endpoints which are ""not classified"", ""cannot classified"" and ""not applicable"" are not shown

GHS-Labelling

Hazard symbols

Signal word: Danger

Hazard statements:
Highly flammable liquid and vapour.
Causes skin irritation.
Causes serious eye damage.
May cause an allergic skin reaction.
Suspected of damaging fertility or the unborn child.

Precautionary statements:
Contaminated work clothing should not be allowed out of the workplace.
Ground/bond container and receiving equipment.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Keep container tightly closed.
Obtain special instructions before use.
Take precautionary measures against static discharge.
Use explosion-proof electrical/ventilating/lighting equipment.
Use only non-sparking tools.
Wear protective gloves/protective clothing/eye protection/face protection.
Avoid breathing dust/ vapours/ spray.
IF exposed or concerned: Get medical advice/ attention.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.

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IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/ attention.
Immediately call a POISON CENTER or doctor/ physician.
Specific treatment (see supplemental first aid instructions on this label).
Take off contaminated clothing and wash before reuse.
Store in a well-ventilated place. Keep cool.
Store locked up.
Dispose of contents/container in accordance with local regulations.

Other hazards which do not result in classification
None known.

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity:
1.1 %

3. Composition/information on ingredients

Mixture of synthetic resins and solvents

Components

CAS-No.	Chemical Name	Concentration	GHS Hazardous
No information available.	Epoxy resin	20 - 30%	
71-36-3	N-butyl alcohol	13%	√
78-83-1	Isobutyl alcohol	4 - 15%	√
67-63-0	Isopropyl alcohol	4 - 15%	√
1760-24-3	N-beta-(aminoethyl)-gamma-aminopropyltrimethoxysilane	4 - 15%	√
107-98-2	Propylene glycol methyl ether	4 - 15%	√
1330-20-7	Xylene	4%	√
90-72-2	2,4,6- tri((dimethylamino)methyl) phenol	1 - 4%	√
110-43-0	Methyl amyl ketone	1 - 4%	√
110-12-3	Methyl isoamyl ketone	1 - 4%	√
69-72-7	Salicylic acid	1 - 4%	√
No information available.	Siloxanes and silane esters	1 - 5%	
8032-32-4	Vm&p naphtha	1 - 4%	√
100-41-4	Ethylbenzene	0.9%	√

OSHA Hazardous: Yes

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4. First aid measures

Eye contact
Remove contact lenses. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Seek medical advice.

Skin contact
Do NOT use solvents or thinners. Take off all contaminated clothing immediately. Wash skin thoroughly with soap and water or use recognized skin cleanser. If skin irritation persists, call a physician.

Inhalation
Avoid inhalation of vapour or mist. Move to fresh air in case of accidental inhalation of vapours. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

Ingestion
If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting. Keep at rest.

Most important Symptoms/effects, acute and delayed

Inhalation
May cause nose and throat irritation. May cause nervous system depression characterized by the following progressive steps: headache, dizziness, nausea, staggering gait, confusion, unconsciousness. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Indication of immediate medical attention and special treatment needed if necessary
No data available on the product. See section 3 and 11 for hazardous ingredients found in the product.

5. Firefighting measures

Suitable extinguishing media
Universal aqueous film-forming foam, Carbon dioxide (CO2), Dry chemical

Extinguishing media which shall not be used for safety reasons
High volume water jet

Hazardous combustion products
CO, CO2, smoke, and oxides of any heavy metals that are reported in "Composition, Information on Ingredients" section.

Fire and Explosion Hazards
Flammable liquid. Vapor/air mixture will burn when an ignition source is present.

Special Protective Equipment and Fire Fighting Procedures
Full protective flameproof clothing should be worn as appropriate. Wear self contained breathing apparatus for fire fighting if necessary. In the event of fire, cool tanks with water spray. Do not allow run-off from fire fighting to enter public sewer systems or public waterways.

6. Accidental release measures

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Procedures for cleaning up spills or leaks
Ventilate area. Remove sources of ignition. Prevent skin and eye contact and breathing of vapor. Wear a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C), eye protection, gloves and protective clothing. Confine, remove with inert absorbent, and dispose of properly.

Environmental precautions
Do not let product enter drains. Notify the respective authorities in accordance with local law in the case of contamination of rivers, lakes or waste water systems.

7. Handling and storage

Precautions for safe handling
Observe label precautions. Keep away from heat, sparks, flame, static discharge and other sources of ignition. VAPORS MAY CAUSE FLASH FIRE. Close container after each use. Ground containers when pouring. Do not transfer contents to bottles or unlabeled containers. Wash thoroughly after handling and before eating or smoking. Do not store above 120 deg F.
If material is a coating: do not sand, flame cut, braze or weld dry coating without a NIOSH approved air purifying respirator with particulate filters or appropriate ventilation, and gloves. Combustible dust clouds may be created where operations produce fine material (dust). Avoid formation of significant deposits of material as they may become airborne and form combustible dust clouds. Build up of fine material should be cleaned using gentle sweeping or vacuuming in accordance with best practices. Cleaning methods (e.g. compressed air) which can generate potentially combustible dust clouds should not be used.

Advice on protection against fire and explosion
Solvent vapours are heavier than air and may spread along floors. Vapors may form explosive mixtures with air and will burn when an ignition source is present. Always keep in containers of same material as the original one. Never use pressure to empty container: container is not a pressure vessel. The accumulation of contaminated rags may result in spontaneous combustion. Good housekeeping standards and regular safe removal of waste materials will minimize the risks of spontaneous combustion and other fire hazards.

Storage
Requirements for storage areas and containers
Observe label precautions. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. No smoking. Prevent unauthorized access. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Advice on common storage
Store separately from oxidizing agents and strongly alkaline and strongly acidic materials.

OSHA/NFPA Storage Classification: IB

8. Exposure controls/personal protection

Engineering controls and work practices
Provide adequate ventilation. This should be achieved by a good general extraction and -if practically feasible- by the use of a local exhaust ventilation. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn.

National occupational exposure limits

CAS-No.	Chemical Name	Source	Time	Type	Value	Note
71-36-3	N-butyl alcohol	ACGIH	8 hr	TWA	20 ppm	
		OSHA	8 hr	TWA	100 ppm	
		Dupont	15 min	TWA	50 ppm	
			8 & 12 hour	TWA	25 ppm	
78-83-1	Isobutyl alcohol	ACGIH	8 hr	TWA	50 ppm	

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CAS-No.	Chemical Name	Source	Time	Type	Value	Note
		OSHA	8 hr	TWA	100 ppm	
107-98-2	Propylene glycol methyl ether	ACGIH	15 min	STEL	150 ppm	
			8 hr	TWA	100 ppm	
1330-20-7	Xylene	ACGIH	15 min	STEL	150 ppm	
			8 hr	TWA	100 ppm	
		OSHA	8 hr	TWA	100 ppm	
		Dupont	8 & 12 hour	TWA	100 ppm	
110-43-0	Methyl amyl ketone	ACGIH	8 hr	TWA	50 ppm	
		OSHA	8 hr	TWA	100 ppm	
110-12-3	Methyl isoamyl ketone	ACGIH	8 hr	TWA	20 ppm	
69-72-7	Salicylic acid	OSHA	8 hr	TWA	15 mg/m3	Total Dust
			8 hr	TWA	5 mg/m3	Respirable Dust
8032-32-4	Vm&p naphtha	ACGIH	8 hr	TWA	300 ppm	
		Dupont	8 hr	TWA	100 ppm	
100-41-4	Ethylbenzene	ACGIH	8 hr	TWA	20 ppm	
		OSHA	8 hr	TWA	100 ppm	
		Dupont	8 & 12 hour	TWA	25 ppm	

** TWA = Time-weighted average.
STEL = Short term exposure limit.

Protective equipment
Personal protective equipment should be worn to prevent contact with eyes, skin or clothing.

Respiratory protection
Do not breathe vapors or mists. Wear an appropriate, properly fitted NIOSH approved respirator during application and until all vapors and spray mists are exhausted unless air monitoring demonstrates vapor/mist levels are below applicable limits. If respirators are required, use a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C) and particulate filter (NIOSH TC-84A). In confined spaces, or in situations where continuous spray operations are typical, or if proper air-purifying respirator fit is not possible, wear a positive pressure, supplied-air respirator (NIOSH TC-19C). In all cases, follow respirator manufacturer's directions for respirator use.'

Eye protection
Desirable in all industrial situations. Goggles are preferred to prevent eye irritation. If safety glasses are substituted, include splash guard or side shields.

Skin and body protection
Neoprene gloves and coveralls are recommended.

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Hygiene measures
Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Environmental exposure controls
Do not let product enter drains. For ecological information, refer to Ecological Information Section 12.

9. Physical and chemical properties

Appearance

Form: liquid Colour: amber

Flash point	60 °F	
Ignition temperature	232 °C	
Lower Explosive Limit	1.4 %	
Upper Explosive Limit	13.7 %	
Evapouration rate	Slower than Ether	
Vapor pressure of principal solvent	13.1 hPa	
Water solubility	appreciable	
Vapor density of principal solvent (Air = 1)	2.55	
Approx. Boiling Range	83 °C	
Approx. Freezing Range	Not applicable.	
Gallon Weight (lbs/gal)	7.37	
Specific Gravity	0.88	
Percent Volatile By Volume	67.22%	
Percent Volatile By Weight	62.17%	
Percent Solids By Volume	32.78%	
Percent Solids By Weight	37.83%	
pH (waterborne systems only)	No data available.	
Partition coefficient: n-octanol/water	no data available	
Ignition temperature	232 °C	DIN 51794
Decomposition temperature		
Viscosity (23 °C)	Not applicable.	ISO 2431-1993
VOC* less exempt (lbs/gal)	4.6	
VOC* as packaged (lbs/gal)	4.5	

* VOC less exempt (theoretical) and VOC as packaged (theoretical) are based upon the VOC of the packaged material at the point of manufacture.

10. Stability and reactivity

Stability
Stable

Conditions to avoid
Stable under recommended storage conditions.

Materials to avoid
None reasonably foreseeable.

Hazardous decomposition products
When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen.

Hazardous Polymerization
Will not occur.

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Sensitivity to Static Discharge
Solvent vapors in air may explode if static grounding and bonding is not used during transfer of this product.

Sensitivity to Mechanical Impact
None known.

11. Toxicological information

Information on likely routes of exposure

Inhalation
May cause nose and throat irritation. May cause nervous system depression characterized by the following progressive steps: headache, dizziness, nausea, staggering gait, confusion, unconsciousness. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Delayed and immediate effects and also chronic effects from short and long term exposure:

Acute oral toxicity
Not classified according to GHS criteria

Acute dermal toxicity
not hazardous

Acute inhalation toxicity
not hazardous

% of unknown composition 1.1 %

Skin corrosion/irritation

n-butanol	Category 2
iso-butanol	Category 2
propan-2-ol	Category 3
1-methoxy-2-propanol	Category 3
xylene	Category 2
2,4,6-tris(dimethylaminomethyl)phenol	Category 1C
heptan-2-one	Category 2
5-methylhexan-2-one	Category 3
salicylic acid	Category 1C
low boiling point naphtha (<0,1% benzene)	Category 2
ethylbenzene	Category 3

Serious eye damage/eye irritation

n-butanol	Category 1
iso-butanol	Category 1
propan-2-ol	Category 2A
N-(3-trimethoxysilyl)propyl)ethylenediamine	Category 2A
1-methoxy-2-propanol	Category 2B

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xylene	Category 2A
2,4,6-tris(dimethylaminomethyl)phenol	Category 1
heptan-2-one	Category 2B
5-methylhexan-2-one	Category 2A
salicylic acid	Category 1
low boiling point naphtha (<0,1% benzene)	Category 2A
ethylbenzene	Category 2B

Respiratory sensitisation
Not classified according to GHS criteria

Skin sensitisation

N-(3-trimethoxysilyl)propyl)ethylenediamine	Category 1

Germ cell mutagenicity
Not classified according to GHS criteria

Carcinogenicity
Not classified according to GHS criteria

Toxicity for reproduction

salicylic acid	Category 2

Target Organ Systemic Toxicant - Single exposure
Not classified according to GHS criteria

Target Organ Systemic Toxicant - Repeated exposure
Not classified according to GHS criteria

Aspiration toxicity
Not classified according to GHS criteria

Numerical measures of toxicity (acute toxicity estimation (ATE),etc.)
No information available.

Symptoms related to the physical, chemical and toxicological characteristics
Exposure to component solvents vapours concentration in excess of the stated occupational exposure limit may result in adverse health effect such as mucous membrane and respiratory system irritation and adverse effect on kidney, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Through skin resorbtion, solvents can cause some of the effects described here. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin. The liquid splashed in the eyes may cause irritation and reversible damage.

Whether the hazardous chemical is listed by NTP, IARC or OSHA

ethylbenzene	IARC 2B

12. Ecological information

There are no data available on the product itself. The product should not be allowed to enter drains or watercourses.

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13. Disposal considerations

Waste Disposal Method
Do not allow material to contaminate ground water systems. Incinerate or otherwise dispose of waste material in accordance with Federal, State, Provincial, and local requirements. Do not incinerate in closed containers.

14. Transport information

International transport regulations

IMDG (Sea transport)	
UN number:	1263
Proper shipping name:	PAINT RELATED MATERIAL
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	II
Marine Pollutant:	no
ICAO/IATA (Air transport)	
UN number:	1263
Proper shipping name:	PAINT RELATED MATERIAL
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	II
DOT	
UN number:	1263
Proper shipping name:	PAINT RELATED MATERIAL
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	II
Marine Pollutant:	no
EmS:	F-E,S-E

Matters needing attention for transportation
Confirm that there is no breakage, corrosion, or leakage from the container before shipping. Be sure to prevent damage to cargo by loading so as to avoid falling, dropping, or collapse. Ship in appropriate containers with denotation of the content in accordance with the relevant statutes and rules.

15. Regulatory information

TSCA Status
In compliance with TSCA Inventory requirements for commercial purposes.

DSL Status
Product is not DSL listed because one or more ingredients are not on the DSL inventory.

Photochemical Reactivity
Non-photochemically reactive

US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)
WARNING! This product contains a chemical known to the State of California to cause cancer.

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Regulatory information

CAS #	Ingredient	EPCRA 302	EPCRA TPQ	EPCRA RQ	EPCRA 311 - 312	EPCRA 313	CERCLA RQ(lbs)	CAA HAP
No information available.	Epoxy resin	N	NR	NR	NA	N	NR	N
71-36-3	N-butyl alcohol	N	NR	NR	,A,C,F,N,R	Y	5,000	N
78-83-1	Isobutyl alcohol	N	NR	NR	A,C,F	N	NR	N
67-63-0	Isopropyl alcohol	N	NR	NR	,A,C,F,N,R	N	NR	N
1760-24-3	N-beta-(aminoethyl)-gamma-aminopropyltrimethoxysilane	N	NR	NR	A,C	N	NR	N
107-98-2	Propylene glycol methyl ether	N	NR	NR	C,F	N	NR	N
1330-20-7	Xylene	N	NR	NR	,A,C,F,N,R	Y	100	Y
90-72-2	2,4,6-tri((dimethylamino)methyl) phenol	N	NR	NR	,A,C,F,N,R	N	NR	N
110-43-0	Methyl amyl ketone	N	NR	NR	A,C,F	N	NR	N
110-12-3	Methyl isoamyl ketone	N	NR	NR	C	N	NR	N
69-72-7	Salicylic acid	N	NR	NR	,A,C,F,N,R	N	NR	N
No information available.	Siloxanes and silane esters	N	NR	NR	NA	N	NR	N
8032-32-4	Vm&p naphtha	N	NR	NR	A,C,F	N	NR	N
100-41-4	Ethylbenzene	N	NR	NR	A,C,F	Y	1,000	Y

Key:

EPCRA	Emergency Planning and Community Right-to-know Act (aka Title III, SARA)
302	Extremely hazardous substances
311/312 Categories	F = Fire Hazard R = Reactivity Hazard P = Pressure Related Hazard A = Acute Hazard C = Chronic Hazard
313 Information	Section 313 Supplier Notification - The chemicals listed above with a 'Y' in the 313 column are subject to reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know act of 1986 and of 40 CFR 372.
CERCLA	Comprehensive Emergency Response, Compensation and Liability Act of 1980.
HAP	Listed as a Clean Air Act Hazardous Air Pollutant.
TPQ	Threshold Planning Quantity.
RQ	Reportable Quantity
NA	not available
NR	not regulated

16. Other information

HMIS rating H: 3 F: 3 R: 2

Glossary of Terms:

ACGIH	American Conference of Governmental Industrial Hygienists.
IARC	International Agency for Research on Cancer.
NTP	National Toxicology Program.
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration.
STEL	Short term exposure limit.
TWA	Time-weighted average.
PNOR	Particles not otherwise regulated.
PNOC	Particles not otherwise classified.

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NOTE: The list (above) of glossary terms may be modified.

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SDS prepared by:
Axalta Coating Systems Regulatory Affairs
Report version

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1. Identification of the substance/mixture and of the company/undertaking

Product name	GRAY URETHANE SANDABLE PRIMER	
Product code	1220S	140514
Intended use	Coating for professional use	
	Axalta Coating Systems, LLC Applied Corporate Center 50 Applied Card Way, Suite 300 US Glen Mills, PA 19342	
Telephone	Product information Medical emergency Transportation emergency	(855) 6-AXALTA (855) 274-5698 (800) 424-9300 (CHEMTREC)

2. Hazards identification

This preparation is hazardous per the following GHS criteria

GHS-Classification

Flammable liquids	Category 2
Serious eye damage/eye irritation	Category 2A
Toxicity for reproduction	Category 2

Endpoints which are ""not classified"", ""cannot classified"" and ""not applicable"" are not shown

GHS-Labelling

Hazard symbols	
Signal word	Danger
Hazard statements	Highly flammable liquid and vapour. Causes serious eye irritation. Suspected of damaging fertility or the unborn child.
Precautionary statements	Wear eye protection/ face protection. Ground/bond container and receiving equipment. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Obtain special instructions before use. Take precautionary measures against static discharge. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Wear protective gloves/ eye protection/ face protection. IF exposed or concerned: Get medical advice/ attention. If eye irritation persists: Get medical advice/ attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower. Store in a well-ventilated place. Keep cool. Store locked up. Dispose of contents/container in accordance with local regulations.

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Other hazards which do not result in classification
None known.

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity:
0 %

3. Composition/information on ingredients

Mixture of synthetic resins, pigments, and solvents

Components

CAS-No.	Chemical Name	Concentration	GHS Hazardous
No information available.	Acrylic polymer	20 - 30%	
13463-67-7	Titanium dioxide	11.0%	
1332-58-7	Kaolin	10 - 20%	
112-07-2	Ethylene glycol monobutyl ether acetate	6%	√
14807-96-6	Hydrous magnesium silicate	5 - 10%	
1317-65-3	Limestone (calcium carbonate)	5 - 10%	
67-64-1	Acetone	4 - 15%	√
110-43-0	Methyl amyl ketone	4 - 15%	√
78-93-3	Methyl ethyl ketone	4 - 15%	√
1314-13-2	Zinc oxide	3%	√
141-78-6	Ethyl acetate	1 - 4%	√
1333-86-4	Carbon black	0.2%	

OSHA Hazardous: Yes
* Assigned CAS No. - An official CAS No. does not exist. The CAS No. shown is for a similar chemical.

4. First aid measures

Eye contact
Remove contact lenses. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Seek medical advice.

Skin contact
Do NOT use solvents or thinners. Take off all contaminated clothing immediately. Wash skin thoroughly with soap and water or use recognized skin cleanser. If skin irritation persists, call a physician.

Inhalation
Avoid inhalation of vapour or mist. Move to fresh air in case of accidental inhalation of vapours. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

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Ingestion
If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting. Keep at rest.

Most important Symptoms/effects, acute and delayed

Inhalation
May cause nose and throat irritation. May cause nervous system depression characterized by the following progressive steps: headache, dizziness, nausea, staggering gait, confusion, unconsciousness. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage. If this product mixed with an isocyanate activator/hardener (see MSDS for the activator), the following health effects may apply: Exposure to isocyanates may cause respiratory sensitization. This effect may be permanent. Symptoms include an asthma-like reaction with shortness of breath, wheezing, cough or permanent lung sensitization. This effect may be delayed for several hours after exposure. Repeated overexposure to isocyanates may cause a decrease in lung function, which may be permanent. Individuals with lung or breathing problems or prior reactions to isocyanates must not be exposed to vapors or spray mist of this product.

Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis. If this product is mixed with an isocyanate, skin contact may cause sensitization.

Indication of immediate medical attention and special treatment needed if necessary
No data available on the product. See section 3 and 11 for hazardous ingredients found in the product.

5. Firefighting measures

Suitable extinguishing media
Universal aqueous film-forming foam, Carbon dioxide (CO2), Dry chemical

Extinguishing media which shall not be used for safety reasons
High volume water jet

Hazardous combustion products
CO, CO2, smoke, and oxides of any heavy metals that are reported in "Composition, Information on Ingredients" section.

Fire and Explosion Hazards
Flammable liquid. Vapor/air mixture will burn when an ignition source is present.

Special Protective Equipment and Fire Fighting Procedures
Full protective flameproof clothing should be worn as appropriate. Wear self contained breathing apparatus for fire fighting if necessary. In the event of fire, cool tanks with water spray. Do not allow run-off from fire fighting to enter public sewer systems or public waterways.

6. Accidental release measures

Procedures for cleaning up spills or leaks
Ventilate area. Remove sources of ignition. Prevent skin and eye contact and breathing of vapor. If the material contains, or is mixed with an isocyanate activator/hardener: Wear a positive-pressure, supplied-air respirator (NIOSH approved TC-19C), eye protection, gloves and protective clothing. Pour liquid decontamination solution over the spill and allow to sit at least 10 minutes. Typical decontamination solutions for isocyanate containing materials are: 20% Surfactant (Tergitol TMN 10) and 80% Water OR 0 -10% Ammonia, 2-5% Detergent and Water (balance) Pressure can be generated. Do not seal waste containers for 48 hours to allow C02 to vent. After 48 hours, material may be sealed and disposed of properly. If material does not contain or is not mixed with an isocyanate activator/hardener: Wear a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C), eye protection, gloves and protective clothing. Confine, remove with inert absorbent, and dispose of properly.

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Environmental precautions
Do not let product enter drains. Notify the respective authorities in accordance with local law in the case of contamination of rivers, lakes or waste water systems.

7. Handling and storage

Precautions for safe handling
Observe label precautions. Keep away from heat, sparks, flame, static discharge and other sources of ignition. VAPORS MAY CAUSE FLASH FIRE. Close container after each use. Ground containers when pouring. Do not transfer contents to bottles or unlabeled containers. Wash thoroughly after handling and before eating or smoking. Do not store above 120 deg F.
If material is a coating: do not sand, flame cut, braze or weld dry coating without a NIOSH approved air purifying respirator with particulate filters or appropriate ventilation, and gloves. Combustible dust clouds may be created where operations produce fine material (dust). Avoid formation of significant deposits of material as they may become airborne and form combustible dust clouds. Build up of fine material should be cleaned using gentle sweeping or vacuuming in accordance with best practices. Cleaning methods (e.g. compressed air) which can generate potentially combustible dust clouds should not be used.

Advice on protection against fire and explosion
Solvent vapours are heavier than air and may spread along floors. Vapors may form explosive mixtures with air and will burn when an ignition source is present. Always keep in containers of same material as the original one. Never use pressure to empty container: container is not a pressure vessel. The accumulation of contaminated rags may result in spontaneous combustion. Good housekeeping standards and regular safe removal of waste materials will minimize the risks of spontaneous combustion and other fire hazards.

Storage
Requirements for storage areas and containers
Observe label precautions. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. No smoking. Prevent unauthorized access. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Advice on common storage
Store separately from oxidizing agents and strongly alkaline and strongly acidic materials.

OSHA/NFPA Storage Classification: IB

8. Exposure controls/personal protection

Engineering controls and work practices
Provide adequate ventilation. This should be achieved by a good general extraction and -if practically feasible- by the use of a local exhaust ventilation. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn.

National occupational exposure limits

CAS-No.	Chemical Name	Source	Time	Type	Value	Note
13463-67-7	Titanium dioxide	OSHA	8 hr	TWA	15 mg/m3	Total Dust
		Dupont	8 & 12 hour	TWA	10 mg/m3	Total Dust
			8 & 12 hour	TWA	5 mg/m3	Respirable Dust
1332-58-7	Kaolin	ACGIH	8 hr	TWA	2 mg/m3	Respirable Dust
		OSHA		TWA	15 mg/m3	Total Dust
				TWA	5 mg/m3	Respirable Dust

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CAS-No.	Chemical Name	Source	Time	Type	Value	Note
112-07-2	Ethylene glycol monobutyl ether acetate	ACGIH	8 hr	TWA	20 ppm	
		Dupont	8 & 12 hour	TWA	20 ppm	
14807-96-6	Hydrous magnesium silicate	ACGIH	8 hr	TWA	2 mg/m3	Respirable Dust
		Dupont	8 & 12 hour	TWA	0.5 mg/m3	Respirable Dust
1317-65-3	Limestone (calcium carbonate)	ACGIH	8 hr	TWA	10 mg/m3	
		OSHA	8 hr	TWA	15 mg/m3	Total Dust
			8 hr	TWA	5 mg/m3	Respirable Dust
67-64-1	Acetone	ACGIH	15 min	STEL	750 ppm	
			8 hr	TWA	500 ppm	
		OSHA	8 hr	TWA	1,000 ppm	
		Dupont	8 & 12 hour	TWA	500 ppm	
110-43-0	Methyl amyl ketone	ACGIH	8 hr	TWA	50 ppm	
		OSHA	8 hr	TWA	100 ppm	
78-93-3	Methyl ethyl ketone	ACGIH	15 min	STEL	300 ppm	
			8 hr	TWA	200 ppm	
		OSHA	8 hr	TWA	200 ppm	
		Dupont	15 min	TWA	300 ppm	
			8 & 12 hour	TWA	200 ppm	
1314-13-2	Zinc oxide	ACGIH	15 min	STEL	10 mg/m3	Respirable Dust
			8 hr	TWA	2 mg/m3	Respirable Dust
		OSHA	8 hr	TWA	15 mg/m3	Total Dust
			8 hr	TWA	5 mg/m3	Respirable Dust
141-78-6	Ethyl acetate	ACGIH	8 hr	TWA	400 ppm	
		OSHA	8 hr	TWA	400 ppm	
1333-86-4	Carbon black	ACGIH	8 hr	TWA	3 mg/m3	
		OSHA	8 hr	TWA	3.5 mg/m3	

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CAS-No.	Chemical Name	Source	Time	Type	Value	Note
		Dupont	8 & 12 hour	TWA	0.5 mg/m3	

** TWA = Time-weighted average.
STEL = Short term exposure limit.

Protective equipment
Personal protective equipment should be worn to prevent contact with eyes, skin or clothing.

Respiratory protection
Do not breathe vapors or mists. Wear an appropriate, properly fitted NIOSH approved respirator while mixing activator with paint, during application and until all vapors and spray mists are exhausted unless air monitoring demonstrates vapor/mist levels are below applicable limits. If respirators are required and this product is used with an isocyanate activator/hardener, wear a positive-pressure, supplied-air respirator (NIOSH approved TC-19C). Otherwise a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH TC-23C) and particulate filter (NIOSH TC-84A) may be used. Follow respirator manufacturer's directions for respirator use. Do not permit anyone without protection in the painting area. Refer to the hardener/activator label instructions and MSDS for further information.'Individuals with history of lung or breathing problems or prior reaction to isocyanates should not use or be exposed to vapor or spray mist if product is mixed with isocyanate activators/hardeners.'

Eye protection
Desirable in all industrial situations. Goggles are preferred to prevent eye irritation. If safety glasses are substituted, include splash guard or side shields.

Skin and body protection
Neoprene gloves and coveralls are recommended.

Hygiene measures
Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Environmental exposure controls
Do not let product enter drains. For ecological information, refer to Ecological Information Section 12.

9. Physical and chemical properties

Appearance

Form: liquid Colour: grey

Flash point	50 °F
Ignition temperature	375 °C
Lower Explosive Limit	0.5 %
Upper Explosive Limit	12.8 %
Evapouration rate	Slower than Ether
Vapor pressure of principal solvent	32.0 hPa
Water solubility	appreciable
Vapor density of principal solvent (Air = 1)	3.9
Approx. Boiling Range	78 °C
Approx. Freezing Range	-95 – -65 °C
Gallon Weight (lbs/gal)	10.82
Specific Gravity	1.30
Percent Volatile By Volume	56.59%
Percent Volatile By Weight	36.38%
Percent Solids By Volume	43.41%
Percent Solids By Weight	63.62%

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pH (waterborne systems only)	No data available.	
Partition coefficient: n-octanol/water	no data available	
Ignition temperature	375 °C	DIN 51794
Decomposition temperature		
Viscosity (23 °C)	Not applicable.	ISO 2431-1993
VOC* less exempt (lbs/gal)	3.5	
VOC* as packaged (lbs/gal)	3.1	

* VOC less exempt (theoretical) and VOC as packaged (theoretical) are based upon the VOC of the packaged material at the point of manufacture.

10. Stability and reactivity

Stability
Stable

Conditions to avoid
Stable under recommended storage conditions.

Materials to avoid
None reasonably foreseeable.

Hazardous decomposition products
When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen.

Hazardous Polymerization
Will not occur.

Sensitivity to Static Discharge
Solvent vapors in air may explode if static grounding and bonding is not used during transfer of this product.

Sensitivity to Mechanical Impact
None known.

11. Toxicological information

Information on likely routes of exposure

Inhalation
May cause nose and throat irritation. May cause nervous system depression characterized by the following progressive steps: headache, dizziness, nausea, staggering gait, confusion, unconsciousness. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage. If this product mixed with an isocyanate activator/hardener (see MSDS for the activator), the following health effects may apply: Exposure to isocyanates may cause respiratory sensitization. This effect may be permanent. Symptoms include an asthma-like reaction with shortness of breath, wheezing, cough or permanent lung sensitization. This effect may be delayed for several hours after exposure. Repeated overexposure to isocyanates may cause a decrease in lung function, which may be permanent. Individuals with lung or breathing problems or prior reactions to isocyanates must not be exposed to vapors or spray mist of this product.

Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

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Delayed and immediate effects and also chronic effects from short and long term exposure:

Acute oral toxicity
Not classified according to GHS criteria

Acute dermal toxicity
not hazardous

Acute inhalation toxicity
not hazardous

% of unknown composition 0 %

Skin corrosion/irritation
Not classified according to GHS criteria

Serious eye damage/eye irritation

acetone	Category 2A
heptan-2-one	Category 2B
butanone	Category 2A
ethyl acetate	Category 2A

Respiratory sensitisation
Not classified according to GHS criteria

Skin sensitisation
Not classified according to GHS criteria

Germ cell mutagenicity
Not classified according to GHS criteria

Carcinogenicity
Not classified according to GHS criteria

Toxicity for reproduction
No data available.

Target Organ Systemic Toxicant - Single exposure
Not classified according to GHS criteria

Target Organ Systemic Toxicant - Repeated exposure
Not classified according to GHS criteria

Aspiration toxicity
Not classified according to GHS criteria

Numerical measures of toxicity (acute toxicity estimation (ATE),etc.)
No information available.

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Symptoms related to the physical, chemical and toxicological characteristics
Exposure to component solvents vapours concentration in excess of the stated occupational exposure limit may result in adverse health effect such as mucous membrane and respiratory system irritation and adverse effect on kidney, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Through skin resorbtion, solvents can cause some of the effects described here. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin. The liquid splashed in the eyes may cause irritation and reversible damage.

Whether the hazardous chemical is listed by NTP, IARC or OSHA

Titanium dioxide	IARC 2B
carbon black	IARC 2B
Titanium dioxide	IARC 2B

12. Ecological information

There are no data available on the product itself. The product should not be allowed to enter drains or watercourses.

13. Disposal considerations

Waste Disposal Method
Do not allow material to contaminate ground water systems. Incinerate or otherwise dispose of waste material in accordance with Federal, State, Provincial, and local requirements. Do not incinerate in closed containers.

14. Transport information

International transport regulations

IMDG (Sea transport)	
UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	II
Marine Pollutant:	yes [zinc oxide]
ICAO/IATA (Air transport)	
UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	II
DOT	
UN number:	1263
Proper shipping name:	PAINT
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	II
Marine Pollutant:	yes [zinc oxide]
EmS:	F-E,S-E

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Matters needing attention for transportation
Confirm that there is no breakage, corrosion, or leakage from the container before shipping. Be sure to prevent damage to cargo by loading so as to avoid falling, dropping, or collapse. Ship in appropriate containers with denotation of the content in accordance with the relevant statutes and rules.

15. Regulatory information

TSCA Status
In compliance with TSCA Inventory requirements for commercial purposes.

DSL Status
All components of the mixture are listed on the DSL.

Photochemical Reactivity
Non-photochemically reactive

US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)
WARNING! This product contains a chemical known to the State of California to cause cancer.

Regulatory information

		EPCRA					CERCLA	CAA
CAS #	Ingredient	302	TPQ	RQ	311 - 312	313	RQ(lbs)	HAP
No information available.	Acrylic polymer	N	NR	NR	NA	N	NR	N
13463-67-7	Titanium dioxide	N	NR	NR	,A,C,F,N,R	N	NR	N
1332-58-7	Kaolin	N	NR	NR	,A,C,F,N,R	N	NR	N
112-07-2	Ethylene glycol monobutyl ether acetate	N	NR	NR	A,C,F	Y	NR	Y
14807-96-6	Hydrous magnesium silicate	N	NR	NR	C	N	NR	N
1317-65-3	Limestone (calcium carbonate)	N	NR	NR	,A,C,F,N,R	N	NR	N
67-64-1	Acetone	N	NR	NR	A,C,F	N	5,000	N
110-43-0	Methyl amyl ketone	N	NR	NR	A,C,F	N	NR	N
78-93-3	Methyl ethyl ketone	N	NR	NR	A,C,F	N	5,000	N
1314-13-2	Zinc oxide	N	NR	NR	,A,C,F,N,R	Y	1,000	N
141-78-6	Ethyl acetate	N	NR	NR	C,F	N	NR	N
1333-86-4	Carbon black	N	NR	NR	,A,C,F,N,R	N	NR	N

Key:

EPCRA	Emergency Planning and Community Right-to-know Act (aka Title III, SARA)
302	Extremely hazardous substances
311/312 Categories	F = Fire Hazard R = Reactivity Hazard P = Pressure Related Hazard A = Acute Hazard C = Chronic Hazard
313 Information	Section 313 Supplier Notification - The chemicals listed above with a 'Y' in the 313 column are subject to reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know act of 1986 and of 40 CFR 372.
CERCLA	Comprehensive Emergency Response, Compensation and Liability Act of 1980.
HAP	Listed as a Clean Air Act Hazardous Air Pollutant.
TPQ	Threshold Planning Quantity.
RQ	Reportable Quantity
NA	not available
NR	not regulated

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16. Other information

HMIS rating H: 2 F: 3 R: 0

Glossary of Terms:

ACGIH	American Conference of Governmental Industrial Hygienists.
IARC	International Agency for Research on Cancer.
NTP	National Toxicology Program.
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration.
STEL	Short term exposure limit.
TWA	Time-weighted average.
PNOR	Particles not otherwise regulated.
PNOC	Particles not otherwise classified.

NOTE: The list (above) of glossary terms may be modified.

Notice from Axalta Coating Systems
The document reflects information provided to Axalta Coating Systems by its suppliers. Information is accurate to the best of our knowledge and is subject to change as new data is received by Axalta Coating Systems. Persons receiving this information should make their own determination as to its suitability for their purposes prior to use. The information on this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.
SDS prepared by:
Axalta Coating Systems Regulatory Affairs
Report version

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1. Identification of the substance/mixture and of the company/undertaking

Product name	Low HAPS Activator	
Product code	194S™	110930
Intended use	Hardener for professional use	
	Axalta Coating Systems, LLC Applied Corporate Center 50 Applied Card Way, Suite 300 US Glen Mills, PA 19342	
Telephone	Product information Medical emergency Transportation emergency	(855) 6-AXALTA (855) 274-5698 (800) 424-9300 (CHEMTREC)

2. Hazards identification

This preparation is hazardous per the following GHS criteria

GHS-Classification

Flammable liquids	Category 2
Serious eye damage/eye irritation	Category 2A
Respiratory sensitisation	Category 1
Skin sensitisation	Category 1
Target Organ Systemic Toxicant - Single exposure	Category 3

Endpoints which are ""not classified"", ""cannot classified"" and "'not applicable"" are not shown

GHS-Labelling

Hazard symbols

Signal word: Danger

Hazard statements:
Highly flammable liquid and vapour.
Causes serious eye irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
May cause respiratory irritation.

Precautionary statements:
Contaminated work clothing should not be allowed out of the workplace.
Ground/bond container and receiving equipment.
In case of inadequate ventilation wear respiratory protection.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Take precautionary measures against static discharge.
Use explosion-proof electrical/ventilating/lighting equipment.
Use only non-sparking tools.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
Avoid breathing dust/ vapours/ spray.
IF exposed or if you feel unwell: Call a POISON CENTER or doctor/ physician.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If experiencing respiratory symptoms: Call a POISON CENTER or doctor/ physician.
If eye irritation persists: Get medical advice/ attention.

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IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/ attention.
Specific treatment (see supplemental first aid instructions on this label).
Wash contaminated clothing before reuse.
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Dispose of contents/container to .?.

Other hazards which do not result in classification
Contains isocyanates. See information supplied by the manufacturer.

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity:
0 %

3. Composition/information on ingredients

Mixture of synthetic resins and solvents

Components

CAS-No.	Chemical Name	Concentration
28182-81-2	Aliphatic polyisocyanate resin	
103-09-3	2-ethylhexyl acetate	
123-86-4	Butyl acetate	
141-78-6	Ethyl acetate	

Non-regulated ingredients 0.0 - 0.1%
OSHA Hazardous: Yes

4. First aid measures

Eye contact
Remove contact lenses. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Seek medical advice.

Skin contact
Do NOT use solvents or thinners. Take off all contaminated clothing immediately. Wash skin thoroughly with soap and water or use recognized skin cleanser. If skin irritation persists, call a physician.

Inhalation
Avoid inhalation of vapour or mist. Move to fresh air in case of accidental inhalation of vapours. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

Ingestion
If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting. Keep at rest.

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Most Important Symptoms/effects, acute and delayed

Inhalation
May cause nose and throat irritation. May cause nervous system depression characterized by the following progressive steps: headache, dizziness, nausea, staggering gait, confusion, unconsciousness. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage. Exposure to isocyanates may cause respiratory sensitization. This effect may be permanent. Symptoms include an asthma-like reaction with shortness of breath, wheezing, cough or permanent lung sensitization. This effect may be delayed for several hours after exposure. Repeated overexposure to isocyanates may cause a decrease in lung function, which may be permanent. Individuals with lung or breathing problems or prior reactions to isocyanates must not be exposed to vapors or spray mist of this product.

Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis. Skin contact my cause skin sensitization.

Indication of immediate medical attention and special treatment needed if necessary
No data available on the product. See section 3 and 11 for hazardous ingredients found in the product.

5. Firefighting measures

Suitable extinguishing media
Universal aqueous film-forming foam, Carbon dioxide (CO2), Dry chemical

Extinguishing media which shall not be used for safety reasons
High volume water jet

Hazardous combustion products
CO, CO2, smoke, and oxides of any heavy metals that are reported in "Composition, Information on Ingredients" section.

Fire and Explosion Hazards
Flammable liquid. Vapor/air mixture will burn when an ignition source is present.

Special Protective Equipment and Fire Fighting Procedures
Full protective flameproof clothing should be worn as appropriate. Wear self contained breathing apparatus for fire fighting if necessary. In the event of fire, cool tanks with water spray. Do not allow run-off from fire fighting to enter public sewer systems or public waterways.

6. Accidental release measures

Procedures for cleaning up spills or leaks
Ventilate area. Remove sources of ignition. Do not breathe vapors. Do not get in eyes or on skin. Wear a positive-pressure, supplied-air respirator (NIOSH approved TC-19C), eye protection, gloves and protective clothing. Pour liquid decontamination solution over the spill and allow to sit at least 10 minutes. Typical decontamination solutions for isocyanate containing materials are: 20% Surfactant (Tergitol TM 10) and 80% Water OR 0-10% Ammonia, 2-5% Detergent and Water (balance) Confine and remove with inert absorbent. Pressure can be generated. Do not seal waste containers for 48 hours to allow C02 to vent. After 48 hours, material may be sealed and disposed of properly.

Environmental precautions
Do not let product enter drains. Notify the respective authorities in accordance with local law in the case of contamination of rivers, lakes or waste water systems.

7. Handling and storage

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Precautions for safe handling
Observe label precautions. Keep away from heat, sparks, flame, static discharge and other sources of ignition. VAPORS MAY CAUSE FLASH FIRE. Close container after each use. Ground containers when pouring. Do not transfer contents to bottles or unlabeled containers. Wash thoroughly after handling and before eating or smoking. Do not store above 120 deg F.
If material is a coating: do not sand, flame cut, braze or weld dry coating without a NIOSH approved air purifying respirator with particulate filters or appropriate ventilation, and gloves. Combustible dust clouds may be created where operations produce fine material (dust). Avoid formation of significant deposits of material as they may become airborne and form combustible dust clouds. Build up of fine material should be cleaned using gentle sweeping or vacuuming in accordance with best practices. Cleaning methods (e.g. compressed air) which can generate potentially combustible dust clouds should not be used.

Advice on protection against fire and explosion
Solvent vapours are heavier than air and may spread along floors. Vapors may form explosive mixtures with air and will burn when an ignition source is present. Always keep in containers of same material as the original one. Never use pressure to empty container: container is not a pressure vessel. The accumulation of contaminated rags may result in spontaneous combustion. Good housekeeping standards and regular safe removal of waste materials will minimize the risks of spontaneous combustion and other fire hazards.

Storage
Requirements for storage areas and containers
Observe label precautions. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. No smoking. Prevent unauthorized access. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Advice on common storage
Store separately from oxidizing agents, strongly alkaline and strongly acidic materials, amines, alcohols and water. Precautions should be taken to avoid exposure to atmospheric humidity or water. Evolution of CO2 in closed containers causes overpressure and produces a risk of bursting.

Additional information on storage conditions
Precautions should be taken to avoid exposure to atmospheric humidity or water. Humid air and/or water will produce carbon dioxide which will pressurize the container. Open drum carefully as content may be under pressure.

OSHA/NFPA Storage Classification: IB

8. Exposure controls/personal protection

Engineering controls and work practices
Provide adequate ventilation. Air-fed protective respiratory equipment must be worn by spray operator even when good ventilation is provided.

National occupational exposure limits

CAS-No.	Chemical Name	Source	Time	Type	Value	Note
28182-81-2	Aliphatic polyisocyanate resin	Supplier	8 hr	TWA	0.5 mg/m3	
123-86-4	Butyl acetate	ACGIH	15 min	STEL	200 ppm	
			8 hr	TWA	150 ppm	
		OSHA	8 hr	TWA	150 ppm	
141-78-6	Ethyl acetate	ACGIH	8 hr	TWA	400 ppm	
		OSHA	8 hr	TWA	400 ppm	

** TWA = Time-weighted average.
STEL = Short term exposure limit.

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Protective equipment
Personal protective equipment should be worn to prevent contact with eyes, skin or clothing.

Respiratory protection
Do not breathe vapors or mists. Wear a positive-pressure, supplied air respirator (NIOSH approved TC-19C), while mixing activator with paint, during application and until all vapors and spray mists are exhausted. Follow respirator manufacturer s directions for respirator use. Do not permit anyone without protection in the painting area. Refer to the hardener/activator label instructions for further information. Individuals with history of lung or breathing problems or prior reaction to isocyanates should not use or be exposed to vapor or spray mist.

Eye protection
Desirable in all industrial situations. Goggles are preferred to prevent eye irritation. If safety glasses are substituted, include splash guard or side shields.

Skin and body protection
Neoprene gloves and coveralls are recommended.

Hygiene measures
Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Environmental exposure controls
Do not let product enter drains. For ecological information, refer to Ecological Information Section 12.

9. Physical and chemical properties

Appearance

Form: liquid Colour: clear

Flash point	55 °F	
Ignition temperature	268 °C	
Lower Explosive Limit	1.7 %	
Upper Explosive Limit	11 %	
Evapouration rate	Slower than Ether	
Vapor pressure of principal solvent	14.5 hPa	
Water solubility	moderate	
Vapor density of principal solvent (Air = 1)	3	
Approx. Boiling Range	77 °C	
Approx. Freezing Range	Not applicable.	
Gallon Weight (lbs/gal)	9.05	
Specific Gravity	1.08	
Percent Volatile By Volume	30.47%	
Percent Volatile By Weight	25.00%	
Percent Solids By Volume	69.53%	
Percent Solids By Weight	75.00%	
pH (waterborne systems only)	not applicable	
Partition coefficient: n-octanol/water	no data available	
Ignition temperature	268 °C	DIN 51794
Decomposition temperature		
Viscosity (23 °C)	Not applicable.	ISO 2431-1993
VOC* less exempt (lbs/gal)	2.3	
VOC* as packaged (lbs/gal)	2.3	

* VOC less exempt (theoretical) and VOC as packaged (theoretical) are based upon the VOC of the packaged material at the point of manufacture.

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10. Stability and reactivity

Stability
Stable

Conditions to avoid
Stable under recommended storage conditions.

Materials to avoid
Keep away from oxidising agents and strongly acid or alkaline materials. Amines and alcohols cause exothermic reactions. Mixture reacts slowly with water resulting in evolution of CO2. Evolution of CO2 in closed containers causes overpressure and produces a risk of bursting.

Hazardous decomposition products
When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen as well as hydrogen cyanide, amines, alcohols and water.

Hazardous Polymerization
Will not occur.

Sensitivity to Static Discharge
Solvent vapors in air may explode if static grounding and bonding is not used during transfer of this product.

Sensitivity to Mechanical Impact
None known.

11. Toxicological information

Information on likely routes of exposure

Inhalation
May cause nose and throat irritation. May cause nervous system depression characterized by the following progressive steps: headache, dizziness, nausea, staggering gait, confusion, unconsciousness. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage. Exposure to isocyanates may cause respiratory sensitization. This effect may be permanent. Symptoms include an asthma-like reaction with shortness of breath, wheezing, cough or permanent lung sensitization. This effect may be delayed for several hours after exposure. Repeated overexposure to isocyanates may cause a decrease in lung function, which may be permanent. Individuals with lung or breathing problems or prior reactions to isocyanates must not be exposed to vapors or spray mist of this product.

Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Delayed and immediate effects and also chronic effects from short and long term exposure:

Acute oral toxicity
not hazardous

Acute dermal toxicity
not hazardous

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Acute inhalation toxicity
Not classified according to GHS criteria

% of unknown composition 0 %

Skin corrosion/irritation
Not classified according to GHS criteria

Serious eye damage/eye irritation

2-ethylhexyl acetate	Category 2B
ethyl acetate	Category 2A

Respiratory sensitisation

Hexamethylene diisocyanate, oligomers	Category 1

Skin sensitisation

Hexamethylene diisocyanate, oligomers	Category 1

Germ cell mutagenicity
not hazardous

Carcinogenicity
Not classified according to GHS criteria

Toxicity for reproduction
Not classified according to GHS criteria

Target Organ Systemic Toxicant - Single exposure

- **Inhalation**

  reproductive organs ethyl acetate

Target Organ Systemic Toxicant - Repeated exposure
not hazardous

Aspiration toxicity
Not classified according to GHS criteria

Numerical measures of toxicity (acute toxicity estimation (ATE),etc.)
No information available.

Symptoms related to the physical, chemical and toxicological characteristics
Based on the properties of the isocyanate components and considering toxicological data on similar products, the following applies: This formulation may cause acute irritation and/or sensitization of the respiratory system leading to an asthmatic condition, wheeziness and a tightness of the chest. Sensitized persons may subsequently show asthmatic symptoms when exposed to atmospheric concentrations well below the OEL. Repeated exposure may lead to permanent respiratory disability. Exposure to component solvents vapours concentration in excess of the stated occupational exposure limit may result in adverse health effect such as mucous membrane and respiratory system irritation and adverse effect on kidney, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Through skin resorbtion, solvents can cause some of the effects described here. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the

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skin. The liquid splashed in the eyes may cause irritation and reversible damage. Components of the product may be absorbed into the body through the skin.

Whether the hazardous chemical is listed by NTP, IARC or OSHA

12. Ecological information

There are no data available on the product itself. The product should not be allowed to enter drains or watercourses.

13. Disposal considerations

Waste Disposal Method
Do not allow material to contaminate ground water systems. Incinerate or otherwise dispose of waste material in accordance with Federal, State, Provincial, and local requirements. Do not incinerate in closed containers.

14. Transport information

International transport regulations

IMDG (Sea transport)	
UN number:	1263
Proper shipping name:	PAINT RELATED MATERIAL
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	II
Marine Pollutant:	no
ICAO/IATA (Air transport)	
UN number:	1263
Proper shipping name:	PAINT RELATED MATERIAL
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	II
DOT	
UN number:	1263
Proper shipping name:	PAINT RELATED MATERIAL
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	II
Marine Pollutant:	no
EmS:	F-E,S-E

Matters needing attention for transportation
Confirm that there is no breakage, corrosion, or leakage from the container before shipping. Be sure to prevent damage to cargo by loading so as to avoid falling, dropping, or collapse. Ship in appropriate containers with denotation of the content in accordance with the relevant statutes and rules.

15. Regulatory information

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TSCA Status
In compliance with TSCA Inventory requirements for commercial purposes.

DSL Status
All components of the mixture are listed on the DSL.

Photochemical Reactivity
Non-photochemically reactive

Regulatory information

		EPCRA					CERCLA	CAA
CAS #	Ingredient	302	TPQ	RQ	311 - 312	313	RQ(lbs)	HAP
28182-81-2	Aliphatic polyisocyanate resin	N	NR	NR	A,C,R	N	NR	N
103-09-3	2-ethylhexyl acetate	N	NR	NR	A,F	N	NR	N
123-86-4	Butyl acetate	N	NR	NR	A,C,F	N	NR	N
141-78-6	Ethyl acetate	N	NR	NR	C,F	N	NR	N

Key:

EPCRA	Emergency Planning and Community Right-to-know Act (aka Title III, SARA)
302	Extremely hazardous substances
311/312 Categories	F = Fire Hazard R = Reactivity Hazard P = Pressure Related Hazard A = Acute Hazard C = Chronic Hazard
313 Information	Section 313 Supplier Notification - The chemicals listed above with a 'Y' in the 313 column are subject to reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know act of 1986 and of 40 CFR 372.
CERCLA	Comprehensive Emergency Response, Compensation and Liability Act of 1980.
HAP	Listed as a Clean Air Act Hazardous Air Pollutant.
TPQ	Threshold Planning Quantity.
RQ	Reportable Quantity
NA	not available
NR	not regulated

16. Other information

HMIS rating H: 3 F: 3 R: 1

Glossary of Terms:

ACGIH	American Conference of Governmental Industrial Hygienists.
IARC	International Agency for Research on Cancer.
NTP	National Toxicology Program.
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration.
STEL	Short term exposure limit.
TWA	Time-weighted average.
PNOR	Particles not otherwise regulated.
PNOC	Particles not otherwise classified.

NOTE: The list (above) of glossary terms may be modified.

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knowledge and is subject to change as new data is received by Axalta Coating Systems. Persons receiving this information should make their own determination as to its suitability for their purposes prior to use. The information on this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.
SDS prepared by:
Axalta Coating Systems Regulatory Affairs
Report version

Version	Changes
5.0	2, 3, 4, 5, 6, 7, 8, 9, 11, 14, 15, 16

Revision Date: 2014-11-18

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1. Identification of the substance/mixture and of the company/undertaking

Product name	FINAL KLEAN FAST-DRY CLEANER	
Product code	3901S	090917
Intended use	Solvent for professional use	
	Axalta Coating Systems, LLC Applied Corporate Center 50 Applied Card Way, Suite 300 US Glen Mills, PA 19342	
Telephone	Product information Medical emergency Transportation emergency	(855) 6-AXALTA (855) 274-5698 (800) 424-9300 (CHEMTREC)

2. Hazards identification

This preparation is hazardous per the following GHS criteria

GHS-Classification

Flammable liquids	Category 2
Skin corrosion/irritation	Category 2
Toxicity for reproduction	Category 2
Target Organ Systemic Toxicant - Single exposure	Category 3
Target Organ Systemic Toxicant - Repeated exposure	Category 2

Endpoints which are ""not classified"", ""cannot classified"" and ""not applicable"" are not shown

GHS-Labelling

Hazard symbols

Signal word: Danger

Hazard statements:
Highly flammable liquid and vapour.
Causes skin irritation.
Suspected of damaging fertility or the unborn child.
May cause drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements:
Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
Ground/bond container and receiving equipment.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Obtain special instructions before use.
Take precautionary measures against static discharge.
Use explosion-proof electrical/ventilating/lighting equipment.
Use only non-sparking tools.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation occurs: Get medical advice/ attention.

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Specific treatment (see supplemental first aid instructions on this label).
Take off contaminated clothing and wash before reuse.
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Dispose of contents/container in accordance with local regulations.

Other hazards which do not result in classification
None known.

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity:
0 %

3. Composition/information on ingredients

mixture of solvents

Components

CAS-No.	Chemical Name	Concentration	GHS Hazardous
142-82-5	Heptane	59 - 70%	√
8032-32-4	Vm&p naphtha	15 - 26%	√
108-88-3	Toluene	12%	√
108-87-2	Cyclohexane, methyl-	1 - 4%	√

OSHA Hazardous: Yes

4. First aid measures

Eye contact
Remove contact lenses. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Seek medical advice.

Skin contact
Do NOT use solvents or thinners. Take off all contaminated clothing immediately. Wash skin thoroughly with soap and water or use recognized skin cleanser. If skin irritation persists, call a physician.

Inhalation
Avoid inhalation of vapour or mist. Move to fresh air in case of accidental inhalation of vapours. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

Ingestion
If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting. Keep at rest.

Most Important Symptoms/effects, acute and delayed

Inhalation
May cause nose and throat irritation. May cause nervous system depression characterized by the following progressive steps: headache, dizziness, nausea, staggering gait, confusion, unconsciousness. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

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Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Indication of immediate medical attention and special treatment needed if necessary
No data available on the product. See section 3 and 11 for hazardous ingredients found in the product.

5. Firefighting measures

Suitable extinguishing media
Universal aqueous film-forming foam, Carbon dioxide (CO2), Dry chemical

Extinguishing media which shall not be used for safety reasons
High volume water jet

Hazardous combustion products
CO, CO2, smoke, and oxides of any heavy metals that are reported in "Composition, Information on Ingredients" section.

Fire and Explosion Hazards
Flammable liquid. Vapor/air mixture will burn when an ignition source is present.

Special Protective Equipment and Fire Fighting Procedures
Full protective flameproof clothing should be worn as appropriate. Wear self contained breathing apparatus for fire fighting if necessary. In the event of fire, cool tanks with water spray. Do not allow run-off from fire fighting to enter public sewer systems or public waterways.

6. Accidental release measures

Procedures for cleaning up spills or leaks
Ventilate area. Remove sources of ignition. Prevent skin and eye contact and breathing of vapor. Wear a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C), eye protection, gloves and protective clothing. Confine, remove with inert absorbent, and dispose of properly.

Environmental precautions
Do not let product enter drains. Notify the respective authorities in accordance with local law in the case of contamination of rivers, lakes or waste water systems.

7. Handling and storage

Precautions for safe handling
Observe label precautions. Keep away from heat, sparks, flame, static discharge and other sources of ignition. VAPORS MAY CAUSE FLASH FIRE. Close container after each use. Ground containers when pouring. Do not transfer contents to bottles or unlabeled containers. Wash thoroughly after handling and before eating or smoking. Do not store above 120 deg F.
If material is a coating: do not sand, flame cut, braze or weld dry coating without a NIOSH approved air purifying respirator with particulate filters or appropriate ventilation, and gloves. Combustible dust clouds may be created where operations produce fine material (dust). Avoid formation of significant deposits of material as they may become airborne and form combustible dust clouds. Build up of fine material should be cleaned using gentle sweeping or vacuuming in accordance with best practices. Cleaning methods (e.g. compressed air) which can generate potentially combustible dust clouds should not be used.

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Advice on protection against fire and explosion
Solvent vapours are heavier than air and may spread along floors. Vapors may form explosive mixtures with air and will burn when an ignition source is present. Always keep in containers of same material as the original one. Never use pressure to empty container: container is not a pressure vessel. The accumulation of contaminated rags may result in spontaneous combustion. Good housekeeping standards and regular safe removal of waste materials will minimize the risks of spontaneous combustion and other fire hazards.

Storage
Requirements for storage areas and containers
Observe label precautions. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. No smoking. Prevent unauthorized access. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Advice on common storage
Store separately from oxidizing agents and strongly alkaline and strongly acidic materials.

OSHA/NFPA Storage Classification: IB

8. Exposure controls/personal protection

Engineering controls and work practices
Provide adequate ventilation. This should be achieved by a good general extraction and -if practically feasible- by the use of a local exhaust ventilation. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn.

National occupational exposure limits

CAS-No.	Chemical Name	Source	Time	Type	Value	Note
142-82-5	Heptane	ACGIH	15 min	STEL	500 ppm	
			8 hr	TWA	400 ppm	
		OSHA	8 hr	TWA	500 ppm	
8032-32-4	Vm&p naphtha	ACGIH	8 hr	TWA	300 ppm	
		Dupont	8 hr	TWA	100 ppm	
108-88-3	Toluene	OSHA		CEIL	300 ppm	
			10 min	TWA	500 ppm	
			8 hr	TWA	200 ppm	
		Dupont	8 & 12 hour	TWA	20 ppm	Skin
108-87-2	Cyclohexane, methyl-	ACGIH	8 hr	TWA	400 ppm	
		OSHA	8 hr	TWA	400 ppm	

** STEL = Short term exposure limit.
TWA = Time-weighted average.
CEIL = Ceiling.

Protective equipment
Personal protective equipment should be worn to prevent contact with eyes, skin or clothing.

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Respiratory protection
Do not breathe vapors or mists. Wear an appropriate, properly fitted NIOSH approved respirator during application and until all vapors and spray mists are exhausted unless air monitoring demonstrates vapor/mist levels are below applicable limits. If respirators are required, use a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C) and particulate filter (NIOSH TC-84A). In confined spaces, or in situations where continuous spray operations are typical, or if proper air-purifying respirator fit is not possible, wear a positive pressure, supplied-air respirator (NIOSH TC-19C). In all cases, follow respirator manufacturer's directions for respirator use.'

Eye protection
Desirable in all industrial situations. Goggles are preferred to prevent eye irritation. If safety glasses are substituted, include splash guard or side shields.

Skin and body protection
Neoprene gloves and coveralls are recommended.

Hygiene measures
Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Environmental exposure controls
Do not let product enter drains. For ecological information, refer to Ecological Information Section 12.

9. Physical and chemical properties

Appearance

Form: liquid Colour: clear Odour: Characteristic Solvent Odor

Flash point	50 °F	
Ignition temperature	215 °C	
Lower Explosive Limit	0.9 %	
Upper Explosive Limit	10.2 %	
Evapouration rate	Slower than Ether	
Vapor pressure of principal solvent	43.8 hPa	
Water solubility	partly miscible	
Vapor density of principal solvent (Air = 1)	3.4	
Approx. Boiling Range	92 °C	
Approx. Freezing Range	Not applicable.	
Gallon Weight (lbs/gal)	6.07	
Specific Gravity	0.73	
Percent Volatile By Volume	100.00%	
Percent Volatile By Weight	100.00%	
Percent Solids By Volume	0.00%	
Percent Solids By Weight	0.00%	
pH (waterborne systems only)	not applicable	
Partition coefficient: n-octanol/water	no data available	
Ignition temperature	215 °C	DIN 51794
Decomposition temperature		
Viscosity (23 °C)	Not applicable.	ISO 2431-1993
VOC* less exempt (lbs/gal)	6.1	
VOC* as packaged (lbs/gal)	6.1	

* VOC less exempt (theoretical) and VOC as packaged (theoretical) are based upon the VOC of the packaged material at the point of manufacture.

10. Stability and reactivity

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Stability
Stable

Conditions to avoid
Stable under recommended storage conditions.

Materials to avoid
None reasonably foreseeable.

Hazardous decomposition products
When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen.

Hazardous Polymerization
Will not occur.

Sensitivity to Static Discharge
Solvent vapors in air may explode if static grounding and bonding is not used during transfer of this product.

Sensitivity to Mechanical Impact
None known.

11. Toxicological information

Information on likely routes of exposure

Inhalation
May cause nose and throat irritation. May cause nervous system depression characterized by the following progressive steps: headache, dizziness, nausea, staggering gait, confusion, unconsciousness. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Delayed and immediate effects and also chronic effects from short and long term exposure:

Acute oral toxicity
not hazardous

Acute dermal toxicity
Not classified according to GHS criteria

Acute inhalation toxicity
not hazardous

% of unknown composition 0 %

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Skin corrosion/irritation

heptane (mixture of isomers)	Category 2
low boiling point naphtha (<0,1% benzene)	Category 2
toluene	Category 2
methylcyclohexane	Category 2

Serious eye damage/eye irritation
Not classified according to GHS criteria

Respiratory sensitisation
Not classified according to GHS criteria

Skin sensitisation
Not classified according to GHS criteria

Germ cell mutagenicity
Not classified according to GHS criteria

Carcinogenicity
Not classified according to GHS criteria

Toxicity for reproduction

toluene Category 2

Target Organ Systemic Toxicant - Single exposure

- **Skin Absorption**

  Narcotic effects toluene

- **Inhalation**

  Central nervous system low boiling point naphtha (<0,1% benzene)

  reproductive organs heptane (mixture of isomers)

Target Organ Systemic Toxicant - Repeated exposure
No data available.

Aspiration toxicity
Not classified according to GHS criteria

Numerical measures of toxicity (acute toxicity estimation (ATE),etc.)
No information available.

Symptoms related to the physical, chemical and toxicological characteristics
Exposure to component solvents vapours concentration in excess of the stated occupational exposure limit may result in adverse health effect such as mucous membrane and respiratory system irritation and adverse effect on kidney, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Through skin resorbtion, solvents can cause some of the effects described here. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin. The liquid splashed in the eyes may cause irritation and reversible damage.

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Whether the hazardous chemical is listed by NTP, IARC or OSHA

12. Ecological information

There are no data available on the product itself. The product should not be allowed to enter drains or watercourses.

13. Disposal considerations

Waste Disposal Method
Do not allow material to contaminate ground water systems. Incinerate or otherwise dispose of waste material in accordance with Federal, State, Provincial, and local requirements. Do not incinerate in closed containers.

14. Transport information

International transport regulations

IMDG (Sea transport)	
UN number:	1263
Proper shipping name:	PAINT RELATED MATERIAL
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	II
Marine Pollutant:	yes [heptane (mixture of isomers)]
ICAO/IATA (Air transport)	
UN number:	1263
Proper shipping name:	PAINT RELATED MATERIAL
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	II
DOT	
UN number:	1263
Proper shipping name:	PAINT RELATED MATERIAL
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	II
Marine Pollutant:	yes [heptane (mixture of isomers)]
EmS:	F-E,S-E

Matters needing attention for transportation
Confirm that there is no breakage, corrosion, or leakage from the container before shipping. Be sure to prevent damage to cargo by loading so as to avoid falling, dropping, or collapse. Ship in appropriate containers with denotation of the content in accordance with the relevant statutes and rules.

15. Regulatory information

TSCA Status
In compliance with TSCA Inventory requirements for commercial purposes.

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DSL Status
All components of the mixture are listed on the DSL.

Photochemical Reactivity
Non-photochemically reactive

US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)
WARNING! This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Regulatory information

		EPCRA					CERCLA	CAA
CAS #	Ingredient	302	TPQ	RQ	311 - 312	313	RQ(lbs)	HAP
142-82-5	Heptane	N	NR	NR	A,C,F	N	NR	N
8032-32-4	Vm&p naphtha	N	NR	NR	A,C,F	N	NR	N
108-88-3	Toluene	N	NR	NR	A,C,F	Y	1,000	Y
108-87-2	Cyclohexane, methyl-	N	NR	NR	,A,C,F,N,R	N	100	N

Key:

EPCRA	Emergency Planning and Community Right-to-know Act (aka Title III, SARA)
302	Extremely hazardous substances
311/312 Categories	F = Fire Hazard R = Reactivity Hazard P = Pressure Related Hazard A = Acute Hazard C = Chronic Hazard
313 Information	Section 313 Supplier Notification - The chemicals listed above with a 'Y' in the 313 column are subject to reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know act of 1986 and of 40 CFR 372.
CERCLA	Comprehensive Emergency Response, Compensation and Liability Act of 1980.
HAP	Listed as a Clean Air Act Hazardous Air Pollutant.
TPQ	Threshold Planning Quantity.
RQ	Reportable Quantity
NA	not available
NR	not regulated

16. Other information

HMIS rating H: 2 F: 3 R: 0

Glossary of Terms:

ACGIH	American Conference of Governmental Industrial Hygienists.
IARC	International Agency for Research on Cancer.
NTP	National Toxicology Program.
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration.
STEL	Short term exposure limit.
TWA	Time-weighted average.
PNOR	Particles not otherwise regulated.
PNOC	Particles not otherwise classified.

NOTE: The list (above) of glossary terms may be modified.

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make their own determination as to its suitability for their purposes prior to use. The information on this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.
SDS prepared by:
Axalta Coating Systems Regulatory Affairs
Report version

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1. Identification of the substance/mixture and of the company/undertaking

Product name	Low VOC Final Klean	
Product code	3909S	070321
Intended use	Solvent for professional use	
	Axalta Coating Systems, LLC Applied Corporate Center 50 Applied Card Way, Suite 300 US Glen Mills, PA 19342	
Telephone	Product information Medical emergency Transportation emergency	(855) 6-AXALTA (855) 274-5698 (800) 424-9300 (CHEMTREC)

2. Hazards identification

This preparation is hazardous per the following GHS criteria

GHS-Classification

Serious eye damage/eye irritation	Category 2A

Endpoints which are ""not classified"", ""cannot classified"" and ""not applicable"" are not shown

GHS-Labelling

Hazard symbols	
Signal word	Warning
Hazard statements	Causes serious eye irritation.
Precautionary statements	Wear eye protection/ face protection. If eye irritation persists: Get medical advice/ attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Other hazards which do not result in classification
Safety data sheet available for professional user on request.

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity:
0 %

3. Composition/information on ingredients

Mixture of synthetic resins and solvents as well as water

Components

CAS-No.	Chemical Name	Concentration	GHS Hazardous
7732-18-5	Water	90 - 100%	

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CAS-No.	Chemical Name	Concentration	GHS Hazardous
111-76-2	Ethylene glycol monobutyl ether	3%	✓
84133-50-6	Alkyloxy polyethylene oxyethanol	1 - 4%	✓
1119-40-0	Dimethyl glutarate	1 - 4%	✓

OSHA Hazardous: Yes

4. First aid measures

Eye contact
Remove contact lenses. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Seek medical advice.

Skin contact
Do NOT use solvents or thinners. Take off all contaminated clothing immediately. Wash skin thoroughly with soap and water or use recognized skin cleanser. If skin irritation persists, call a physician.

Inhalation
Avoid inhalation of vapour or mist. Move to fresh air in case of accidental inhalation of vapours. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

Ingestion
If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting. Keep at rest.

Most important Symptoms/effects, acute and delayed

Inhalation
May cause nose and throat irritation. May cause nervous system depression characterized by the following progressive steps: headache, dizziness, nausea, staggering gait, confusion, unconsciousness. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Indication of immediate medical attention and special treatment needed if necessary
No data available on the product. See section 3 and 11 for hazardous ingredients found in the product.

5. Firefighting measures

Suitable extinguishing media
Universal aqueous film-forming foam, Carbon dioxide (CO2), Dry chemical

Extinguishing media which shall not be used for safety reasons
High volume water jet

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Hazardous combustion products
CO, CO2, smoke, and oxides of any heavy metals that are reported in "Composition, Information on Ingredients" section.

Fire and Explosion Hazards
Avoid heating above flash point.

Special Protective Equipment and Fire Fighting Procedures
Full protective flameproof clothing should be worn as appropriate. Wear self contained breathing apparatus for fire fighting if necessary. In the event of fire, cool tanks with water spray. Do not allow run-off from fire fighting to enter public sewer systems or public waterways.

6. Accidental release measures

Procedures for cleaning up spills or leaks
Ventilate area. If heated above the flashpoint, remove sources of ignition. Prevent skin and eye contact and breathing of vapor. Wear a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C), eye protection, gloves and protective clothing. Confine, remove with inert absorbent, and dispose of properly.

Environmental precautions
Do not let product enter drains. Notify the respective authorities in accordance with local law in the case of contamination of rivers, lakes or waste water systems.

7. Handling and storage

Precautions for safe handling
Observe label precautions. Close container after each use. If heated above its flash point, this must be handled as if it were a flammable liquid. Do not transfer contents to bottles or unlabeled containers. Wash thoroughly after handling and before eating or smoking. Do not freeze.
If material is a coating: do not sand, flame cut, braze or weld dry coating without a NIOSH approved air purifying respirator with particulate filters or appropriate ventilation, and gloves. Combustible dust clouds may be created where operations produce fine material (dust). Avoid formation of significant deposits of material as they may become airborne and form combustible dust clouds. Build up of fine material should be cleaned using gentle sweeping or vacuuming in accordance with best practices. Cleaning methods (e.g. compressed air) which can generate potentially combustible dust clouds should not be used.

Advice on protection against fire and explosion
Solvent vapours are heavier than air and may spread along floors. Vapors may form explosive mixtures with air and will burn when an ignition source is present. Always keep in containers of same material as the original one. Never use pressure to empty container: container is not a pressure vessel. The accumulation of contaminated rags may result in spontaneous combustion. Good housekeeping standards and regular safe removal of waste materials will minimize the risks of spontaneous combustion and other fire hazards.

Storage
Requirements for storage areas and containers
Observe label precautions. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. No smoking. Prevent unauthorized access. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Advice on common storage
Store separately from oxidizing agents and strongly alkaline and strongly acidic materials.

OSHA/NFPA Storage Classification: IIIB

8. Exposure controls/personal protection

Engineering controls and work practices
Provide adequate ventilation. This should be achieved by a good general extraction and -if practically feasible- by the use of a local exhaust ventilation. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn.

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National occupational exposure limits

CAS-No.	Chemical Name	Source	Time	Type	Value	Note
111-76-2	Ethylene glycol monobutyl ether	ACGIH	8 hr	TWA	20 ppm	
		OSHA	8 hr	TWA	50 ppm	Skin
		Dupont	8 & 12 hour	TWA	20 ppm	
1119-40-0	Dimethyl glutarate	Dupont	8 & 12 hour	TWA	10 mg/m3	

** TWA = Time-weighted average.

Protective equipment
Personal protective equipment should be worn to prevent contact with eyes, skin or clothing.

Respiratory protection
Do not breathe vapors or mists. Wear an appropriate, properly fitted NIOSH approved respirator during application and until all vapors and spray mists are exhausted unless air monitoring demonstrates vapor/mist levels are below applicable limits. If respirators are required, use a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C) and particulate filter (NIOSH TC-84A). In confined spaces, or in situations where continuous spray operations are typical, or if proper air-purifying respirator fit is not possible, wear a positive pressure, supplied-air respirator (NIOSH TC-19C). In all cases, follow respirator manufacturer's directions for respirator use.'

Eye protection
Desirable in all industrial situations. Goggles are preferred to prevent eye irritation. If safety glasses are substituted, include splash guard or side shields.

Skin and body protection
Neoprene gloves and coveralls are recommended.

Hygiene measures
Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Environmental exposure controls
Do not let product enter drains. For ecological information, refer to Ecological Information Section 12.

9. Physical and chemical properties

Appearance

Form: liquid Colour: clear

Flash point	> 200 °F
Ignition temperature	224 °C
Lower Explosive Limit	Not applicable.
Upper Explosive Limit	Not applicable.
Evapouration rate	Slower than Ether
Vapor pressure of principal solvent	0.0 hPa
Water solubility	appreciable
Vapor density of principal solvent (Air = 1)	0.6
Approx. Boiling Range	100 °C
Approx. Freezing Range	Not applicable.

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Gallon Weight (lbs/gal)	8.31	
Specific Gravity	1.00	
Percent Volatile By Volume	99.97%	
Percent Volatile By Weight	99.98%	
Percent Solids By Volume	0.03%	
Percent Solids By Weight	0.03%	
pH (waterborne systems only)	No data available.	
Partition coefficient: n-octanol/water	no data available	
Ignition temperature	224 °C	DIN 51794
Decomposition temperature		
Viscosity (23 °C)	Not applicable.	ISO 2431-1993
VOC* less exempt (lbs/gal)	8.2	
VOC* as packaged (lbs/gal)	0.5	

Does not sustain combustion.

* VOC less exempt (theoretical) and VOC as packaged (theoretical) are based upon the VOC of the packaged material at the point of manufacture.

10. Stability and reactivity

Stability
Stable

Conditions to avoid
Stable under recommended storage conditions.

Materials to avoid
None reasonably foreseeable.

Hazardous decomposition products
When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen.

Hazardous Polymerization
Will not occur.

Sensitivity to Static Discharge
If heated above the flash point, solvent vapors in air may explode if static grounding and bonding is not used during transfer of this product.

Sensitivity to Mechanical Impact
None known.

11. Toxicological information

Information on likely routes of exposure

Inhalation
May cause nose and throat irritation. May cause nervous system depression characterized by the following progressive steps: headache, dizziness, nausea, staggering gait, confusion, unconsciousness. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Ingestion
May result in gastrointestinal distress.

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Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Delayed and immediate effects and also chronic effects from short and long term exposure:

Acute oral toxicity
not hazardous

Acute dermal toxicity
not hazardous

Acute inhalation toxicity
not hazardous

% of unknown composition 0 %

Skin corrosion/irritation
Not classified according to GHS criteria

Serious eye damage/eye irritation

2-butoxyethanol	Category 2A
Alcohols, C12-14-secondary, ethoxylated	Category 1
Dimethyl glutarate	Category 2B

Respiratory sensitisation
Not classified according to GHS criteria

Skin sensitisation
Not classified according to GHS criteria

Germ cell mutagenicity
Not classified according to GHS criteria

Carcinogenicity
Not classified according to GHS criteria

Toxicity for reproduction
Not classified according to GHS criteria

Target Organ Systemic Toxicant - Single exposure
Not classified according to GHS criteria

Target Organ Systemic Toxicant - Repeated exposure
Not classified according to GHS criteria

Aspiration toxicity
Not classified according to GHS criteria

Numerical measures of toxicity (acute toxicity estimation (ATE),etc.)
No information available.

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Symptoms related to the physical, chemical and toxicological characteristics
No information available.

Whether the hazardous chemical is listed by NTP, IARC or OSHA

12. Ecological information

There are no data available on the product itself. The product should not be allowed to enter drains or watercourses.

13. Disposal considerations

Waste Disposal Method
Do not allow material to contaminate ground water systems. Incinerate or otherwise dispose of waste material in accordance with Federal, State, Provincial, and local requirements. Do not incinerate in closed containers.

14. Transport information

Not classified as dangerous in the meaning of transport regulations.

Matters needing attention for transportation
Confirm that there is no breakage, corrosion, or leakage from the container before shipping. Be sure to prevent damage to cargo by loading so as to avoid falling, dropping, or collapse. Ship in appropriate containers with denotation of the content in accordance with the relevant statutes and rules.

15. Regulatory information

TSCA Status
In compliance with TSCA Inventory requirements for commercial purposes.

DSL Status
All components of the mixture are listed on the DSL.

Photochemical Reactivity
Non-photochemically reactive

Regulatory Information

		EPCRA					CERCLA	CAA
CAS #	Ingredient	302	TPQ	RQ	311 - 312	313	RQ(lbs)	HAP
7732-18-5	Water	N	NR	NR	,A,C,F,N,R	N	NR	N
111-76-2	Ethylene glycol monobutyl ether	N	NR	NR	A,C,F	Y	NR	N
84133-50-6	Alkyloxy polyethylene oxyethanol	N	NR	NR	NA	N	NR	N
1119-40-0	Dimethyl glutarate	N	NR	NR	,A,C,F,N,R	N	NA	N

Key:

EPCRA	Emergency Planning and Community Right-to-know Act (aka Title III, SARA)
302	Extremely hazardous substances

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311/312 Categories	F = Fire Hazard R = Reactivity Hazard P = Pressure Related Hazard	A = Acute Hazard C = Chronic Hazard
313 Information	Section 313 Supplier Notification - The chemicals listed above with a 'Y' in the 313 column are subject to reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know act of 1986 and of 40 CFR 372.	
CERCLA	Comprehensive Emergency Response, Compensation and Liability Act of 1980.	
HAP	Listed as a Clean Air Act Hazardous Air Pollutant.	
TPQ	Threshold Planning Quantity.	
RQ	Reportable Quantity	
NA	not available	
NR	not regulated	

16. Other information

HMIS rating H: 0 F: 1 R: 0

Glossary of Terms:

ACGIH	American Conference of Governmental Industrial Hygienists.
IARC	International Agency for Research on Cancer.
NTP	National Toxicology Program.
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration.
STEL	Short term exposure limit.
TWA	Time-weighted average.
PNOR	Particles not otherwise regulated.
PNOC	Particles not otherwise classified.

NOTE: The list (above) of glossary terms may be modified.

Notice from Axalta Coating Systems
The document reflects information provided to Axalta Coating Systems by its suppliers. Information is accurate to the best of our knowledge and is subject to change as new data is received by Axalta Coating Systems. Persons receiving this information should make their own determination as to its suitability for their purposes prior to use. The information on this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.
SDS prepared by:
Axalta Coating Systems Regulatory Affairs
Report version

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1. Identification of the substance/mixture and of the company/undertaking

Product name	Lacquer Thinner	
Product code	106™	140915
Intended use	Thinner for professionnal use	
	Axalta Coating Systems, LLC Applied Corporate Center 50 Applied Card Way, Suite 300 US Glen Mills, PA 19342	
Telephone	Product information Medical emergency Transportation emergency	(855) 6-AXALTA (855) 274-5698 (800) 424-9300 (CHEMTREC)

2. Hazards identification

This preparation is hazardous per the following GHS criteria

GHS-Classification

Flammable liquids	Category 2
Acute oral toxicity	Category 4
Acute dermal toxicity	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Toxicity for reproduction	Category 2
Target Organ Systemic Toxicant - Single exposure	Category 1
Target Organ Systemic Toxicant - Repeated exposure	Category 2

Endpoints which are ""not classified"", ""cannot classified"" and "'not applicable"" are not shown

GHS-Labelling

Hazard symbols

Signal word: Danger

Hazard statements:
Highly flammable liquid and vapour.
Harmful if swallowed.
Harmful in contact with skin.
Causes skin irritation.
Causes serious eye irritation.
Suspected of damaging fertility or the unborn child.
Causes damage to organs.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements:
Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
Do not eat, drink or smoke when using this product.
Ground/bond container and receiving equipment.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Keep container tightly closed.
Obtain special instructions before use.
Take precautionary measures against static discharge.
Use explosion-proof electrical/ventilating/lighting equipment.

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Use only non-sparking tools.
Wear protective gloves/protective clothing/eye protection/face protection.
IF exposed: Call a POISON CENTER or doctor/ physician.
If eye irritation persists: Get medical advice/ attention.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation occurs: Get medical advice/ attention.
IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
Specific treatment (see supplemental first aid instructions on this label).
Take off contaminated clothing and wash before reuse.
Store in a well-ventilated place. Keep cool.
Store locked up.
Dispose of contents/container to .?.

Other hazards which do not result in classification
None known.

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity:
0 %

3. Composition/information on ingredients

mixture of solvents

Components

CAS-No.	Chemical Name	Concentration
108-88-3	Toluene	30%
67-64-1	Acetone	
67-56-1	Methyl alcohol	20%
8032-32-4	Vm&p naphtha	
1330-20-7	Xylene	3%
100-41-4	Ethylbenzene	0.8%

Non-regulated ingredients 0.1 - 1.0%
OSHA Hazardous: Yes

4. First aid measures

Eye contact
Remove contact lenses. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Seek medical advice.

Skin contact
Do NOT use solvents or thinners. Take off all contaminated clothing immediately. Wash skin thoroughly with soap and water or use recognized skin cleanser. If skin irritation persists, call a physician.

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Inhalation
Avoid inhalation of vapour or mist. Move to fresh air in case of accidental inhalation of vapours. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

Ingestion
If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting. Keep at rest.

Most important Symptoms/effects, acute and delayed

Inhalation
May cause nose and throat irritation. May cause nervous system depression characterized by the following progressive steps: headache, dizziness, nausea, staggering gait, confusion, unconsciousness. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Indication of immediate medical attention and special treatment needed if necessary
No data available on the product. See section 3 and 11 for hazardous ingredients found in the product.

5. Firefighting measures

Suitable extinguishing media
Universal aqueous film-forming foam, Carbon dioxide (CO2), Dry chemical

Extinguishing media which shall not be used for safety reasons
High volume water jet

Hazardous combustion products
CO, CO2, smoke, and oxides of any heavy metals that are reported in "Composition, Information on Ingredients" section.

Fire and Explosion Hazards
Flammable liquid. Vapor/air mixture will burn when an ignition source is present.

Special Protective Equipment and Fire Fighting Procedures
Full protective flameproof clothing should be worn as appropriate. Wear self contained breathing apparatus for fire fighting if necessary. In the event of fire, cool tanks with water spray. Do not allow run-off from fire fighting to enter public sewer systems or public waterways.

6. Accidental release measures

Procedures for cleaning up spills or leaks
Ventilate area. Remove sources of ignition. Prevent skin and eye contact and breathing of vapor. Wear a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C), eye protection, gloves and protective clothing. Confine, remove with inert absorbent, and dispose of properly.

Environmental precautions
Do not let product enter drains. Notify the respective authorities in accordance with local law in the case of contamination of rivers, lakes or waste water systems.

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7. Handling and storage

Precautions for safe handling
Observe label precautions. Keep away from heat, sparks, flame, static discharge and other sources of ignition. VAPORS MAY IGNITE EXPLOSIVELY. Vapors may spread long distances. Prevent buildup of vapors. Extinguish all pilot lights and turn off heaters, non-explosion proof electrical equipment and other sources of ignition during and after use and until all vapors are gone. Close container after each use. Ground containers when pouring. Wash thoroughly after handling and before eating or smoking. Do not store above 120 deg F.
If material is a coating: do not sand, flame cut, braze or weld dry coating without a NIOSH approved air purifying respirator with particulate filters or appropriate ventilation, and gloves. Combustible dust clouds may be created where operations produce fine material (dust). Avoid formation of significant deposits of material as they may become airborne and form combustible dust clouds. Build up of fine material should be cleaned using gentle sweeping or vacuuming in accordance with best practices. Cleaning methods (e.g. compressed air) which can generate potentially combustible dust clouds should not be used.

Advice on protection against fire and explosion
Solvent vapours are heavier than air and may spread along floors. Vapors may form explosive mixtures with air and will burn when an ignition source is present. Always keep in containers of same material as the original one. Never use pressure to empty container: container is not a pressure vessel. The accumulation of contaminated rags may result in spontaneous combustion. Good housekeeping standards and regular safe removal of waste materials will minimize the risks of spontaneous combustion and other fire hazards.

Storage
Requirements for storage areas and containers
Observe label precautions. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. No smoking. Prevent unauthorized access. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Advice on common storage
Store separately from oxidizing agents and strongly alkaline and strongly acidic materials.

OSHA/NFPA Storage Classification: IB

8. Exposure controls/personal protection

Engineering controls and work practices
Provide adequate ventilation. This should be achieved by a good general extraction and -if practically feasible- by the use of a local exhaust ventilation. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn.

National occupational exposure limits

CAS-No.	Chemical Name	Source	Time	Type	Value	Note
108-88-3	Toluene	ACGIH	8 hr	TWA	20 ppm	
		OSHA		CEIL	300 ppm	
			10 min	TWA	500 ppm	
			8 hr	TWA	200 ppm	
		Dupont	8 & 12 hour	TWA	50 ppm	Skin
67-64-1	Acetone	ACGIH	15 min	STEL	750 ppm	
			8 hr	TWA	500 ppm	
		OSHA	8 hr	TWA	1,000 ppm	
		Dupont	8 & 12 hour	TWA	500 ppm	

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CAS-No.	Chemical Name	Source	Time	Type	Value	Note
67-56-1	Methyl alcohol	ACGIH	15 min	STEL	250 ppm	Skin
			8 hr	TWA	200 ppm	Skin
		OSHA	8 hr	TWA	200 ppm	
		Dupont	8 & 12 hour	TWA	200 ppm	Skin
8032-32-4	Vm&p naphtha	ACGIH	8 hr	TWA	300 ppm	
		Dupont	8 hr	TWA	100 ppm	
1330-20-7	Xylene	ACGIH	15 min	STEL	150 ppm	
			8 hr	TWA	100 ppm	
		OSHA	8 hr	TWA	100 ppm	
		Dupont	8 & 12 hour	TWA	100 ppm	
100-41-4	Ethylbenzene	ACGIH	8 hr	TWA	20 ppm	
		OSHA	8 hr	TWA	100 ppm	
		Dupont	8 & 12 hour	TWA	25 ppm	

** TWA = Time-weighted average.
CEIL = Ceiling.
STEL = Short term exposure limit.

Protective equipment
Personal protective equipment should be worn to prevent contact with eyes, skin or clothing.

Respiratory protection
Do not breathe vapors or mists. Wear a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C) and particulate filter (NIOSH TC-84A) during application and until all vapors and spray mists are exhausted. In confined spaces, or in situations where continuous spray operations are typical, or if proper air-purifying respirator fit is not possible, wear a positive pressure, supplied-air respirator (NIOSH TC-19C). In all cases, follow respirator manufacturer's directions for respirator use. Do not permit anyone without protection in the painting area.

Eye protection
Desirable in all industrial situations. Goggles are preferred to prevent eye irritation. If safety glasses are substituted, include splash guard or side shields.

Skin and body protection
Neoprene gloves and coveralls are recommended.

Hygiene measures
Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Environmental exposure controls
Do not let product enter drains. For ecological information, refer to Ecological Information Section 12.

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9. Physical and chemical properties

Appearance

Form: liquid Colour: clear

Flash point	14 °F	
Ignition temperature	232 °C	
Lower Explosive Limit	0.9 %	
Upper Explosive Limit	36.5 %	
Evapouration rate	Slower than Ether	
Vapor pressure of principal solvent	123.3 hPa	
Water solubility	appreciable	
Vapor density of principal solvent (Air = 1)	2	
Approx. Boiling Range	64 °C	
Approx. Freezing Range	Not applicable.	
Gallon Weight (lbs/gal)	6.78	
Specific Gravity	0.81	
Percent Volatile By Volume	100.00%	
Percent Volatile By Weight	100.00%	
Percent Solids By Volume	0.00%	
Percent Solids By Weight	0.00%	
pH (waterborne systems only)	No data available.	
Partition coefficient: n-octanol/water	no data available	
Ignition temperature	232 °C	DIN 51794
Decomposition temperature		
Viscosity (23 °C)	Not applicable.	ISO 2431-1993
VOC* less exempt (lbs/gal)	6.9	
VOC* as packaged (lbs/gal)	4.4	

* VOC less exempt (theoretical) and VOC as packaged (theoretical) are based upon the VOC of the packaged material at the point of manufacture.

10. Stability and reactivity

Stability
Stable

Conditions to avoid
Stable under recommended storage conditions.

Materials to avoid
None reasonably foreseeable.

Hazardous decomposition products
When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen.

Hazardous Polymerization
Will not occur.

Sensitivity to Static Discharge
Solvent vapors in air may explode if static grounding and bonding is not used during transfer of this product.

Sensitivity to Mechanical Impact
None known.

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11. Toxicological information

Information on likely routes of exposure

Inhalation
May cause nose and throat irritation. May cause nervous system depression characterized by the following progressive steps: headache, dizziness, nausea, staggering gait, confusion, unconsciousness. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Delayed and immediate effects and also chronic effects from short and long term exposure:

Acute oral toxicity

methanol	Category 3
xylene	Category 5
ethylbenzene	Category 5

Acute dermal toxicity

methanol	Category 3
xylene	Category 4

Acute inhalation toxicity
Not classified according to GHS criteria

% of unknown composition 0 %

Skin corrosion/irritation

toluene	Category 2
acetone	Category 3
low boiling point naphtha (<0,1% benzene)	Category 2
xylene	Category 2
ethylbenzene	Category 3

Serious eye damage/eye irritation

toluene	Category 2B
acetone	Category 2A
methanol	Category 2A
low boiling point naphtha (<0,1% benzene)	Category 2A
xylene	Category 2A
ethylbenzene	Category 2B

Respiratory sensitisation
Not classified according to GHS criteria

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Skin sensitisation
Not classified according to GHS criteria

Germ cell mutagenicity
Not classified according to GHS criteria

Carcinogenicity
Not classified according to GHS criteria

Toxicity for reproduction

toluene Category 2

Target Organ Systemic Toxicant - Single exposure

- **Skin Absorption**

  Narcotic effects toluene

  Eyes methanol

  Kidney methanol

  Liver methanol

- **Inhalation**

  Central nervous system low boiling point naphtha (<0,1% benzene), methanol

Target Organ Systemic Toxicant - Repeated exposure

- **Skin Absorption**

  Eyes methanol

  Central nervous system methanol

Aspiration toxicity
Not classified according to GHS criteria

Numerical measures of toxicity (acute toxicity estimation (ATE),etc.)
No information available.

Symptoms related to the physical, chemical and toxicological characteristics
Exposure to component solvents vapours concentration in excess of the stated occupational exposure limit may result in adverse health effect such as mucous membrane and respiratory system irritation and adverse effect on kidney, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Through skin resorbtion, solvents can cause some of the effects described here. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin. The liquid splashed in the eyes may cause irritation and reversible damage.

Whether the hazardous chemical is listed by NTP, IARC or OSHA

ethylbenzene IARC 2B

12. Ecological information

There are no data available on the product itself. The product should not be allowed to enter drains or watercourses.

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13. Disposal considerations

Waste Disposal Method
Do not allow material to contaminate ground water systems. Incinerate or otherwise dispose of waste material in accordance with Federal, State, Provincial, and local requirements. Do not incinerate in closed containers.

14. Transport information

International transport regulations

IMDG (Sea transport)	
UN number:	1992
Proper shipping name:	FLAMMABLE LIQUID, TOXIC, N.O.S. (acetone; phenol)
Hazard Class:	3
Subsidiary Hazard Class:	6.1
Packing group:	II
Marine Pollutant:	no
ICAO/IATA (Air transport)	
UN number:	1992
Proper shipping name:	FLAMMABLE LIQUID, TOXIC, N.O.S. (acetone; phenol)
Hazard Class:	3
Subsidiary Hazard Class:	6.1
Packing group:	II
DOT	
UN number:	1992
Proper shipping name:	FLAMMABLE LIQUID, TOXIC, N.O.S. (acetone; phenol)
Hazard Class:	3
Subsidiary Hazard Class:	6.1
Packing group:	II
Marine Pollutant:	no
EmS:	F-E,S-D

Matters needing attention for transportation
Confirm that there is no breakage, corrosion, or leakage from the container before shipping. Be sure to prevent damage to cargo by loading so as to avoid falling, dropping, or collapse. Ship in appropriate containers with denotation of the content in accordance with the relevant statutes and rules.

15. Regulatory information

TSCA Status
In compliance with TSCA Inventory requirements for commercial purposes.

DSL Status
All components of the mixture are listed on the DSL.

Photochemical Reactivity
Photochemically reactive

US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)
Warning! This product contains a chemical known to the state of California to cause cancer, birth defects, or other reproductive harm.

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612823902

Regulatory information

		EPCRA					CERCLA	CAA
CAS #	Ingredient	302	TPQ	RQ	311 - 312	313	RQ(lbs)	HAP
108-88-3	Toluene	N	NR	NR	A,C,F	Y	1,000	Y
67-64-1	Acetone	N	NR	NR	A,C,F	N	5,000	N
67-56-1	Methyl alcohol	N	NR	NR	A,C,F	Y	5,000	Y
8032-32-4	Vm&p naphtha	N	NR	NR	A,C,F	N	NR	N
1330-20-7	Xylene	N	NR	NR	A,C,F	Y	100	Y
100-41-4	Ethylbenzene	N	NR	NR	A,C,F	Y	1,000	Y

Key:

EPCRA	Emergency Planning and Community Right-to-know Act (aka Title III, SARA)
302	Extremely hazardous substances
311/312 Categories	F = Fire Hazard R = Reactivity Hazard P = Pressure Related Hazard A = Acute Hazard C = Chronic Hazard
313 Information	Section 313 Supplier Notification - The chemicals listed above with a 'Y' in the 313 column are subject to reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know act of 1986 and of 40 CFR 372.
CERCLA	Comprehensive Emergency Response, Compensation and Liability Act of 1980.
HAP	Listed as a Clean Air Act Hazardous Air Pollutant.
TPQ	Threshold Planning Quantity.
RQ	Reportable Quantity
NA	not available
NR	not regulated

16. Other information

HMIS rating H: 2 F: 3 R: 0

Glossary of Terms:

ACGIH	American Conference of Governmental Industrial Hygienists.
IARC	International Agency for Research on Cancer.
NTP	National Toxicology Program.
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration.
STEL	Short term exposure limit.
TWA	Time-weighted average.
PNOR	Particles not otherwise regulated.
PNOC	Particles not otherwise classified.

NOTE: The list (above) of glossary terms may be modified.

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SDS prepared by:
Axalta Coating Systems Regulatory Affairs
Report version

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Version	Changes

Version	Changes
1.1	8, 12, 14, 15, 16

Revision Date: 2014-11-18

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1. Identification of the substance/mixture and of the company/undertaking

Product name	Low HAPS Cleaning Solvent	
Product code	108™	140814
Intended use	Solvent for professional use	
	Axalta Coating Systems, LLC Applied Corporate Center 50 Applied Card Way, Suite 300 US Glen Mills, PA 19342	
Telephone	Product information Medical emergency Transportation emergency	(855) 6-AXALTA (855) 274-5698 (800) 424-9300 (CHEMTREC)

2. Hazards identification

This preparation is hazardous per the following GHS criteria

GHS-Classification

Flammable liquids	Category 2
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Toxicity for reproduction	Category 2
Target Organ Systemic Toxicant - Single exposure	Category 3
Target Organ Systemic Toxicant - Repeated exposure	Category 2

Endpoints which are ""not classified"", ""cannot classified"" and ""not applicable"" are not shown

GHS-Labelling

Hazard symbols

Signal word: Danger

Hazard statements:
Highly flammable liquid and vapour.
Causes skin irritation.
Causes serious eye irritation.
Suspected of damaging fertility or the unborn child.
May cause drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements:
Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
Ground/bond container and receiving equipment.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Obtain special instructions before use.
Take precautionary measures against static discharge.
Use explosion-proof electrical/ventilating/lighting equipment.
Use only non-sparking tools.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If eye irritation persists: Get medical advice/ attention.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation occurs: Get medical advice/ attention.
Specific treatment (see supplemental first aid instructions on this label).
Take off contaminated clothing and wash before reuse.
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Dispose of contents/container to .?.

Other hazards which do not result in classification
None known.

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity:
0 %

3. Composition/information on ingredients

mixture of solvents

Components

CAS-No.	Chemical Name	Concentration
67-64-1	Acetone	
142-82-5	Heptane	
67-63-0	Isopropyl alcohol	
108-88-3	Toluene	10%
123-86-4	Butyl acetate	
64742-95-6	Aromatic hydrocarbon	
108-65-6	Propylene glycol monomethyl ether acetate	

Non-regulated ingredients 1 - 5%
OSHA Hazardous: Yes

4. First aid measures

Eye contact
Remove contact lenses. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Seek medical advice.

Skin contact
Do NOT use solvents or thinners. Take off all contaminated clothing immediately. Wash skin thoroughly with soap and water or use recognized skin cleanser. If skin irritation persists, call a physician.

Inhalation
Avoid inhalation of vapour or mist. Move to fresh air in case of accidental inhalation of vapours. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

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Ingestion
If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting. Keep at rest.

Most Important Symptoms/effects, acute and delayed

Inhalation
May cause nose and throat irritation. May cause nervous system depression characterized by the following progressive steps: headache, dizziness, nausea, staggering gait, confusion, unconsciousness. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Indication of immediate medical attention and special treatment needed if necessary
No data available on the product. See section 3 and 11 for hazardous ingredients found in the product.

5. Firefighting measures

Suitable extinguishing media
Universal aqueous film-forming foam, Carbon dioxide (CO2), Dry chemical

Extinguishing media which shall not be used for safety reasons
High volume water jet

Hazardous combustion products
CO, CO2, smoke, and oxides of any heavy metals that are reported in "Composition, Information on Ingredients" section.

Fire and Explosion Hazards
Flammable liquid. Vapor/air mixture will burn when an ignition source is present.

Special Protective Equipment and Fire Fighting Procedures
Full protective flameproof clothing should be worn as appropriate. Wear self contained breathing apparatus for fire fighting if necessary. In the event of fire, cool tanks with water spray. Do not allow run-off from fire fighting to enter public sewer systems or public waterways.

6. Accidental release measures

Procedures for cleaning up spills or leaks
Ventilate area. Remove sources of ignition. Prevent skin and eye contact and breathing of vapor. Wear a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C), eye protection, gloves and protective clothing. Confine, remove with inert absorbent, and dispose of properly.

Environmental precautions
Do not let product enter drains. Notify the respective authorities in accordance with local law in the case of contamination of rivers, lakes or waste water systems.

7. Handling and storage

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Precautions for safe handling
Observe label precautions. Keep away from heat, sparks, flame, static discharge and other sources of ignition. VAPORS MAY IGNITE EXPLOSIVELY. Vapors may spread long distances. Prevent buildup of vapors. Extinguish all pilot lights and turn off heaters, non-explosion proof electrical equipment and other sources of ignition during and after use and until all vapors are gone. Close container after each use. Ground containers when pouring. Wash thoroughly after handling and before eating or smoking. Do not store above 120 deg F.
If material is a coating: do not sand, flame cut, braze or weld dry coating without a NIOSH approved air purifying respirator with particulate filters or appropriate ventilation, and gloves. Combustible dust clouds may be created where operations produce fine material (dust). Avoid formation of significant deposits of material as they may become airborne and form combustible dust clouds. Build up of fine material should be cleaned using gentle sweeping or vacuuming in accordance with best practices. Cleaning methods (e.g. compressed air) which can generate potentially combustible dust clouds should not be used.

Advice on protection against fire and explosion
Solvent vapours are heavier than air and may spread along floors. Vapors may form explosive mixtures with air and will burn when an ignition source is present. Always keep in containers of same material as the original one. Never use pressure to empty container: container is not a pressure vessel. The accumulation of contaminated rags may result in spontaneous combustion. Good housekeeping standards and regular safe removal of waste materials will minimize the risks of spontaneous combustion and other fire hazards.

Storage
Requirements for storage areas and containers
Observe label precautions. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. No smoking. Prevent unauthorized access. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Advice on common storage
Store separately from oxidizing agents and strongly alkaline and strongly acidic materials.

OSHA/NFPA Storage Classification: IB

8. Exposure controls/personal protection

Engineering controls and work practices
Provide adequate ventilation. This should be achieved by a good general extraction and -if practically feasible- by the use of a local exhaust ventilation. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn.

National occupational exposure limits

CAS-No.	Chemical Name	Source	Time	Type	Value	Note
67-64-1	Acetone	ACGIH	15 min	STEL	750 ppm	
			8 hr	TWA	500 ppm	
		OSHA	8 hr	TWA	1,000 ppm	
		Dupont	8 & 12 hour	TWA	500 ppm	
142-82-5	Heptane	ACGIH	15 min	STEL	500 ppm	
			8 hr	TWA	400 ppm	
		OSHA	8 hr	TWA	500 ppm	
108-88-3	Toluene	ACGIH	8 hr	TWA	20 ppm	
		OSHA		CEIL	300 ppm	
			10 min	TWA	500 ppm	

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CAS-No.	Chemical Name	Source	Time	Type	Value	Note
			8 hr	TWA	200 ppm	
		Dupont	8 & 12 hour	TWA	50 ppm	Skin
123-86-4	Butyl acetate	ACGIH	15 min	STEL	200 ppm	
			8 hr	TWA	150 ppm	
		OSHA	8 hr	TWA	150 ppm	
64742-95-6	Aromatic hydrocarbon	Dupont	8 & 12 hour	TWA	50 ppm	
108-65-6	Propylene glycol monomethyl ether acetate	Dupont	15 min	TWA	30 ppm	

** STEL = Short term exposure limit.
TWA = Time-weighted average.
CEIL = Ceiling.

Protective equipment
Personal protective equipment should be worn to prevent contact with eyes, skin or clothing.

Respiratory protection
Do not breathe vapors or mists. Wear a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C) and particulate filter (NIOSH TC-84A) during application and until all vapors and spray mists are exhausted. In confined spaces, or in situations where continuous spray operations are typical, or if proper air-purifying respirator fit is not possible, wear a positive pressure, supplied-air respirator (NIOSH TC-19C). In all cases, follow respirator manufacturer's directions for respirator use. Do not permit anyone without protection in the painting area.

Eye protection
Desirable in all industrial situations. Goggles are preferred to prevent eye irritation. If safety glasses are substituted, include splash guard or side shields.

Skin and body protection
Neoprene gloves and coveralls are recommended.

Hygiene measures
Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Environmental exposure controls
Do not let product enter drains. For ecological information, refer to Ecological Information Section 12.

9. Physical and chemical properties

Appearance

Form: liquid Colour: clear

Flash point	0 °F
Ignition temperature	215 °C
Lower Explosive Limit	1 %
Upper Explosive Limit	12.8 %

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Evapouration rate	Slower than Ether	
Vapor pressure of principal solvent	122.7 hPa	
Water solubility	appreciable	
Vapor density of principal solvent (Air = 1)	2	
Approx. Boiling Range	83 °C	
Approx. Freezing Range	Not applicable.	
Gallon Weight (lbs/gal)	6.56	
Specific Gravity	0.79	
Percent Volatile By Volume	100.00%	
Percent Volatile By Weight	100.00%	
Percent Solids By Volume	0.00%	
Percent Solids By Weight	0.00%	
pH (waterborne systems only)	No data available.	
Partition coefficient: n-octanol/water	no data available	
Ignition temperature	215 °C	DIN 51794
Decomposition temperature		
Viscosity (23 °C)	Not applicable.	ISO 2431-1993
VOC* less exempt (lbs/gal)	6.5	
VOC* as packaged (lbs/gal)	3.9	

* VOC less exempt (theoretical) and VOC as packaged (theoretical) are based upon the VOC of the packaged material at the point of manufacture.

10. Stability and reactivity

Stability
Stable

Conditions to avoid
Stable under recommended storage conditions.

Materials to avoid
None reasonably foreseeable.

Hazardous decomposition products
When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen.

Hazardous Polymerization
Will not occur.

Sensitivity to Static Discharge
Solvent vapors in air may explode if static grounding and bonding is not used during transfer of this product.

Sensitivity to Mechanical Impact
None known.

11. Toxicological information

Information on likely routes of exposure

Inhalation
May cause nose and throat irritation. May cause nervous system depression characterized by the following progressive steps: headache, dizziness, nausea, staggering gait, confusion, unconsciousness. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

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Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Delayed and immediate effects and also chronic effects from short and long term exposure:

Acute oral toxicity
not hazardous

Acute dermal toxicity
not hazardous

Acute inhalation toxicity
not hazardous

% of unknown composition 0 %

Skin corrosion/irritation

acetone	Category 3
heptane (mixture of isomers)	Category 2
propan-2-ol	Category 3
toluene	Category 2
n-butyl acetate	Category 3
solvent naphtha (petroleum), light arom. (<0,1% benzene)	Category 3

Serious eye damage/eye irritation

acetone	Category 2A
heptane (mixture of isomers)	Category 2A
propan-2-ol	Category 2A
toluene	Category 2B
2-methoxy-1-methylethyl acetate	Category 2A

Respiratory sensitisation
Not classified according to GHS criteria

Skin sensitisation
Not classified according to GHS criteria

Germ cell mutagenicity
Not classified according to GHS criteria

Carcinogenicity
Not classified according to GHS criteria

Toxicity for reproduction

toluene Category 2

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Target Organ Systemic Toxicant - Single exposure

- **Skin Absorption**

  Narcotic effects toluene

- **Inhalation**

  Respiratory system propan-2-ol, 2-methoxy-1-methylethyl acetate

  reproductive organs heptane (mixture of isomers)

Target Organ Systemic Toxicant - Repeated exposure
No data available.

Aspiration toxicity
Not classified according to GHS criteria

Numerical measures of toxicity (acute toxicity estimation (ATE),etc.)
No information available.

Symptoms related to the physical, chemical and toxicological characteristics
Exposure to component solvents vapours concentration in excess of the stated occupational exposure limit may result in adverse health effect such as mucous membrane and respiratory system irritation and adverse effect on kidney, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Through skin resorbtion, solvents can cause some of the effects described here. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin. The liquid splashed in the eyes may cause irritation and reversible damage.

Whether the hazardous chemical is listed by NTP, IARC or OSHA

12. Ecological information

There are no data available on the product itself. The product should not be allowed to enter drains or watercourses.

13. Disposal considerations

Waste Disposal Method
Do not allow material to contaminate ground water systems. Incinerate or otherwise dispose of waste material in accordance with Federal, State, Provincial, and local requirements. Do not incinerate in closed containers.

14. Transport information

International transport regulations

IMDG (Sea transport)

UN number:	1263
Proper shipping name:	PAINT RELATED MATERIAL
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	II
Marine Pollutant:	yes [heptane (mixture of isomers)]

ICAO/IATA (Air transport)

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B12848887

UN number:	1263
Proper shipping name:	PAINT RELATED MATERIAL
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	II

DOT

UN number:	1263
Proper shipping name:	PAINT RELATED MATERIAL
Hazard Class:	3
Subsidiary Hazard Class:	Not applicable.
Packing group:	II
Marine Pollutant:	yes [heptane (mixture of isomers)]
EmS:	F-E,S-E

Matters needing attention for transportation
Confirm that there is no breakage, corrosion, or leakage from the container before shipping. Be sure to prevent damage to cargo by loading so as to avoid falling, dropping, or collapse. Ship in appropriate containers with denotation of the content in accordance with the relevant statutes and rules.

15. Regulatory Information

TSCA Status
In compliance with TSCA Inventory requirements for commercial purposes.

DSL Status
All components of the mixture are listed on the DSL.

Photochemical Reactivity
Non-photochemically reactive

US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)
WARNING! This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Regulatory Information

		EPCRA					CERCLA	CAA
CAS #	Ingredient	302	TPQ	RQ	311 - 312	313	RQ(lbs)	HAP
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142-82-5	Heptane	N	NR	NR	A,C,F	N	NR	N
67-63-0	Isopropyl alcohol	N	NR	NR	A,C,F	N	NR	N
108-88-3	Toluene	N	NR	NR	A,C,F	Y	1,000	Y
123-86-4	Butyl acetate	N	NR	NR	A,C,F	N	NR	N
64742-95-6	Aromatic hydrocarbon	N	NR	NR	A,C,F	N	NR	N
108-65-6	Propylene glycol monomethyl ether acetate	N	NR	NR	F	N	NR	N

Key:

EPCRA	Emergency Planning and Community Right-to-know Act (aka Title III, SARA)	
302	Extremely hazardous substances	
311/312 Categories	F = Fire Hazard	A = Acute Hazard
	R = Reactivity Hazard	C = Chronic Hazard

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	P = Pressure Related Hazard
313 Information	Section 313 Supplier Notification - The chemicals listed above with a 'Y' in the 313 column are subject to reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know act of 1986 and of 40 CFR 372.
CERCLA	Comprehensive Emergency Response, Compensation and Liability Act of 1980.
HAP	Listed as a Clean Air Act Hazardous Air Pollutant.
TPQ	Threshold Planning Quantity.
RQ	Reportable Quantity
NA	not available
NR	not regulated

16. Other information

HMIS rating H: 2 F: 3 R: 0

Glossary of Terms:

ACGIH	American Conference of Governmental Industrial Hygienists.
IARC	International Agency for Research on Cancer.
NTP	National Toxicology Program.
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration.
STEL	Short term exposure limit.
TWA	Time-weighted average.
PNOR	Particles not otherwise regulated.
PNOC	Particles not otherwise classified.

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SDS prepared by:
Axalta Coating Systems Regulatory Affairs
Report version

Version	Changes
3.0	2, 3, 4, 5, 6, 7, 8, 9, 11, 14, 15

Revision Date: 2014-11-18

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RUST-OLEUM®

V2100 SYSTEM ENAMEL AEROSOL

DESCRIPTION AND USES

Rust-Oleum® V2100 System Enamel aerosols are available in high-gloss, semi-gloss, flat, metallic and fluorescent finishes. They apply easily and dry fast to a tough, attractive corrosion-resistant finish featuring superior coverage, color, and gloss retention and resist chipping, cracking and peeling. They are available in a variety of colors including safety and fluorescent colors, and many match popular Rust-Oleum Industrial Enamel gallon colors for easy touch-ups. Not for use on galvanized steel.

Primer aerosols are used for maximum corrosion protection on clean, rusted or previously painted metal. Not for use on galvanized steel. They are fast dry, quick recoat rust inhibiting primers designed for use with the V2100 System Enamel aerosols to optimize corrosion control.

Galvanizing aerosols are zinc-rich coatings that provide maximum corrosion resistance through galvanic protection. Use for touch-up and repair to damaged galvanized steel; production welds, galvanized ducts, storage tanks, fences, gutters, trucks, trailers, off-shore drilling rigs, utility towers, and more. V2185838 meets performance requirements of ASTM A-780-01 (par. 4.1.2, 4.1.3, 4.2.2). Do not topcoat with an alkyd finish.

High Performance V2100 System Enamel complies with USDA FSIS regulatory sanitation performance standards for food establishment facilities.

PRODUCTS

PRIMERS

209566	White Clean Metal Primer
V2169838	Red Primer
V2182838	Gray Primer

HIGH HEAT COATING

V2116838	High Temperature Aluminum
V2176838	High Temperature Black

GALVANIZING

V2117838	Bright Galvanizing Compound
V2185838	Cold Galvanizing Compound

FARM EQUIPMENT

209713	John Deere Green
209714	John Deere Yellow
209715	Caterpillar Yellow (Old)
209716	Allis Chalmers Orange
209717	International Harvester Red
209718	Ford Blue

FLUORESCENTS

2233838	Fluorescent Green
2255838	Fluorescent Orange
209568	Fluorescent Pink
2264838	Fluorescent Red
2242838	Fluorescent Yellow

PRODUCTS (cont.)

SAFETY

V2124838	Safety Blue
V2133838	Safety Green
V2155838	Safety Orange
V2167838	Safety Purple
V2163838	Safety Red
V2143838	Safety Yellow

ENAMELS

V2102838	Crystal Clear
V2170838	Almond
V2115838	Silver Aluminum
V2171838	Tan
V2119838	Stainless Steel
V2175838	Chestnut Brown
V2123838	Light Blue
V2177838	Semi-Gloss Black
V2178838	Flat Black
V2125838	Deep Blue
V2179838	Gloss Black
V2183838	Light Machine Gray
V2134838	Bright Green
V2184838	Dove Gray
V2137838	Dark Green
V2187838	Dark Machine Gray
V2138838	Hunter Green
V2188838	Smoke Gray
V2190838	Flat White
V2147838	Industrial Yellow
V2192838	Gloss White
V2148838	Equipment Yellow
V2196838	Fleet White
V2156838	Equipment Orange
V2164838	Bright Red
209565	Anodized Bronze
209567	Semi-Gloss White

MINI SPRAYS – 3oz

276011	Gloss Black
276013	Gloss White
276015	Safety Yellow
276018	Spot Primer†

† V2100 System Rust Reformer® formula – For use on rusted steel only.

PRODUCT APPLICATION

SURFACE PREPARATION

ALL SURFACES: Remove all dirt, grease, oil, salt and chemical contaminants by washing the surface with Pure Strength® Cleaner/ Degreaser item #3599402, commercial detergent or other suitable cleaner. Rinse immediately and thoroughly and allow to fully dry. Thoroughly cured, hard or gloss previous coatings which are very smooth may require scuff sanding to maximize adhesion.

PRODUCT APPLICATION (cont.)

SURFACE PREPARATION (cont.)

STEEL: Hand tool (SSPC-SP-2) or power tool (SSPC-SP-3) clean to remove loose rust, mill scale, and deteriorated previous coatings. For best results, use Red Primer on sound rusted or clean metal before the application of a finish coat or intermediate primer.

PREVIOUSLY COATED: Previously coated surfaces must be sound and in good condition. Smooth, hard, or glossy finishes should be scarified by sanding to create a surface profile.

GALVANIZED STEEL: New galvanized steel may contain a surface wax or oil from the fabricator. This must be removed with Pure Strength® Cleaner/Degreaser (#3599402), commercial detergent or other suitable cleaner. NOTE: Only the Galvanizing Compounds are to be used on galvanized steel. Do not use any other of the 1600 System Primers or Finish Colors.

WEATHERED GALVANIZED STEEL: Remove loose rust and stains by hand tool (SSPC-SP-2) or power tool (SSPC-SP-3) prior to application of the Cold Galvanizing Compound.

PRODUCT APPLICATION (cont.)

APPLICATION

Use when temperature is above 50°F (10°C) and humidity is below 85% to ensure proper drying. Surface temperature must be between 50-100°F (10-38°C).

Use primer on bare or rusted surfaces. Do not use any primer with V2116838 High Temperature Aluminum, V2176838 High Temperature Black, V2117838 Bright Galvanizing Compound or V2185838 Cold Galvanizing Compound.

Protect surrounding surfaces from overspray. Overspray can carry a significant distance. Shake can for one minute after mixing ball is heard. Hold can 10-14 inches from surface. Apply several light coats a few minutes apart to avoid drips and runs.

DRY & RECOAT TIMES

Recoat within 1 hour or after 24 hours. allow more time in cooler temperatures.

CLEAN-UP

Wipe off tip before storing. Clean-up wet paint with xylene or mineral spirits. Properly discard empty container. Do not burn or place in trash compactor. Empty container can be recycled.

CLOGGING

If the valve clogs, twist and pull off spray tip and rinse in a solvent such as mineral spirits. Do not insert any object into can valve opening.

RUST-OLEUM®

TECHNICAL DATA

V2100 SYSTEM ENAMEL AEROSOL

PHYSICAL PROPERTIES

		ENAMELS	PRIMERS	GALVANIZING	HIGH HEAT
Resin Type		V2102838, V2115838, and V2119838: Acrylic; All others: Modified alkyd	Modified Alkyd and Acrylic	Epoxy Ester	V2116838: silicone blend V2176838: silicone modified alkyd
Pigment Type		Varies	Zinc phosphate, zinc molybdate, talc, calcium carbonate, red iron oxide (V2169838), titanium dioxide, carbon black (V2182838)	V2117838 contains 80% zinc and 12% aluminum (in the dry film) V2185838 contains 93% zinc (in the dry film)	V2116838: aluminum flake V2176838: black manganese ferrite
Solvents		Acetone, xylene, toluene (fluorescents also contain hexane), and liquefied petroleum gas propellant			
MIR		Finishes: Max value of 1.4 Metallics: Max value of 1.9	Maximum value of 1.2	Maximum value of 1.2	Max value of 1.85
Fill Weight		V2102, V2115, V2119 and all fluorescents: 14 oz. (398 g.); All others: 15 oz. (426 g) Mini Spray 3 oz.	15 oz. (426 grams) Mini Spray 3 oz.	20 oz. (568 grams)	15 oz. (426 grams)
Recommended Dry Film Thickness (DFT) Per Coat		1.0-2.0 mils (25-50µ)	1.0-2.0 mils (25-50µ)	1.0-2.0 mils (25-50µ)	1.0-2.0 mils (25-50µ)
Practical Coverage at Recommended DFT (Square Feet / Aerosol) (Depends on color)		V2100 finishes: Approx. 12-20 sq.ft. (1.1-1.9 m^2) Fluorescent finishes: Approx. 10 sq.ft. (0.9 m^2) Mini Spray: Approximately 3 sq.ft. (0.7 m^2)	Approximately 12-20 sq.ft. (1.1-1.9 m^2) Mini Spray: Approx. 3 sq.ft. (0.7 m^2)	Approximately 12-20 sq.ft. (1.1.1.9 m^2)	Approximately 12-20 sq.ft. (1.1-1.9 m^2)
Dry Times at 70-80°F (21-27°C) and 50% Relative Humidity	**Tack-free**	10-20 minutes	10-20 minutes	10-20 minutes	V2116838: 10-20 minutes V2176838: 2-4 hours
	Handle	1-2 hours	1-2 hours	1-2 hours	V2116838: 1-2 hours V2176838: 4-7 hours
	Recoat	Within 1 hour or after 24 hours*	At any time	Within 1 hour or after 24 hours**	V2116838: Anytime V2176838: Within 1 hour or after 24 hours
Dry Heat Resistance		200°F (93°C)	200°F (93°C)	200°F (93°C)	1000°F (538°C)
Shelf Life		5 years	5 years	5 years	5 years
Safety Information		For additional information, see MSDS			

Calculated values are shown and may vary slightly from the actual manufactured material.
*Allow more time in cooler temperatures
**Do not topcoat galvanizing compounds with an alkyd finish.

The technical data and suggestions for use contained herein are correct to the best of our knowledge, and offered in good faith. The statements of this literature do not constitute a warranty, express, or implied, as to the performance of these products. As conditions and use of our materials are beyond our control, we can guarantee these products only to conform to our standards of quality, and our liability, if any, will be limited to replacement of defective materials. All technical information is subject to change without notice.

RUST-OLEUM INDUSTRIAL BRANDS
Rust-Oleum Corporation
11 Hawthorn Parkway
Vernon Hills, Illinois 60061
An RPM Company
Phone: 877-385-8155
www.rustoleum.com/industrial

Form: GDH-682
Rev.: 021115

Material Safety Data Sheet

24 Hour Assistance:
1-847-367-7700
Rust-Oleum Corp.
www.rustoleum.com

Section 1 - Chemical Product / Company Information

Product Name: Rust-Oleum High Performance Industrial Enamel Aerosol Topcoats (Hard Hat)

Revision Date: 12/23/2008

Identification Number: 209567, V2124838, V2125838, V2133838, V2134838, V2137838, V2138838, V2143838, V2147838, V2148838, V2155838, V2156838, V2163838, V2164838, V2167838, V2170838, V2171838, V2174838, V2175838, V2177838, V2179838, V2183838, V2184838, V2187838, V2188838, V2190838, V2192838, V2196838

Product Use/Class: Topcoats/Aerosol

Supplier: Rust-Oleum Corporation
11 Hawthorn Parkway
Vernon Hills, IL 60061
USA

Manufacturer: Rust-Oleum Corporation
11 Hawthorn Parkway
Vernon Hills, IL 60061
USA

Preparer: Regulatory Department

Section 2 - Composition / Information On Ingredients

Chemical Name	CAS Number	Weight % Less Than	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA PEL-CEILING
Acetone	67-64-1	35.0	500 ppm	750 ppm	750 ppm	N.E.
Liquefied Petroleum Gas	68476-86-8	30.0	1000 ppm	N.E.	1000 ppm	N.E.
Titanium Dioxide	13463-67-7	15.0	10 mg/m3	N.E.	10 mg/m3	N.E.
n-Butyl Acetate	123-86-4	15.0	150 ppm	200 ppm	150 ppm	N.E.
Xylene	1330-20-7	10.0	100 ppm	150 ppm	100 ppm	N.E.
Methyl Ethyl Ketone	78-93-3	10.0	200 PPM	300 PPM	200 PPM	N.E.
Magnesium Silicate	14807-96-6	10.0	10 mg/m3	N.E.	15 mg/m3	N.E.
Ethylene Glycol Monobutyl Ether	111-76-2	5.0	20 PPM	N.E.	50 PPM	N.E.
Mineral Spirits	64742-88-7	5.0	100 ppm	N.E.	100 ppm	N.E.
Propylene Glycol Monobutyl Ether	5131-66-8	5.0	N.E	N.E.	N.E.	N.E.
Toluene	108-88-3	5.0	50 ppm	150 ppm	200 ppm	300 ppm
Ethylbenzene	100-41-4	5.0	100 ppm	125 ppm	100 ppm	N.E.
Aromatic Solvent	64742-95-6	5.0	N.E.	N.E.	N.E.	N.E.
Aromatic Petroleum Distillates	64742-94-5	5.0	10 ppm	N.E.	10 ppm	N.E.
1,2,4-Trimethylbenzene	95-63-6	5.0	25 ppm	N.E.	N.E.	N.E.
Calcined Aluminum Silicate	1332-58-7	5.0	2 mg/m3	N.E.	5 mg/m3	N.E.
Pigment Black 7	1333-86-4	5.0	3.5 mg/m3	N.E.	3.5 mg/m3	N.E.
Pigment Yellow 17	4531-49-1	5.0	2 mg/m3	N.E.	5 mg/m3	N.E.
Pigment Violet 32	12225-08-0	1.0	N.E	N.E.	N.E.	N.E.
Quartz (Crystalline Silica)	14808-60-7	1.0	0.025 mg/m3	N.E.	0.10 mg/m3	N.E.

Section 3 - Hazards Identification

*** Emergency Overview ***: Contains Aromatic Distillate, which may cause cancer. Contents Under Pressure. Harmful if inhaled. May affect the brain or nervous system causing dizziness, headache or nausea. Harmful if swallowed. Extremely flammable liquid and vapor. Vapors may cause flash fire or explosion.

Effects Of Overexposure - Eye Contact: Causes eye irritation.

Effects Of Overexposure - Skin Contact: May be harmful if absorbed through skin. Prolonged or repeated contact may cause skin irritation. Substance may cause slight skin irritation.

Effects Of Overexposure - Inhalation: High vapor concentrations are irritating to the eyes, nose, throat and lungs. Harmful if inhaled. High gas, vapor, mist or dust concentrations may be harmful if inhaled. Avoid breathing vapors or mists.

Effects Of Overexposure - Ingestion: Aspiration hazard if swallowed; can enter lungs and cause damage. Substance may be harmful if swallowed.

Effects Of Overexposure - Chronic Hazards: IARC lists Ethylbenzene as a possible human carcinogen (group 2B). Contains Titanium Dioxide. Titanium Dioxide is listed as a Group 2B-"Possibly carcinogenic to humans" by IARC. Significant exposure is not anticipated during brush application or drying. Risk of overexposure depends on duration and level of exposure to dust from repeated sanding of surfaces or spray mist and the actual concentration of Titanium Dioxide in the formula.

May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion, and blurred vision) and/or damage. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Overexposure to xylene in laboratory animals has been associated with liver abnormalities, kidney, lung, spleen, eye and blood damage as well as reproductive disorders. Effects in humans, due to chronic overexposure, have included liver, cardiac abnormalities and nervous system damage. Overexposure to toluene in laboratory animals has been associated with liver abnormalities, kidney, lung and spleen damage. Effects in humans have included liver and cardiac abnormalities. Overexposure to methyl ethyl ketone in laboratory animals has been associated with liver abnormalities, kidney and lung damage. Fetotoxic/embryotoxic effects from inhalation have been seen in rats exposed to >1000ppm during gestation.

Contains carbon black. Chronic inflammation, lung fibrosis, and lung tumors have been observed in some rats experimentally exposed for long periods of time to excessive concentrations of carbon black and several insoluble fine dust particles. Tumors have not been observed in other animal species (i.e., mouse and hamster) under similar circumstances and study conditions. Epidemiological studies of North American workers show no evidence of clinically significant adverse health effects due to occupational exposure to carbon black.

Carbon black is listed as a Group 2B-"Possibly carcinogenic to humans" by IARC and is proposed to be listed as A4- "not classified as a human carcinogen" by the American Conference of Governmental Industrial Hygienists. Significant exposure is not anticipated during brush application or drying. Risk of overexposure depends on duration and level of exposure to dust from repeated sanding of surfaces or spray mist and the actual concentration of carbon black in the formula. Contains crystalline silica as silicon dioxide. Excessive inhalation of respirable crystalline silica dust may cause lung disease, silicosis or lung cancer. Significant exposure is not anticipated during brush or trowel application or drying. Risk of overexposure depends on the duration and level of exposure to dust from repeated sanding of surfaces, mechanical abrasion or spray mist and actual concentration of crystalline silica in the formula. Crystalline silica is listed as Group 1 "carcinogenic to humans" by the International Agency for Research on Cancer (IARC,) and Group 2, "reasonably anticipated to be a carcinogen" by the National Toxicology Program (NTP)

Primary Route(s) Of Entry: Skin Contact, Skin Absorption, Inhalation, Eye Contact

Section 4 - First Aid Measures

First Aid - Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes holding eyelids open. Get medical attention.

First Aid - Skin Contact: Wash with soap and water. Get medical attention if irritation develops or persists.

First Aid - Inhalation: If you experience difficulty in breathing, leave the area to obtain fresh air. If continued difficulty is experienced, get medical assistance immediately.

First Aid - Ingestion: Aspiration hazard: Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe lung damage. Get immediate medical attention.

Section 5 - Fire Fighting Measures

Flash Point: -156 F
(Setaflash)

LOWER EXPLOSIVE LIMIT: 0.7 %
UPPER EXPLOSIVE LIMIT : 32.5 %

Extinguishing Media: Dry Chemical, Foam, Water Fog

Unusual Fire And Explosion Hazards: Water spray may be ineffective. FLASH POINT IS LESS THAN 20 °. F. - EXTREMELY FLAMMABLE LIQUID AND VAPOR! Closed containers may explode when exposed to extreme heat. Vapors may form explosive mixtures with air. Vapors can travel to a source of ignition and flash back. Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame. Perforation of the pressurized container may cause bursting of the can.

Special Firefighting Procedures: Evacuate area and fight fire from a safe distance.

Section 6 - Accidental Release Measures

Steps To Be Taken If Material Is Released Or Spilled: Contain spilled liquid with sand or earth. DO NOT use combustible materials such as sawdust. Remove all sources of ignition, ventilate area and remove with inert absorbent and non-sparking tools. Dispose of according to local, state (provincial) and federal regulations. Do not incinerate closed containers.

Section 7 - Handling And Storage

Handling: Follow all MSDS/label precautions even after container is emptied because it may retain product residues. Avoid breathing vapor or mist. Wash thoroughly after handling. Use only in a well-ventilated area. Wash hands before eating.

Storage: Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame. Do not store above 120 ° F. Store large quantities in buildings designed and protected for storage of NFPA Class I flammable liquids. Contents under pressure. Do not expose to heat or store above 120 ° F.

Section 8 - Exposure Controls / Personal Protection

Engineering Controls: Prevent build-up of vapors by opening all doors and windows to achieve cross-ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof ventilation equipment.

Respiratory Protection: A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. A NIOSH/MSHA approved air purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits.

Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

Skin Protection: Use impervious gloves to prevent skin contact and absorption of this material through the skin. Nitrile or Neoprene gloves may afford adequate skin protection.

Eye Protection: Use safety eyewear designed to protect against splash of liquids.

Other protective equipment: Refer to safety supervisor or industrial hygienist for further information regarding personal protective equipment and its application.

Hygienic Practices: Wash thoroughly with soap and water before eating, drinking or smoking.

Section 9 - Physical And Chemical Properties

Boiling Range:	-34 - 900 F	Vapor Density:	Heavier than Air
Odor:	Solvent-like	Odor Threshold:	ND
Appearance:	Liquid	Evaporation Rate:	Faster than Ether
Solubility in H2O:	Slight		
Freeze Point:	ND	Specific Gravity:	0.866
Vapor Pressure:	ND	PH:	ND
Physical State:	Liquid		

(See section 16 for abbreviation legend)

Section 10 - Stability And Reactivity

Conditions To Avoid: Avoid temperatures above 120 ° F. Avoid all possible sources of ignition.

Incompatibility: Incompatible with strong oxidizing agents, strong acids and strong alkalies.

Hazardous Decomposition: When heated to decomposition, it emits acrid smoke and irritating fumes. By open flame, carbon monoxide and carbon dioxide.

Hazardous Polymerization: Will not occur under normal conditions.

Stability: This product is stable under normal storage conditions.

Section 11 - Toxicological Information

Product LD50: ND

Product LC50: ND

Chemical Name	LD50	LC50
Acetone	5800 mg/kg (Rat)	50100 mg/m3 (Rat, 8Hr)
Liquefied Petroleum Gas	N.E.	N.E.
Titanium Dioxide	>7500 mg/kg (Rat, Oral)	N.E.
n-Butyl Acetate	13100 mg/kg (Rat, Oral)	2000 ppm (Rat, Inhalation, 4 Hr)
Xylene	4300 mg/kg (Rat, Oral)	5000 ppm (Rat, Inhalation, 4Hr)
Methyl Ethyl Ketone	N.D.	N.D.
Magnesium Silicate	N.E.	TCLo: 11 mg/m3 (Inhalation)
Ethylene Glycol Monobutyl Ether	1519 mg/kg (ORAL, MOUSE)	700 PPM (INH 7 Hr, RAT)
Mineral Spirits	>8 mg/kg (Rat, Oral)	>1400 ppm (Rat, Inhalation, 4Hr)
Propylene Glycol Monobutyl Ether	2200 mg/kg (ORAL, RAT)	N.D.
Toluene	636 mg/kg (Rat, Oral)	49 g/m3 (Rat, Inhalation)
Ethylbenzene	3500 mg/kg (Rat, Oral)	N.E.
Aromatic Solvent	4700 mg/kg (Rat, Oral)	3670 mg/kg (Rat, Inhalation)
Aromatic Petroleum Distillates	4900 mg/kg (Rat, Oral)	N.E.

1,2,4-Trimethylbenzene	N.E.	18000 mg/m3 (Rat, 4Hr)
Calcined Aluminum Silicate	5000 mg/kg (ORAL RAT)	N.D.
Pigment Black 7	>8000 mg/kg (Rat, Oral)	N.E.
Pigment Yellow 17	N.D.	N.D.
Pigment Violet 32	>10000 mg/kg (Rat, Oral)	N.E.
Quartz (Crystalline Silica)	N.E.	N.E.

Section 12 - Ecological Information

Ecological Information: Product is a mixture of listed components.

Section 13 - Disposal Information

Disposal Information: Dispose of material in accordance to local, state and federal regulations and ordinances. Do not allow to enter storm drains or sewer systems.

Section 14 - Transportation Information

DOT Proper Shipping Name:	Aerosol	Packing Group:	---
DOT Technical Name:	---	Hazard Subclass:	---
DOT Hazard Class:	2.1	Resp. Guide Page:	126
DOT UN/NA Number:	UN1950		

Section 15 - Regulatory Information

CERCLA - SARA Hazard Category

This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

IMMEDIATE HEALTH HAZARD, CHRONIC HEALTH HAZARD, FIRE HAZARD

SARA Section 313:

Listed below are the substances (if any) contained in this product that are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

Chemical Name	CAS Number
Xylene	1330-20-7
Methyl Ethyl Ketone	78-93-3
Ethylene Glycol Monobutyl Ether	111-76-2
Toluene	108-88-3
Ethylbenzene	100-41-4
Aromatic Petroleum Distillates	64742-94-5
1,2,4-Trimethylbenzene	95-63-6

Toxic Substances Control Act:

Listed below are the substances (if any) contained in this product that are subject to the reporting requirements of TSCA 12(B) if exported from the United States:

None known

U.S. State Regulations: As follows -

New Jersey Right-to-Know:

The following materials are non-hazardous, but are among the top five components in this product.

Chemical Name	CAS Number
Alkyd Resin	PROPRIETARY

Pennsylvania Right-to-Know:

The following non-hazardous ingredients are present in the product at greater than 3%.

Chemical Name	CAS Number
Alkyd Resin	PROPRIETARY
Barium Sulfate	7727-43-7
Calcium Carbonate	1317-65-3
Yellow Iron Oxide	51274-00-1

California Proposition 65:

WARNING! This product contains a chemical(s) known by the State of California to cause cancer.

WARNING! This product contains a chemical(s) known to the state of California to cause birth defects or other reproductive harm.

International Regulations: As follows -

CANADIAN WHMIS:

This MSDS has been prepared in compliance with Controlled Product Regulations except for the use of the 16 headings.

CANADIAN WHMIS CLASS: AB5, D2A, D2B

Section 16 - Other Information

HMIS Ratings:

Health: 2 Flammability: 4 Reactivity: 0 Personal Protection: X

REASON FOR REVISION:

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

The information contained on this MSDS has been checked and should be accurate. However, it is the responsibility of the user to comply with all Federal, State, and Local laws and regulations.

Material Safety Data Sheet

24 Hour Assistance:
1-847-367-7700
Rust-Oleum Corp.
www.rustoleum.com

Section 1 - Chemical Product / Company Information

Product Name:	PRO LSPR 6PK SEMIGLOSS WHITE	Revision Date:	06/30/2011
Identification Number:	239108		
Product Use/Class:	Topcoat/Aerosol		
Supplier:	Rust-Oleum Corporation 11 Hawthorn Parkway Vernon Hills, IL 60061 USA	Manufacturer:	Rust-Oleum Corporation 11 Hawthorn Parkway Vernon Hills, IL 60061 USA
Preparer:	Regulatory Department		

Section 2 - Composition / Information On Ingredients

Chemical Name	CAS Number	Weight % Less Than	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA PEL CEILING
Liquefied Petroleum Gas	68476-86-8	25.0	N.E.	N.E.	N.E.	N.E.
Acetone	67-64-1	20.0	500 ppm	750 ppm	1000 ppm	N.E.
Titanium Dioxide	13463-67-7	15.0	10 mg/m3	N.E.	15 mg/m3 (Total Dust)	N.E.
Xylene	1330-20-7	10.0	100 ppm	150 ppm	100 ppm	N.E.
n-Butyl Acetate	123-86-4	10.0	150 ppm	200 ppm	150 ppm	N.E.
Magnesium Silicate	14807-96-6	10.0	2 mg/m3	N.E.	0.1 mg/m3 (Respirable)	N.E.
Propylene Glycol Monobutyl Ether	5131-66-8	5.0	N.E.	N.E	N.E	N.E.
Ethylbenzene	100-41-4	5.0	100 ppm	125 ppm	100 ppm	N.E

Section 3 - Hazards Identification

*** Emergency Overview ***: Contents Under Pressure. Harmful if inhaled. May affect the brain or nervous system causing dizziness, headache or nausea. Vapors may cause flash fire or explosion. Harmful if swallowed. Extremely flammable liquid and vapor.

Effects Of Overexposure - Eye Contact: Causes eye irritation.

Effects Of Overexposure - Skin Contact: Prolonged or repeated contact may cause skin irritation. Substance may cause slight skin irritation.

Effects Of Overexposure - Inhalation: High vapor concentrations are irritating to the eyes, nose, throat and lungs. Avoid breathing vapors or mists. High gas, vapor, mist or dust concentrations may be harmful if inhaled. Harmful if inhaled.

Effects Of Overexposure - Ingestion: Aspiration hazard if swallowed; can enter lungs and cause damage. Substance may be harmful if swallowed.

Effects Of Overexposure - Chronic Hazards: IARC lists Ethylbenzene as a possible human carcinogen (group 2B). Contains Titanium Dioxide. Titanium Dioxide is listed as a Group 2B-"Possibly carcinogenic to humans" by IARC. Significant exposure is not anticipated during brush application or drying. Risk of overexposure depends on

duration and level of exposure to dust from repeated sanding of surfaces or spray mist and the actual concentration of Titanium Dioxide in the formula.
May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion, and blurred vision) and/or damage. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Overexposure to xylene in laboratory animals has been associated with liver abnormalities, kidney, lung, spleen, eye and blood damage as well as reproductive disorders. Effects in humans, due to chronic overexposure, have included liver, cardiac abnormalities and nervous system damage.

Primary Route(s) Of Entry: Skin Contact, Skin Absorption, Inhalation, Ingestion, Eye Contact

Section 4 - First Aid Measures

First Aid - Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes holding eyelids open. Get medical attention. Do NOT allow rubbing of eyes or keeping eyes closed.

First Aid - Skin Contact: Wash with soap and water. Get medical attention if irritation develops or persists.

First Aid - Inhalation: If you experience difficulty in breathing, leave the area to obtain fresh air. If continued difficulty is experienced, get medical assistance immediately.

First Aid - Ingestion: Aspiration hazard: Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe lung damage. Get immediate medical attention.

Section 5 - Fire Fighting Measures

Flash Point: -156 F (Setaflash)

Extinguishing Media: Film Forming Foam, Carbon Dioxide, Dry Chemical, Water Fog

Unusual Fire And Explosion Hazards: FLASH POINT IS LESS THAN 20 °. F. - EXTREMELY FLAMMABLE LIQUID AND VAPOR! Perforation of the pressurized container may cause bursting of the can. Isolate from heat, electrical equipment, sparks and open flame. Water spray may be ineffective. Closed containers may explode when exposed to extreme heat. Vapors may form explosive mixtures with air. Vapors can travel to a source of ignition and flash back. Keep containers tightly closed.

Special Firefighting Procedures: Evacuate area and fight fire from a safe distance.

Section 6 - Accidental Release Measures

Steps To Be Taken If Material Is Released Or Spilled: Remove all sources of ignition, ventilate area and remove with inert absorbent and non-sparking tools. Dispose of according to local, state (provincial) and federal regulations. Do not incinerate closed containers. Contain spilled liquid with sand or earth. DO NOT use combustible materials such as sawdust.

Section 7 - Handling And Storage

Handling: Wash thoroughly after handling. Wash hands before eating. Avoid breathing vapor or mist. Use only in a well-ventilated area. Follow all MSDS/label precautions even after container is emptied because it may retain product residues.

Storage: Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame. Do not store above 120 ° F. Store large quantities in buildings designed and protected for storage of NFPA Class I

flammable liquids. Contents under pressure. Do not expose to heat or store above 120 ° F.

Section 8 - Exposure Controls / Personal Protection

Engineering Controls: Prevent build-up of vapors by opening all doors and windows to achieve cross-ventilation. Use explosion-proof ventilation equipment. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Respiratory Protection: A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. A NIOSH/MSHA approved air purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits.

Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or in any other circumstances where air purifying respirators may not provide adequate protection.

Skin Protection: Nitrile or Neoprene gloves may afford adequate skin protection. Use impervious gloves to prevent skin contact and absorption of this material through the skin.

Eye Protection: Use safety eyewear designed to protect against splash of liquids.

Other protective equipment: Refer to safety supervisor or industrial hygienist for further information regarding personal protective equipment and its application.

Hygienic Practices: Wash thoroughly with soap and water before eating, drinking or smoking.

Section 9 - Physical And Chemical Properties

Vapor Density:	Heavier than Air	Odor:	Solvent Like
Appearance:	Aerosolized Mist	Evaporation Rate:	Faster than Ether
Solubility in H2O:	Slight	Freeze Point:	N.D.
Specific Gravity:	0.861	pH:	N.A.
Physical State:	Liquid		

(See section 16 for abbreviation legend)

Section 10 - Stability And Reactivity

Conditions To Avoid: Avoid temperatures above 120 ° F. Avoid all possible sources of ignition.

Incompatibility: Incompatible with strong oxidizing agents, strong acids and strong alkalies.

Hazardous Decomposition: By open flame, carbon monoxide and carbon dioxide. When heated to decomposition, it emits acrid smoke and irritating fumes.

Hazardous Polymerization: Will not occur under normal conditions.

Stability: This product is stable under normal storage conditions.

Section 11 - Toxicological Information

Chemical Name	LD50	LC50
Liquefied Petroleum Gas	N.E.	N.E.
Acetone	5800 mg/kg (Rat)	50100 mg/m3 (Rat, 8Hr)
Titanium Dioxide	>7500 mg/kg (Rat, Oral)	N.E.
Xylene	4300 mg/kg (Rat, Oral)	5000 ppm (Rat, Inhalation, 4Hr)
n-Butyl Acetate	13100 mg/kg (Rat, Oral)	2000 ppm (Rat, Inhalation, 4 Hr)
Magnesium Silicate	N.E.	TCLo: 11 mg/m3 (Inhalation)
Propylene Glycol Monobutyl Ether	2200 mg/kg (Rat, Oral)	N.E.
Ethylbenzene	3500 mg/kg (Rat, Oral)	N.E.

Section 12 - Ecological Information

Ecological Information: Product is a mixture of listed components.

Section 13 - Disposal Information

Disposal Information: Dispose of material in accordance to local, state and federal regulations and ordinances. Do not allow to enter storm drains or sewer systems.

Section 14 - Transportation Information

	Domestic (USDOT)	International (IMDG)	Air (IATA)
Proper Shipping Name:	Consumer Commodity	Aerosols	Aerosols
Hazard Class:	ORM-D	2.1	2.1
UN Number:	N.A.	UN1950	UN1950
Packing Group:	N.A.	N.A.	N.A.
Limited Quantity:	No	Yes	Yes

Section 15 - Regulatory Information

CERCLA - SARA Hazard Category

This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

IMMEDIATE HEALTH HAZARD, CHRONIC HEALTH HAZARD, FIRE HAZARD, PRESSURIZED GAS HAZARD

SARA Section 313:

Listed below are the substances (if any) contained in this product that are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

Chemical Name	CAS Number
Xylene	1330-20-7
Ethylbenzene	100-41-4

Toxic Substances Control Act:

Listed below are the substances (if any) contained in this product that are subject to the reporting requirements of TSCA 12(B) if exported from the United States:

U.S. State Regulations: As follows -

New Jersey Right-to-Know:

The following materials are non-hazardous, but are among the top five components in this product.

Chemical Name	CAS Number
Alkyd Resin	PROPRIETARY

Pennsylvania Right-to-Know:

The following non-hazardous ingredients are present in the product at greater than 3%.

Chemical Name	CAS Number
Alkyd Resin	PROPRIETARY

International Regulations: As follows -

CANADIAN WHMIS:

This MSDS has been prepared in compliance with Controlled Product Regulations except for the use of the 16 headings.

CANADIAN WHMIS CLASS: AB5 D2A D2B

Section 16 - Other Information

HMIS Ratings:

Health: 2*	Flammability: 4	Reactivity: 0	Personal Protection: X

NFPA Ratings:

Health: 2	Flammability: 4	Instability: 0

VOLATILE ORGANIC COMPOUNDS, g/L: 507

REASON FOR REVISION: Regulatory Update

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

Rust-Oleum Corporation believes, to the best of its knowledge, information and belief, the information contained herein to be accurate and reliable as of the date of this material safety data sheet. However, because the conditions of handling, use, and storage of these materials are beyond our control, we assume no responsibility or liability for personal injury or property damage incurred by the use of these materials. Rust-Oleum Corporation makes no warranty, expressed or implied, regarding the accuracy or reliability of the data or results obtained from their use. All materials may present unknown hazards and should be used with caution. The information and recommendations in this material safety data sheet are offered for the users' consideration and examination. It is the responsibility of the user to determine the final suitability of this information and to comply with all applicable international, federal, state, and local laws and regulations.

Material Safety Data Sheet

24 Hour Assistance:
1-847-367-7700
Rust-Oleum Corp.
www.rustoleum.com

Section 1 - Chemical Product / Company Information

Product Name:	STRUST +SSPR 6PK GLOSS SUNBURST YELLOW	Revision Date:	10/12/2011
Identification Number:	7747830		
Product Use/Class:	Topcoat/Aerosols		
Supplier:	Rust-Oleum Corporation 11 Hawthorn Parkway Vernon Hills, IL 60061 USA	Manufacturer:	Rust-Oleum Corporation 11 Hawthorn Parkway Vernon Hills, IL 60061 USA
Preparer:	Regulatory Department		

Section 2 - Composition / Information On Ingredients

Chemical Name	CAS Number	Weight % Less Than	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA PEL CEILING
Acetone	67-64-1	30.0	500 ppm	750 ppm	1000 ppm	N.E.
Liquefied Petroleum Gas	68476-86-8	30.0	N.E.	N.E.	N.E.	N.E.
Xylene	1330-20-7	10.0	100 ppm	150 ppm	100 ppm	N.E.
n-Butyl Acetate	123-86-4	10.0	150 ppm	200 ppm	150 ppm	N.E.
Titanium Dioxide	13463-67-7	5.0	10 mg/m3	N.E.	15 mg/m3 (Total Dust)	N.E.
Ethylbenzene	100-41-4	5.0	100 ppm	125 ppm	100 ppm	N.E.
Propylene Glycol Monobutyl Ether	5131-66-8	5.0	N.E.	N.E.	N.E.	N.E.

Section 3 - Hazards Identification

*** Emergency Overview ***: Harmful if inhaled. May affect the brain or nervous system causing dizziness, headache or nausea. Contents Under Pressure. Vapors may cause flash fire or explosion. Harmful if swallowed. Extremely flammable liquid and vapor.

Effects Of Overexposure - Eye Contact: Causes eye irritation.

Effects Of Overexposure - Skin Contact: Prolonged or repeated contact may cause skin irritation. Substance may cause slight skin irritation.

Effects Of Overexposure - Inhalation: High vapor concentrations are irritating to the eyes, nose, throat and lungs. Avoid breathing vapors or mists. Harmful if inhaled. High gas, vapor, mist or dust concentrations may be harmful if inhaled.

Effects Of Overexposure - Ingestion: Aspiration hazard if swallowed; can enter lungs and cause damage. Substance may be harmful if swallowed.

Effects Of Overexposure - Chronic Hazards: IARC lists Ethylbenzene as a possible human carcinogen (group 2B). Contains Titanium Dioxide. Titanium Dioxide is listed as a Group 2B-"Possibly carcinogenic to humans" by

IARC. Significant exposure is not anticipated during brush application or drying. Risk of overexposure depends on duration and level of exposure to dust from repeated sanding of surfaces or spray mist and the actual concentration of Titanium Dioxide in the formula.
May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion, and blurred vision) and/or damage. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Overexposure to xylene in laboratory animals has been associated with liver abnormalities, kidney, lung, spleen, eye and blood damage as well as reproductive disorders. Effects in humans, due to chronic overexposure, have included liver, cardiac abnormalities and nervous system damage.

Primary Route(s) Of Entry: Skin Contact, Skin Absorption, Inhalation, Ingestion, Eye Contact

Section 4 - First Aid Measures

First Aid - Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes holding eyelids open. Get medical attention. Do NOT allow rubbing of eyes or keeping eyes closed.

First Aid - Skin Contact: Wash with soap and water. Get medical attention if irritation develops or persists.

First Aid - Inhalation: If you experience difficulty in breathing, leave the area to obtain fresh air. If continued difficulty is experienced, get medical assistance immediately.

First Aid - Ingestion: Aspiration hazard: Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe lung damage. Get immediate medical attention.

Section 5 - Fire Fighting Measures

Flash Point: -156 F (Setaflash)

Extinguishing Media: Film Forming Foam, Carbon Dioxide, Dry Chemical, Dry Sand, Water Fog

Unusual Fire And Explosion Hazards: Perforation of the pressurized container may cause bursting of the can. Isolate from heat, electrical equipment, sparks and open flame. Keep containers tightly closed. Vapors can travel to a source of ignition and flash back. Vapors may form explosive mixtures with air. Closed containers may explode when exposed to extreme heat. FLASH POINT IS LESS THAN 20 °. F. - EXTREMELY FLAMMABLE LIQUID AND VAPOR! Water spray may be ineffective.

Special Firefighting Procedures: Evacuate area and fight fire from a safe distance.

Section 6 - Accidental Release Measures

Steps To Be Taken If Material Is Released Or Spilled: Contain spilled liquid with sand or earth. DO NOT use combustible materials such as sawdust. Remove all sources of ignition, ventilate area and remove with inert absorbent and non-sparking tools. Dispose of according to local, state (provincial) and federal regulations. Do not incinerate closed containers.

Section 7 - Handling And Storage

Handling: Wash thoroughly after handling. Wash hands before eating. Use only in a well-ventilated area. Avoid breathing vapor or mist. Follow all MSDS/label precautions even after container is emptied because it may retain product residues.

Storage: Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame. Do not

store above 120 ° F. Store large quantities in buildings designed and protected for storage of NFPA Class I flammable liquids. Contents under pressure. Do not expose to heat or store above 120 ° F.

Section 8 - Exposure Controls / Personal Protection

Engineering Controls: Use explosion-proof ventilation equipment. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Prevent build-up of vapors by opening all doors and windows to achieve cross-ventilation.

Respiratory Protection: A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. A NIOSH/MSHA approved air purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits.

Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or in any other circumstances where air purifying respirators may not provide adequate protection.

Skin Protection: Nitrile or Neoprene gloves may afford adequate skin protection. Use impervious gloves to prevent skin contact and absorption of this material through the skin.

Eye Protection: Use safety eyewear designed to protect against splash of liquids.

Other protective equipment: Refer to safety supervisor or industrial hygienist for further information regarding personal protective equipment and its application.

Hygienic Practices: Wash thoroughly with soap and water before eating, drinking or smoking.

Section 9 - Physical And Chemical Properties

Vapor Density:	Heavier than Air	Odor:	Solvent Like
Appearance:	Aerosolized Mist	Evaporation Rate:	Faster than Ether
Solubility in H2O:	Slight	Freeze Point:	N.D.
Specific Gravity:	0.794	pH:	N.A.
Physical State:	Liquid		

(See section 16 for abbreviation legend)

Section 10 - Stability And Reactivity

Conditions To Avoid: Avoid temperatures above 120 ° F. Avoid all possible sources of ignition.

Incompatibility: Incompatible with strong oxidizing agents, strong acids and strong alkalies.

Hazardous Decomposition: When heated to decomposition, it emits acrid smoke and irritating fumes. By open flame, carbon monoxide and carbon dioxide.

Hazardous Polymerization: Will not occur under normal conditions.

Stability: This product is stable under normal storage conditions.

Section 11 - Toxicological Information

Chemical Name	LD50	LC50
Acetone	5800 mg/kg (Rat)	50100 mg/m3 (Rat, 8Hr)
Liquefied Petroleum Gas	N.E.	N.E.
Xylene	4300 mg/kg (Rat, Oral)	5000 ppm (Rat, Inhalation, 4Hr)
n-Butyl Acetate	13100 mg/kg (Rat, Oral)	2000 ppm (Rat, Inhalation, 4 Hr)
Titanium Dioxide	>7500 mg/kg (Rat, Oral)	N.E.
Ethylbenzene	3500 mg/kg (Rat, Oral)	N.E.
Propylene Glycol Monobutyl Ether	2200 mg/kg (Rat, Oral)	N.E.

Section 12 - Ecological Information

Ecological Information: Product is a mixture of listed components.

Section 13 - Disposal Information

Disposal Information: Dispose of material in accordance to local, state and federal regulations and ordinances. Do not allow to enter storm drains or sewer systems.

Section 14 - Transportation Information

	Domestic (USDOT)	International (IMDG)	Air (IATA)
Proper Shipping Name:	Consumer Commodity	Aerosols	Aerosols
Hazard Class:	ORM-D	2.1	2.1
UN Number:	N.A.	UN1950	UN1950
Packing Group:	N.A.	N.A.	N.A.
Limited Quantity:	No	Yes	Yes

Section 15 - Regulatory Information

CERCLA - SARA Hazard Category

This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

IMMEDIATE HEALTH HAZARD, CHRONIC HEALTH HAZARD, FIRE HAZARD, PRESSURIZED GAS HAZARD

SARA Section 313:

Listed below are the substances (if any) contained in this product that are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

Chemical Name	CAS Number
Xylene	1330-20-7
Ethylbenzene	100-41-4

Toxic Substances Control Act:

Listed below are the substances (if any) contained in this product that are subject to the reporting requirements of TSCA 12(B) if exported from the United States:

U.S. State Regulations: As follows -

New Jersey Right-to-Know:

The following materials are non-hazardous, but are among the top five components in this product.

Chemical Name	CAS Number
Modified Alkyd Resin	PROPRIETARY

Pennsylvania Right-to-Know:

The following non-hazardous ingredients are present in the product at greater than 3%.

Chemical Name	CAS Number
Modified Alkyd Resin	PROPRIETARY
Barium Sulfate	7727-43-7

International Regulations: As follows -

CANADIAN WHMIS:

This MSDS has been prepared in compliance with Controlled Product Regulations except for the use of the 16 headings.

CANADIAN WHMIS CLASS: AB5 D2A D2B

Section 16 - Other Information

HMIS Ratings:

Health: 2*	Flammability: 4	Physical Hazard: 0	Personal Protection: X

NFPA Ratings:

Health: 2	Flammability: 4	Instability: 0

VOLATILE ORGANIC COMPOUNDS, g/L: 509

REASON FOR REVISION: Regulatory Update

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

Rust-Oleum Corporation believes, to the best of its knowledge, information and belief, the information contained herein to be accurate and reliable as of the date of this material safety data sheet. However, because the conditions of handling, use, and storage of these materials are beyond our control, we assume no responsibility or liability for personal injury or property damage incurred by the use of these materials. Rust-Oleum Corporation makes no warranty, expressed or implied, regarding the accuracy or reliability of the data or results obtained from their use. All materials may present unknown hazards and should be used with caution. The information and recommendations in this material safety data sheet are offered for the users' consideration and examination. It is the responsibility of the user to determine the final suitability of this information and to comply with all applicable

international, federal, state, and local laws and regulations.

Material Safety Data Sheet

24 Hour Assistance:
1-847-367-7700
Rust-Oleum Corp.
www.rustoleum.com

Section 1 - Chemical Product / Company Information

Product Name:	PTOUCH 2X +SSPR 6PK SEMI-GLS CLEAR	Revision Date:	05/06/2011
Identification Number:	249859		
Product Use/Class:	Clear/Aerosols		
Supplier:	Rust-Oleum Corporation 11 Hawthorn Parkway Vernon Hills, IL 60061 USA	Manufacturer:	Rust-Oleum Corporation 11 Hawthorn Parkway Vernon Hills, IL 60061 USA
Preparer:	Regulatory Department		

Section 2 - Composition / Information On Ingredients

Chemical Name	CAS Number	Weight % Less Than	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA PEL CEILING
Acetone	67-64-1	30.0	500 ppm	750 ppm	1000 ppm	N.E.
Liquefied Petroleum Gas	68476-86-8	25.0	N.E.	N.E.	N.E.	N.E.
Toluene	108-88-3	20.0	20 ppm	N.E.	200 ppm	300 ppm
n-Butyl Acetate	123-86-4	10.0	150 ppm	200 ppm	150 ppm	N.E.
Aliphatic Hydrocarbon	64742-89-8	5.0	100 ppm	N.E.	100 ppm	N.E.
Solvent Naptha, Light Aromatic	64742-95-6	5.0	N.E.	N.E.	N.E.	N.E.
1,2,4-Trimethylbenzene	95-63-6	5.0	25 ppm	N.E.	N.E.	N.E.
bis(2-ethylhexyl)-1,4-benzenedicarboxylate	6422-86-2	5.0	N.E.	N.E.	N.E.	N.E.
Propylene Glycol Monobutyl Ether	5131-66-8	5.0	N.E.	N.E.	N.E.	N.E.

Section 3 - Hazards Identification

*** Emergency Overview ***: Contents Under Pressure. Harmful if inhaled. May affect the brain or nervous system causing dizziness, headache or nausea. Vapors may cause flash fire or explosion. Harmful if swallowed. Extremely flammable liquid and vapor.

Effects Of Overexposure - Eye Contact: Causes eye irritation.

Effects Of Overexposure - Skin Contact: Prolonged or repeated contact may cause skin irritation. Substance may cause slight skin irritation.

Effects Of Overexposure - Inhalation: High vapor concentrations are irritating to the eyes, nose, throat and lungs. Avoid breathing vapors or mists. High gas, vapor, mist or dust concentrations may be harmful if inhaled. Harmful if inhaled.

Effects Of Overexposure - Ingestion: Aspiration hazard if swallowed; can enter lungs and cause damage. Substance may be harmful if swallowed.

Effects Of Overexposure - Chronic Hazards: May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion, and blurred vision) and/or damage. Reports have

associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage.

Primary Route(s) Of Entry: Skin Contact, Skin Absorption, Inhalation, Ingestion, Eye Contact

Section 4 - First Aid Measures

First Aid - Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes holding eyelids open. Get medical attention. Do NOT allow rubbing of eyes or keeping eyes closed.

First Aid - Skin Contact: Wash with soap and water. Get medical attention if irritation develops or persists.

First Aid - Inhalation: If you experience difficulty in breathing, leave the area to obtain fresh air. If continued difficulty is experienced, get medical assistance immediately.

First Aid - Ingestion: Aspiration hazard: Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe lung damage. Get immediate medical attention.

Section 5 - Fire Fighting Measures

Flash Point: -156 F (Setaflash)

Extinguishing Media: Film Forming Foam, Carbon Dioxide, Dry Chemical, Water Fog

Unusual Fire And Explosion Hazards: FLASH POINT IS LESS THAN 20 °. F. - EXTREMELY FLAMMABLE LIQUID AND VAPOR! Perforation of the pressurized container may cause bursting of the can. Isolate from heat, electrical equipment, sparks and open flame. Keep containers tightly closed. Water spray may be ineffective. Closed containers may explode when exposed to extreme heat. Vapors may form explosive mixtures with air. Vapors can travel to a source of ignition and flash back.

Special Firefighting Procedures: Evacuate area and fight fire from a safe distance.

Section 6 - Accidental Release Measures

Steps To Be Taken If Material Is Released Or Spilled: Contain spilled liquid with sand or earth. DO NOT use combustible materials such as sawdust. Remove all sources of ignition, ventilate area and remove with inert absorbent and non-sparking tools. Dispose of according to local, state (provincial) and federal regulations. Do not incinerate closed containers.

Section 7 - Handling And Storage

Handling: Follow all MSDS/label precautions even after container is emptied because it may retain product residues. Use only in a well-ventilated area. Avoid breathing vapor or mist. Wash thoroughly after handling. Wash hands before eating.

Storage: Do not store above 120 ° F. Store large quantities in buildings designed and protected for storage of NFPA Class I flammable liquids. Contents under pressure. Do not expose to heat or store above 120 ° F. Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame.

Section 8 - Exposure Controls / Personal Protection

Engineering Controls: Prevent build-up of vapors by opening all doors and windows to achieve cross-ventilation.

Use explosion-proof ventilation equipment. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Respiratory Protection: A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. A NIOSH/MSHA approved air purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits.

Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or in any other circumstances where air purifying respirators may not provide adequate protection.

Skin Protection: Nitrile or Neoprene gloves may afford adequate skin protection. Use impervious gloves to prevent skin contact and absorption of this material through the skin.

Eye Protection: Use safety eyewear designed to protect against splash of liquids.

Other protective equipment: Refer to safety supervisor or industrial hygienist for further information regarding personal protective equipment and its application.

Hygienic Practices: Wash thoroughly with soap and water before eating, drinking or smoking.

Section 9 - Physical And Chemical Properties

Vapor Density:	Heavier than Air	Odor:	Solvent Like
Appearance:	Aerosolized Mist	Evaporation Rate:	Faster than Ether
Solubility in H2O:	Slight	Freeze Point:	N.D.
Specific Gravity:	0.747	pH:	N.A.
Physical State:	Liquid		

(See section 16 for abbreviation legend)

Section 10 - Stability And Reactivity

Conditions To Avoid: Avoid temperatures above 120 ° F. Avoid all possible sources of ignition.

Incompatibility: Incompatible with strong oxidizing agents, strong acids and strong alkalies.

Hazardous Decomposition: By open flame, carbon monoxide and carbon dioxide. When heated to decomposition, it emits acrid smoke and irritating fumes.

Hazardous Polymerization: Will not occur under normal conditions.

Stability: This product is stable under normal storage conditions.

Section 11 - Toxicological Information

Chemical Name	LD50	LC50
Acetone	5800 mg/kg (Rat)	50100 mg/m3 (Rat, 8Hr)
Liquefied Petroleum Gas	N.E.	N.E.
Toluene	636 mg/kg (Rat, Oral)	>26700 ppm (Rat, Inhalation, 1Hr)
n-Butyl Acetate	13100 mg/kg (Rat, Oral)	2000 ppm (Rat, Inhalation, 4 Hr)
Aliphatic Hydrocarbon	>5000 mg/kg (Rat, Oral)	N.E.

Solvent Naptha, Light Aromatic	4700 mg/kg (Rat, Oral)	3670 mg/kg (Rat, Inhalation)
1,2,4-Trimethylbenzene	N.E.	18000 mg/m3 (Rat, 4Hr)
bis(2-ethylhexyl)-1,4-benzenedicarboxylate	>5000 mg/kg (Rat)	N.E.
Propylene Glycol Monobutyl Ether	2200 mg/kg (Rat, Oral)	N.E.

Section 12 - Ecological Information

Ecological Information: Product is a mixture of listed components.

Section 13 - Disposal Information

Disposal Information: Dispose of material in accordance to local, state and federal regulations and ordinances. Do not allow to enter storm drains or sewer systems.

Section 14 - Transportation Information

	Domestic (USDOT)	International (IMDG)	Air (IATA)
Proper Shipping Name:	Consumer Commodity	Aerosols	Aerosols
Hazard Class:	ORM-D	2.1	2.1
UN Number:	N.A.	N.A.	UN1950
Packing Group:	N.A.	N.A.	N.A.
Limited Quantity:	No	Yes	Yes

Section 15 - Regulatory Information

CERCLA - SARA Hazard Category

This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

IMMEDIATE HEALTH HAZARD, CHRONIC HEALTH HAZARD, FIRE HAZARD, PRESSURIZED GAS HAZARD

SARA Section 313:

Listed below are the substances (if any) contained in this product that are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

Chemical Name	CAS Number
Toluene	108-88-3
1,2,4-Trimethylbenzene	95-63-6

Toxic Substances Control Act:

Listed below are the substances (if any) contained in this product that are subject to the reporting requirements of TSCA 12(B) if exported from the United States:

U.S. State Regulations: As follows -

New Jersey Right-to-Know:

The following materials are non-hazardous, but are among the top five components in this product.

Chemical Name	CAS Number
Acrylic Resin	PROPRIETARY

Pennsylvania Right-to-Know:

The following non-hazardous ingredients are present in the product at greater than 3%.

Chemical Name	CAS Number
Acrylic Resin	PROPRIETARY

International Regulations: As follows -

CANADIAN WHMIS:

This MSDS has been prepared in compliance with Controlled Product Regulations except for the use of the 16 headings.

CANADIAN WHMIS CLASS: AB5 D2A D2B

Section 16 - Other Information

HMIS Ratings:

Health: 2*	Flammability: 4	Reactivity: 0	Personal Protection: X

NFPA Ratings:

Health: 2	Flammability: 4	Instability: 0

VOLATILE ORGANIC COMPOUNDS, g/L: 584

REASON FOR REVISION: Regulatory Update

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

Rust-Oleum Corporation believes, to the best of its knowledge, information and belief, the information contained herein to be accurate and reliable as of the date of this material safety data sheet. However, because the conditions of handling, use, and storage of these materials are beyond our control, we assume no responsibility or liability for personal injury or property damage incurred by the use of these materials. Rust-Oleum Corporation makes no warranty, expressed or implied, regarding the accuracy or reliability of the data or results obtained from their use. All materials may present unknown hazards and should be used with caution. The information and recommendations in this material safety data sheet are offered for the users' consideration and examination. It is the responsibility of the user to determine the final suitability of this information and to comply with all applicable international, federal, state, and local laws and regulations.

CRC MATERIAL SAFETY DATA SHEET

Section 1: Product & Company Identification

Product Name: **Brakleen® Brake Parts Cleaner – Non-chlorinated** (aerosol)

Product Number (s): **05088, 75088**

Product Use: Brake parts cleaner

Manufacturer / Supplier Contact Information:

In United States:
CRC Industries, Inc.
885 Louis Drive
Warminster, PA 18974
www.crcindustries.com
1-215-674-4300(General)
(800) 521-3168 (Technical)
(800) 272-4620 (Customer Service)

In Canada:
CRC Canada Co.
2-1246 Lorimar Drive
Mississauga, Ontario L5S 1R2
www.crc-canada.ca
1-905-670-2291

In Mexico:
CRC Industries Mexico
Av. Benito Juárez 4055 G
Colonia Orquídea
San Luís Potosí, SLP CP 78394
www.crc-mexico.com
52-444-824-1666

24-Hr Emergency – CHEMTREC: (800) 424-9300 or (703) 527-3887

Section 2: Hazards Identification

Emergency Overview

DANGER: Extremely Flammable. Harmful or Fatal if Swallowed. May Cause Blindness if Swallowed. Vapor Harmful. Eye and Skin Irritant. Contents Under Pressure.
Appearance & Odor: Clear liquid; solvent odor

Potential Health Effects:

ACUTE EFFECTS:

EYE: Moderate eye irritant. Exposure can cause irritation including stinging, tearing, redness, blurred vision, and swelling of the eyes.

SKIN: Moderate skin irritant. Prolonged or repeated contact may dry the skin. Symptoms may include redness, burning, drying and cracking of the skin, and skin burns. Passage of this material into the body through the skin is possible, but it is unlikely that this would result in harmful effects during safe handling and use.

INHALATION: Breathing large amounts of this material may be harmful. Symptoms include irritation of the nose and throat and central nervous system excitation (giddiness), followed by CNS depression (dizziness, drowsiness, weakness, headache, nausea, unconsciousness).

INGESTION: Swallowing small amounts is not likely to cause harmful effects. May cause stomach or intestinal upset. Swallowing larger amounts may be harmful as this material may be aspirated into the lungs during swallowing or vomiting. This results in lung inflammation and other lung injury.

CHRONIC EFFECTS: Overexposure to methanol may lead to visual impairment.

TARGET ORGANS: liver, kidneys, blood; central nervous system, eyes

Medical Conditions Aggravated by Exposure: skin sensitivities, lung conditions, central nervous system conditions

See Section 11 for toxicology and carcinogenicity information on product ingredients.

Section 3: Composition/Information on Ingredients

COMPONENT	CAS NUMBER	% by Wt.
Methanol	67-56-1	40 – 50
Toluene	108-88-3	15 – 25
Heptane	142-82-5 / 64742-49-0	15 – 25
Acetone	67-64-1	5 – 15
Carbon dioxide	124-38-9	5 – 10

Section 4: First Aid Measures

Eye Contact: Immediately flush with plenty of water for 15 minutes. Call a physician if irritation persists.

Skin Contact: Remove contaminated clothing and wash affected area with soap and water. Call a physician if irritation persists. Wash contaminated clothing prior to re-use.

Inhalation: Remove person to fresh air. Keep person calm. If not breathing, give artificial respiration. If breathing is difficult give oxygen. Call a physician.

Ingestion: Seek medical attention. Do NOT induce vomiting unless instructed by medical personnel. Have victim drink a glass of water if conscious.

Note to Physicians: This material is an aspiration hazard. This material (or a component) has produced hyperglycemia and ketosis following substantial ingestion. Inhalation of high concentrations of this material may be associated with cardiac arrhythmias. Sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to this material. This product contains methanol. The metabolites of methanol can cause metabolic acidosis, visual disturbances and blindness.

Section 5: Fire-Fighting Measures

Flammable Properties: This product is extremely flammable in accordance with aerosol flammability definitions. (See 16 CFR 1500.3(c)(6)).

Flash Point: 0°F / -18°C (TCC) Upper Explosive Limit: ND
Autoignition Temperature: 725°F / 385°C Lower Explosive Limit: ND

Fire and Explosion Data:

Suitable Extinguishing Media: Dry chemical, carbon dioxide, alcohol-resistant foam, Class B extinguishers

Products of Combustion: Oxides of carbon

Explosion Hazards: Aerosol containers, when exposed to heat from fire, may build pressure and explode. Vapors may accumulate in a confined space and create a flammable atmosphere.

Protection of Fire-Fighters: Firefighters should wear self-contained, NIOSH-approved breathing apparatus for protection against suffocation and possible toxic decomposition products. Proper eye and skin protection should be provided. Use water spray to keep fire-exposed containers cool and to knock down vapors which may result from product decomposition.

Section 6: Accidental Release Measures

Personal Precautions: Use personal protection recommended in Section 8.

Environmental Precautions: Take precautions to prevent contamination of ground and surface waters. Do not flush into sewers or storm drains.

Methods for Containment & Clean-up: Eliminate all sources of ignition. Dike area to contain spill. Ventilate the area with fresh air. If in confined space or limited air circulation area, clean-up workers should wear appropriate respiratory protection. Recover or absorb spilled material using an absorbent designed for chemical spills. Place used absorbents into proper waste containers.

Section 7: Handling and Storage

Handling Procedures: Do not use near potential sources of ignition. Do not use on energized equipment. Use with adequate ventilation. Avoid contact with skin and eyes. Avoid inhaling vapors. Use caution around energized equipment. The metal container will conduct electricity if it contacts a live source. This may result in injury to the user from electrical shock and/or flash fire. For product use instructions, please see the product label.

Storage Procedures: Store in a cool dry area out of direct sunlight. Aerosol cans must be maintained below 120°F / 49°C to prevent cans from rupturing.

Aerosol Storage Level: III

Section 8: Exposure Controls/Personal Protection

Exposure Guidelines:

	OSHA		ACGIH		OTHER		
COMPONENT	TWA	STEL	TWA	STEL	TWA	SOURCE	UNIT
Methanol	200	NE	200	250 (s)	NE		ppm
Toluene	200	300 (c)	20	NE	NE		ppm
Heptane	500	NE	400	500	NE		ppm
Acetone	1000	NE	500	750	NE		ppm
Carbon dioxide	5000	30000(v)	5000	30000	NE		ppm
N.E. – Not Established		(c) – ceiling		(s) – skin	(v) – vacated		

Controls and Protection:

Engineering Controls: Area should have ventilation to provide fresh air. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at the source, preventing dispersion into the general work area. Use mechanical means if necessary to maintain vapor levels below the exposure guidelines. If working in a confined space, follow applicable OSHA regulations.

Respiratory Protection: None required for normal work where adequate ventilation is provided. If engineering controls are not feasible or if exposure exceeds the applicable exposure limits, use a NIOSH-approved cartridge respirator with organic vapor cartridge. Air monitoring is needed to determine actual employee exposure levels. Use a self-contained breathing apparatus in confined spaces and for emergencies.

Eye/face Protection: For normal conditions, wear safety glasses. Where there is reasonable probability of liquid contact, wear splash-proof goggles.

Skin Protection: Use protective gloves such as nitrile, PVA, or neoprene. Also, use full protective clothing if there is prolonged or repeated contact of liquid with skin.

Section 9: Physical and Chemical Properties

Physical State: liquid
Color: clear
Odor: solvent
Odor Threshold: ND
Specific Gravity: 0.782
Initial Boiling Point: 132°F / 56°C
Freezing Point: ND
Vapor Pressure: ND
Vapor Density: > 1 (air = 1)
Evaporation Rate: fast
Solubility: slightly soluble in water
Coefficient of water/oil distribution: ND
pH: NA
Volatile Organic Compounds: wt %: 84.0 g/L: 657.2 lbs./gal: 5.5

Section 10: Stability and Reactivity

Stability: Stable

Conditions to Avoid: Sources of ignition; temperature extremes

Incompatible Materials: Acids, alkalis, reducing agents, strong oxidizing agents, hypochlorites, peroxides, reactive metals such as aluminum and magnesium, sodium, zinc

Hazardous Decomposition Products: Oxides of carbon, various hydrocarbons

Possibility of Hazardous Reactions: No

Section 11: Toxicological Information

Long-term toxicological studies have not been conducted for this product. The following information is available for components of this product.

Acute Toxicity:

Component	Oral LD50 (rat)	Dermal LD50 (rabbit)	Inhalation LC50 (rat)
Methanol	5600 mg/kg	15,800 mg/kg	81,000 mg/m^3/14H
Toluene	636 mg/kg	14,100 µL/kg	49 g/m^3/4H
Heptane	No data	No data	103 g/m^3/4H
Acetone	5800 mg/kg	No data	50,100 mg/m^3/8H
Carbon dioxide	No data	No data	470,000 ppm/30M

Chronic Toxicity:

Component	OSHA Carcinogen	IARC Carcinogen	NTP Carcinogen	Irritant	Sensitizer
Methanol	No	No	No	E & S (moderate)	Unknown
Toluene	No	No	No	E, S, R (mild)	Unknown
Heptane isomers	No	No	No	E & R (mild) / S (moderate)	Unknown
Acetone	No	No	No	E & S (moderate) / R (mild)	Yes
Carbon dioxide	No	No	No	No	No

E – Eye S – Skin R - Respiratory

Reproductive Toxicity: No information available
Teratogenicity: No information available
Mutagenicity: No information available
Synergistic Effects: No information available

Section 12: Ecological Information

Ecological studies have not been conducted for this product. The following information is available for components of this product.

Ecotoxicity: Acetone – 48H LC50 Daphnia: 10 mg/l
Persistence / Degradability: No information available
Bioaccumulation / Accumulation: No information available
Mobility in Environment: No information available

Section 13: Disposal Considerations

Waste Classification: The dispensed liquid product is a RCRA hazardous waste for the characteristic of ignitability with the following potential waste code(s): D001, F005. (See 40 CFR Part 261.20 – 261.33) Aerosol containers should be fully emptied and depressurized before disposal. Empty aerosol containers may be recycled.

All disposal activities must comply with federal, state, provincial and local regulations. Local regulations may be more stringent than state, provincial or national requirements.

Section 14: Transport Information

US DOT (ground): Consumer Commodity, ORM-D

ICAO/IATA (air): Consumer Commodity, ID8000, 9

IMO/IMDG (water): Aerosols, UN1950, 2.1, Limited Quantity

Special Provisions: None

Section 15: Regulatory Information

U.S. Federal Regulations:

Toxic Substances Control Act (TSCA):
All ingredients are either listed on the TSCA inventory or are exempt.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA):
Reportable Quantities (RQ's) exist for the following ingredients: Acetone (5000 lbs), Toluene (1000 lbs), Methanol (5000 lbs)

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.

Superfund Amendments Reauthorization Act (SARA) Title III:
Section 302 Extremely Hazardous Substances (EHS): None

Section 311/312 Hazard Categories:

Fire Hazard	Yes
Reactive Hazard	No
Release of Pressure	Yes
Acute Health Hazard	Yes
Chronic Health Hazard	No

Section 313 Toxic Chemicals: This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:
Toluene (< 20%), Methanol (< 46%)

Clean Air Act:
Section 112 Hazardous Air Pollutants (HAPs): Toluene, Methanol

Occupational Safety and Health Administration:
This product is regulated by the Hazard Communications Standard.

U.S. State Regulations:

California Safe Drinking Water and Toxic Enforcement Act (Prop 65):
This product may contain the following chemicals known to the state of California to cause cancer, birth defects or other reproductive harm: Toluene

Consumer Products VOC Regulations: This product does not comply with Consumer Products VOC regulations and cannot be used in California, Connecticut, Delaware, The District of Columbia, Illinois, Indiana, Maine, Maryland, Massachusetts, Michigan, New Jersey, New Hampshire, New York, Ohio, Pennsylvania, Rhode Island, and parts of Utah and Virginia.

State Right to Know:

New Jersey:	67-64-1, 108-88-3, 67-56-1, 124-38-9, 142-82-5
Pennsylvania:	67-64-1, 108-88-3, 67-56-1, 124-38-9, 142-82-5
Massachusetts:	67-64-1, 108-88-3, 67-56-1, 124-38-9, 142-82-5
Rhode Island :	67-64-1, 108-88-3, 67-56-1, 124-38-9 142-82-5

Canadian Regulations:

Controlled Products Regulations:
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

WHMIS Hazard Class: A, B5, D1A, D2A, D2B

Canadian DSL Inventory: All ingredients are either listed on the DSL Inventory or are exempt.

European Union Regulations:

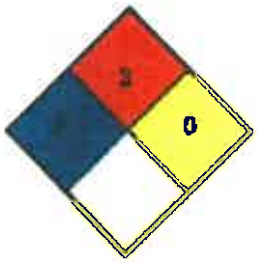
RoHS Compliance: This product is compliant with Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003. This product does not contain any of the restricted substances as listed in Article 4(1) of the RoHS Directive.

Additional Regulatory Information: None

Section 16: Other Information

HMIS® (II)	
Health:	2
Flammability:	3
Reactivity:	0
PPE:	B

NFPA



Ratings range from 0 (no hazard) to 4 (severe hazard)

Prepared By: Michelle Rudnick
CRC #: 483A
Revision Date: 08/26/2014

Changes since last revision: Section 15: Consumer Products VOC Regulations

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. This information is accurate to the best of CRC Industries' knowledge or obtained from sources believed by CRC to be accurate. Before using any product, read all warnings and directions on the label. For further clarification of any information contained on this MSDS consult your supervisor, a health & safety professional, or CRC Industries.

ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstract Service
CFR: Code of Federal Regulations
DOT: Department of Transportation
DSL: Domestic Substance List
g/L: grams per Liter
HMIS: Hazardous Materials Identification System
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
IMDG: International Maritime Dangerous Goods
IMO: International Maritime Organization
lbs./gal: pounds per gallon
LC: Lethal Concentration
LD: Lethal Dose
NA: Not Applicable
ND: Not Determined
NIOSH: National Institute of Occupational Safety & Health
NFPA: National Fire Protection Association
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration
PMCC: Pensky-Martens Closed Cup
PPE: Personal Protection Equipment
ppm: Parts per Million
RoHS: Restriction of Hazardous Substances
STEL: Short Term Exposure Limit
TCC: Tag Closed Cup
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Information System

Material Safety Data Sheet

1 - Chemical Product and Company Identification

Manufacturer: WD-40 Company **Address:** 1061 Cudahy Place (92110) P.O. Box 80607 San Diego, California, USA 92138 –0607 **Telephone:** **Emergency only:** 1-888-324-7596 (PROSAR) **Information:** 1-888-324-7596 **Chemical Spills:** 1-800-424-9300 (Chemtrec) 1-703-527-3887 (International Calls)	**Chemical Name:** Organic Mixture **Trade Name:** WD-40 Aerosol **Product Use:** Lubricant, Penetrant, Drives Out Moisture, Removes and Protects Surfaces From Corrosion **MSDS Date Of Preparation:** 3/11/10

2 – Hazards Identification

Emergency Overview:
DANGER! Flammable aerosol. Contents under pressure. Harmful or fatal if swallowed. If swallowed, may be aspirated and cause lung damage. May cause eye irritation. Avoid eye contact. Use with adequate ventilation. Keep away from heat, sparks and all other sources of ignition.

Symptoms of Overexposure:
Inhalation: High concentrations may cause nasal and respiratory irritation and central nervous system effects such as headache, dizziness and nausea. Intentional abuse may be harmful or fatal.
Skin Contact: Prolonged and/or repeated contact may produce mild irritation and defatting with possible dermatitis.
Eye Contact: Contact may be irritating to eyes. May cause redness and tearing.
Ingestion: This product has low oral toxicity. Swallowing may cause gastrointestinal irritation, nausea, vomiting and diarrhea. This product is an aspiration hazard. If swallowed, can enter the lungs and may cause chemical pneumonitis, severe lung damage and death.
Chronic Effects: None expected.
Medical Conditions Aggravated by Exposure: Preexisting eye, skin and respiratory conditions may be aggravated by exposure.

Suspected Cancer Agent:
Yes No X

3 - Composition/Information on Ingredients

Ingredient	CAS #	Weight Percent
Aliphatic Hydrocarbon	64742-47-8	45-50
Petroleum Base Oil	64742-58-1 64742-53-6 64742-56-9 64742-65-0	<25
LVP Aliphatic Hydrocarbon	64742-47-8	12-18
Carbon Dioxide	124-38-9	2-3
Surfactant	Proprietary	<2
Non-Hazardous Ingredients	Mixture	<10

4 – First Aid Measures

Ingestion (Swallowed): Aspiration Hazard. DO NOT induce vomiting. Call physician, poison control center or the WD-40 Safety Hotline at 1-888-324-7596 immediately.
Eye Contact: Flush thoroughly with water. Remove contact lenses if present after the first 5 minutes and continue flushing for several more minutes. Get medical attention if irritation persists.

Skin Contact: Wash with soap and water. If irritation develops and persists, get medical attention.
Inhalation (Breathing): If irritation is experienced, move to fresh air. Get medical attention if irritation or other symptoms develop and persist.

5 – Fire Fighting Measures

Extinguishing Media: Use water fog, dry chemical, carbon dioxide or foam. Do not use water jet or flooding amounts of water. Burning product will float on the surface and spread fire.
Special Fire Fighting Procedures: Firefighters should always wear positive pressure self-contained breathing apparatus and full protective clothing. Cool fire-exposed containers with water. Use shielding to protect against bursting containers.
Unusual Fire and Explosion Hazards: Contents under pressure. Keep away from ignition sources and open flames. Exposure of containers to extreme heat and flames can cause them to rupture often with violent force. Vapors are heavier than air and may travel along surfaces to remote ignition sources and flash back.

6 – Accidental Release Measures

Wear appropriate protective clothing (see Section 8). Eliminate all sources of ignition and ventilate area. Leaking cans should be placed in a plastic bag or open pail until the pressure has dissipated. Contain and collect liquid with an inert absorbent and place in a container for disposal. Clean spill area thoroughly. Report spills to authorities as required.

7 – Handling and Storage

Handling: Avoid contact with eyes. Avoid prolonged contact with skin. Avoid breathing vapors or aerosols. Use only with adequate ventilation. Keep away from heat, sparks, pilot lights, hot surfaces and open flames. Unplug electrical tools, motors and appliances before spraying or bringing the can near any source of electricity. Electricity can burn a hole in the can and cause contents to burst into flames. To avoid serious burn injury, do not let the can touch battery terminals, electrical connections on motors or appliances or any other source of electricity. Wash thoroughly with soap and water after handling. Keep containers closed when not in use. Keep out of the reach of children. Do not puncture, crush or incinerate containers, even when empty.
Storage: Store in a cool, well-ventilated area, away from incompatible materials Do not store above 120°F or in direct sunlight. U.F.C (NFPA 30B) Level 3 Aerosol.

8 – Exposure Controls/Personal Protection

Chemical	Occupational Exposure Limits
Aliphatic Hydrocarbon	1200 mg/m3 TWA (manufacturer recommended)
Petroleum Base Oil	5 mg/m3 TWA, 10 mg/m3 STEL ACGIH TLV 5 mg/m3 TWA OSHA PEL
LVP Aliphatic Hydrocarbon	1200 mg/m3 TWA (manufacturer recommended)
Carbon Dioxide	5000 ppm TWA (OSHA/ACGIH), 30,000 ppm STEL (ACGIH)
Surfactant	None Established
Non-Hazardous Ingredients	None Established

The Following Controls are Recommended for Normal Consumer Use of this Product
Engineering Controls: Use in a well-ventilated area.
Personal Protection:
Eye Protection: Avoid eye contact. Always spray away from your face.
Skin Protection: Avoid prolonged skin contact. Chemical resistant gloves recommended for operations where skin contact is likely.
Respiratory Protection: None needed for normal use with adequate ventilation.

For Bulk Processing or Workplace Use the Following Controls are Recommended
Engineering Controls: Use adequate general and local exhaust ventilation to maintain exposure levels below that occupational exposure limits.

Personal Protection:
Eye Protection: Safety goggles recommended where eye contact is possible.
Skin Protection: Wear chemical resistant gloves.
Respiratory Protection: None required if ventilation is adequate. If the occupational exposure limits are exceeded, wear a NIOSH approved respirator. Respirator selection and use should be based on contaminant type, form and concentration. Follow OSHA 1910.134, ANSI Z88.2 and good Industrial Hygiene practice.
Work/Hygiene Practices: Wash with soap and water after handling.

9 – Physical and Chemical Properties

Boiling Point:	361 - 369°F (183 - 187°C)	Specific Gravity:	0.8 – 0.82 @ 60°F
Solubility in Water:	Insoluble	pH:	Not Applicable
Vapor Pressure:	95-115 PSI @ 70°F	Vapor Density:	Greater than 1
Percent Volatile:	70-75%	VOC:	412 grams/liter (49.5%)
Coefficient of Water/Oil Distribution:	Not Determined	Appearance/Odor	Light amber liquid/mild odor
Flash Point:	122°F (49°C) Tag Open Cup (concentrate)	Flammable Limits: (Solvent Portion)	LEL: 0.6% UEL: 8.0%
Pour Point:	-63°C (-81.4°F) ASTM D-97	Kinematic Viscosity:	2.79-2.96cSt @ 100°F

10 – Stability and Reactivity

Stability: Stable
Hazardous Polymerization: Will not occur.
Conditions to Avoid: Avoid heat, sparks, flames and other sources of ignition. Do not puncture or incinerate containers.
Incompatibilities: Strong oxidizing agents.
Hazardous Decomposition Products: Carbon monoxide and carbon dioxide.

11 – Toxicological Information

The oral toxicity of this product is estimated to be greater than 5,000 mg/kg based on an assessment of the ingredients. This product is not classified as toxic by established criteria. It is an aspiration hazard.
None of the components of this product is listed as a carcinogen or suspected carcinogen or is considered a reproductive hazard.

12 – Ecological Information

No data is currently available.

13 - Disposal Considerations

If this product becomes a waste, it would be expected to meet the criteria of a RCRA ignitable hazardous waste (D001). However, it is the responsibility of the generator to determine at the time of disposal the proper classification and method of disposal. Dispose in accordance with federal, state, and local regulations.

14 – Transportation Information

DOT Surface Shipping Description: Consumer Commodity, ORM-D
IMDG Shipping Description: Un1950, Aerosols, 2.1, LTD QTY

15 – Regulatory Information

U.S. Federal Regulations:

CERCLA 103 Reportable Quantity: This product is not subject to CERCLA reporting requirements, however, oil spills are reportable to the National Response Center under the Clean Water Act and many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.
SARA TITLE III:
Hazard Category For Section 311/312: Acute Health, Fire Hazard, Sudden Release of Pressure
Section 313 Toxic Chemicals: This product contains the following chemicals subject to SARA Title III
Section 313 Reporting requirements: None
Section 302 Extremely Hazardous Substances (TPQ): None
EPA Toxic Substances Control Act (TSCA) Status: All of the components of this product are listed on the TSCA inventory.
California Safe Drinking Water and Toxic Enforcement Act (Proposition 65): This product does not contain chemicals regulated under California Proposition 65.
VOC Regulations: This product complies with the consumer product VOC limits of CARB, the US EPA and states adopting the OTC VOC rules.
Canadian Environmental Protection Act: One of the components is listed on the NDSL. All of the other ingredients are listed on the Canadian Domestic Substances List or exempt from notification.
Canadian WHMIS Classification: Class B-5 (Flammable Aerosol)
This MSDS has been prepared according to the criteria of the Controlled Products Regulation (CPR) and the MSDS contains all of the information required by the CPR.

16 – Other Information:

HMIS Hazard Rating:
Health – 1 (slight hazard), Fire Hazard – 4 (severe hazard), Reactivity – 0 (minimal hazard)

SIGNATURE: Peter P. Ly TITLE: Director of Global Quality Assurance

REVISION DATE: March 2010 SUPERSEDES: August 2009

SPOTCHECK®

MATERIAL SAFETY DATA SHEET

SPOTCHECK® CLEANER/REMOVER SKC-S

1 IDENTIFICATION

Company:	MAGNAFLUX
Address:	3624 West Lake Avenue, Glenview, Illinois 60026
Telephone No.:	847-657-5300 (Off-Hour Emergency Number - CHEMTREC - 1-800-424-9300).
Product Use:	Wipe on solvent cleaner/remover for penetrant inspection
Packages:	1 gallon can, 5 gallon pail, 55 gallon drums, aerosols
NFPA Rating:	Health 1, Flammability 3, Reactivity 0
PIN (Canada):	Bulk: UN1268
Revision Date:	April 13, 2007

2. HAZARDOUS INGREDIENTS

Ingredient	*Wt.Wt. %*	*CAS #*	*TLV*	*PEL*	*LD_{50}*	*LC_{50}*
Light aliphatic solvent naphtha	60-100	64742-89-8	300ppm (8 hr TWA)	not avail.	5 g/kg (oral/rat)	3400 ppm (4hrs/rat)
Carbon dioxide propellant (Aerosol Only)	3-7	124-38-9	not avail.	5000 ppm	not avail.	not avail.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Flammable liquid and aerosol. Vapor may cause flash fire. Harmful or fatal if swallowed. Mist or vapor may irritate the respiratory tract. Liquid contact may cause eye and skin irritation. Over-exposure may cause central nervous system (CNS) depression and target organ effects. Spills may create a slipping hazard.

POTENTIAL HEALTH EFFECTS & SIGNS AND SYMPTOMS OF EXPOSURE:

Skin Contact: Irritating to skin. Repeated exposure may cause skin dryness or cracking.
Eyes: Vapors may be irritating to the eye.
Inhalation: Vapors expected to be slightly irritating. Vapors may cause drowsiness and dizziness.
Ingestion: Harmful: may cause lung damage if swallowed.
Medical conditions known to be aggravated by exposure to product: Pre-existing medical conditions of the following organ(s) or organ system(s) may be aggravated by exposure to this material: Eyes, Skin, Respiratory system.

4. FIRST AID

Skin Contact: Wash off with soap and water. Use soothing lotion.
Eyes: Rinse carefully under upper and lower eyelids using plenty of water. Rest eyes for 30 minutes. If redness, burning, blurred vision, or swelling persist, transport to the nearest medical facility for additional treatment.
Inhalation: Remove to fresh air if dizzy or nauseated. If rapid recovery does not occur, transport to nearest medical facility for additional treatment.
Ingestion: Do not induce vomiting. Transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration.

NOTE: In all severe cases, contact physician immediately. Local telephone operators can furnish number of regional poison control center.

5. FIRE HAZARD

Conditions of flammability: Bulk and aerosol: Readily ignited in presence of ignition sources.
Flash point: Min. 57°F (14°C) (Pensky-Martens) closed cup.
Flammable limits in air: 1% to 6%.
Extinguishing media: Carbon dioxide, foam
Special fire fighting procedures: Keep containers cool with water spray. Do not spray water directly on burning SKC-S. It will float and spread the fire.
Hazardous combustion products: Smoke, soot, oxides of carbon.
Unusual fire hazards: Aerosol cans may burst if heated above 130°F (54°C) and spray contents into a fire.

6. ACCIDENTAL RELEASE MEASURES

Mop up or sweep up with absorbent. Avoid contact with spilled or released material. Immediately remove all contaminated clothing. (For disposal, see Section 13.)

7. HANDLING AND STORAGE

Avoid eye contact. Avoid repeated or prolonged skin contact. Avoid breathing spray mist. Do not spray near arcs or flames. Use only in well ventilated areas. Wash thoroughly after handling.

SPOTCHECK®

8. **EXPOSURE CONTROLS/PERSONAL PROTECTION**
Controls: Use where ventilation will carry spray mist away from occupied areas.
Personal protection: Wear safety glasses to protect eyes. Wear nitrile rubber gloves if hand exposure is unavoidable. Respirator with solvent vapor absorbing cartridge if used in enclosed, unventilated space.

9. **PHYSICAL PROPERTIES**
Initial boiling point (bulk): Min. 245°F (118°C) (ASTM D-86) *Vapor pressure:* 12 and 16 oz Aerosol: 105psi @ 75°F(24°C) Bulk: 1.5 – 2.0 kPa at 68.0°F

VOC Content (EPA Method 24):	750 g/L	*Vapor density:*	4.1
Density/sp. gravity:	0.76	*Evaporation rate:*	Fast
Water solubility:	0	*Appearance:*	Clear, colorless liquid
pH:	Neutral	*Odor:*	Naphtha odor

10. **STABILITY AND REACTIVITY**
Stability: Stable under normal conditions of use
Incompatibility: Avoid heat, sparks, open flames and other ignition sources. Avoid strong oxidizing agents.
Hazardous decomposition products: A complex mixture of airborne solids, liquids, and gases, including carbon monoxide, carbon dioxide and other organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation.
Reactivity: None

11. **TOXICOLOGICAL INFORMATION**
Carcinogenicity: Contains no known or suspected carcinogens listed with OSHA, IARC, NTP, or ACGIH.
Threshold limit value: 300 ppm
WHMIS information (Canada): According to available information, the ingredients have not been found to show reproductive toxicity, teratogenicity, mutagenicity, skin sensitization, or synergistic toxic effects with other materials.

12. **ECOLOGICAL INFORMATION**
No data is available on SKC-S. It floats on water and evaporates away. It is 100% VOC.

13. **DISPOSAL**
As hazardous waste, send to licensed waste handler who can blend it into secondary fuels.
RCRA: Hazardous waste.
U.S. EPA Waste Number: D001

14 **TRANSPORTATION**
U.S. DOT: 49 CFR 172.101 Hazardous Materials Table

	Non-Aerosol	Aerosol
Proper shipping name:	Petroleum distillates, n.o.s.	Consumer Commodity
Hazard class or division:	3	ORM-D
Identification No.:	UN1268	None
Packing Group:	II	None

IATA: List of Dangerous Goods	Non-Aerosol	Aerosol
Proper shipping name:	Petroleum distillates, n.o.s.	Aerosols, flammable
Hazard class or division:	3	2.1
Identification No.:	UN1268	UN1950
Packing Group:	II	-

IMDG: General Index	Non-Aerosol	Aerosol
Proper shipping name:	PETROLEUM DISTILLATES,N.O.S.	AEROSOLS
Hazard class of division:	3.2	2.1
Identification No.:	UN1268	UN1950
Packing Group:	II	-

A Division of Illinois Tool Works Inc
3624 WEST LAKE AVENUE ■ GLENVIEW, ILLINOIS 60026
TEL 8476575300 ■ FAX 8476575388
www.magnaflux.com

15. **REGULATORY INFORMATION**

TSCA:	All ingredients are listed in TSCA inventory.
Canadian DSL:	All ingredients are listed in the Canadian DSL
CERCLA:	VM&P Naphtha (64742-89-8) Reportable Quantity 66,667 lbs.
SARA TITLE III, Section 313:	Xylene, Mixed Isomer (1330-20-7) <0.13%; meta-Xylene (108-38-3)< 0.05%; Ethylbenzene (100-41-4)< 0.03%; Benzene (71-43-2) <0.005%; Toluene (108-88-3) <0.01%
California Proposition 65:	Warning: This material may contain trace amounts of chemicals known to the state of California to cause cancer and/or birth defects and/or reproductive harm.
WHMIS Class (Canada):	Non-Aerosol: B-2, D-2B; Aerosol: A, B-5, D-2B

Note: This MSDS has been prepared to meet WHMIS (Canada) requirements with the exception of using 16 headings.

16. **OTHER INFORMATION**

Revision Statement:	Section 9
Supersedes:	October 26, 2004
Prepared by:	Tamie Simmons, Research Manager

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SPOTCHECK®

MATERIAL SAFETY DATA SHEET

SPOTCHECK® DEVELOPER SKD-S2

1. IDENTIFICATION

Company: MAGNAFLUX
Address: 3624 West Lake Avenue, Glenview, Illinois 60026
Telephone No.: 847-657-5300 (Off-Hour Emergency Number - CHEMTREC - 1-800-424-9300).
Product Use: Penetrant inspection developer
Packages: 1 gallon can, 5 gallon pail, 55 gallon drum, aerosol
NFPA Rating: Health 1, Flammability 3, (aerosol 4), Reactivity 0
PIN (Canada): UN 1993
Revision Date: September 5, 2007

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	Wt./Wt.%	CAS#	TLV	PEL	LD_{50}	LC_{50}
2-propanol	40 – 70	67-63-0	400 ppm	400 ppm	3.6 g/kg(oral/mouse	Not available
2-propanone	10 – 30	67-64-1	750 ppm	750 ppm	8 g/kg (oral/rat)	Not available
Isobutane (propellent – aerosol only)	30	75-28-5	Not available	1000 ppm	Not available	Not available
Talc	1 - 3	14807-96-6	Not available	2 mg/me	Not available	Not available

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
Extremely flammable white liquid and aerosol. Fast evaporating vapors can reach hazardous levels quickly in unventilated spaces.

POTENTIAL HEALTH EFFECTS & SIGNS AND SYMPTOMS OF EXPOSURE:
Skin Contact: Can irritate by removing natural skin oils on long or repeated exposures.
Eyes: Irritating, but does not damage eye tissue.
Inhalation: Causes dizziness and nausea.
Ingestion: Not significant in small (mouthful) amounts.
Medical conditions known to be aggravated by exposure to product: None

4. FIRST AID

Skin Contact: Remove contaminated clothing. Wash exposed areas with soap and water. Use soothing lotion
Eyes: Rinse carefully under upper and lower eyelids using plenty of water.
Inhalation: Remove to fresh air if dizzy or nauseated.
Ingestion: Do not induce vomiting. Accidental ingestion of a single mouthful is not expected to cause significant harm.
NOTE: In all severe cases, contact physician immediately. Local telephone operators can furnish number of regional poison control center.

5. FIRE HAZARD

Conditions of flammability: Non-aerosol and aerosol: Ignition will occur if used near flames, arcs or other ignition sources.
Flash point: 2°F (-16°C) (Pensky-Martens closed cup).
Flammable limits in air: 2% to 15%.
Extinguishing media: Carbon dioxide, foam, water.
Special fire fighting procedures: Keep containers cool with water spray.
Hazardous combustion products: Soot, oxides of carbon
Unusual fire hazards: Aerosol cans may burst over 130°F (54°C) and add to existing fire.

6. ACCIDENTAL RELEASE MEASURES

Turn off or remove sources of ignition. Mop up or sweep up with absorbent. (For disposal, see Section 13.)

7. HANDLING AND STORAGE

Avoid breathing vapors. Avoid eye contact. Avoid repeated or prolonged skin contact.
Store away from heat source. Do not spray around arcs or flame.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Controls: Use where ventilation will carry vapors away from occupied areas.
Personal protection : Wear safety glasses to protect eyes. Wear nitrile rubber gloves if hand exposure is unavoidable. Respirator with filter if sprayed in enclosed, unventilated space.

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9. **PHYSICAL PROPERTIES**

Initial boiling point (bulk):	132° F (55°C) (ASTM D-86)	*Vapor pressure:*	Bulk: 150mm @ 100°F (38°C). Aerosol: 65 psi @ 75°F (24°C)
Percent volatile:	90%	*Vapor density:*	3
Density/sp. gravity:	0.87	*Evaporation rate:*	0.4 of ether
Water solubility:	90	*Appearance:*	White liquid
pH:	Neutral	*Odor:*	Alcohol odor

10. **STABILITY AND REACTIVITY**

Stability:	Stable
Incompatibility:	None
Hazardous decomposition products:	When burning, soot, oxides of carbon
Reactivity:	None

11. **TOXICOLOGICAL INFORMATION**

Carcinogenicity:	Contains no known or suspected carcinogens listed with OSHA, IARC, NTP, or ACGIH.
Threshold limit value (Bulk):	400 ppm
WHMIS information (Canada):	According to available information, the ingredients have not been found to show reproductive toxicity, teratogenicity, mutagenicity, skin sensitization, or synergistic toxic effects with other materials.

12. **ECOLOGICAL INFORMATION**
No data is available on SKD-S2.

13. **DISPOSAL**
Send to a licensed waste facility for proper disposal.

RCRA:	Hazardous waste.
U.S. EPA Waste Number:	D001

14. **TRANSPORTATION (These are guidelines, in all cases refer to 49 CFR for proper classification)**
U.S. DOT: 49 CFR 172.101 Hazardous Materials Table

	Non-Aerosol	Aerosol
Proper shipping name:	Flammable Liquid, n.o.s. (Isopropanol, acetone)	Consumer commodity
Hazard class or division:	3	ORM-D
Identification No.:	UN1993	None
Packing Group:	II	None

IATA: List of Dangerous Goods	Non-aerosol	Aerosol
Proper shipping name:	Flammable liquid, n.o.s. (Isopropanol, Acetone)	Aerosols, flammable
Hazard class or division:	3	2.1
Identification No.:	UN1993	UN1950
Packing Group:	II	-

IMDG: General Index	Non-aerosol	Aerosol
Proper shipping name:	FLAMMABLE LIQUID, N.O.S. (ISOPROPANOL, ACETONE)	AEROSOLS
Hazard class or division:	3.2	2.1
Identification No.:	UN1993	UN1950
Packing Group:	II	-

15. **REGULATORY INFORMATION**

TSCA:	All ingredients are listed in TSCA inventory.
CERCLA:	Reportable quantity (RQ) for Acetone = 5000 lbs.
SARA TITLE III, Section 313:	Acetone.
California Proposition 65:	This product contains trace amount of chemicals known to the State of California to cause cancer and to cause birth defects or other reproductive harm.
WHMIS Class (Canada):	Non-Aerosol: B-2, D-2B - Aerosol: A, B-5, D-2B

Note: This MSDS has been prepared to meet WHMIS (Canada) requirements with the exception of using 16 headings.

16. **OTHER INFORMATION**

Revision Statement:	Review
Supersedes:	October 26, 2004
Prepared by:	Tamie Simmons, R&D Manager

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Safety Data Sheet

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Document Group:	16-5506-7	**Version Number:**	9.00
Issue Date:	01/30/15	**Supercedes Date:**	09/12/11

SECTION 1: Identification

1.1. Product identifier
3M™ Professional Grade Rubberized Undercoating 3584 3584

Product Identification Numbers
60-4550-3261-9, 60-4550-5619-6, 70-0709-9193-3, 70-0709-9291-5, 70-0709-9292-3, 70-0709-9344-2, 70-0709-9345-9, 70-0709-9406-9, 70-0709-9707-0, 70-0711-5896-1, 70-0711-5950-6, 70-0711-5951-4

1.2. Recommended use and restrictions on use

Recommended use
Automotive, Rubberized undercoating for cars

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Automotive Aftermarket
ADDRESS:	3M Center, St. Paul, MN 55144-1000, USA
Telephone:	1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number
1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

The label elements below were prepared in accordance with OSHA Hazard Communication Standard, 29 CFR 1910.1200. This information may be different from the actual product label information for labels regulated by other agencies.

2.1. Hazard classification
Flammable Aerosol: Category 1.
Serious Eye Damage/Irritation: Category 2B.
Skin Corrosion/Irritation: Category 2.
Reproductive Toxicity: Category 1B.
Carcinogenicity: Category 1A.
Specific Target Organ Toxicity (single exposure): Category 1.
Specific Target Organ Toxicity (central nervous system): Category 3.
Specific Target Organ Toxicity (repeated exposure): Category 1.

2.2. Label elements
Signal word

Danger

Symbols
Flame | Exclamation mark | Health Hazard |

Pictograms

Hazard Statements
Extremely flammable aerosol.

Causes eye irritation.
Causes skin irritation.
May cause drowsiness or dizziness.
May damage fertility or the unborn child.
May cause cancer.

Causes damage to organs:
cardiovascular system |

Causes damage to organs through prolonged or repeated exposure:
nervous system |
sensory organs |

Precautionary Statements
General:
Keep out of reach of children.

Prevention:
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.
Do not breathe dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
Wear protective gloves.
Do not eat, drink or smoke when using this product.
Wash thoroughly after handling.

Response:
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
IF ON SKIN: Wash with plenty of soap and water.
Take off contaminated clothing and wash it before reuse.
IF exposed: Call a POISON CENTER or doctor/physician.
Specific treatment (see Notes to Physician on this label).

Storage:
Protect from sunlight. Do not expose to temperatures exceeding 50C/122F.
Store in a well-ventilated place. Keep container tightly closed.

Store locked up.

Disposal:
Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

Notes to Physician:
Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

2.3. Hazards not otherwise classified
None.

15% of the mixture consists of ingredients of unknown acute oral toxicity.

15% of the mixture consists of ingredients of unknown acute inhalation toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Asphalt	8052-42-4	15 - 40 Trade Secret *
Calcium Carbonate	471-34-1	15 - 40 Trade Secret *
Toluene	108-88-3	10 - 30 Trade Secret *
Propane	74-98-6	7 - 13 Trade Secret *
Mineral Spirits	64742-88-7	5 - 10 Trade Secret *
Butane	106-97-8	3 - 7 Trade Secret *
Aluminum Silicate	1327-36-2	1 - 5 Trade Secret *
Methyl Alcohol	67-56-1	<= 0.5 Trade Secret *
Quartz Silica	14808-60-7	<= 0.1 Trade Secret *

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:
Remove person to fresh air. Get medical attention.

Skin Contact:
Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye Contact:
Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.

If Swallowed:
Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed
See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required
Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media
Use a fire fighting agent suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture
Closed containers exposed to heat from fire may build pressure and explode.

Hazardous Decomposition or By-Products

Substance	Condition
Hydrocarbons	During Combustion
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Hydrogen Sulfide	During Combustion
Oxides of Sulfur	During Combustion

5.3. Special protective actions for fire-fighters
Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
If possible, seal leaking container. Place leaking containers in a well-ventilated area, preferably an operating exhaust hood, or if necessary outdoors on an impermeable surface until appropriate packaging for the leaking container or its contents is available. Contain spill. Cover spill area with a fire-extinguishing foam designed for use on solvents, such as alcohols and acetone, that can dissolve in water. An AR - AFFF type foam is recommended. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible using non-sparking tools. Place in a metal container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Seal the container. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Do not use in a confined area with minimal air exchange. Keep out of reach of children. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Use personal protective equipment (gloves, respirators, etc.) as required. Vapors may travel long distances along the ground or floor to an ignition source and flash back.

7.2. Conditions for safe storage including any incompatibilities
Store in a well-ventilated place. Keep container tightly closed. Protect from sunlight. Do not expose to temperatures exceeding 50C/122F. Store away from heat. Store away from acids. Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits
If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
Butane	106-97-8	ACGIH	STEL:1000 ppm	
Natural gas	106-97-8	ACGIH	Limit value not established:	
Toluene	108-88-3	ACGIH	TWA:20 ppm	A4: Not class. as human carcin
Toluene	108-88-3	OSHA	TWA:200 ppm;CEIL:300 ppm	
Toluene	108-88-3	CMRG	STEL:75 ppm	Skin Notation
Quartz Silica	14808-60-7	ACGIH	TWA(respirable fraction):0.025 mg/m3	A2: Suspected human carcin.
Quartz Silica	14808-60-7	OSHA	TWA concentration(as total dust):0.3 mg/m3;TWA concentration(respirable):0.1 mg/m3(2.4 millions of particles/cu. ft.)	
Calcium Carbonate	471-34-1	CMRG	TWA:10 mg/m3;STEL:20 mg/m3	
Mineral Spirits	64742-88-7	CMRG	TWA:100 ppm	
Methyl Alcohol	67-56-1	ACGIH	TWA:200 ppm;STEL:250 ppm	Skin Notation
Methyl Alcohol	67-56-1	OSHA	TWA:260 mg/m3(200 ppm)	
Propane	74-98-6	ACGIH	Limit value not established:	
Propane	74-98-6	OSHA	TWA:1800 mg/m3(1000 ppm)	
Asphalt	8052-42-4	ACGIH	TWA(as benzene solubles, inhalable fraction):0.5 mg/m3	A4: Not class. as human carcin

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor - Occupational Safety and Health Administration
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls
Do not remain in area where available oxygen may be reduced. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:

Indirect Vented Goggles

Skin/hand protection

Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.
Gloves made from the following material(s) are recommended: Fluoroelastomer

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece supplied-air respirator

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form:	Liquid
Specific Physical Form:	Aerosol
Odor, Color, Grade:	Thick black solution with a solvent odor.
Odor threshold	*No Data Available*
pH	*No Data Available*
Melting point	*No Data Available*
Boiling Point	*No Data Available*
Flash Point	<=0 °F [*Test Method:* Closed Cup]
Evaporation rate	>=1 [*Ref Std:* ETHER=1]
Flammability (solid, gas)	Not Applicable
Flammable Limits(LEL)	1.6 %
Flammable Limits(UEL)	6.5 %
Vapor Pressure	*No Data Available*
Vapor Density	>=1 [*Ref Std:* AIR=1]
Density	1.1 g/ml
Specific Gravity	1.1 [*Ref Std:* WATER=1]
Solubility In Water	*Not Applicable*
Solubility- non-water	*No Data Available*
Partition coefficient: n-octanol/ water	*No Data Available*
Autoignition temperature	>=470 °F [*Test Method:* Estimated]
Decomposition temperature	*No Data Available*
Viscosity	*No Data Available*
Hazardous Air Pollutants	0.287 lb HAPS/lb solids [*Test Method:* Calculated]
Volatile Organic Compounds	40.0 % weight [*Test Method:* calculated per CARB title 2]
Volatile Organic Compounds	440 g/l [*Test Method:* calculated SCAQMD rule 443.1]
Percent volatile	40.0 % weight
VOC Less H2O & Exempt Solvents	440 g/l [*Test Method:* calculated SCAQMD rule 443.1]

SECTION 10: Stability and reactivity

10.1. Reactivity
This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability
Stable.

10.3. Possibility of hazardous reactions
Hazardous polymerization will not occur.

10.4. Conditions to avoid
Heat
Sparks and/or flames

10.5. Incompatible materials
Strong acids
Strong oxidizing agents

10.6. Hazardous decomposition products

Substance	Condition
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:
Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

May cause additional health effects (see below).

Skin Contact:
Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain.

Eye Contact:
Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Mechanical eye irritation: Signs/symptoms may include pain, redness, tearing and corneal abrasion.

Ingestion:
Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May cause additional health effects (see below).

Additional Health Effects:

Single exposure may cause target organ effects:
Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

Cardiac Sensitization: Signs/symptoms may include irregular heartbeat (arrhythmia), faintness, chest pain, and may be fatal.

Prolonged or repeated exposure may cause target organ effects:
Ocular Effects: Signs/symptoms may include blurred or significantly impaired vision.

Auditory Effects: Signs/symptoms may include hearing impairment, balance dysfunction and ringing in the ears.

Olfactory Effects: Signs/symptoms may include decreased ability to detect odors and/or complete loss of smell.

Neurological Effects: Signs/symptoms may include personality changes, lack of coordination, sensory loss, tingling or numbness of the extremities, weakness, tremors, and/or changes in blood pressure and heart rate.

Reproductive/Developmental Toxicity:
Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

Carcinogenicity:
Contains a chemical or chemicals which can cause cancer.

Ingredient	CAS No.	Class Description	Regulation
SILICA, CRYS AIRRESP	14808-60-7	Known human carcinogen	National Toxicology Program Carcinogens
Asphalt	8052-42-4	Grp. 2B: Possible human carc	International Agency for Research on Cancer
Quartz Silica	14808-60-7	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer

Toxicological Data
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Inhalation-Vapor(4 hr)		No data available; calculated ATE > 50 mg/l
Overall product	Ingestion		No data available; calculated ATE > 5,000 mg/kg
Asphalt	Dermal	Rabbit	LD50 > 2,000 mg/kg
Asphalt	Ingestion	Rat	LD50 > 5,000 mg/kg
Calcium Carbonate	Dermal	Rat	LD50 > 2,000 mg/kg
Calcium Carbonate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 3 0 mg/l
Calcium Carbonate	Ingestion	Rat	LD50 6,450 mg/kg
Toluene	Dermal	Rat	LD50 12,000 mg/kg
Toluene	Inhalation-Vapor (4 hours)	Rat	LC50 30 mg/l
Toluene	Ingestion	Rat	LD50 5,550 mg/kg
Propane	Inhalation-Gas (4 hours)	Rat	LC50 > 200,000 ppm
Mineral Spirits	Inhalation-Vapor		LC50 estimated to be 20 - 50 mg/l
Mineral Spirits	Dermal	Rabbit	LD50 > 3,000 mg/kg
Mineral Spirits	Ingestion	Rat	LD50 > 5,000 mg/kg
Butane	Inhalation-Gas (4 hours)	Rat	LC50 277,000 ppm
Aluminum Silicate	Dermal		LD50 estimated to be > 5,000 mg/kg

Aluminum Silicate	Ingestion		LD50 estimated to be > 5,000 mg/kg
Methyl Alcohol	Dermal		LD50 estimated to be 1,000 - 2,000 mg/kg
Methyl Alcohol	Inhalation-Vapor		LC50 estimated to be 10 - 20 mg/l
Methyl Alcohol	Ingestion		LD50 estimated to be 50 - 300 mg/kg
Quartz Silica	Dermal		LD50 estimated to be > 5,000 mg/kg
Quartz Silica	Ingestion		LD50 estimated to be > 5,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Asphalt	Human	Minimal irritation
Calcium Carbonate	Rabbit	No significant irritation
Toluene	Rabbit	Irritant
Propane	Rabbit	Minimal irritation
Mineral Spirits	Rabbit	Irritant
Butane	Professional judgement	No significant irritation
Methyl Alcohol	Rabbit	Mild irritant
Quartz Silica	Professional judgement	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Asphalt	Human	Mild irritant
Calcium Carbonate	Rabbit	No significant irritation
Toluene	Rabbit	Moderate irritant
Propane	Rabbit	Mild irritant
Mineral Spirits	Rabbit	No significant irritation
Butane	Rabbit	No significant irritation
Methyl Alcohol	Rabbit	Moderate irritant

Skin Sensitization

Name	Species	Value
Toluene	Guinea pig	Not sensitizing
Mineral Spirits	Guinea pig	Not sensitizing
Methyl Alcohol	Guinea pig	Not sensitizing

Photosensitization

Name	Species	Value
Asphalt	Human	Some positive data exist, but the data are not sufficient for classification

Respiratory Sensitization

For the component/components, either no data are currently available or the data are not sufficient for classification.

Germ Cell Mutagenicity

Name	Route	Value
Asphalt	In vivo	Not mutagenic
Asphalt	In Vitro	Some positive data exist, but the data are not sufficient for classification
Toluene	In Vitro	Not mutagenic
Toluene	In vivo	Not mutagenic

Propane	In Vitro	Not mutagenic
Mineral Spirits	In vivo	Not mutagenic
Mineral Spirits	In Vitro	Some positive data exist, but the data are not sufficient for classification
Butane	In Vitro	Not mutagenic
Methyl Alcohol	In Vitro	Some positive data exist, but the data are not sufficient for classification
Methyl Alcohol	In vivo	Some positive data exist, but the data are not sufficient for classification
Quartz Silica	In Vitro	Some positive data exist, but the data are not sufficient for classification
Quartz Silica	In vivo	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Asphalt	Not Specified	Human and animal	Some positive data exist, but the data are not sufficient for classification
Toluene	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Toluene	Ingestion	Rat	Some positive data exist, but the data are not sufficient for classification
Toluene	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification
Mineral Spirits	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Mineral Spirits	Inhalation	Human and animal	Some positive data exist, but the data are not sufficient for classification
Methyl Alcohol	Inhalation	Multiple animal species	Not carcinogenic
Quartz Silica	Inhalation	Human and animal	Carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
Calcium Carbonate	Ingestion	Not toxic to development	Rat	NOAEL 625 mg/kg/day	premating & during gestation
Toluene	Inhalation	Some positive female reproductive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Toluene	Inhalation	Some positive male reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 2 3 mg/l	1 generation
Toluene	Ingestion	Toxic to development	Rat	LOAEL 520 mg/kg/day	during gestation
Toluene	Inhalation	Toxic to development	Human	NOAEL Not available	poisoning and/or abuse
Mineral Spirits	Inhalation	Not toxic to development	Rat	NOAEL 2 4 mg/l	during organogenesis
Methyl Alcohol	Ingestion	Some positive male reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,600 mg/kg/day	21 days
Methyl Alcohol	Ingestion	Toxic to development	Mouse	LOAEL 4,000 mg/kg/day	during organogenesis
Methyl Alcohol	Inhalation	Toxic to development	Mouse	NOAEL 1.3 mg/l	during organogenesi

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Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Calcium Carbonate	Inhalation	respiratory system	All data are negative	Rat	NOAEL 0.812 mg/l	90 minutes
Toluene	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Toluene	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Toluene	Inhalation	immune system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 0.004 mg/l	3 hours
Toluene	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse
Propane	Inhalation	cardiac sensitization	Causes damage to organs	Human	NOAEL Not available	
Propane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Propane	Inhalation	respiratory irritation	All data are negative	Human	NOAEL Not available	
Mineral Spirits	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Mineral Spirits	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
Mineral Spirits	Inhalation	nervous system	Some positive data exist, but the data are not sufficient for classification	Dog	NOAEL 6.5 mg/l	4 hours
Butane	Inhalation	cardiac sensitization	Causes damage to organs	Human	NOAEL Not available	
Butane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Butane	Inhalation	heart	Some positive data exist, but the data are not sufficient for classification	Dog	NOAEL 5,000 ppm	25 minutes
Butane	Inhalation	respiratory irritation	All data are negative	Rabbit	NOAEL Not available	
Methyl Alcohol	Inhalation	blindness	Causes damage to organs	Human	NOAEL Not available	occupational exposure
Methyl Alcohol	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	not available
Methyl Alcohol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	6 hours
Methyl Alcohol	Ingestion	blindness	Causes damage to organs	Human	NOAEL Not available	poisoning and/or abuse
Methyl Alcohol	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Asphalt	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Calcium Carbonate	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Toluene	Inhalation	auditory system | nervous system |	Causes damage to organs through prolonged or repeated	Human	NOAEL Not available	poisoning and/or abuse

		eyes | olfactory system	exposure			
Toluene	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 2 3 mg/l	15 months
Toluene	Inhalation	heart | liver | kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 11 3 mg/l	15 weeks
Toluene	Inhalation	endocrine system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1 1 mg/l	4 weeks
Toluene	Inhalation	immune system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL Not available	20 days
Toluene	Inhalation	bone, teeth, nails, and/or hair	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 1 1 mg/l	8 weeks
Toluene	Inhalation	hematopoietic system | vascular system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Toluene	Ingestion	nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 625 mg/kg/day	13 weeks
Toluene	Ingestion	heart	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 2,500 mg/kg/day	13 weeks
Toluene	Ingestion	liver | kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL 2,500 mg/kg/day	13 weeks
Toluene	Ingestion	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 600 mg/kg/day	14 days
Toluene	Ingestion	endocrine system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 105 mg/kg/day	28 days
Toluene	Ingestion	immune system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 105 mg/kg/day	4 weeks
Mineral Spirits	Inhalation	nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 4 6 mg/l	6 months
Mineral Spirits	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 1 9 mg/l	13 weeks
Mineral Spirits	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL 0 6 mg/l	90 days
Mineral Spirits	Inhalation	bone, teeth, nails, and/or hair | blood | liver | muscles	All data are negative	Rat	NOAEL 5 6 mg/l	12 weeks
Mineral Spirits	Inhalation	heart	All data are negative	Multiple animal species	NOAEL 1 3 mg/l	90 days
Butane	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 4,489 ppm	90 days
Butane	Inhalation	blood	All data are negative	Rat	NOAEL 4,489 ppm	90 days
Methyl Alcohol	Inhalation	liver	All data are negative	Rat	NOAEL 6 55 mg/l	4 weeks
Methyl Alcohol	Inhalation	respiratory system	All data are negative	Rat	NOAEL 13 1 mg/l	6 weeks
Methyl Alcohol	Ingestion	liver | nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 2,500 mg/kg/day	90 days
Quartz Silica	Inhalation	silicosis	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure

Aspiration Hazard

Name	Value
Toluene	Aspiration hazard
Mineral Spirits	Aspiration hazard

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations

13.1. Disposal methods
Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Incinerate in a permitted waste incineration facility. Facility must be capable of handling aerosol cans. As a disposal alternative, utilize an acceptable permitted waste disposal facility. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

SECTION 14: Transport Information

For Transport Information, please visit http://3M.com/Transportinfo or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information

15.1. US Federal Regulations
Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - Yes Pressure Hazard - Yes Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - Yes

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

Ingredient	C.A.S. No	% by Wt
Toluene	108-88-3	10 - 30

15.2. State Regulations
Contact 3M for more information.

California Proposition 65

Ingredient	C.A.S. No.	Classification
BITUMENS, EXTRACTS OF STEAM-REFINED AND AIR-REFINED	None	Carcinogen
SILICA, CRYSTALLINE (AIRBORNE PARTICLES OF RESPIRABLE SIZE)	None	Carcinogen
Toluene	108-88-3	Female reproductive toxin
Toluene	108-88-3	Developmental Toxin
Methyl Alcohol	67-56-1	Developmental Toxin

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.
WARNING: This product contains a chemical known to the State of California to cause cancer.

15.3. Chemical Inventories
The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

15.4. International Regulations
Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification
Health: 2 **Flammability:** 4 **Instability:** 0 **Special Hazards:** None
Aerosol Storage Code: 3

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

HMIS Hazard Classification
Health: *2 **Flammability:** 4 **Physical Hazard:** 0 **Personal Protection:** X - See PPE section.

Hazardous Material Identification System (HMIS® III) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS® III ratings are to be used with a fully implemented HMIS® III program. HMIS® is a registered mark of the American Coatings Association (ACA).

Document Group:	16-5506-7	**Version Number:**	9.00
Issue Date:	01/30/15	**Supercedes Date:**	09/12/11

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MATERIAL SAFETY DATA SHEET

SECTION:I - MATERIAL IDENTIFICATION AND USE

MATERIAL NAME : APCOSHIELD Ex 400, Ex 405SG, Ex 410SG, Ex 420SG, Ex 440S, Ex 440T, Ex 430M, Ex 470, EPM, EPT, EPG, EPM(S), EPZ

MANUFACTURER'S NAME: ASIAN PAINTS INDUSTRIAL COATINGS LIMITED	**SUPPLIER'S NAME:** ASIAN PAINTS INDUSTRIAL COATINGS LIMITED
Street Address : 6A, SHANTINAGAR, SANTACRUZ (E)	**Street Address :** 6A, SHANTINAGAR, SANTACRUZ (E)
City : MUMBAI **State :** MAHARASHTRA	**City :** MUMBAI **State :** MAHARASHTRA
Postal code: 400 055 **Emergency Tel No.:** 91 22 56958000	**Postal code:** 400 055 **Emergency Tel No.:** 91 22 56958000
Commercial Name: Apcoshield ex 400 series Hawcoplast EP series	Chemical Name: Epoxy
Trade Name and Synonyms: -	Product Use: PAINTING

SECTION:II – HAZARDOUS INGREDIENTS OF THE MATERIAL

Hazardous Ingredients	Approx. %	CAS No. U N No.	L D 50 Specify species and route)	L C 50 Specify species and route)
1.BARIUM SULPHATE	10 - 20	7727-43-7	<15000 mg/kg	
2.FILM FORMERS, RESINS, ADDITIVES	50 – 60	NOT ESTABLISHED	-	
3.TITANIUM DIOXIDE	0 – 20	13463-67-7	> 24000 mg/Kg	

SECTION:III – PHYSICAL DATA FOR THE MATERIAL

Physical state: SOLID	Odour and Appearance: NOT APPLICABLE	Odour Threshold(ppm): NOT APPLICABLE	Specific Gravity: 1.2 – 1.7

Vapour Pressure (mm): NOT APPLICABLE	Vapour Density (Air=1): NOT APPLICABLE	Evaporation rate: NOT APPLICABLE	Boiling Point(°C): NOT APPLICABLE	Freezing (°C): NOT APPLICABLE

Solubility in Water: INSOLUBLE	pH : NOT APPLICABLE	Density: (gm / ml) 0.8 – 1.1	Co-efficient of Water / Oil distribution: NOT APPLICABLE

SECTION:IV - FIRE AND EXPLOSION HAZARD OF MATERIAL

Flammability : Yes/No. If yes, under what conditions:

Yes. 1. IN PRESENCE OF OPEN FLAME, SPARK OR OTHER IGNITION SOURCE
2. UNDER VERY HIGH TEMPERATURES

Means of Extinction : 1. CARBON DIOXIDE 2. FOAM EXTINGUISHER

Flash point (°C) NOT APPLICABLE	Upper Explosive Limits (% by volume) 2-3 KG/CUBIC METER	Upper Explosive Limits (% by volume) 30 MG/CUBIC METER
Auto-ignition (°C)Temperature: NOT AVAILABLE	TDG Flammability Classification: NOT AVAILABLE	Hazardous Combustion Products: NOT AVAILABLE
Explosion data: (Sensitivity to Chemical Impact) NOT APPLICABLE	Sensitivity to Static Discharge: RECOMMENDED TO SUITABLY GROUND CONTACT METAL PARTS	

SECTION:V – REACTIVITY DATA

Chemical Stability: Yes/No (If no, under what conditions)	YES
Incompatibility with Other Substances: Yes/No	AMINES, BASES, ACIDS, MERCAPTANS
Reactivity and under what conditions:	NON-REACTIVE UNDER AMBIENT CONDITIONS
Hazardous Decomposition Products:	INCOMPLETE COMBUSTION CAN YIELD CARBONMONOXIDE AND DIOXIDE, ACIDS AND ALDEHYDES
Material Name/Identifier:	NOT AVAILABLE

SECTION:VI – TOXICOLOGICAL PROPERTIES OF MATERIAL

Route of entry Skin Contact: NON HAZARDOUS	Skin Absorption: NOT APPLICABLE	Eye Contact: IRRITATION
Inhalation Acute: NOT AVAILABLE	Inhalation Chronic: NOT AVAILABLE	Ingestion: NOT AVAILABLE
Effects of Acute Exposure:	NOT AVAILABLE	

Effects of Chronic exposure to material: NOT AVAILABLE

NOT AVAILABLE Exposure Limits	NOT AVAILABLE Irritancy of Material
Sensitization to Material: NOT AVAILABLE	Carcinogenicity,Reproductive Effects, Teratogenicity,Mutagenicity: NOT AVAILABLE
Synergistic to Material:	NOT APPLICABLE

SECTION:VII – PREVENTIVE MEASURES

PERSONAL PROTECTIVE EQUIPMENT

Gloves: PLASTIC	Respiratory: FACE MASK	Eyes: PROTECTIVE GLASSES
Foot ware: INDUSTRIAL CONDUCTIVE SHOES	Clothing: NORMAL COTTON CLOTHING	Other: NIL

Engineering control (e.g. Ventilation, enclosed process etc.)@please specify)
ADEQUATE VENTILATION, DUST CONTROL DURING USE RECOMMENDED

Leak and Spill Procedure : COLLECT INTO TRAY OR VACCUM CLEAN

Waste Disposal : INCINERATE OR BURY IN NOTIFIED AREA

Handling Procedures } NORMAL
and Equipment }

Storage Requiements : AT AMBIENT IN A SHADED AND VENTILATED LOCATION AND AWAY FROM SOURCE OF IGNITION OR FIRE.

Special Shipping Inforamtion: NIL

SECTION:VIII – FIRST AID AND MEASURES

First Aid Measures
EYE CONTACT : Flush with plenty of water for at least 15 Mints and seek medical attention.
SKIN CONTACT : Wash with water + soap .

INGESTION : Seek medical attention.

INHALATION : Seek medical attention

Sources used : MATERIAL SAFETY DATA SHEETS – ICMA BOMBAY

Additional Information : NUISANCE DUST MAY CAUSE CELLULAR RESPONSE IN LUNGS

SECTION:IX - DATE OF PREPARATION OF MATERIAL SAFETY DATA SHEET

Prepared By : TECHNICAL FUNCTION POWDER COATING DEVELOPMENT GROUP
Phone No. : 5644191 Date : 21/01/2002

SECTION:X - DISCLAIMER

Information contained in this material safety data sheet is believed to be reliable and given in good faith, but no representation, guarantee or warranties of any kind are made as to its accuracy, suitability for a particular application or results to be obtained from them. The user of this material decides what safety measures are necessary to safely use this material, either alone or in combination with other materials. Asian Paints Industrial Coatings Limited makes no warranties expressed or implied in respect of the adequacy of this document for any particular purpose.

RELEASED BY : APPROVED BY :

TECHNICAL EXECUTIVE GENERAL MANAGER - TECHNOLOGY

ASIAN PAINTS INDUSTRIAL COATINGS LIMITED

Safety Data Sheet

RUST-OLEUM CORPORATION
* Trusted Quality Since 1921 *
www.rustoleum.com

1. Identification

Product Name:	ROHPER LSPR 6PK GLOSS BLACK	**Revision Date:**	8/13/2014
Product Identifier:	V2179838	**Supercedes Date:**	8/12/2014
Product Use/Class:	Topcoat/Aerosols		
Supplier:	Rust-Oleum Corporation 11 Hawthorn Parkway Vernon Hills, IL 60061 USA	**Manufacturer:**	Rust-Oleum Corporation 11 Hawthorn Parkway Vernon Hills, IL 60061 USA
Preparer:	Regulatory Department		
Emergency Telephone:	24 Hour Hotline: 847-367-7700		

2. Hazard Identification

EMERGENCY OVERVIEW: Harmful if inhaled. Harmful if swallowed. Causes eye irritation. Extremely flammable liquid and vapor. Vapors may cause flash fire or explosion. Use ventilation necessary to keep exposures below recommended exposure limits, if any. Harmful if inhaled. May affect the brain or nervous system causing dizziness, headache or nausea. Vapor Harmful. Causes Eye, Skin, Nose, and Throat Irritation. Contents Under Pressure. May cause eye, skin, or respiratory tract irritation. KEEP OUT OF REACH OF CHILDREN.

Classification

Symbol(s) of Product

Signal Word
Danger

GHS HAZARD STATEMENTS

Flammable Aerosol, category 1	H222	Extremely flammable aerosol.
Flammable Liquid, category 1	H224	Extremely flammable liquid and vapour.
Flammable Aerosol, category 1	H280	Contains gas under pressure; may explode if heated
Acute Toxicity, Oral, category 5	H303	May be harmful if swallowed.
Aspiration Hazard, category 2	H305	May be harmful if swallowed and enters airways.
Acute Toxicity, Dermal, category 5	H313	May be harmful in contact with skin.
Skin Irritation, category 2	H315	Causes skin irritation.
Eye Irritation, category 2	H319	Causes serious eye irritation.
Eye Irritation, category 2B	H320	Causes eye irritation.
Acute Toxicity, Inhalation, category 4	H332	Harmful if inhaled.
STOT, single exposure, category 3, RTI	H335	May cause respiratory irritation.
STOT, single exposure, category 3, NE	H336	May cause drowsiness or dizziness.

GHS PRECAUTIONARY STATEMENTS

P102	Keep out of reach of children.
P103	Read label before use.

P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P211	Do not spray on an open flame or other ignition source.
P220	Keep/Store away from clothing/.../combustible materials.
P234	Keep only in original container.
P235	Keep cool.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting/.../ equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P251	Pressurized container: Do not pierce or burn, even after use.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P262	Do not get in eyes, on skin, or on clothing.
P264	Wash ... thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P281	Use personal protective equipment as required.
P285	In case of inadequate ventilation wear respiratory protection.
P302+P350	IF ON SKIN: Gently wash with plenty of soap and water.
P303+P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P321	Specific treatment (see ... on this label).
P332+P313	If skin irritation occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P351	Rinse cautiously with water for several minutes.
P352	Wash with plenty of soap and water.
P362	Take off contaminated clothing and wash before reuse.
P370+P378	In case of fire: Use ... for extinction.
P374	Fight fire with normal precautions from a reasonable distance.
P375	Fight fire remotely due to the risk of explosion.
P402	Store in a dry place.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P403+P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P410+P412	Protect from sunlight. Do no expose to temperatures exceeding 50°C/ 122°F.
P501	Dispose of contents/container to ...

3. Composition/Information On Ingredients

HAZARDOUS SUBSTANCES

Chemical Name	CAS-No.	Wt.% Range	GHS Symbols	GHS Statements
Liquefied Petroleum Gas	68476-86-8	25-50		
Acetone	67-64-1	10-25	GHS02	H225
n-Butyl Acetate	123-86-4	10-25	GHS02	H225
Xylene	1330-20-7	2.5-10	GHS02	H226
Barium Sulfate	7727-43-7	2.5-10		
Propylene Glycol Monobutyl Ether	5131-66-8	2.5-10	GHS02-GHS07	H226-302
Ethylbenzene	100-41-4	1.0-2.5	GHS02-GHS07	H225-332
Carbon Black	1333-86-4	1.0-2.5	GHS02	H251

The text for GHS Hazard Statements shown above (if any) is given in the "16. Other Information" section.

4. First-aid Measures

FIRST AID - EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes holding eyelids open. Get medical attention. Do NOT allow rubbing of eyes or keeping eyes closed.

FIRST AID - SKIN CONTACT: Wash skin with soap and water. Remove contaminated clothing. Get medical attention if irritation develops or persists.

FIRST AID - INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention. Do NOT use mouth-to-mouth resuscitation. If you experience difficulty in breathing, leave the area to obtain fresh air. If continued difficulty is experienced, get medical assistance immediately.

FIRST AID - INGESTION: Aspiration hazard: Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe lung damage. Get immediate medical attention. If swallowed, get medical attention.

5. Fire-fighting Measures

EXTINGUISHING MEDIA: Alcohol Film Forming Foam, Carbon Dioxide, Dry Chemical, Water Fog

UNUSUAL FIRE AND EXPLOSION HAZARDS: FLASH POINT IS LESS THAN 20 °. F. - EXTREMELY FLAMMABLE LIQUID AND VAPOR!Water spray may be ineffective. Closed containers may explode when exposed to extreme heat due to buildup of steam. Closed containers may explode when exposed to extreme heat. Vapors may form explosive mixtures with air. Vapors can travel to a source of ignition and flash back. Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame. Perforation of the pressurized container may cause bursting of the can. No unusual fire or explosion hazards noted.

SPECIAL FIREFIGHTING PROCEDURES: Water may be used to cool closed containers to prevent pressure buildup and possible autoignition or explosion. Full protective equipment including self-contained breathing apparatus should be used. Evacuate area and fight fire from a safe distance. Use water spray to keep fire-exposed containers cool. Containers may explode when heated.

6. Accidental Release Measures

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Contain spilled liquid with sand or earth. DO NOT use combustible materials such as sawdust. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Remove all sources of ignition, ventilate area and remove with inert absorbent and non-sparking tools. Dispose of according to local, state (provincial) and federal regulations. Do not incinerate closed containers. Ventilate area, isolate spilled material, and remove with inert absorbent. Dispose of contaminated absorbent, container, and unused contents in accordance with local, state, and federal regulations.

7. Handling and Storage

HANDLING: Wash thoroughly after handling. Wash hands before eating. Remove contaminated clothing and launder before reuse. Use only with adequate ventilation. Follow all MSDS/label precautions even after container is emptied because it may retain product residues. Avoid breathing fumes, vapors, or mist. Avoid contact with eyes, skin and clothing.

STORAGE: Store in a dry, well ventilated place. Keep container tightly closed when not in use. Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame. Contents under pressure. Do not store above 120 ° F. Store large quantities in buildings designed and protected for storage of NFPA Class I flammable liquids. Keep away from heat, sparks, flame and sources of ignition. Avoid excess heat. Product should be stored in tightly sealed containers and protected from heat, moisture, and foreign materials.

8. Exposure Controls/Personal Protection

Chemical Name	CAS-No.	Weight % Less Than	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA PEL-CEILING
Liquefied Petroleum Gas	68476-86-8	30.0	N.E.	N.E.	N.E.	N.E.
Acetone	67-64-1	25.0	500 ppm	750 ppm	1000 ppm	N.E.
n-Butyl Acetate	123-86-4	15.0	150 ppm	200 ppm	150 ppm	N.E.
Xylene	1330-20-7	10.0	100 ppm	150 ppm	100 ppm	N.E.
Barium Sulfate	7727-43-7	10.0	10 mg/m3	N.E.	15 mg/m3 [Total Dust]	N.E.
Propylene Glycol Monobutyl Ether	5131-66-8	5.0	N.E.	N.E.	N.E.	N.E.
Ethylbenzene	100-41-4	5.0	20 ppm	125 ppm	100 ppm	N.E.
Carbon Black	1333-86-4	5.0	3 mg/m3	N.E.	3.5 mg/m3	N.E.

PERSONAL PROTECTION

ENGINEERING CONTROLS: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof ventilation equipment. Provide general dilution of local exhaust ventilation in volume and pattern to keep TLV of hazardous ingredients below acceptable limits. Prevent build-up of vapors by opening all doors and windows to achieve cross-ventilation.

RESPIRATORY PROTECTION: A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. A NIOSH/MSHA approved air purifying respirator with organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits.

SKIN PROTECTION: Use gloves to prevent prolonged skin contact. Nitrile or Neoprene gloves may afford adequate skin protection.

EYE PROTECTION: Use safety eyewear designed to protect against splash of liquids.

OTHER PROTECTIVE EQUIPMENT: Refer to safety supervisor or industrial hygienist for further guidance regarding types of personal protective equipment and their applications.

HYGIENIC PRACTICES: Wash thoroughly with soap and water before eating, drinking or smoking. Remove contaminated clothing immediately and launder before reuse.

9. Physical and Chemical Properties

Appearance:	Aerosolized Mist	**Physical State:**	Liquid
Odor:	Solvent Like	**Odor Threshold:**	N.E.
Relative Density:	0.794	**pH:**	N.A.
Freeze Point, °C:	N.D.	**Viscosity:**	N.D.
Solubility in Water:	Slight	**Partition Coefficient, n-octanol/ water:**	No Information
Decompostion Temp., °C:	No Information		
Boiling Range, °C:	-34 - 999	**Explosive Limits, vol%:**	0.7 - 13.0
Flammability:	Supports Combustion	**Flash Point, °C:**	-105
Evaporation Rate:	Faster than Ether	**Auto-ignition Temp., °C:**	No Information
Vapor Density:	Heavier than Air	**Vapor Pressure:**	N.D.

(See "Other information" Section for abbreviation legend)

10. Stability and Reactivity

CONDITIONS TO AVOID: Avoid temperatures above 120 ° F. Avoid contact with strong acid and strong bases. Avoid all possible sources of ignition.

INCOMPATIBILITY: Incompatible with strong oxidizing agents, strong acids and strong alkalies.

HAZARDOUS DECOMPOSITION: By open flame, carbon monoxide and carbon dioxide. When heated to decomposition, it emits acrid smoke and irritating fumes. Contains solvents which may form carbon monoxide, carbon dioxide, and formaldehyde.

HAZARDOUS POLYMERIZATION: Will not occur under normal conditions.

STABILITY: This product is stable under normal storage conditions.

11. Toxicological information

EFFECTS OF OVEREXPOSURE - EYE CONTACT: Causes Serious Eye Irritation

EFFECTS OF OVEREXPOSURE - SKIN CONTACT: May cause skin irritation. Allergic reactions are possible.

EFFECTS OF OVEREXPOSURE - INHALATION: Harmful if inhaled. High gas, vapor, mist or dust concentrations may be harmful if inhaled. Avoid breathing fumes, spray, vapors, or mist. High vapor concentrations are irritating to the eyes, nose, throat and lungs. Prolonged or excessive inhalation may cause respiratory tract irritation.

EFFECTS OF OVEREXPOSURE - INGESTION: Harmful if swallowed.

EFFECTS OF OVEREXPOSURE - CHRONIC HAZARDS: May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion, and blurred vision) and/or damage. High concentrations may lead to central nervous system effects (drowsiness, dizziness, nausea, headaches, paralysis, and blurred vision) and/or damage. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Overexposure to xylene in laboratory animals has been associated with liver abnormalities, kidney, lung, spleen, eye and blood damage as well as reproductive disorders. Effects in humans, due to chronic overexposure, have included liver, cardiac abnormalities and nervous system damage. Contains carbon black. Chronic inflammation, lung fibrosis, and lung tumors have been observed in some rats experimentally exposed for long periods of time to excessive concentrations of carbon black and several insoluble fine dust particles. Tumors have not been observed in other animal species (i.e., mouse and hamster) under similar circumstances and study conditions. Epidemiological studies of North American workers show no evidence of clinically significant adverse health effects due to occupational exposure to carbon black.

Carbon black is listed as a Group 2B-"Possibly carcinogenic to humans" by IARC and is proposed to be listed as A4- "not classified as a human carcinogen" by the American Conference of Governmental Industrial Hygienists. Significant exposure is not anticipated during brush application or drying. Risk of overexposure depends on duration and level of exposure to dust from repeated sanding of surfaces or spray mist and the actual concentration of carbon black in the formula. IARC lists Ethylbenzene as a possible human carcinogen (group 2B).

PRIMARY ROUTE(S) OF ENTRY: Eye Contact, Ingestion, Inhalation, Skin Absorption, Skin Contact

ACUTE TOXICITY VALUES

The acute effects of this product have not been tested. Data on individual components are tabulated below:

CAS-No.	Chemical Name	Oral LD50	Dermal LD50	Vapor LC50
123-86-4	n-Butyl Acetate	N.I.	>17600 mg/kg Rabbit	N.I.
1330-20-7	Xylene	4300 mg/kg Rat	N.I.	47635 mg/L Rat
5131-66-8	Propylene Glycol Monobutyl Ether	1900 mg/kg Rat	N.I.	N.I.
100-41-4	Ethylbenzene	3500 mg/kg Rat	15354 mg/kg Rabbit	17.2 mg/L Rat

N.I. - No Information

12. Ecological Information

ECOLOGICAL INFORMATION: Product is a mixture of listed components.

13. Disposal Information

DISPOSAL INFORMATION: Dispose of material in accordance to local, state, and federal regulations and ordinances. Do not allow to enter waterways, wastewater, soil, storm drains or sewer systems.

14. Transport Information

	Domestic (USDOT)	International (IMDG)	Air (IATA)	TDG (Canada)
UN Number:	N.A.	1950	1950	N.A.
Proper Shipping Name:	Paint Products in Limited Quantities	Aerosols	Aerosols	Paint Products in Limited Quantities
Hazard Class:	N.A.	2.1	2.1	N.A.
Packing Group:	N.A.	N.A.	N.A.	N.A.
Limited Quantity:	Yes	Yes	Yes	Yes

15. Regulatory Information

U.S. Federal Regulations:

CERCLA - SARA Hazard Category

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Fire Hazard, Pressure Hazard, Acute Health Hazard, Chronic Health Hazard

Sara Section 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

Chemical Name	CAS-No.
Xylene	1330-20-7
Ethylbenzene	100-41-4

Toxic Substances Control Act:

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

No TSCA components exist in this product.

Inventory Information

Country	Value
USA (TSCA)	No Information
Canada (DSL)	No Information
Mexico(INSQ)	No Information
Europe (EINECS)	No Information
Japan (ENCS)	No Information
Philippines (PICCS)	No Information
China (IECSC)	No Information
Australia (AICS)	No Information
Korea (KECI)	No Information
New Zealand (NZIOC)	No Information

No Information

CALIFORNIA PROPOSITION 65:

Warning: This products contains a substance known to the State of California to cause cancer.

Chemical Name	CAS-No.
Ethylbenzene	100-41-4
Carbon Black	1333-86-4

CALIFORNIA PROPOSITION 65 REPRODUCTIVE TOXINS

Warning: This product contains a substance known to the State of California to cause birth defects or other reproductive harm.

No Proposition 65 Reproductive Toxins exist in this product.

International Regulations:

CANADIAN WHMIS:

This SDS has been prepared in compliance with Controlled Product Regulations except for the use of the 16 headings.

16. Other Information

HMIS RATINGS

Health: 2* **Flammability:** 4 **Physical Hazard:** 0 **Personal Protection:** X

CANADIAN WHMIS CLASS: B2 D2A

NFPA RATINGS

Health: 2 **Flammability:** 4 **Instability** 0

VOLATILE ORGANIC COMPOUNDS, g/L: 541

MSDS REVISION DATE: 8/13/2014

REASON FOR REVISION: No Information

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

Text for GHS Hazard Statements shown in Section 3 describing each ingredient:

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H251	Self-heating: may catch fire.
H302	Harmful if swallowed.
H332	Harmful if inhaled.

Icons for GHS Pictograms shown in Section 3 describing each ingredient:

GHS02

GHS07

Rust-Oleum Corporation believes, to the best of its knowledge, information and belief, the information contained herein to be accurate and reliable as of the date of this safety data sheet. However, because the conditions of handling, use, and storage of these materials are beyond our control, we assume no responsibility or liability for personal injury or property damage incurred by the use of these materials. Rust-Oleum Corporation makes no warranty, expressed or implied, regarding the accuracy or reliability of the data or results obtained from their use. All materials may present unknown hazards and should be used with caution. The information and recommendations in this material safety data sheet are offered for the users' consideration and examination. It is the responsibility of the user to determine the final suitability of this information and to comply with all applicable international, federal, state, and local laws and regulations.

Safety Data Sheet

RUST-OLEUM CORPORATION
* Trusted Quality Since 1921 *
www.rustoleum.com

1. Identification

Product Name: ROHPER LSPR 6PK GLOSS WHITE

Product Identifier: V2192838

Product Use/Class: Topcoat/Aerosols

Supplier: Rust-Oleum Corporation
11 Hawthorn Parkway
Vernon Hills, IL 60061
USA

Manufacturer: Rust-Oleum Corporation
11 Hawthorn Parkway
Vernon Hills, IL 60061
USA

Revision Date: 8/13/2014

Supercedes Date: 8/12/2014

Preparer: Regulatory Department

Emergency Telephone: 24 Hour Hotline: 847-367-7700

2. Hazard Identification

EMERGENCY OVERVIEW: Harmful if inhaled. Harmful if swallowed. Causes eye irritation. Extremely flammable liquid and vapor. Vapors may cause flash fire or explosion. Use ventilation necessary to keep exposures below recommended exposure limits, if any. Harmful if inhaled. May affect the brain or nervous system causing dizziness, headache or nausea. Vapor Harmful. Causes Eye, Skin, Nose, and Throat Irritation. Contents Under Pressure. May cause eye, skin, or respiratory tract irritation. KEEP OUT OF REACH OF CHILDREN.

Classification

Symbol(s) of Product

Signal Word
Danger

GHS HAZARD STATEMENTS

Flammable Aerosol, category 1	H222	Extremely flammable aerosol.
Flammable Liquid, category 1	H224	Extremely flammable liquid and vapour.
Flammable Aerosol, category 1	H280	Contains gas under pressure; may explode if heated
Acute Toxicity, Oral, category 5	H303	May be harmful if swallowed.
Aspiration Hazard, category 2	H305	May be harmful if swallowed and enters airways.
Acute Toxicity, Dermal, category 5	H313	May be harmful in contact with skin.
Skin Irritation, category 2	H315	Causes skin irritation.
Eye Irritation, category 2	H319	Causes serious eye irritation.
Eye Irritation, category 2B	H320	Causes eye irritation.
Acute Toxicity, Inhalation, category 4	H332	Harmful if inhaled.
STOT, single exposure, category 3, RTI	H335	May cause respiratory irritation.
STOT, single exposure, category 3, NE	H336	May cause drowsiness or dizziness.

GHS PRECAUTIONARY STATEMENTS

P102	Keep out of reach of children.
P103	Read label before use.

P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P211	Do not spray on an open flame or other ignition source.
P220	Keep/Store away from clothing/.../combustible materials.
P234	Keep only in original container.
P235	Keep cool.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting/.../ equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P251	Pressurized container: Do not pierce or burn, even after use.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P262	Do not get in eyes, on skin, or on clothing.
P264	Wash ... thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P281	Use personal protective equipment as required.
P285	In case of inadequate ventilation wear respiratory protection.
P302+P350	IF ON SKIN: Gently wash with plenty of soap and water.
P303+P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P321	Specific treatment (see ... on this label).
P332+P313	If skin irritation occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P351	Rinse cautiously with water for several minutes.
P352	Wash with plenty of soap and water.
P362	Take off contaminated clothing and wash before reuse.
P370+P378	In case of fire: Use ... for extinction.
P374	Fight fire with normal precautions from a reasonable distance.
P375	Fight fire remotely due to the risk of explosion.
P402	Store in a dry place.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P403+P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P410+P412	Protect from sunlight. Do no expose to temperatures exceeding 50°C/ 122°F.
P501	Dispose of contents/container to ...

3. Composition/Information On Ingredients

HAZARDOUS SUBSTANCES

Chemical Name	CAS-No.	Wt.% Range	GHS Symbols	GHS Statements
Liquefied Petroleum Gas	68476-86-8	10-25		
Acetone	67-64-1	10-25	GHS02	H225
Titanium Dioxide	13463-67-7	10-25		
n-Butyl Acetate	123-86-4	2.5-10	GHS02	H225
Xylene	1330-20-7	2.5-10	GHS02	H226
Ethylbenzene	100-41-4	2.5-10	GHS02-GHS07	H225-332
Propylene Glycol Monobutyl Ether	5131-66-8	1.0-2.5	GHS02-GHS07	H226-302

The text for GHS Hazard Statements shown above (if any) is given in the "16. Other Information" section.

4. First-aid Measures

FIRST AID - EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes holding eyelids open. Get medical attention. Do NOT allow rubbing of eyes or keeping eyes closed.

FIRST AID - SKIN CONTACT: Wash skin with soap and water. Remove contaminated clothing. Get medical attention if irritation develops or persists.

FIRST AID - INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention. Do NOT use mouth-to-mouth resuscitation. If you experience difficulty in breathing, leave the area to obtain fresh air. If continued difficulty is experienced, get medical assistance immediately.

FIRST AID - INGESTION: Aspiration hazard: Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe lung damage. Get immediate medical attention. If swallowed, get medical attention.

5. Fire-fighting Measures

EXTINGUISHING MEDIA: Alcohol Film Forming Foam, Carbon Dioxide, Dry Chemical, Water Fog

UNUSUAL FIRE AND EXPLOSION HAZARDS: FLASH POINT IS LESS THAN 20 °. F. - EXTREMELY FLAMMABLE LIQUID AND VAPOR!Water spray may be ineffective. Closed containers may explode when exposed to extreme heat due to buildup of steam. Closed containers may explode when exposed to extreme heat. Vapors may form explosive mixtures with air. Vapors can travel to a source of ignition and flash back. Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame. Perforation of the pressurized container may cause bursting of the can. No unusual fire or explosion hazards noted.

SPECIAL FIREFIGHTING PROCEDURES: Water may be used to cool closed containers to prevent pressure buildup and possible autoignition or explosion. Full protective equipment including self-contained breathing apparatus should be used. Evacuate area and fight fire from a safe distance. Use water spray to keep fire-exposed containers cool. Containers may explode when heated.

6. Accidental Release Measures

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Contain spilled liquid with sand or earth. DO NOT use combustible materials such as sawdust. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Remove all sources of ignition, ventilate area and remove with inert absorbent and non-sparking tools. Dispose of according to local, state (provincial) and federal regulations. Do not incinerate closed containers. Ventilate area, isolate spilled material, and remove with inert absorbent. Dispose of contaminated absorbent, container, and unused contents in accordance with local, state, and federal regulations.

7. Handling and Storage

HANDLING: Wash thoroughly after handling. Wash hands before eating. Remove contaminated clothing and launder before reuse. Use only in a well-ventilated area. Use only with adequate ventilation. Follow all MSDS/label precautions even after container is emptied because it may retain product residues. Avoid breathing fumes, vapors, or mist. Avoid contact with eyes, skin and clothing.

STORAGE: Store in a dry, well ventilated place. Keep container tightly closed when not in use. Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame. Contents under pressure. Do not store above 120 ° F. Store large quantities in buildings designed and protected for storage of NFPA Class I flammable liquids. Keep away from heat, sparks, flame and sources of ignition. Contents under pressure. Do not expose to heat or store above 120 ° F. Avoid excess heat. Product should be stored in tightly sealed containers and protected from heat, moisture, and foreign materials.

8. Exposure Controls/Personal Protection

Chemical Name	CAS-No.	Weight % Less Than	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA PEL-CEILING
Liquefied Petroleum Gas	68476-86-8	25.0	N.E.	N.E.	N.E.	N.E.
Acetone	67-64-1	20.0	500 ppm	750 ppm	1000 ppm	N.E.
Titanium Dioxide	13463-67-7	15.0	10 mg/m3	N.E.	15 mg/m3 [Total Dust]	N.E.
n-Butyl Acetate	123-86-4	10.0	150 ppm	200 ppm	150 ppm	N.E.
Xylene	1330-20-7	10.0	100 ppm	150 ppm	100 ppm	N.E.
Ethylbenzene	100-41-4	5.0	20 ppm	125 ppm	100 ppm	N.E.
Propylene Glycol Monobutyl Ether	5131-66-8	5.0	N.E.	N.E.	N.E.	N.E.

PERSONAL PROTECTION

ENGINEERING CONTROLS: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof ventilation equipment. Provide general dilution of local exhaust ventilation in volume and pattern to keep TLV of hazardous ingredients below acceptable limits. Prevent build-up of vapors by opening all doors and windows to achieve cross-ventilation.

RESPIRATORY PROTECTION: A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. A NIOSH/MSHA approved air purifying respirator with organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits.

SKIN PROTECTION: Use gloves to prevent prolonged skin contact. Use impervious gloves to prevent skin contact and absorption of this material through the skin. Nitrile or Neoprene gloves may afford adequate skin protection.

EYE PROTECTION: Use safety eyewear designed to protect against splash of liquids.

OTHER PROTECTIVE EQUIPMENT: Refer to safety supervisor or industrial hygienist for further guidance regarding types of personal protective equipment and their applications. Refer to safety supervisor or industrial hygienist for further information regarding personal protective equipment and its application.

HYGIENIC PRACTICES: Wash thoroughly with soap and water before eating, drinking or smoking. Remove contaminated clothing immediately and launder before reuse.

9. Physical and Chemical Properties

Appearance:	Aerosolized Mist	**Physical State:**	Liquid
Odor:	Solvent Like	**Odor Threshold:**	N.E.
Relative Density:	0.849	**pH:**	N.A.
Freeze Point, °C:	N.D.	**Viscosity:**	N.D.
Solubility in Water:	Slight	**Partition Coefficient, n-octanol/ water:**	No Information
Decompostion Temp., °C:	No Information		
Boiling Range, °C:	-34 - 500	**Explosive Limits, vol%:**	0.7 - 13.0
Flammability:	Supports Combustion	**Flash Point, °C:**	-105
Evaporation Rate:	Faster than Ether	**Auto-ignition Temp., °C:**	No Information
Vapor Density:	Heavier than Air	**Vapor Pressure:**	N.D.

(See "Other information" Section for abbreviation legend)

10. Stability and Reactivity

CONDITIONS TO AVOID: Avoid temperatures above 120 ° F. Avoid contact with strong acid and strong bases. Avoid all possible sources of ignition.

INCOMPATIBILITY: Incompatible with strong oxidizing agents, strong acids and strong alkalies.

HAZARDOUS DECOMPOSITION: By open flame, carbon monoxide and carbon dioxide. When heated to decomposition, it emits acrid smoke and irritating fumes. Contains solvents which may form carbon monoxide, carbon dioxide, and formaldehyde.

HAZARDOUS POLYMERIZATION: Will not occur under normal conditions.

STABILITY: This product is stable under normal storage conditions.

11. Toxicological information

EFFECTS OF OVEREXPOSURE - EYE CONTACT: Causes Serious Eye Irritation

EFFECTS OF OVEREXPOSURE - SKIN CONTACT: Substance may cause slight skin irritation. May cause skin irritation. Allergic reactions are possible. Prolonged or repeated contact may cause skin irritation.

EFFECTS OF OVEREXPOSURE - INHALATION: Harmful if inhaled. High gas, vapor, mist or dust concentrations may be harmful if inhaled. Avoid breathing fumes, spray, vapors, or mist. High vapor concentrations are irritating to the eyes, nose, throat and lungs. Prolonged or excessive inhalation may cause respiratory tract irritation.

EFFECTS OF OVEREXPOSURE - INGESTION: Harmful if swallowed. Aspiration hazard if swallowed; can enter lungs and cause damage.

EFFECTS OF OVEREXPOSURE - CHRONIC HAZARDS: May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion, and blurred vision) and/or damage. High concentrations may lead to central nervous system effects (drowsiness, dizziness, nausea, headaches, paralysis, and blurred vision) and/or damage. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Overexposure to xylene in laboratory animals has been associated with liver abnormalities, kidney, lung, spleen, eye and blood damage as well as reproductive disorders. Effects in humans, due to chronic overexposure, have included liver, cardiac abnormalities and nervous system damage. IARC lists Ethylbenzene as a possible human carcinogen (group 2B). Contains Titanium Dioxide. Titanium Dioxide is listed as a Group 2B-"Possibly carcinogenic to humans" by IARC. No significant exposure to Titanium

Dioxide is thought to occur during the use of products in which Titanium Dioxide is bound to other materials, such as in paints during brush application or drying. Risk of overexposure depends on duration and level of exposure to dust from repeated sanding of surfaces or spray mist and the actual concentration of Titanium Dioxide in the formula. (Ref: IARC Monograph, Vol. 93, 2010)

PRIMARY ROUTE(S) OF ENTRY: Eye Contact, Ingestion, Inhalation, Skin Absorption, Skin Contact

ACUTE TOXICITY VALUES

The acute effects of this product have not been tested. Data on individual components are tabulated below:

CAS-No.	Chemical Name	Oral LD50	Dermal LD50	Vapor LC50
13463-67-7	Titanium Dioxide	>10000 mg/kg Rat	N.I.	N.I.
123-86-4	n-Butyl Acetate	N.I.	>17600 mg/kg Rabbit	N.I.
1330-20-7	Xylene	4300 mg/kg Rat	N.I.	47635 mg/L Rat
100-41-4	Ethylbenzene	3500 mg/kg Rat	15354 mg/kg Rabbit	17.2 mg/L Rat
5131-66-8	Propylene Glycol Monobutyl Ether	1900 mg/kg Rat	N.I.	N.I.

N.I. - No Information

12. Ecological Information

ECOLOGICAL INFORMATION: Product is a mixture of listed components. Product is a mixture of listed components.

13. Disposal Information

DISPOSAL INFORMATION: Dispose of material in accordance to local, state, and federal regulations and ordinances. Do not allow to enter waterways, wastewater, soil, storm drains or sewer systems.

14. Transport Information

	Domestic (USDOT)	International (IMDG)	Air (IATA)	TDG (Canada)
UN Number:	N.A.	1950	1950	N.A.
Proper Shipping Name:	Paint Products in Limited Quantities	Aerosols	Aerosols	Paint Products in Limited Quantities
Hazard Class:	N.A.	2.1	2.1	N.A.
Packing Group:	N.A.	N.A.	N.A.	N.A.
Limited Quantity:	Yes	Yes	Yes	Yes

15. Regulatory Information

U.S. Federal Regulations:

CERCLA - SARA Hazard Category

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Fire Hazard, Pressure Hazard, Acute Health Hazard, Chronic Health Hazard

Sara Section 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

Chemical Name	CAS-No.
Xylene	1330-20-7
Ethylbenzene	100-41-4

Toxic Substances Control Act:

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

No TSCA components exist in this product.

Inventory Information

Country	Value
USA (TSCA)	No Information
Canada (DSL)	No Information
Mexico(INSQ)	No Information
Europe (EINECS)	No Information
Japan (ENCS)	No Information
Philippines (PICCS)	No Information
China (IECSC)	No Information
Australia (AICS)	No Information
Korea (KECI)	No Information
New Zealand (NZIOC)	No Information

No Information

CALIFORNIA PROPOSITION 65:

Warning: This products contains a substance known to the State of California to cause cancer.

Chemical Name	CAS-No.
Titanium Dioxide	13463-67-7
Ethylbenzene	100-41-4

CALIFORNIA PROPOSITION 65 REPRODUCTIVE TOXINS

Warning: This product contains a substance known to the State of California to cause birth defects or other reproductive harm.

Chemical Name	CAS-No.
Toluene	108-88-3

International Regulations:

CANADIAN WHMIS:

This SDS has been prepared in compliance with Controlled Product Regulations except for the use of the 16 headings.

16. Other Information

HMIS RATINGS

Health: 2* **Flammability:** 4 **Physical Hazard:** 0 **Personal Protection:** X

CANADIAN WHMIS CLASS: B2 D2A

NFPA RATINGS

Health: 2 **Flammability:** 4 **Instability** 0

VOLATILE ORGANIC COMPOUNDS, g/L: 521

MSDS REVISION DATE: 8/13/2014

REASON FOR REVISION: No Information

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

Text for GHS Hazard Statements shown in Section 3 describing each ingredient:

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H332	Harmful if inhaled.

Icons for GHS Pictograms shown in Section 3 describing each ingredient:

GHS02

GHS07

Rust-Oleum Corporation believes, to the best of its knowledge, information and belief, the information contained herein to be accurate and reliable as of the date of this safety data sheet. However, because the conditions of handling, use, and storage of these materials are beyond our control, we assume no responsibility or liability for personal injury or property damage incurred by the use of these materials. Rust-Oleum Corporation makes no warranty, expressed or implied, regarding the accuracy or reliability of the data or results obtained from their use. All materials may present unknown hazards and should be used with caution. The information and recommendations in this material safety data sheet are offered for the users' consideration and examination. It is the responsibility of the user to determine the final suitability of this information and to comply with all applicable international, federal, state, and local laws and regulations.

Safety Data Sheet

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Document Group:	26-6728-5	**Version Number:**	1.09
Issue Date:	04/06/15	**Supercedes Date:**	07/28/14

SECTION 1: Identification

1.1. Product identifier
3M™ Scotch-Brite™ Products, EXL Unitized AMED, Products, Wheels, Blocks, Discs, Roloc™ TR; TS

1.2. Recommended use and restrictions on use

Recommended use
Abrasive Product

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Abrasive Systems Division
ADDRESS:	3M Center, St. Paul, MN 55144-1000, USA
Telephone:	1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number
1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

2.1. Hazard classification
Specific Target Organ Toxicity (repeated exposure): Category 1.

2.2. Label elements
Signal word
Danger

Symbols
Health Hazard |

Pictograms

Hazard Statements
Causes damage to organs through prolonged or repeated exposure:

respiratory system |

Precautionary Statements

Prevention:
Do not breathe dust/fume/gas/mist/vapors/spray.
Do not eat, drink or smoke when using this product.
Wash thoroughly after handling.

Response:
Get medical advice/attention if you feel unwell.

Disposal:
Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

2.3. Hazards not otherwise classified
None.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Aluminum Oxide Mineral (non-fibrous)	1344-28-1	35 - 50
Inorganic Fluoride	14075-53-7	3 - 10
Talc	14807-96-6	3 - 10
Lubricant	4485-12-5	1 - 5
Titanium Dioxide	13463-67-7	0.25 - 1.5
Lubricant	64742-52-5	0.01 - 0.5
Cured Resin	Mixture	20 - 35
Nylon Fiber	Mixture	5 - 15
Polyester Scrim	Mixture	2 - 10
Attachment Button	Mixture	0 - 5

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:
Remove person to fresh air. If you feel unwell, get medical attention.

Skin Contact:
Wash with soap and water. If signs/symptoms develop, get medical attention.

Eye Contact:
Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.

If Swallowed:
Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed
See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required
Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media
In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

5.2. Special hazards arising from the substance or mixture
None inherent in this product.

Hazardous Decomposition or By-Products

Substance	Condition
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion

5.3. Special protective actions for fire-fighters
No special protective actions for fire-fighters are anticipated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Observe precautions from other sections.

6.2. Environmental precautions
Not applicable.

6.3. Methods and material for containment and cleaning up
Not applicable.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
For industrial or professional use only. Avoid breathing of dust created by sanding, grinding or machining. Damaged product can break apart during use and cause serious injury to face or eyes. Check product for damage such as cracks or nicks prior to use. Replace if damaged. Always wear eye and face protection when working at sanding or grinding operations or when near such operations. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Combustible dust may form by action of this product on another material (substrate). Dust generated from the substrate during use of this product may be explosive if in sufficient concentration with an ignition source. Dust deposits should not be allowed to accumulate on surfaces because of the potential for secondary explosions.

7.2. Conditions for safe storage including any incompatibilities
No special storage requirements.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits
If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
Aluminum Oxide Mineral (non-fibrous)	1344-28-1	CMRG	TWA:1 fiber/cc	

Aluminum Oxide Mineral (non-fibrous)	1344-28-1	OSHA	TWA(as total dust):15 mg/m3;TWA(respirable fraction):5 mg/m3	
Aluminum, insoluble compounds	1344-28-1	ACGIH	TWA(respirable fraction):1 mg/m3	A4: Not class. as human carcin
Titanium Dioxide	13463-67-7	ACGIH	TWA:10 mg/m3	A4: Not class. as human carcin
Titanium Dioxide	13463-67-7	CMRG	TWA(as respirable dust):5 mg/m3	
Titanium Dioxide	13463-67-7	OSHA	TWA(as total dust):15 mg/m3	
Talc	14807-96-6	ACGIH	TWA(respirable fraction):2 mg/m3	A4: Not class. as human carcin
Talc	14807-96-6	CMRG	TWA(as respirable dust):0.5 mg/m3	
Talc	14807-96-6	OSHA	TWA concentration(as total dust):0.3 mg/m3;TWA concentration(respirable):0.1 mg/m3(2.4 millions of particles/cu. ft.);TWA:20 millions of particles/cu. ft.	
STEARATES	4485-12-5	ACGIH	TWA:10 mg/m3	A4: Not class. as human carcin
Lubricant	64742-52-5	CMRG	TWA:5 mg/m3;STEL:10 mg/m3	
Paraffin oil	64742-52-5	OSHA	TWA(as mist):5 mg/m3	
PETROLEUM DISTILLATES	64742-52-5	OSHA	TWA:2000 mg/m3(500 ppm)	

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor - Occupational Safety and Health Administration
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls
Provide appropriate local exhaust ventilation for sanding, grinding or machining. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment. Warning: Excessive operating speed or generation of extreme heat may result in harmful emissions. Use local exhaust ventilation. Provide local exhaust at process emission sources to control exposure near the source and to prevent the escape of dust into the work area. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).

8.2.2. Personal protective equipment (PPE)

Eye/face protection

To minimize the risk of injury to face and eyes, always wear eye and face protection when working at sanding or grinding operations or when near such operations. Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Safety Glasses with side shields

Skin/hand protection
Wear appropriate gloves to minimize risk of injury to skin from contact with dust or physical abrasion from grinding or sanding.

Respiratory protection

Assess exposure concentrations of all materials involved in the work process. Consider material being abraded when determining the appropriate respiratory protection. Select and use appropriate respirators to prevent inhalation overexposure. An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form:	Solid
Odor, Color, Grade:	Solid Abrasive Product
Odor threshold	*Not Applicable*
pH	*Not Applicable*
Melting point	*Not Applicable*
Boiling Point	*Not Applicable*
Flash Point	*Not Applicable*
Evaporation rate	*Not Applicable*
Flammability (solid, gas)	Not Classified
Flammable Limits(LEL)	*Not Applicable*
Flammable Limits(UEL)	*Not Applicable*
Vapor Pressure	*Not Applicable*
Vapor Density	*Not Applicable*
Density	*Not Applicable*
Specific Gravity	*Not Applicable*
Solubility In Water	*Not Applicable*
Solubility- non-water	*Not Applicable*
Partition coefficient: n-octanol/ water	*Not Applicable*
Autoignition temperature	*Not Applicable*
Decomposition temperature	*Not Applicable*
Viscosity	*Not Applicable*

SECTION 10: Stability and reactivity

10.1. Reactivity
This material is considered to be non reactive under normal use conditions.

10.2. Chemical stability
Stable.

10.3. Possibility of hazardous reactions
Hazardous polymerization will not occur.

10.4. Conditions to avoid
None known.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

Substance	Condition
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:
Dust from grinding, sanding or machining may cause irritation of the respiratory system. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

May cause additional health effects (see below).

Skin Contact:
Mechanical Skin irritation: Signs/symptoms may include abrasion, redness, pain, and itching.

Eye Contact:
Mechanical eye irritation: Signs/symptoms may include pain, redness, tearing and corneal abrasion.

Dust created by grinding, sanding, or machining may cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Ingestion:
No known health effects.

Additional Health Effects:

Prolonged or repeated exposure may cause target organ effects:
Pneumoconiosis: Sign/symptoms may include persistent cough, breathlessness, chest pain, increased amounts of sputum, and changes in lung function tests.

Carcinogenicity:

Ingredient	CAS No.	Class Description	Regulation
Titanium Dioxide	13463-67-7	Grp 2B: Possible human carc	International Agency for Research on Cancer

Additional Information:
This document covers only the 3M product. For complete assessment, when determining the degree of hazard, the material being abraded must also be considered.

This product contains titanium dioxide. Cancer of the lungs has been observed in rats that inhaled high levels of titanium dioxide. No exposure to inhaled titanium dioxide is expected during the normal handling and use of this product. Titanium dioxide was not detected when air sampling was conducted during simulated use of similar products containing titanium dioxide. Therefore, the health effects associated with titanium dioxide are not expected during the normal use of this product.

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Ingestion		No data available: calculated ATE > 5,000 mg/kg
Aluminum Oxide Mineral (non-fibrous)	Dermal		LD50 estimated to be > 5,000 mg/kg
Aluminum Oxide Mineral (non-fibrous)	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 2 3 mg/l
Aluminum Oxide Mineral (non-fibrous)	Ingestion	Rat	LD50 > 5,000 mg/kg
Inorganic Fluoride	Dermal		LD50 estimated to be > 5,000 mg/kg
Inorganic Fluoride	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5 3 mg/l
Inorganic Fluoride	Ingestion	Rat	LD50 5,854 mg/kg
Talc	Dermal		LD50 Not available
Talc	Ingestion		LD50 Not available
Lubricant	Dermal		LD50 estimated to be > 5,000 mg/kg
Lubricant	Ingestion	Rat	LD50 > 5,000 mg/kg
Titanium Dioxide	Dermal	Rabbit	LD50 > 10,000 mg/kg
Titanium Dioxide	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 6 82 mg/l
Titanium Dioxide	Ingestion	Rat	LD50 > 10,000 mg/kg
Lubricant	Dermal	Rabbit	LD50 > 2,000 mg/kg
Lubricant	Ingestion	Rat	LD50 > 5,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Aluminum Oxide Mineral (non-fibrous)	Rabbit	No significant irritation
Inorganic Fluoride	Rabbit	No significant irritation
Talc	Rabbit	No significant irritation
Lubricant	similar compounds	No significant irritation
Titanium Dioxide	Rabbit	No significant irritation
Lubricant	Rabbit	Minimal irritation

Serious Eye Damage/Irritation

Name	Species	Value
Aluminum Oxide Mineral (non-fibrous)	Rabbit	No significant irritation
Inorganic Fluoride	Rabbit	No significant irritation
Talc	Rabbit	No significant irritation
Lubricant	similar compounds	Mild irritant
Titanium Dioxide	Rabbit	No significant irritation
Lubricant	Rabbit	Mild irritant

Skin Sensitization

Name	Species	Value
Titanium Dioxide	Human and animal	Not sensitizing
Lubricant	Guinea	Not sensitizing

	pig	

Respiratory Sensitization

Name	Species	Value
Talc	Human	Not sensitizing

Germ Cell Mutagenicity

Name	Route	Value
Aluminum Oxide Mineral (non-fibrous)	In Vitro	Not mutagenic
Talc	In Vitro	Not mutagenic
Talc	In vivo	Not mutagenic
Titanium Dioxide	In Vitro	Not mutagenic
Titanium Dioxide	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Aluminum Oxide Mineral (non-fibrous)	Inhalation	Rat	Not carcinogenic
Talc	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification
Titanium Dioxide	Ingestion	Multiple animal species	Not carcinogenic
Titanium Dioxide	Inhalation	Rat	Carcinogenic
Lubricant	Ingestion	Rat	Not carcinogenic
Lubricant	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
Talc	Ingestion	Not toxic to development	Rat	NOAEL 1,600 mg/kg	during organogenesis

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Lubricant	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Aluminum Oxide Mineral (non-fibrous)	Inhalation	pneumoconiosis | pulmonary fibrosis	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Talc	Inhalation	pneumoconiosis	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
Talc	Inhalation	pulmonary fibrosis | respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 18 mg/m3	113 weeks
Titanium Dioxide	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 0 010 mg/l	2 years
Titanium Dioxide	Inhalation	pulmonary fibrosis	All data are negative	Human	NOAEL Not available	occupational exposure

Aspiration Hazard
For the component/components, either no data are currently available or the data are not sufficient for classification.

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations

13.1. Disposal methods
Dispose of contents/ container in accordance with the local/regional/national/international regulations.

The substrate that was abraded must be considered as a factor in the disposal method for this product. Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes.

EPA Hazardous Waste Number (RCRA): Not regulated

SECTION 14: Transport Information

Not regulated per U.S. DOT, IATA or IMO.

These transportation classifications are provided as a customer service. ***As the shipper YOU remain responsible for complying with all applicable laws and regulations, including proper transportation classification and packaging.*** *3M transportation classifications are based on product formulation, packaging, 3M policies and 3M understanding of applicable current regulations. 3M does not guarantee the accuracy of this classification information. This information applies only to transportation classification and* ***not*** ***the packaging, labeling, or marking requirements.*** *The original 3M package is certified for U.S. ground shipment only. If you are shipping by air or ocean, the package may not meet applicable regulatory requirements.*

SECTION 15: Regulatory information

15.1. US Federal Regulations
Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - No Delayed Hazard - Yes

15.2. State Regulations
Contact 3M for more information.

15.3. Chemical Inventories
This product is an article as defined by TSCA regulations, and is exempt from TSCA Inventory listing requirements.

Contact 3M for more information.

15.4. International Regulations
Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification
Health: 0 **Flammability:** 1 **Instability:** 0 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

Document Group:	26-6728-5	**Version Number:**	1.09
Issue Date:	04/06/15	**Supercedes Date:**	07/28/14

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Common Name: GAS METAL ARC WELDING (GMAW) SOLID WIRE
Manufacturer: HOBART BROTHERS
MSDS Revision Date: 7/2/2010
MSDS Format: No Format Specified

Grainger Item Number(s): 6ETK3, 6ETK4, 6ETK5, 6ETK6, 6ETK7, 6ETK8, 6ETK9, 6ETL0, 6ETL1, 6ETL2, 6ETL3, 6ETL4, 6ETL5, 6ETL6, 6ETL7, 6ETN8, 6ETN9
Manufacturer Model Number(s):

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SECTION 6 - HEALTH HAZARD DATA
SECTION 7 - PRECAUTIONS FOR SAFE HANDLING & USE/APPLICABLE

HOBART BROTHERS

HOBART(R*)
MCKAY(R*)
TRI-MARK(R*)
COREX(R*)

PERFORMANCE WELDING.(TM)

MSDS NO: 415841

REVISED: JULY 2, 2010

D0042

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MATERIAL SAFETY DATA SHEET

FOR U.S. MANUFACTURED OR DISTRIBUTED WELDING CONSUMABLES AND RELATED PRODUCTS. MAY BE USED TO COMPLY WITH OSHA'S HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200 AND SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) OF 1986 PUBLIC LAW 99-499. STANDARD MUST BE CONSULTED FOR SPECIFIC REQUIREMENTS.

SECTION 1 - IDENTIFICATION

top

MANUFACTURER/SUPPLIER NAME: HOBART BROTHERS COMPANY

ADDRESS:
101 TRADE SQUARE EAST
TROY, OH 45373

TELEPHONE NO: (937) 332-4000

EMERGENCY NO: (800) 424-9300

WEBSITE: WWW.HOBARTBROTHERS.COM

PRODUCT TYPE: GAS METAL ARC WELDING (GMAW) SOLID WIRE

AWS SPECIFICATION: ER70S-2, ER70S-3, ER70S-6, AND ER80S-D2

SECTION 2 - HAZARDOUS INGREDIENTS

top

IMPORTANT:
THIS SECTION COVERS THE MATERIALS FROM WHICH THIS PRODUCT IS MANUFACTURED. THE FUMES AND GASES PRODUCED DURING WELDING WITH NORMAL USE OF THIS PRODUCT ARE COVERED BY SECTION 5. THE TERM "HAZARDOUS" IN THIS SECTION SHOULD BE INTERPRETED AS A TERM REQUIRED AND DEFINED IN OSHA HAZARD COMMUNICATION STANDARD (29 CFR PART 1910.1200).

HAZARDOUS INGREDIENTS	% WEIGHT	CAS NO.	EXPOSURE LIMIT (MG/M3) OSHA PEL	ACGIH TLV
IRON+	95	7439-89-6	5 R*, 10 (OXIDE FUME)	5 R* (Fe2O3) (A4)
MANGANESE#	1-5	7439-96-5	5 CL ** (FUME) 1.3 STEL*** #	0.2 I*(A4)$ 0.02 R* $, $$
SILICON+	0.5-1.5	7440-21-3	5 R*	3 R*
(AMORPHOUS SILICA FUME)		69012-64-2	0.8	3 R*
COPPER# (1)	0.1-0.5	7440-50-8	0.1 (FUME), 1 (DUST)	0.2 (FUME), 1 (DUST AND MISTS)
MOLYBDENUM (2)	0.1-1	7439-98-7	5 R*	10 I*; 3 R* (ELEMENTAL AND INSOLUBLE) 0.5 R* (SOLUBLE COMPOUNDS) (A3)

(1):
COPPER, IF CONTAINED IN THE PRODUCT, IS CLEARLY VISIBLE AND ONLY PRESENT AS A SURFACE COATING.

(2): PRESENT ONLY IN ER80S-D2.

+: AS A NUISANCE PARTICULATE COVERED UNDER

":PARTICULATES NOT OTHERWISE REGULATED" BY OSHA OR

": PARTICULATES NOT OTHERWISE CLASSIFIED" BY ACGIH

R*: RESPIRABLE FRACTION

I*: INHALABLE FRACTION

**: CEILING LIMIT

***: SHORT TERM EXPOSURE LIMIT

#: REPORTABLE MATERIAL UNDER SECTION 313 OF SARA

(A3):
CONFIRMED ANIMAL CARCINOGEN WITH UNKNOWN RELEVANCE TO HUMANS PER ACGIH

(A4): NOT CLASSIFIABLE AS A HUMAN CARCINOGEN PER ACGIH

#: NIOSH REL TWA AND STEL

$: LISTED UNDER ACGIH NOTICE OF INTENDED CHANGES FOR Mn IN 2010

$$: LIMIT OF 0.02 MG/M3 IS PROPOSED FOR RESPIRABLE Mn IN 2011 BY ACGIH

THE EXPOSURE LIMIT FOR WELDING FUME HAS BEEN ESTABLISHED AT 5 MG/M3 WITH OSHA'S PEL. THE INDIVIDUAL COMPLEX COMPOUNDS WITHIN THE FUME MAY HAVE LOWER EXPOSURE LIMITS THAN THE GENERAL WELDING FUME PEL. AN INDUSTRIAL HYGIENIST, THE OSHA PERMISSIBLE EXPOSURE LIMITS FOR AIR CONTAMINANTS (29 CFR 1910.1000), AND THE ACGIH THRESHOLD LIMIT VALUES SHOULD BE CONSULTED TO DETERMINE THE SPECIFIC FUME CONSTITUENTS PRESENT AND THEIR RESPECTIVE EXPOSURE LIMITS.

SECTION 3 - PHYSICAL/CHEMICAL CHARACTERISTICS

top

WELDING CONSUMABLES APPLICABLE TO THIS SHEET ARE SOLID AND NONVOLATILE AS SHIPPED.

SECTION 4 - FIRE AND EXPLOSION HAZARD DATA

top

WELDING CONSUMABLES APPLICABLE TO THIS SHEET AS SHIPPED ARE NONREACTIVE, NONFLAMMABLE, NONEXPLOSIVE AND ESSENTIALLY NONHAZARDOUS UNTIL WELDED. WELDING ARCS AND SPARKS CAN IGNITE COMBUSTIBLES AND FLAMMABLE PRODUCTS. SEE AMERICAN NATIONAL STANDARD Z49.1 REFERENCED IN SECTION 7.

SECTION 5 - REACTIVITY DATA - HAZARDOUS DECOMPOSITION/

top

INDUSTRIAL HYGIENE INFORMATION

WELDING FUMES AND GASES CANNOT BE CLASSIFIED SIMPLY. THE COMPOSITION AND QUANTITY OF BOTH ARE DEPENDENT UPON THE METAL BEING WELDED, THE PROCESS, PROCEDURES AND ELECTRODES USED. MOST FUME INGREDIENTS ARE PRESENT AS COMPLEX OXIDES AND COMPOUNDS AND NOT AS PURE METALS.

OTHER CONDITIONS WHICH ALSO INFLUENCE THE COMPOSITION AND QUANTITY OF THE FUMES AND GASES TO WHICH WORKERS MAY BE EXPOSED INCLUDE: COATINGS ON THE METAL BEING WELDED (SUCH AS PAINT, PLATING OR GALVANIZING), THE NUMBER OF WELDERS AND THE VOLUME OF THE WORK AREA, THE QUALITY AND AMOUNT OF VENTILATION, THE POSITION OF THE WELDER'S HEAD WITH RESPECT TO THE FUME PLUME, AS WELL AS THE PRESENCE OF CONTAMINANTS IN THE ATMOSPHERE (SUCH AS CHLORINATED HYDROCARBON VAPORS FROM CLEANING AND DEGREASING ACTIVITIES). WHEN THE ELECTRODE IS CONSUMED, THE FUME AND GAS DECOMPOSITION PRODUCTS GENERATED ARE DIFFERENT IN PERCENT AND FORM FROM THE INGREDIENTS LISTED IN SECTION 2. DECOMPOSITION PRODUCTS OF NORMAL OPERATION INCLUDE THOSE ORIGINATING FROM THE VOLATILIZATION, REACTION OR OXIDATION OF THE MATERIALS SHOWN IN SECTION 2, PLUS THOSE FROM THE BASE METAL AND COATING, ETC., AS NOTED ABOVE. REASONABLY EXPECTED CONSTITUENTS OF THE FUME WOULD INCLUDE:

PRIMARILY: COMPLEX OXIDES OF IRON

SECONDARILY:
COMPLEX OXIDES OF MANGANESE, SILICON AND COPPER. MOLYBDENUM COMPOUNDS MAY BE PRESENT IN ER80S-D2.

MONITOR FOR THE MATERIALS IDENTIFIED IN SECTION 2. FUMES FROM THE USE OF THIS PRODUCT MAY CONTAIN COPPER, MANGANESE COMPOUNDS, AND AMORPHOUS SILICA WHOSE EXPOSURE LIMITS ARE LOWER THAN THE 5 MG/M3 PEL FOR GENERAL WELDING FUME. GASEOUS REACTION PRODUCTS MAY INCLUDE CARBON MONOXIDE AND CARBON DIOXIDE. OZONE AND NITROGEN OXIDES MAY BE FORMED BY THE RADIATION FROM THE

ARC. ONE RECOMMENDED WAY TO DETERMINE THE COMPOSITION AND QUANTITY OF FUMES AND GASES TO WHICH WORKERS ARE EXPOSED IS TO TAKE AN AIR SAMPLE INSIDE THE WELDER'S HELMET IF WORN OR IN THE WORKER'S BREATHING ZONE. (SEE ANSI/AWS F1.1, AVAILABLE FROM THE "AMERICAN WELDING SOCIETY", P.O. BOX 351040, MIAMI, FL 33135. ALSO, FROM AWS IS F1.3 "EVALUATING CONTAMINANTS IN THE WELDING ENVIRONMENT - A SAMPLING STRATEGY GUIDE", WHICH GIVES ADDITIONAL ADVICE ON SAMPLING.)

SECTION 6 - HEALTH HAZARD DATA

top

EFFECTS OF OVEREXPOSURE:

ELECTRIC ARC WELDING MAY CREATE ONE OR MORE OF THE FOLLOWING HEALTH HAZARDS:
ARC RAYS CAN INJURE EYES AND BURN SKIN.
ELECTRIC SHOCK CAN KILL. SEE SECTION 7.
FUMES AND GASES CAN BE DANGEROUS TO YOUR HEALTH.
PRIMARY ROUTES OF ENTRY ARE THE RESPIRATORY SYSTEM, EYES AND/OR SKIN.

SHORT-TERM (ACUTE) OVEREXPOSURE EFFECTS:

WELDING FUMES:
MAY RESULT IN DISCOMFORT SUCH AS DIZZINESS, NAUSEA OR DRYNESS OR IRRITATION OF NOSE, THROAT OR EYES.

IRON, IRON OXIDE: NONE ARE KNOWN. TREAT AS NUISANCE DUST OR FUME.

MANGANESE:
METAL FUME FEVER CHARACTERIZED BY CHILLS, FEVER, UPSET STOMACH, VOMITING, IRRITATION OF THE THROAT AND ACHING OF BODY. RECOVERY IS GENERALLY COMPLETE WITHIN 48 HOURS OF THE OVEREXPOSURE.

SILICA (AMORPHOUS):
DUST AND FUMES MAY CAUSE IRRITATION OF THE RESPIRATORY SYSTEM, SKIN AND EYES.

COPPER:
METAL FUME FEVER CHARACTERIZED BY METALLIC TASTE, TIGHTNESS OF CHEST AND FEVER. SYMPTOMS MAY LAST 24 TO 48 HOURS FOLLOWING OVEREXPOSURE.

MOLYBDENUM: IRRITATION OF THE EYES, NOSE AND THROAT.

LONG-TERM (CHRONIC) OVEREXPOSURE EFFECTS:

WELDING FUMES:
EXCESS LEVELS MAY CAUSE BRONCHIAL ASTHMA, LUNG FIBROSIS, PNEUMOCONIOSIS OR "SIDEROSIS".

IRON, IRON OXIDE FUMES - CAN:
CAUSE SIDEROSIS (DEPOSITS OF IRON IN LUNGS) WHICH SOME RESEARCHERS BELIEVE MAY AFFECT PULMONARY FUNCTION. LUNGS WILL CLEAR I N TIME WHEN EXPOSURE TO IRON AND ITS COMPOUNDS CEASES. IRON AND MAGNETITE (Fe3O4) ARE NOT REGARDED AS FIBROGENIC MATERIALS.

MANGANESE:
LONG-TERM OVEREXPOSURE TO MANGANESE COMPOUNDS MAY AFFECT THE CENTRAL NERVOUS SYSTEM. SYMPTOMS MAY BE SIMILAR TO PARKINSON'S DISEASE AND CAN INCLUDE SLOWNESS, CHANGES IN HANDWRITING, GAIT IMPAIRMENT, MUSCLE SPASMS AND CRAMPS AND LESS COMMONLY, TREMOR AND BEHAVIORAL CHANGES. EMPLOYEES WHO ARE OVEREXPOSED TO MANGANESE COMPOUNDS SHOULD BE SEEN BY A PHYSICIAN FOR EARLY DETECTION OF NEUROLOGIC PROBLEMS. OVEREXPOSURE TO MANGANESE AND MANGANESE COMPOUNDS ABOVE SAFE EXPOSURE LIMITS CAN CAUSE IRREVERSIBLE DAMAGE TO THE CENTRAL NERVOUS SYSTEM, INCLUDING THE BRAIN, SYMPTOMS OF WHICH MAY INCLUDE SLURRED SPEECH, LETHARGY, TREMOR, MUSCULAR WEAKNESS, PSYCHOLOGICAL DISTURBANCES AND SPASTIC GAIT.

SILICA (AMORPHOUS):

RESEARCH INDICATES THAT SILICA IS PRESENT IN WELDING FUME IN THE AMORPHOUS FORM. LONG TERM OVEREXPOSURE MAY CAUSE PNEUMOCONIOSIS. NONCRYSTALLINE FORMS OF SILICA (AMORPHOUS SILICA) ARE CONSIDERED TO HAVE LITTLE FIBROTIC POTENTIAL.

COPPER:
COPPER POISONING HAS BEEN REPORTED IN THE LITERATURE FROM EXPOSURE TO HIGH LEVELS OF COPPER. LIVER DAMAGE CAN OCCUR DUE TO COPPER ACCUMULATING IN THE LIVER CHARACTERIZED BY CELL DESTRUCTION AND CIRRHOSIS. HIGH LEVELS OF COPPER MAY CAUSE ANEMIA AND JAUNDICE. HIGH LEVELS OF COPPER MAY CAUSE CENTRAL NERVOUS SYSTEM DAMAGE CHARACTERIZED BY NERVE FIBER SEPARATION AND CEREBRAL DEGENERATION.

MOLYBDENUM:
PROLONGED OVEREXPOSURE MAY RESULT IN LOSS OF APPETITE, WEIGHT LOSS, LOSS OF MUSCLE COORDINATION, DIFFICULTY IN BREATHING AND ANEMIA.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:
PERSONS WITH PRE-EXISTING IMPAIRED LUNG FUNCTIONS (ASTHMA-LIKE CONDITIONS). PERSONS WITH A PACEMAKER SHOULD NOT GO NEAR WELDING AND CUTTING OPERATIONS UNTIL THEY HAVE CONSULTED THEIR DOCTOR AND OBTAINED INFORMATION FROM THE MANUFACTURER OF THE DEVICE. RESPIRATORS ARE TO BE WORN ONLY AFTER BEING MEDICALLY CLEARED BY YOUR COMPANY-DESIGNATED PHYSICIAN.

EMERGENCY AND FIRST AID PROCEDURES:
CALL FOR MEDICAL AID. EMPLOY FIRST AID TECHNIQUES RECOMMENDED BY THE AMERICAN RED CROSS.

EYES AND SKIN:
IF IRRITATION OR FLASH BURNS DEVELOP AFTER EXPOSURE, CONSULT A PHYSICIAN.

CARCINOGENICITY:
WELDING FUMES MUST BE CONSIDERED AS POSSIBLE CARCINOGENS UNDER OSHA (29 CFR 1910.1200).

CALIFORNIA PROPOSITION 65:

WARNING:
THIS PRODUCT, WHEN USED FOR WELDING OR CUTTING, PRODUCES FUMES OR GASES WHICH CONTAIN CHEMICALS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE BIRTH DEFECTS AND, IN SOME CASES, CANCER. (CALIFORNIA HEALTH & SAFETY CODE SECTION 25249.5 ET SEQ.)

SECTION 7 - PRECAUTIONS FOR SAFE HANDLING & USE/APPLICABLE

top

CONTROL MEASURES

READ AND UNDERSTAND THE MANUFACTURER'S INSTRUCTIONS AND THE PRECAUTIONARY LABEL ON THE PRODUCT. SEE AMERICAN NATIONAL STANDARD Z49.1; SAFETY IN WELDING AND CUTTING PUBLISHED BY THE AMERICAN WELDING SOCIETY, P.O. BOX 351040, MIAMI, FL 33135 AND OSHA PUBLICATION 2206 (29 CFR 1910), U.S. GOVERNMENT PRINTING OFFICE, WASHINGTON, DC 20402 FOR MORE DETAIL ON ANY OF THE FOLLOWING.

VENTILATION:
USE ENOUGH VENTILATION, LOCAL EXHAUST AT THE ARC OR BOTH, TO KEEP THE FUMES AND GASES BELOW PEL/TLVS IN THE WORKER'S BREATHING ZONE AND THE GENERAL AREA. TRAIN THE WELDER TO KEEP HIS HEAD OUT OF THE FUMES.

RESPIRATORY PROTECTION:
USE NIOSH APPROVED OR EQUIVALENT FUME RESPIRATOR OR AIR SUPPLIED RESPIRATOR WHEN WELDING IN CONFINED SPACE OR WHERE LOCAL EXHAUST OR VENTILATION DOES NOT KEEP EXPOSURE BELOW PEL/TLVS.

EYE PROTECTION:
WEAR HELMET OR USE FACE SHIELD WITH FILTER LENS. AS A RULE OF THUMB BEGIN WITH SHADE NUMBER 14. ADJUST IF NEEDED BY SELECTING THE NEXT LIGHTER AND/OR DARKER SHADE NUMBER. PROVIDE PROTECTIVE SCREENS AND FLASH GOGGLES, IF

NECESSARY, TO SHIELD OTHERS.

PROTECTIVE CLOTHING:
WEAR HAND, HEAD AND BODY PROTECTION WHICH HELP TO PREVENT INJURY FROM RADIATION, SPARKS AND ELECTRICAL SHOCK. SEE ANSI Z49.1. AT A MINIMUM THIS INCLUDES WELDER'S GLOVES AND A PROTECTIVE FACE SHIELD AND MAY INCLUDE ARM PROTECTORS, APRONS, HATS, SHOULDER PROTECTION AS WELL AS DARK NONSYNTHETIC CLOTHING. TRAIN THE WELDER NOT TO TOUCH LIVE ELECTRICAL PARTS AND TO INSULATE HIMSELF FROM WORK AND GROUND.

PROCEDURE FOR CLEANUP OF SPILLS OR LEAKS: NOT APPLICABLE.

WASTE DISPOSAL:
PREVENT WASTE FROM CONTAMINATING SURROUNDING ENVIRONMENT. DISCARD ANY PRODUCT, RESIDUE, DISPOSABLE CONTAINER OR LINER IN AN ENVIRONMENTALLY ACCEPTABLE MANNER, IN FULL COMPLIANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.

SPECIAL PRECAUTIONS (IMPORTANT):
MAINTAIN EXPOSURE BELOW THE PEL/TLVS. USE INDUSTRIAL HYGIENE MONITORING TO ENSURE THAT YOUR USE OF THIS MATERIAL DOES NOT CREATE EXPOSURES WHICH EXCEED PEL/TLVS. ALWAYS USE EXHAUST VENTILATION.

REFER TO THE FOLLOWING SOURCES FOR IMPORTANT ADDITIONAL INFORMATION:
ANSI Z49.1 FROM THE AMERICAN WELDING SOCIETY, P.O. BOX 351040, MIAMI, FL 33135 AND OSHA (29 CFR 1910) FROM THE U.S. DEPARTMENT OF LABOR, WASHINGTON, DC 20210.

HOBART BROTHERS COMPANY BELIEVES THIS DATA TO BE ACCURATE AND TO REFLECT QUALIFIED EXPERT OPINION REGARDING CURRENT RESEARCH. HOWEVER, HOBART BROTHERS COMPANY CANNOT MAKE ANY EXPRESSED OR IMPLIED WARRANTY AS TO THIS INFORMATION.

SAFETY DATA SHEET

This Safety Data Sheet conforms to ANSI Z400.5, and to the format requirements and the International Chemical Safety Cards of the Global Harmonizing System.
THIS SDS COMPLIES WITH 29 CFR 1910.1200 (HAZARD COMMUNICATION STANDARD)
IMPORTANT: Read this SDS before handling & disposing of this product.
Pass this information on to employees, customers, & users of this product.

SECTION 1. IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

NEW MSDS DATE: 01/28/2012
PRODUCT IDENTITY: CROWN PSC 1000
COMPANY IDENTITY: Packaging Service Co., Inc.
COMPANY ADDRESS: 1904 Mykawa Road / P O Box 875
COMPANY CITY: Pearland, TX 77581
COMPANY PHONE: 1-281-485-1458
EMERGENCY PHONES: CHEMTREC: 1-800-424-9300 (USA)
CANUTEC: 1-613-996-6666 (CANADA)

SECTION 2. HAZARDS IDENTIFICATION

WARNING!

RISK STATEMENTS:
R36/37/38 Irritating to eyes, respiratory system and skin.
R65 Harmful: may cause lung damage if swallowed.

SAFETY STATEMENTS:
S2 Keep out of the reach of children.
S23 Do not breathe gas, fumes, vapor, or spray.
S24 Avoid contact with skin.
S62 If swallowed, do not induce vomiting; seek medical advice immediately and show this container or label.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

MATERIAL	CAS#	EINECS#	WT %
Medium Aliphatic Naphtha	64742-47-8	265-200-4	95-100

Trace components: Trace ingredients (if any) are present in < 1% concentration, (< 0.1% for potential carcinogens, reproductive toxins, respiratory tract mutagens, and sensitizers). None of the trace ingredients contribute significant additional hazards at the concentrations that may be present in this product. All pertinent hazard information has been provided in this document, per the requirements of the Federal Occupational Safety and Health Administration Standard (29 CFR 1910.1200), U.S. State equivalents, and Canadian Hazardous Materials Identification System Standard (CPR 4).

SEE SECTIONS 8, 11 & 12 FOR TOXICOLOGICAL INFORMATION.

SECTION 4. FIRST AID MEASURES

EYE CONTACT:
If this product enters the eyes, open eyes while under gently running water. Use sufficient force to open eyelids. "Roll" eyes to expose more surface. Minimum flushing is for 15 minutes. Seek immediate medical attention.

SKIN CONTACT:
If the product contaminates the skin, immediately begin decontamination with running water. Minimum flushing is for 15 minutes. Remove contaminated clothing, taking care not to contaminate eyes. If skin becomes irritated and irritation persists, medical attention may be necessary. Wash contaminated clothing before reuse, discard contaminated shoes.

INHALATION:
After high vapor exposure, remove to fresh air. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Keep person warm and at rest. breathing is difficult, give oxygen. If breathing has stopped, trained personnel should immediately begin artificial respiration. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. If the heart has stopped, trained personnel should immediately begin cardiopulmonary resuscitation (CPR). Seek immediate medical attention. In case of inhalation of decomposition products in a fire, symptoms may be delayed.The exposed person may need to be kept under medical surveillance for 48 hours.

SWALLOWING:
If swallowed, CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION. If professional advice is not available, give two glasses of water to drink. DO NOT INDUCE VOMITING. Never induce vomiting or give liquids to someone who is unconscious, having convulsions, or unable to swallow. Seek immediate medical attention.

NOTES TO PHYSICIAN:
There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient. Any material aspirated during vomiting may cause lung injury. Therefore, emesis should not be induced mechanically or pharmacologically. If it is considered necessary to evacuate the stomach contents, this should be done by means least likely to cause aspiration (such as: Gastric lavage after endotracheal intubation).

SECTION 5. FIRE FIGHTING MEASURES

FIRE & EXPLOSION PREVENTIVE MEASURES
NO open flames. Above flash point, use a closed system, ventilation, explosion-proof electrical equipment, lighting.

EXTINGUISHING MEDIA
Use dry powder, AFFF, carbon dioxide.

SPECIAL FIRE FIGHTING PROCEDURES
Water spray may be ineffective on fire but can protect fire-fighters & cool closed containers. Use fog nozzles if water is used.
Do not enter confined fire-space without full bunker gear.
(Helmet with face shield, bunker coats, gloves & rubber boots).
Use NIOSH approved positive-pressure self-contained breathing apparatus.

UNUSUAL EXPLOSION AND FIRE PROCEDURES
COMBUSTIBLE!
Isolate from oxidizers, heat, & open flame.
Closed containers may explode if exposed to extreme heat.
Applying to hot surfaces requires special precautions.
Empty container very hazardous! Continue all label precautions!

SECTION 6. ACCIDENTAL RELEASE MEASURES

SPILL AND LEAK RESPONSE AND ENVIRONMENTAL PRECAUTIONS:
Uncontrolled releases should be responded to by trained personnel using pre-planned procedures. Proper protective equipment should be used. In case of a spill, clear the affected area, protect people, and respond with trained personnel.

PERSONAL PROTECTIVE EQUIPMENT
The proper personal protective equipment for incidental releases (such as: 1 Liter of the product released in a well-ventilated area), use impermeable gloves (triple-gloves (rubber gloves and nitrile gloves, over latex gloves), goggles, face shield, and appropriate body protection. In the event of a large release, use impermeable gloves, specific for the material handled, chemically resistant suit and boots, and hard hat. Self-Contained Breathing Apparatus or respirator may be required where engineering controls are not adequate or conditions for potential exposure exist. When respirators are required, select NIOSH/MSHA approved based on actual or potential airborne concentrations in accordance with latest OSHA and/or ANSI recommendations.

ENVIRONMENTAL PRECAUTIONS:
Stop spill at source. Construct temporary dikes of dirt, sand, or any appropriate readily available material to prevent spreading of the material. Close or cap valves and/or block or plug hole in leaking container and transfer to another container. Keep from entering storm sewers and ditches which lead to waterways, and if necessary, call the local fire or police department for immediate emergency assistance.

CONTAINMENT AND CLEAN-UP MEASURES:
Absorb spilled liquid with polypads or other suitable absorbent materials. If necessary, neutralize using suitable buffering material, (acid with soda ash or base with phosphoric acid), and test area with litmus paper to confirm neutralization. Clean up with non-combustible absorbent (such as: sand, soil, and so on). Shovel up and place all spill residue in suitable containers. dispose of at an appropriate waste disposal facility according to current applicable laws and regulations and product characteristics at time of disposal (see Section 13 - Disposal Considerations).

SECTION 7. HANDLING AND STORAGE

HANDLING
Isolate from oxidizers, heat, & open flame. Use only with adequate ventilation.
Avoid breathing of vapor or spray mist. Avoid contact with skin & eyes.
Wear OSHA Standard goggles or face shield. Consult Safety Equipment Supplier. Wear goggles, face shield, gloves, apron & footwear impervious to material. Wash clothing before reuse.
Avoid free fall of liquid. Ground containers when transferring. Do not flame cut, braze, or weld. Empty container very hazardous! Continue all label precautions!
To minimize static discharge when transferring, ensure electrical continuity by bonding and grounding all equipment. Use an inlet line diameter of at least 3.5 inches (8.9 centimeters) with a maximum flow rate of 1 meter/second.

STORAGE
Isolate from strong oxidants.
Keep container tightly closed & upright when not in use to prevent leakage.

NONBULK: CONTAINERS:
Store containers in a cool, dry location, away from direct sunlight, sources of intense heat, or where freezing is possible. Material should be stored in secondary containers or in a diked area, as appropriate. Store containers away from incompatible chemicals (see Section 10, Stability and Reactivity). Post warning and "NO SMOKING" signs in storage and use areas, as appropriate. Empty containers should be handled with care. Never store food, feed, or drinking water in containers which held this product.

BULK CONTAINERS:
All tanks and pipelines which contain this material must be labeled. Perform routine maintenance on tanks or pipelines which contain this product. Report all leaks immediately to the proper personnel.

SECTION 7. HANDLING AND STORAGE (CONTINUED)

TANK CAR SHIPMENTS:
Tank cars carrying this product should be loaded and unloaded in strict accordance with tank-car manufacturer's recommendation and all established on-site safety procedures. Appropriate personal protective equipment must be used (see Section 8, Engineering Controls and Personal Protective Equipment.). All loading and unloading equipment must be inspected, prior to each use. Loading and unloading operations must be attended, at all times. Tank cars must be level, brakes must be set or wheels must be locked or blocked prior to loading or unloading. Tank car (for loading) or storage tanks (for unloading) must be verified to be correct for receiving this product and be properly prepared, prior to starting the transfer operations. Hoses must be verified to be in the correct positions, before starting transfer operations. A sample (if required) must be taken and verified (if required) prior to starting transfer operations. All lines must be blown-down and purged before disconnecting them from the tank car or vessel.

PROTECTIVE PRACTICES DURING MAINTENANCE OF CONTAMINATED EQUIPMENT:
Follow practices indicated in Section 6 (Accidental Release Measures). Make certain application equipment is locked and tagged-out safely. Always use this product in areas where adequate ventilation is provided. Collect all rinsates and dispose of according to applicable Federal, State, Provincial, or local procedures.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

MATERIAL	CAS#	EINECS#	TWA (OSHA)	TLV (ACGIH)
Medium Aliphatic Naphtha	64742-47-8	265-200-4	5 mg/m3	5 mg/m3

This product contains no EPA Hazardous Air Pollutants (HAP) in amounts > 0.1%.
EPA Hazardous Air Pollutants may be present in trace amounts (less than 0.1%):
Cumene, Polycyclic Aromatics

RESPIRATORY EXPOSURE CONTROLS
Seek professional advice prior to respirator selection and use.
Maintain airborne contaminant concentrations below exposure limits given above. If respiratory protection is needed, use only protection authorized in 29 CFR 1910.134, European Standard EN 149, or applicable State regulations. If adequate ventilation is not available or there is potential for airborne exposure above the exposure limits, a respirator may be worn up to the respirator exposure limitations, check with respirator equipment manufacturer's recommendations/limitations. For a higher level of protection, use positive pressure supplied air respiration protection or Self-Contained Breathing Apparatus or if oxygen levels are below 19.5% or are unknown.

EMERGENCY OR PLANNED ENTRY INTO UNKNOWN CONCENTRATIONS OR IDLH CONDITIONS
Positive pressure, full-face piece Self-Contained Breathing Apparatus; or positive pressure, full-face piece Self-Contained Breathing Apparatus with an auxilliary positive pressure Self-Contained Breathing Apparatus.

VENTILATION

LOCAL EXHAUST:	Necessary	MECHANICAL (GENERAL):	Necessary
SPECIAL:	None	OTHER:	None

Please refer to ACGIH document, "Industrial Ventilation, A Manual of Recommended Practices", most recent edition, for details.

EYE PROTECTION:
Splash goggles or safety glasses. Face-shields are recommended when the operation can generate splashes, sprays or mists.

HAND PROTECTION:
Wear appropriate impervious gloves for routine industrial use. Use impervious gloves for spill response, as stated in Section 6 of this SDS (Accidental Release Measures).
NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION (CONTINUED)

BODY PROTECTION:
Use body protection appropriate for task. Cover-all, rubber aprons, or chemical protective clothing made from impervious materials are generally acceptable, depending on the task.

WORK & HYGIENIC PRACTICES:
Provide readily accessible eye wash stations & safety showers. Wash at end of each shift & before eating, smoking or using the toilet. Remove clothing that becomes contaminated. Destroy contaminated leather articles. Launder or discard contaminated clothing.

SECTION 9. PHYSICAL & CHEMICAL PROPERTIES

APPEARANCE:	Liquid, Water-White
ODOR:	Mild
ODOR THRESHOLD:	Not Available
pH (Neutrality):	Not Applicable
MELTING POINT/FREEZING POINT:	Not Available
BOILING RANGE (IBP,50%,Dry Point):	186 210 257 C / 367 410 495 F
FLASH POINT (TEST METHOD):	61 C / 143 F (PM)
EVAPORATION RATE (n-BUTYL ACETATE=1):	0.062
FLAMMABILITY CLASSIFICATION:	Class IIIA
LOWER FLAMMABLE LIMIT IN AIR (% by vol):	0.937
UPPER FLAMMABLE LIMIT IN AIR (% by vol):	Not Available
VAPOR PRESSURE (mm of Hg)@20 C	0.260
VAPOR DENSITY (air=1):	6.1
GRAVITY @ 68/68 F / 20/20 C:	
SPECIFIC GRAVITY (Water=1):	0.808
POUNDS/GALLON:	6.731
WATER SOLUBILITY:	Negligible
PARTITION COEFFICIENT (n-Octane/Water):	Not Available
AUTO IGNITION TEMPERATURE:	254 C / 490 F
DECOMPOSITION TEMPERATURE:	Not Available
REFRACTIVE INDEX:	1.448
VOC'S (>0.44 Lbs/Sq In) :	0.0 Vol% /0.0 g/L / 0.000 Lbs/Gal
TOTAL VOC'S (TVOC)*:	80.0 Vol% / 631.4 g/L / 5.2 Lbs/Gal
NONEXEMPT VOC'S (CVOC)*:	80.0 Vol% / 631.4 g/L / 5.2 Lbs/Gal
HAZARDOUS AIR POLLUTANTS (HAPS):	0.0 Wt% /0.0 g/L / 0.000 Lbs/Gal
NONEXEMPT VOC PARTIAL PRESSURE (mm of Hg @ 20 C)	0.253

* Using California South Coast Air Quality Management District (SCAQMD) Rule 1143.

SECTION 10. STABILITY & REACTIVITY

STABILITY
Stable under normal conditions.

CONDITIONS TO AVOID
Isolate from oxidizers, heat, & open flame.

MATERIALS TO AVOID
Reacts with strong oxidants, causing fire & explosion hazard.

HAZARDOUS DECOMPOSITION PRODUCTS
Carbon Monoxide, Carbon Dioxide from burning.

HAZARDOUS POLYMERIZATION
Will not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

ACUTE HAZARDS

EYE & SKIN CONTACT:
Primary irritation to skin, defatting, dermatitis.
Primary irritation to eyes, redness, tearing, blurred vision.
Liquid can cause eye irritation. Wash thoroughly after handling.

INHALATION:
Anesthetic. Irritates respiratory tract. Acute overexposure can cause serious nervous system depression. Vapor harmful.

SWALLOWING:
Harmful or fatal if swallowed.
Swallowing can cause abdominal irritation, nausea, vomiting & diarrhea.
The symptoms of chemical pneumonitis may not show up for a few days.

SUBCHRONIC HAZARDS/CONDITIONS AGGRAVATED

CONDITIONS AGGRAVATED
Persons with severe skin, liver or kidney problems should avoid use.

CHRONIC HAZARDS

CANCER, REPRODUCTIVE & OTHER CHRONIC HAZARDS:
Leukemia been reported in humans from Benzene.
This product contains less than 1 ppm of Benzene.
Not considered hazardous in such low concentrations.
Absorption thru skin may be harmful.

IRRITANCY OF PRODUCT: This product is irritating to contaminated tissue.

SENSITIZATION TO THE PRODUCT: No component of this product is known to be a sensitizer.

MUTAGENICITY: This product is not reported to produce mutagenic effects in humans.

EMBRYOTOXICITY: This product is not reported to produce embryotoxic effects in humans.

TERATOGENICITY: This product is not reported to produce teratogenic effects in humans.

REPRODUCTIVE TOXICITY: This product is not reported to cause reproductive effects in humans.

A mutagen is a chemical which causes permanent changes to genetic material (DNA) such that the changes will propagate through generational lines. An embryotoxin is a chemical which causes damage to a developing embryo (such as: within the eight weeks of pregnancy in humans), but the damage does not propagate across generational lines. A teratogen is a chemical which causes damage to a developing fetus, but the damage does not propagate across generational lines. A reproductive toxin is any substance which interferes in any way with the reproductive process.

MAMMALIAN TOXICITY INFORMATION

No mammalian information is available on this product.

SECTION 12. ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

EFFECT OF MATERIAL ON PLANTS OR ANIMALS:
This product may be harmful or fatal to plant and animal life if released into the environment. Refer to Section 11 (Toxicological Information) for further data on the effects of this product's components on test animals.

EFFECT OF MATERIAL ON AQUATIC LIFE:
No aquatic environmental information is available on this product.
Environmental effects of the substance have not been investigated adequately.

MOBILITY IN SOIL
This material is a mobile liquid.

DEGRADABILITY
This product is nonbiodegradable.

ACCUMULATION
This product does not accumulate or biomagnify in the environment.

SECTION 13. DISPOSAL CONSIDERATIONS

Processing, use or contamination may change the waste management options.
Recycle / dispose of observing national, regional, state, provincial and local health, safety & pollution laws. If in doubt, contact appropriate agencies.

SECTION 14. TRANSPORT INFORMATION

DOT SHIPPING NAME: NONBULK: None
BULK: UN1268, Petroleum distillates, n.o.s., Combustible liquid, PG-III
Combustible liquid. Not DOT regulated on trucks in containers of < 119 gallons.
DRUM LABEL: None (Combustible Liquid)
IATA / ICAO: None
IMO / IMDG: None
EMERGENCY RESPONSE GUIDEBOOK NUMBER: 128

SECTION 15. REGULATORY INFORMATION

EPA REGULATION:
SARA SECTION 311/312 HAZARDS: Acute Health, Fire

All components of this product are on the TSCA list.
This material contains no known products restricted under SARA Title III, Section 313 in amounts greater or equal to 1%.

INTERNATIONAL REGULATIONS
The components of this product are listed on the chemical inventories of the following countries:
Australia (AICS), Canada (DSL, NDSL), China (IECSC), Europe (EINECS, ELINCS), Japan (METI/CSCL, MHLW/ISHL), South Korea (KECI), New Zealand (NZIoC), Philippines (PICCS), Switzerland (SWISS), Taiwan (NECSI), USA (TSCA).

CANADA: WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS)
B3: Combustible Liquid.
D2B: Irritating to skin / eyes.

SECTION 16. OTHER INFORMATION

HAZARD RATINGS:
HEALTH (NFPA): 1, HEALTH (HMIS): 1, FLAMMABILITY: 2, REACTIVITY: 0
(Personal Protection Rating to be supplied by user based on use conditions.)
This information is intended solely for the use of individuals trained in the NFPA & HMIS hazard rating systems.

EMPLOYEE TRAINING
See Section 2 for Risk & Safety Statements. Employees should be made aware of all hazards of this material (as stated in this SDS) before handling it.

NOTICE

The supplier disclaims all expressed or implied warranties of merchantability or fitness for a specific use, with respect to the product or the information provided herein, except for conformation to contracted specifications. All information appearing herein is based upon data obtained from manufacturers and/or recognized technical sources. While the information is believed to be accurate, we make no representations as to its accuracy or sufficiency.
Conditions of use are beyond our control, and therefore users are responsible for verifying the data under their own operating conditions to determine whether the product is suitable for their particular purposes and they assume all risks of their handling, and disposal of the product. Users also assume all risks in regards to the publication or use of, or reliance upon information contained herein.
This information relates only to the product designated herein, and does not relate to its use in combination with any other material or process.

Unless updated, the Safety Data Sheet is valid until 01/28/2015.

Sika® Aktivator-100 (Sika® Aktivator)

1. Identification

Product name	:	Sika® Aktivator-100 (Sika® Aktivator)
Supplier	:	Sika Corporation
Address	:	201 Polito Avenue Lyndhurst, NJ 07071 USA www.sikausa.com
Telephone	:	(201) 933-8800
Telefax	:	(201) 804-1076
Emergency telephone	:	CHEMTREC: 800-424-9300 INTERNATIONAL: 703-527-3887 ehs@sika-corp.com
Recommended use of the chemical and restrictions on use	:	For further information, refer to the product technical data sheet.

2. Hazards identification

GHS Classification

Flammable liquids, Category 2	H225: Highly flammable liquid and vapor.
Skin irritation, Category 2	H315: Causes skin irritation.
Eye irritation, Category 2A	H319: Causes serious eye irritation.
Skin sensitization, Category 1	H317: May cause an allergic skin reaction.
Specific target organ systemic toxicity - single exposure, Category 3, Central nervous system	H336: May cause drowsiness or dizziness.
Aspiration hazard, Category 1	H304: May be fatal if swallowed and enters airways.

GHS Label element

Hazard pictograms :

Signal Word : Danger

Hazard Statements : H225 Highly flammable liquid and vapor.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

Precautionary Statements : **Prevention:**
P210 Keep away from heat/sparks/open flames/hot surfaces. -

No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/ eye protection/ face protection.
Response:
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312 Call a POISON CENTER or doctor/ physician if you feel unwell.
P331 Do NOT induce vomiting.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
Storage:
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Warning : Reports have associated repeated and prolonged exposure to some of the chemicals in this product with permanent brain,liver, kidney and nervous system damage. Intentional misuse by deliberate concentration and inhalation of vapors may be harmful or fatal.

See Section 11 for more detailed information on health effects and symptoms.

3. Composition/information on ingredients

Hazardous ingredients

Chemical Name	CAS-No.	Concentration (%)
naphtha (petroleum), hydrotreated light (C7-C8 Alkanes/ Cycloalkanes)	64742-49-0	>= 50 - <= 100 %
ethanol	64-17-5	>= 5 - < 10 %
Isopropyl tridodecylbenzenesulfonyl titanate	61417-55-8	>= 2 - < 5 %
Aminoalkylmethoxysilane	1760-24-3	>= 2 - < 5 %

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. First aid measures

If inhaled : Move to fresh air.
Consult a physician after significant exposure.

In case of skin contact : Take off contaminated clothing and shoes immediately.
Wash off with soap and plenty of water.
If symptoms persist, call a physician.

In case of eye contact : Immediately flush eye(s) with plenty of water.
Remove contact lenses.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed : Clean mouth with water and drink afterwards plenty of water.
Do NOT induce vomiting.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
Take victim immediately to hospital.

Most important symptoms and effects, both acute and delayed : Risk of serious damage to the lungs (by aspiration).
irritant effects
sensitizing effects

Aspiration may cause pulmonary edema and pneumonitis.
Respiratory disorder
Allergic reactions
Excessive lachrymation
Erythema
Dermatitis
Loss of balance
Vertigo
See Section 11 for more detailed information on health effects and symptoms.

Protection of first-aiders : Move out of dangerous area.
Consult a physician.
Show this material safety data sheet to the doctor in attendance.

Notes to physician : Treat symptomatically.

5. Fire-fighting measures

Suitable extinguishing media	:	Alcohol-resistant foam Carbon dioxide (CO2) Dry chemical
Unsuitable extinguishing media	:	Water High volume water jet
Specific hazards during fire fighting	:	Do not use a solid water stream as it may scatter and spread fire.
Specific extinguishing methods	:	Use water spray to cool unopened containers. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for fire-fighters	:	In the event of fire, wear self-contained breathing apparatus.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Remove all sources of ignition. Deny access to unprotected persons. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.
Environmental precautions	:	Prevent product from entering drains. If the product contaminates rivers and lakes or drains inform respective authorities. Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up	:	Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

7. Handling and storage

Advice on safe handling	:	Do not breathe vapors or spray mist. Avoid exceeding the given occupational exposure limits (see section 8). Do not get in eyes, on skin, or on clothing. For personal protection see section 8. Persons with a history of skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

Smoking, eating and drinking should be prohibited in the application area.
Take precautionary measures against static discharge.
Open drum carefully as content may be under pressure.
Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors).
Follow standard hygiene measures when handling chemical products.

Conditions for safe storage : Store in original container.
Store in cool place.
Keep in a well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Observe label precautions.
Store in accordance with local regulations.

Materials to avoid : no data available

8. Exposure controls/personal protection

Component	CAS-No.	Basis **	Value	Exposure limit(s)* / Form of exposure
naphtha (petroleum), hydrotreated light (C7-C8 Alkanes/ Cycloalkanes)	64742-49-0	OSHA Z-1	TWA	500 ppm 2,000 mg/m3
ethanol	64-17-5	ACGIH	TWA	1,000 ppm
		OSHA Z-1	TWA	1,000 ppm 1,900 mg/m3
		OSHA P0	TWA	1,000 ppm 1,900 mg/m3

*The above mentioned values are in accordance with the legislation in effect at the date of the release of this safety data sheet.

**__Basis__
ACGIH. Threshold Limit Values (TLV)
OSHA P0. Table Z-1, Limit for Air Contaminat (1989 Vacated Values)
OSHA P1. Permissible Exposure Limits (PEL), Table Z-1, Limit for Air Contaminant
OSHA P2. Permissible Exposure Limits (PEL), Table Z-2
OSHA Z3. Table Z-3, Mineral Dust

Engineering measures : Use of adequate ventilation should be sufficient to control worker exposure to airborne contaminants. If the use of this product generates dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.
The engineering controls also need to keep gas, vapor or dust

concentrations below any lower explosive limits.

Personal protective equipment

Respiratory protection	:	Use a properly fitted NIOSH approved air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.
Hand protection Remarks	:	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
Eye protection	:	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary.
Skin and body protection	:	Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.
Hygiene measures	:	Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Remove respiratory and skin/eye protection only after vapors have been cleared from the area. Remove contaminated clothing and protective equipment before entering eating areas. Wash thoroughly after handling.

9. Physical and chemical properties

Appearance	:	liquid
Color	:	light yellow clear
Odor	:	characteristic
Odor Threshold	:	no data available
Flash point	:	25 °F (-4 °C)
Ignition temperature	:	no data available
Decomposition temperature	:	no data available
Lower explosion limit (Vol%)	:	no data available

Upper explosion limit (Vol%)	:	no data available
Flammability (solid, gas)	:	no data available
Oxidizing properties	:	no data available
Autoignition temperature	:	no data available
pH	:	Note: not applicable
Melting point/range / Freezing point	:	no data available
Boiling point/boiling range	:	no data available
Vapor pressure	:	no data available
Density	:	ca.0.71 g/cm3 at 73 °F (23 °C)
Water solubility	:	Note: insoluble
Partition coefficient: n-octanol/water	:	no data available
Viscosity, dynamic	:	no data available
Viscosity, kinematic	:	ca.< 20.5 mm2/s at 104 °F (40 °C)
Relative vapor density	:	no data available
Evaporation rate	:	no data available
Burning rate	:	no data available
Volatile organic compounds (VOC) content	:	677.1 g/l

10. Stability and reactivity

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	The product is chemically stable.
Possibility of hazardous reactions	:	Vapors may form explosive mixture with air. Stable under recommended storage conditions.
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	no data available

11. Toxicological information

Acute toxicity

Product

Acute oral toxicity	:	no data available
Acute inhalation toxicity	:	no data available
Acute dermal toxicity	:	no data available

Ingredients:

Aminoalkylmethoxysilane :

Acute oral toxicity	:	LD50 Oral rat: ca. 2,400 mg/kg
Acute inhalation toxicity	:	LC50 : 1.49 - 2.44 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity	:	LD50 Dermal rat: > 2,000 mg/kg

Skin corrosion/irritation

Product

Causes skin irritation.

Serious eye damage/eye irritation

Product

Causes serious eye irritation.

Respiratory or skin sensitization

Product

May cause an allergic skin reaction.

Germ cell mutagenicity

Product

Mutagenicity	:	no data available

Carcinogenicity

Product

Carcinogenicity	:	no data available

IARC	not applicable
NTP	not applicable

Reproductive Toxicity/Fertility

Product

Reproductive toxicity	:	no data available

Reproductive Toxicity/Development/Teratogenicity

Product

Teratogenicity : no data available

STOT-single exposure

Product

Assessment: May cause drowsiness or dizziness.

STOT-repeated exposure

Reports have associated repeated and prolonged exposure to some of the chemicals in this product with permanent brain,liver, kidney and nervous system damage. Intentional misuse by deliberate concentration and inhalation of vapors may be harmful or fatal.
Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Product

Assessment: no data available

Aspiration toxicity

Product

May be fatal if swallowed and enters airways.

12. Ecological information

Other information

Do not empty into drains; dispose of this material and its container in a safe way.
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
May be harmful to the environment if released in large quantities.
Water polluting material.

13. Disposal considerations

Disposal methods

Waste from residues : Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	1866
Description of the goods	Resin solution
Class	3
Packing group	II
Labels	3
Emergency Response Guidebook Number	127

IATA

UN number	1866
Description of the goods	Resin solution (n-heptane)
Class	3
Packing group	II
Labels	3
Packing instruction (cargo aircraft)	364
Packing instruction (passenger aircraft)	353
Packing instruction (passenger aircraft)	Y341

IMDG

UN number	1866
Description of the goods	RESIN SOLUTION (n-heptane)
Class	3
Packing group	II
Labels	3
EmS Number 1	F-E
EmS Number 2	S-E
Marine pollutant	yes

DOT: For Limited Quantity exceptions reference 49 CFR 173.150 (b)
IMDG: For Limited Quantity special provisions reference IMDG Code Chapter 3.4

Special precautions for user
no data available

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
not applicable

15. Regulatory information

TSCA list : All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA304 Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Fire Hazard
Acute Health Hazard
Chronic Health Hazard

SARA 302 : SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

Ozone-Depletion Potential This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

California Prop 65 WARNING! This product contains a chemical known in the State of California to cause cancer.
WARNING: This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.

16. Other information

HMIS Classification

Health	*	3
Flammability		3
Physical Hazard		0
Personal Protection		X

Caution: HMIS® rating is based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® rating is not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® rating is to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). Please note HMIS® attempts to convey full health warning information to all employees.

Notes to Reader

The information contained in this Safety Data Sheet applies only to the actual Sika Corporation ("Sika") product identified and described herein. This information is not intended to address, nor does it address the use or application of the identified Sika product in combination with any other material, product or process. All of the information set forth herein is based on technical data regarding the identified product that Sika believes to be reliable as of the date hereof. Prior to each use of any Sika product, the user must always read and follow the warnings and instructions on the product's current Product Data Sheet, product label and Safety Data Sheet for each Sika product, which are available at web site and/or telephone number listed in Section 1 of this SDS.

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All sales of Sika products are subject to its current terms and conditions of sale available at www.sikausa.com or 201-933-8800.

Revision Date 09/15/2014

Material number: 188473

1. Identification

Product name	:	Sikaflex®-255 FC
Supplier	:	Sika Corporation
Address	:	201 Polito Avenue Lyndhurst, NJ 07071 USA www.sikausa.com
Telephone	:	(201) 933-8800
Telefax	:	(201) 804-1076
Emergency telephone	:	CHEMTREC: 800-424-9300 INTERNATIONAL: 703-527-3887 ehs@sika-corp.com
Recommended use of the chemical and restrictions on use	:	For further information, refer to the product technical data sheet.

2. Hazards identification

GHS Classification

Respiratory sensitization , Category 1	H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitization , Category 1	H317: May cause an allergic skin reaction.
Carcinogenicity , Category 2	H351: Suspected of causing cancer.

GHS Label element

Hazard pictograms :

Signal Word : Danger

Hazard Statements : H317 May cause an allergic skin reaction.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H351 Suspected of causing cancer.

Precautionary Statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves.
P281 Use personal protective equipment as required.

P285 In case of inadequate ventilation wear respiratory protection.
Response:
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P304 + P341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P363 Wash contaminated clothing before reuse.
Storage:
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Warning : Reports have associated repeated and prolonged exposure to some of the chemicals in this product with permanent brain,liver, kidney and nervous system damage. Intentional misuse by deliberate concentration and inhalation of vapors may be harmful or fatal.

See Section 11 for more detailed information on health effects and symptoms.

3. Composition/information on ingredients

Hazardous ingredients

Chemical Name	CAS-No.	Concentration (%)
Carbon black	1333-86-4	>= 10 - < 20 %
xylene	1330-20-7	>= 2 - < 5 %
ethylbenzene	100-41-4	>= 1 - < 2 %
4,4'-methylenediphenyl diisocyanate	101-68-8	>= 0 - < 1 %
3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	4098-71-9	>= 0 - < 1 %

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. First aid measures

If inhaled : Move to fresh air.
Consult a physician after significant exposure.

In case of skin contact : Take off contaminated clothing and shoes immediately.
Wash off with soap and plenty of water.
If symptoms persist, call a physician.

In case of eye contact	:	Remove contact lenses. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
If swallowed	:	Clean mouth with water and drink afterwards plenty of water. Induce vomiting immediately and call a physician. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed	:	sensitizing effects Asthmatic appearance Allergic reactions See Section 11 for more detailed information on health effects and symptoms.
Protection of first-aiders	:	Move out of dangerous area. Consult a physician. Show this material safety data sheet to the doctor in attendance.
Notes to physician	:	Treat symptomatically.

5. Fire-fighting measures

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Specific extinguishing methods	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for fire-fighters	:	In the event of fire, wear self-contained breathing apparatus.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Deny access to unprotected persons.
Environmental precautions	:	Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform respective authorities. Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up	:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

7. Handling and storage

Advice on safe handling : Do not breathe vapors or spray mist.
Avoid exceeding the given occupational exposure limits (see section 8).
Do not get in eyes, on skin, or on clothing.
For personal protection see section 8.
Persons with a history of skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
Smoking, eating and drinking should be prohibited in the application area.
Follow standard hygiene measures when handling chemical products.

Conditions for safe storage : Store in original container.
Keep container tightly closed in a dry and well-ventilated place.
Observe label precautions.
Store in accordance with local regulations.

Materials to avoid : no data available

8. Exposure controls/personal protection

Component	CAS-No.	Basis **	Value	Exposure limit(s)* / Form of exposure
xylene	1330-20-7	OSHA Z-1	TWA	100 ppm 435 mg/m3
		ACGIH	TWA	100 ppm
		ACGIH	STEL	150 ppm
		OSHA P0	STEL	150 ppm 655 mg/m3
		OSHA P0	TWA	100 ppm 435 mg/m3
ethylbenzene	100-41-4	ACGIH	TWA	100 ppm
		ACGIH	STEL	125 ppm
		OSHA Z-1	TWA	100 ppm 435 mg/m3
		OSHA P0	TWA	100 ppm 435 mg/m3

		OSHA P0	STEL	125 ppm 545 mg/m3

*The above mentioned values are in accordance with the legislation in effect at the date of the release of this safety data sheet.

**__Basis__
ACGIH. Threshold Limit Values (TLV)
OSHA P0. Table Z-1, Limit for Air Contaminat (1989 Vacated Values)
OSHA P1. Permissible Exposure Limits (PEL), Table Z-1, Limit for Air Contaminant
OSHA P2. Permissible Exposure Limits (PEL), Table Z-2
OSHA Z3. Table Z-3, Mineral Dust

Engineering measures : Use of adequate ventilation should be sufficient to control worker exposure to airborne contaminants. If the use of this product generates dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Personal protective equipment

Respiratory protection : Use a properly fitted NIOSH approved air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.

Hand protection
Remarks : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Eye protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary.

Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.

Hygiene measures : Avoid contact with skin, eyes and clothing.
Wash hands before breaks and immediately after handling the product.
Remove contaminated clothing and protective equipment before entering eating areas.
Wash thoroughly after handling.

9. Physical and chemical properties

Appearance	:	paste
Color	:	black
Odor	:	aromatic
Odor Threshold	:	no data available
Flash point	:	Note: not applicable
Ignition temperature	:	not applicable
Decomposition temperature	:	no data available
Lower explosion limit (Vol%)	:	no data available
Upper explosion limit (Vol%)	:	no data available
Flammability (solid, gas)	:	no data available
Oxidizing properties	:	no data available
Autoignition temperature	:	no data available
pH	:	no data available
Melting point/range / Freezing point	:	no data available
Boiling point/boiling range	:	no data available
Vapor pressure	:	no data available
Density	:	1.19 g/cm3 at 68 °F (20 °C)
Water solubility	:	Note: insoluble
Partition coefficient: n-octanol/water	:	no data available
Viscosity, dynamic	:	no data available
Viscosity, kinematic	:	> 20.5 mm2/s at 104 °F (40 °C)
Relative vapor density	:	no data available
Evaporation rate	:	no data available
Burning rate	:	no data available
Volatile organic compounds (VOC) content	:	64.1 g/l

10. Stability and reactivity

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	The product is chemically stable.
Possibility of hazardous reactions	:	Stable under recommended storage conditions.
Conditions to avoid	:	no data available
Incompatible materials	:	no data available

11. Toxicological information

Acute toxicity

Product

Acute oral toxicity	:	no data available
Acute inhalation toxicity	:	no data available
Acute dermal toxicity	:	no data available

Ingredients:

Carbon black :

Acute oral toxicity	:	LD50 Oral rat: > 8,000 mg/kg

4,4'-methylenediphenyl diisocyanate :

Acute inhalation toxicity	:	Acute toxicity estimate : 1.5 mg/l Test atmosphere: dust/mist Method: Expert judgment

3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate :

Acute oral toxicity	:	LD50 Oral rat: 4,814 mg/kg
Acute inhalation toxicity	:	LC50 rat: 0.031 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity	:	LD50 Dermal rat: > 7,000 mg/kg

Skin corrosion/irritation

Product

no data available

Serious eye damage/eye irritation

Product

no data available

Respiratory or skin sensitization

Product

May cause an allergic skin reaction.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Germ cell mutagenicity

Product

Mutagenicity : no data available

Carcinogenicity

Product

Carcinogenicity : Suspected of causing cancer.

IARC	Group 2B: Possibly carcinogenic to humans	
	Carbon black	1333-86-4
	ethylbenzene	100-41-4
NTP	not applicable	

Reproductive Toxicity/Fertility

Product

Reproductive toxicity : no data available

Reproductive Toxicity/Development/Teratogenicity

Product

Teratogenicity : no data available

STOT-single exposure

Product

Assessment: no data available

STOT-repeated exposure

Reports have associated repeated and prolonged exposure to some of the chemicals in this product with permanent brain,liver, kidney and nervous system damage. Intentional misuse by deliberate concentration and inhalation of vapors may be harmful or fatal.
Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Product

Assessment: no data available

Aspiration toxicity

Product

no data available

12. Ecological information

Other information: Do not empty into drains; dispose of this material and its container in a safe way.
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Component:

Carbon black	1333-86-4	Toxicity to fish: LC50 Species: Brachydanio rerio (zebrafish) Dose: > 1,000 mg/l Exposure time: 96 h

13. Disposal considerations

Disposal methods

Waste from residues : Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT
Not dangerous goods
IATA
Not dangerous goods
IMDG
Not dangerous goods

Special precautions for user
no data available

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
not applicable

15. Regulatory information

TSCA list : All chemical substances in this product are either listed on the

TSCA Inventory or are in compliance with a TSCA Inventory exemption.

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA304 Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Chronic Health Hazard
Acute Health Hazard

SARA 302 : SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

xylene	1330-20-7	4.46 %
ethylbenzene	100-41-4	1.05 %

Clean Air Act

Ozone-Depletion Potential This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

xylene	1330-20-7	4.46 %
ethylbenzene	100-41-4	1.05 %

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

California Prop 65 WARNING! This product contains a chemical known in the State of California to cause cancer.
WARNING: This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.

16. Other information

HMIS Classification

Health	*	3
Flammability		0
Physical Hazard		0
Personal Protection		X

Caution: HMIS® rating is based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® rating is not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® rating is to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). Please note HMIS® attempts to convey full health warning information to all employees.

Notes to Reader

The information contained in this Safety Data Sheet applies only to the actual Sika Corporation ("Sika") product identified and described herein. This information is not intended to address, nor does it address the use or application of the identified Sika product in combination with any other material, product or process. All of the information set forth herein is based on technical data regarding the identified product that Sika believes to be reliable as of the date hereof. Prior to each use of any Sika product, the user must always read and follow the warnings and instructions on the product's current Product Data Sheet, product label and Safety Data Sheet for each Sika product, which are available at web site and/or telephone number listed in Section 1 of this SDS.

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All sales of Sika products are subject to its current terms and conditions of sale available at www.sikausa.com or 201-933-8800.

Revision Date 08/25/2014

Material number: 469505

Industry

Sikaflex®-255 FC

High Strength, Elastic Adhesive

Technical Product Data (typical values)

Chemical base		1-C polyurethane
Color		Black
Cure mechanism		Moisture Curing
Density (uncured)		10.1 lb/gal
VOC (EPA method 24)		0.53 lb/gal (64.1 g/l)
Non-sag properties		Excellent
Application temperature	product	50°-95°F (10°-35°C)
Tack free time[1]		30 min
Curing speed		(see diagram 1)
Shrinkage		3% approx.
Shore A-hardness (ASTM D 2240)		52-57
Tensile strength (ASTM D 412)		870 psi
Elongation at break (ASTM D 412)		400%
Tensile lap-shear strength (ASTM D 1002)		580 psi
Volume resistivity (ASTM D 257-99)		$1X10^7$ Wcm appx.
Service temperature	permanent	-40°-194°F (-40°-90°C)
Shelf life (storage below 80°F (27°C))	Cartridges/Unipacs	9 months
	Drums	6 months

[1)] 73°F (23°C) / 50% r.h.

Description

Sikaflex®-255 FC is a fast curing, flexible, high-performance one-component, polyurethane based adhesive for bonding glass, panels and other structures to a variety of substrates. Sikaflex®-255 FC begins to cure and exhibit excellent green strength as soon as the product is extruded or the cartridge is opened. Sikaflex®-255 FC is not for use in the replacement of automotive windshields. Sikaflex®-255 FC is manufactured in accordance with ISO 9001/14001 Quality Assurance Systems and the Responsible Care Program.

Product Benefits

- One-component
- Low odor
- Bonds and seals at the same time
- Short tack free and curing time
- Very high thixotropy for good gap filling properties
- Adhesion to a wide range of substrates
- Non-staining curing process
- Non-corrosive
- Initial load bearing capacity
- Overpaintable with many coatings (Consult Sika)
- Increases torsional stiffness of final assembly
- Shock/Impact resistant
- Vibration and sound damping properties

Areas of Application

Sikaflex®-255 FC is suitable for use on glass as well as metal panels (primed and painted). Sikaflex®-255 FC offers extremely high initial bond strength. Its fast rate of cure results in rapid strength development and shorter service times.

- Bonding trim, molding and all kinds of styling elements
- Structural bonding of large parts, including sheet metal, composites and glass
- Used to replace rivets and other mechanical fasteners
- This product is suitable only for experienced professional users.
- Tests with actual substrates and conditions have to be performed to

ensure adhesion and material compatibility.

Cure Mechanism

Sikaflex®-255 FC cures by reaction with atmospheric moisture. At low temperatures, the water content of the air is lower and the curing reaction proceeds somewhat slower (see diagram).

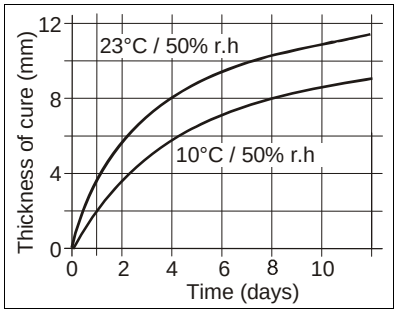

Diagram 1: Curing speed Sikaflex®-255 FC

Chemical Resistance

Sikaflex®-255 FC is resistant to fresh water, seawater, dilute acids and caustic solutions; temporarily resistant to fuels, mineral oils, vegetable and animal oils; not resistant to organic acids, alcohol, concentrated mineral acids and caustic solutions or solvents. The above information is offered for general guidance only. Advice on specific applications will be given on request. Contact the Technical Service Department of Sika Industry at 888-832-7452.

Method of Application

Surface preparation

Surfaces must be clean, dry and free from all traces of grease, oil and dust. The surfaces must be treated with a cleaning or activating agent and/or primed with the appropriate primer. See Sika Surface Preparation Guidelines or contact the Technical Service Department of Sika Industry at 888-832-7452.

Application

Cartridges: Pierce cartridge nozzle opening. **Unipacs:** Place unipac in the application gun and snip off the closure clip. Cut tip of nozzle to appropriate size. For satisfactory results the adhesive must be applied with a piston type manual, air or battery cartridge gun. To ensure uniform thickness of adhesive bead, we recommend that the adhesive is applied in the form of a triangular bead (see illustration). Do not apply below 50°F (10°C) or above 95°F (35°C). The optimum temperature for substrate and adhesive is between 59°F (15°C) and 77°F (25°C). **Bulk:** For advice on selecting and using a suitable pump system, please contact the System Engineering Department of Sika Industry at 248-577-0020.

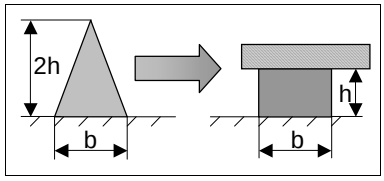

Figure 1: Recommended bead configuration

Tooling and finishing

To facilitate tooling, wet finger or best available tool with Sika®-Slick or light soapy water. Do not use alcohol as a tooling agent.

Removal

Uncured Sikaflex®-255 FC may be removed with Sika® Remover 208 or Mineral Spirits. Do not use solvents containing alcohol as a cleaning agent. Cured Sikaflex®-255 FC may only be removed mechanically.

Overpainting

If overpainting is desired, the paint and paint process compatibility must be tested before use. Contact Sika Technical Services Department in all cases at 888-832-7452.

Limitations

- For best results, use opened cartridges the same day.
- When applying sealant, avoid air entrapment.
- Do not use on polyethylene, polypropylene, silicone, PTFE, and certain plasticized resins (consult our Technical Services Department for advice).
- When working in low temperature conditions, allow cartridge to reach room temperature.
- Always use a piston type cartridge gun (hand operated or pneumatic) to apply adhesive.
- Avoid contact with alcohol and solvents containing alcohol during application and curing.

WARNING: IRRITANT,SENSITIZER

Contains Polyisocyanate Prepolymer (Mixture), Isophorone Diisocyanate (CAS 4098-71-9), Methylene Bisphenyl Isocyanate (CAS 101-68-8) and Xylene (CAS 1330-20-7). Causes eye irritation. May cause skin/respiratory irritation. May cause skin and/or respiratory sensitization after prolonged contact. May be harmful if swallowed. Reports have associated repeated and prolonged exposure to some of the chemicals in this product with permanent brain, liver, kidney and nervous system damage. Headaches and dizziness may result. **Deliberate misuse by inhalation of vapors may be harmful or fatal. Strictly follow all usage, handling and storage instructions.**

HMIS

Health	*2
Flammability	1
Reactivity	0
Personal Protection	C

First Aid

Eyes – Hold eyelids apart and flush thoroughly with water for 15 minutes. **Skin** – Remove contaminated clothing. Wash skin thoroughly for 15 minutes with soap and water. **Inhalation** – Remove to fresh air. **Ingestion** – Do not induce vomiting. Dilute with water. Contact physician. **In all cases contact a physician immediately if symptoms persist.**

Further information available at:
www.sikaindustry.com

Sika Corporation
Industry Division
30800 Stephenson Highway
Madison Heights, MI 48071
USA
Tel. 248 577 0020
Fax 248 577 0810

Further Information
Copies of the following publications are available on our website www.sikaindustry.com:
-Material Safety Data Sheets
-Product Data Sheet
-Sika Primer Chart
-General guidelines for bonding and sealing with Sika products

In case of emergency call:
Chemtrec: 800-424-9300
International: 703-527-3887

For further information and advice regarding transportation, handling, storage and disposal of chemical products, users should refer to the actual Material Safety Data Sheets containing physical, ecological, toxicological and other safety related data. It is highly recommended to read the actual Material Safety Data Sheet before using the product.

- KEEP OUT OF REACH OF CHILDREN
- NOT FOR INTERNAL CONSUMPTION
- FOR INDUSTRIAL USE ONLY
- KEEP CONTAINER TIGHTLY CLOSED

Packaging Information

Cartridge	300 ml
Unipac	600 ml
Drum	200L/52.8 Gal.

Value Basis
All technical data stated on this Product Data Sheet are based on the results of laboratory tests only. Actual measured data in the field may vary due to site specific conditions which are not known to Sika and beyond our control.

Handling and Storage
Avoid direct contact. Wear personal protective equipment (chemical resistant goggles/gloves/clothing) to prevent direct contact with skin and eyes. Use only in well ventilated areas. Open doors and windows during use. Use a properly fitted NIOSH respirator if ventilation is poor. Wash thoroughly with soap and water after use. Remove contaminated clothing and launder before reuse.
Storage temperatures not in excess of 80°F will help ensure maximum product shelf life.

Clean Up
Use personal protective equipment (chemical resistant gloves/ goggles /clothing). Without direct contact, remove spilled or excess product and place in suitable sealed container. Dispose of excess product and container in accordance with applicable environmental regulations.

Limited Material Warranty
SIKA warrants this product for one year from date of installation to be free from manufacturing defects and to meet the technical properties on the current Product Data Sheet if used as directed within shelf life. User determines suitability of product for intended use and assumes all risks. Buyer's sole remedy shall be limited to the purchase price or replacement of product exclusive of labor or cost of labor. **NO OTHER WARRANTIES IMPLIED OR EXPRESS SHALL APPLY INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SIKA SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES. SIKA SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS.**

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Sika reserves the right to change the properties of its products without notice. All sales of Sika product(s) are subject to its current terms and conditions of sale which are available at www.sikacorp.com or by calling 201-933-8800.

Prior to each use of any Sika product, the user must always read and follow the warnings and instructions on the product's most current Product Data Sheet, product label and Material Safety Data Sheet which are available at www.sikaindustry.com. Nothing contained in any Sika materials relieves the user of the obligation to read and follow the warnings and instruction for each Sika product as set forth in the current Product Data Sheet, product label and Material Safety Data Sheet prior to product use.

Further information available at:
www.sikaindustry.com

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MATERIAL SAFETY DATA SHEET

MSDS No. 108645
Date : 3/1/2007

Windshield Washer Fluid W644 50% Solution

Emergency Number : Chemtrec : 800/424-9300

General Information : CCI : 630/739-0606

SECTION I - IDENTIFICATION

Product : Windshield Washer Fluid W644 50% Solution

Chemical Family : Methyl alcohol solution

Cas RN : Mixture - no single Cas number applicable

SECTION II - INGREDIENTS

Components	Cas RN	Nominal %	Hazard Code	PEL/TLV	Hazard
Methyl alcohol	67-56-1	40 - 50 %	A	200 ppm	Flammable. Respiratory irritant. Ingestion may cause blindness.
Water	7732-18-5	50 - 60 %	N/A	None	Not noted

SECTION III - HEALTH INFORMATION

Inhalation : Extremely high levels cause stupor, headache, nausea, dizziness and unconsciousness. Practically non-toxic to animals.

Ingestion : Poisonous if swallowed. Can affect the optic nerve resulting in blindness. Can cause mental sluggishness, nausea and vomiting leading to severe illness, possibly death (in humans). Practically no-toxic to animals.

Acute oral LC50's = 4,700 mg/kg (rats) (Methyl Alcohol)

Eye Contact : . May cause eye injury which may persist for several days. Liquid and vapor in high concentrations causes irritation, tearing and burning sensation.

Skin Contact : Essentially non-irritating. Repeated or prolonged contact causes drying, brittleness, cracking and irritation. Slightly toxic to animals by absorption.

Dermal LC50's = 20,000 mg/kg (rats) (Methyl Alcohol)

SECTION IV - OCCUPATIONAL EXPOSURE LIMITS

PEL (OSHA Permissible Exposure Limit) :	200 ppm, 8 hrs TWA*	(Methyl Alcohol)
	250 ppm, 15 min STEL*	(Methyl Alcohol)
TLV (ACGIH Threshold Limit Value) :	200 ppm, 8 hrs TWA*	(Methyl Alcohol)
	250 ppm, STEL*	(Methyl Alcohol)

SECTION V - EMERGENCY FIRST AID PROCEDURE

For Overdose Exposure By :

Swallowing : Induce vomiting (Only in conscious persons). CALL PHYSICIAN OR POISON CONTROL CENTER IMMEDIATELY.

Skin Contact : Remove contaminated clothing and wash contaminated skin with large amounts of water. If irritation persists, contact physician.

Inhalation : Remove patient from contaminated area. If breathing has stopped, give artificial respiration, then oxygen if needed. CALL PHYSICIAN OR POISON CONTROL CENTER IMMEDIATELY.

Eye Contact : Flush eyes with water for at least 15 minutes. CALL PHYSICIAN OR POISON CONTROL CENTER IMMEDIATELY.

SECTION VI - PHYSICAL DATA

Boiling Point :	N/A
Melting Point :	(Freezing point) lower than -40 C
Vapor Pressure :	N/A
Specific Gravity (60/60 F) :	0.94
Vapor Density (AIR = 1) :	N/A
pH (Original) :	7.8
Solubility in Water :	Complete
Appearance and Color :	Clear, light blue liquid

SECTION VII - FIRE AND EXPLOSION HAZARDS

Flash Point :	27 C Tag Closed Cup No data Tag Open Cup
Flammable Limits in Air, %by Vol.	
Lower :	Not determined (5.5 % for Methyl Alcohol)
Upper :	Not determined (36.5% for Methyl Alcohol)
NFPA Rating :	Health (1) Fire (3) Reactivity (0) (Does not apply to exposure hazards other than during a fire.)
Fire Fighting Procedures :	Wear self-contained breathing apparatus (SCBA) and complete personal protective equipment when potential for exposure to vapors or products of combustion exists. Water spray can be used to reduce intensity of flames and to dilute spills to nonflammable mixture.

SECTION VII - FIRE AND EXPLOSION HAZARDS (CONTINUED)

Unusual Fire & Explosion Hazards :	Vapor is heavier than air and can travel considerable distance to a source of and flashback. Material can burn with little or no visible flame.

SECTION VIII - REACTIVITY

Stability :	Generally stable
Hazardous Polymerization :	Not likely to occur
Conditions and Materials to Avoid:	Do not expose to heat, open flame or sparks. Avoid sulfuric acid; oxidizing agents such as hydrogen peroxide, nitric acid, perchloric acid and chromium trioxide.
Hazardous Decomposition Products :	If pyrolyzed, thermal decomposition products of residue may include C, CO, CO_2, H_2O, NH_3, organic vapors and nitrogen-containing substances.

SECTION IX - EMPLOYEE PROTECTION

Control Measures :	Handle in the presence of adequate ventilation. Engineering controls should be used whenever feasible to maintain concentrations below acceptable exposure criteria (see Section II and IV), including enclosures and local exhaust ventilation.
Respiratory Protection :	Where exposure is likely to exceed acceptable criteria (see Section II and IV) and engineering controls are not feasible, use NIOSH/MSHA approved respiratory protection equipment. Respirators should be selected based on the form and concentration of contaminants in air and in accordance with OSHA (29 CFR 1910.134).
Protective Clothing :	Wear gloves and protective clothing which are impervious to the product for the duration of exposure if there is potential for skin contact.
Eye Protection :	Wear safety glasses meeting the specifications of ANSI standard Z87.1 where no contact with the eye is anticipated. Chemical safety goggles meeting the specification of ANSI Standard Z87.1 should be worn whenever there is the possibility of splashing or other contact with the eyes.

SECTION X - ENVIRONMENTAL PROTECTION

Environmental Precautions :	Avoid uncontrolled releases of this material. Where spills are possible, a comprehensive spill release response plan should be developed and implemented.
Spill or Leak Procedures:	Eliminate ignition sources. Avoid eye or skin contact. Place leaking containers in well-ventilated area. If fire potential exists, blanket spill to minimize contaminated area and facilitate salvage or disposal. To clean up spill, flush area with water or use an absorbent. Avoid runoff into storm sewers and ditches which lead to natural waterways. All clean-ups and disposal should be carried out in accordance with federal, state and local regulations. If required, state and local authorities should be notified.

SECTION X - ENVIRONMENTAL PROTECTION (CONTINUED)

Waste Disposal : All recovered material should be packaged, labeled, transported, and disposed of or reclaimed in conformance with good engineering practices. Avoid land filling of liquids. Reclaim where possible.

SECTION XI - REGULATORY CONTROLS

Department of Transportation :

DOT Classification(Bulk) :	UN 1993 Flammable Liquid nos (Methanol) 3, III
DOT Classification (Non-bulk) :	UN 1993 Flammable Liquid nos (Methanol) 3, III
IATA (Small pkg. and case goods) :	UN 1993 Flammable Liquid nos (Methanol) 3, III
IATA (Drum & tote) :	Not allowed
IMDG Code :	UN 1993 Flammable Liquid nos (Methanol) 3, III

Other Regulatory Requirements :

Toxic Substance Control Act :

This product is a mixture: therefore, it is not listed in the TSCA Inventory of Chemical Substances. All of the components of the mixture are listed in the TSCA Inventory of Chemical Substances.

SARA Hazard Categories (as defined in Section 311/312)

Immediate/Acute Health Hazard: Delayed/Chronic Health Hazard

SECTION XII - PRECAUTIONS: HANDLING, STORAGE AND USAGE

- To prevent possible storage container rupture, do not permit to freeze; See section VI.
- Do not expose children and pets to this material.
- Store in a cool, well-ventilated area and keep container closed.
- Keep away from heat, sparks and flame.
- After handling product, wash thoroughly with soap and water before drinking, eating, or smoking.
- Container hazardous when emptied. Since emptied containers retain product residues, all hazardous precautions described on this MSDS must be observed.

SECTION XIII - CONTACT INFORMATION

The information presented herein is believed to be factual as it has been derived from the works and opinions of people believed to be qualified experts; however, nothing contained in this information is to be taken as a warranty or representation for which CCI Manufacturing IL Corporation bears legal responsibility. The user should review any recommendation in the specific context of intended use to determine whether they are appropriate.

Prepared By CCI MANUFACTURING IL CORPORATION

For further information contact :

Technical Manager
CCI MANUFACTURING IL CORPORATION
15550 Canal Bank Road.
Lemont, IL 60439
(630)-739-0606

TANK NO. 2

TerraCair® ULTRAPURE DIESEL EXHAUST FLUID MATERIAL SAFETY DATA SHEET

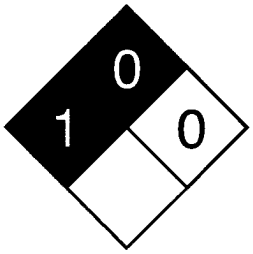
Terra Environmental Technologies Inc.
A Terra Industries Company

1. Product and Company Identification

Product Name	**TerraCair® Ultrapure Diesel Exhaust Fluid**
CAS #	Mixture
Product use	Diesel Exhaust NOx Reducing Agent
Manufacturer	Terra Industries Inc. 600 Fourth Street Sioux City, Iowa 51101 US Phone: 800-265-6643
CHEMTREC	800-424-9300
CANUTEC	613-996-6666

LEGEND HMIS/NFPA	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

Health	1
Flammability	0
Physical Hazard	0
Personal Protection	B



2. Hazards Identification

Emergency Overview

CAUTION
EYE AND SKIN IRRITANT.

Potential short term health effects

Routes of exposure	Eye, Skin contact, Inhalation, Ingestion.
Eyes	May cause irritation.
Skin	May cause irritation.
Inhalation	May be harmful by inhalation. May cause respiratory tract irritation.
Ingestion	May cause stomach distress, nausea or vomiting.
Target organs	Eyes. Skin. Respiratory system.
Signs and symptoms	Symptoms may include redness, edema, drying, defatting and cracking of the skin. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

3. Composition / Information on Ingredients

Ingredient(s)	CAS #	Percent
Water	7732-18-5	67.5
Urea	57-13-6	32.5

4. First Aid Measures

First aid procedures

Eye contact	Flush with cool water. Remove contact lenses, if applicable, and continue flushing. Obtain medical attention if irritation persists.
Skin contact	Flush with cool water. Wash with soap and water. Obtain medical attention if irritation persists.
Inhalation	If symptoms develop, move victim to fresh air. If symptoms persist, obtain medical attention. If breathing has stopped, trained personnel should administer CPR immediately.

Ingestion	Do not induce vomiting. Rinse mouth with water, then drink one or two glasses of water. Obtain medical attention. Never give anything by mouth if victim is unconscious, or is convulsing.
Notes to physician	Symptoms may be delayed.
General advice	If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Avoid contact with eyes and skin. Wear impervious gloves and safety glasses. Keep out of reach of children.

5. Fire Fighting Measures

Flammable properties	Not flammable by WHMIS/OSHA criteria.
Extinguishing media	
Suitable extinguishing media	Treat for surrounding material.
Unsuitable extinguishing media	Not available
Protection of firefighters	Not available
Specific hazards arising from the chemical	Not available
Protective equipment for firefighters	Firefighters should wear full protective clothing including self contained breathing apparatus.
Hazardous combustion products	May include and are not limited to: Oxides of carbon. Oxides of nitrogen. Ammonia.
Explosion data	
Sensitivity to mechanical impact	Not available
Sensitivity to static discharge	Not available

6. Accidental Release Measures

Personal precautions	Keep unnecessary personnel away. Wear appropriate protective clothing.
Methods for containment	Stop leak if you can do so without risk. Prevent entry into waterways, sewers, basements or confined areas.
Methods for cleaning up	Before attempting clean up, refer to hazard data given above. Small spills may be absorbed with non-reactive absorbent and placed in suitable, covered, labeled containers. Prevent large spills from entering sewers or waterways. Contact emergency services and supplier for advice. Never return spills in original containers for re-use.

7. Handling and Storage

Handling	Use good industrial hygiene practices in handling this material.
Storage	Keep out of reach of children. Store in a closed container away from incompatible materials.

8. Exposure Controls / Personal Protection

Exposure limits Ingredient(s)	Exposure Limits
Urea	**ACGIH-TLV** Not established **OSHA-PEL** Not established

Engineering controls	Ensure adequate ventilation, especially in confined areas. Use only under good ventilation conditions or with respiratory protection.
Personal protective equipment	
Eye / face protection	Wear safety glasses with side shields.
Hand protection	Impervious gloves. Nitrile, Viton, Butyl.
Skin and body protection	As required by employer code.
Respiratory protection	Where exposure guideline levels may be exceeded, use an approved NIOSH respirator.
General hygiene considerations	Avoid breathing vapors. Handle in accordance with good industrial hygiene and safety practice. When using do not eat or drink. Wash hands before breaks and immediately after handling the product.

9. Physical & Chemical Properties

Appearance	Clear.
Color	Colorless
Form	Liquid
Odor	Slight ammonia
Physical state	Liquid
pH	9.8 - 10.0
Freezing point	-12°C
Boiling point	104°C
Density	9.1 lbs. / USG - 4.13 kg / 3.785L
Specific gravity	1.087-1.093 @ 20°C
Solubility (H2O)	100%

10. Chemical Stability & Reactivity Information

Chemical stability	Stable under recommended storage conditions.
Conditions to avoid	Do not mix with any other chemical or product.
Incompatible materials	Acids. Oxidizers. Alkalis.
Hazardous decomposition products	May include and are not limited to: Oxides of carbon. Oxides of nitrogen. Ammonia.
Possibility of hazardous reactions	Hazardous polymerization does not occur.

11. Toxicological Information

Component analysis - LC50

Ingredient(s)	LC50
Urea	Not available

Component analysis - Oral LD50

Ingredient(s)	LD50
Urea	11,500 - 13,000 mg/kg mouse; 14,300 - 15,000 mg/kg rat; 510 mg/kg cattle.

Effects of acute exposure

Eye	May cause irritation.
Skin	May cause irritation.
Inhalation	Not available
Ingestion	May cause stomach distress, nausea or vomiting.
Sensitization	Non-hazardous by WHMIS/OSHA criteria.
Chronic effects	Non-hazardous by WHMIS/OSHA criteria.
Carcinogenicity	Non-hazardous by WHMIS/OSHA criteria.
Mutagenicity	Non-hazardous by WHMIS/OSHA criteria.
Reproductive effects	Non-hazardous by WHMIS/OSHA criteria.
Teratogenicity	Non-hazardous by WHMIS/OSHA criteria.

12. Ecolological Information

Ecotoxicity Components of this product have been identified as having potential environmental concerns.

Ecotoxicity - Freshwater Fish Species Data

Urea	57-13-6	96 Hr LC50 Barillius barna: >9100 mg/L

Ecotoxicity - Microtox Data

Urea	57-13-6	24HrEC50 Daphnia magna straus:>10000mg/L

Environmental effects	Not available
Aquatic toxicity	Not available
Persistence / degradability	Not available
Bioaccumulation / accumulation	Not available
Partition coefficient	Not available
Mobility in environmental media	Not available
Chemical fate information	Not available
Other adverse effects	Not available

13. Disposal Considerations

Waste codes	Not available
Disposal instructions	Review federal, provincial, and local government requirements prior to disposal.
Waste from residues / unused products	Not available
Contaminated packaging	Not available

14. Transport Information

U.S. Department of Transportation (DOT)

Not regulated as dangerous goods.

Transportation of Dangerous Goods (TDG - Canada)

Not regulated as dangerous goods.

15. Regulatory Information

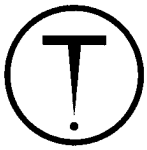
Canadian federal regulations	This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.
US Federal regulations	The product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.

Occupational Safety and Health Administration (OSHA)

29 CFR 1910.1200 hazardous chemical	Yes

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - Yes Delayed Hazard - No Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No
Section 302 extremely hazardous substance	No
Section 311 hazardous chemical	Yes
Clean Air Act (CAA)	Not available
Clean Water Act (CWA)	Not available
Safe Drinking Water Act (SDWA)	Not available
Drug Enforcement Agency (DEA)	Not available
Food and Drug Administration (FDA)	Not available
WHMIS status	Controlled
WHMIS classification	**Class D - Division 2B**
WHMIS labeling	



State regulations

This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

Inventory name

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. Other Information

Disclaimer

Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.

Issue date	25 Feb-2009
Effective date	25 Feb-2009
Expiry date	25 Feb-2012
Prepared by	Terra Industries Inc. 800-265-6643

TerraCair™
ULTRAPURE DIESEL EXHAUST TREATMENT

Terra Environmental Technologies
a division of Terra Industries Inc.

TYPICAL PHYSICAL PROPERTIES

32.5% Aqueous Urea Solution

DeNOx Grade

Description: Urea Solution, AUS 32, is a manufactured product of technically pure urea mixed with demin quality water designed to meet the Specificaitons of DIN 70070:2005 and ISO 22241-1:2006 for NOx abatement technologies.

Typical Chemical and Physical Analysis

Parameter	TYPICAL
Urea Concentration	32.5 +- 0.7 %
Specific gravity at 20 °C	1.087 - 1.093 kg/m3
Refractive Index at 20 °C	1.3814 - 1.3843
Free Ammonia (alkalinity)	0.2% max
Biuret	0.3% max
Formaldehyde	Formaldehyde Free
Insoluble Matter	20 ppm max
Phosphates	0.5 ppm max
Calcium	0.5 ppm max
Iron	0.5 ppm max
Copper	0.2 ppm max
Zinc	0.2 ppm max
Chromium	0.2 ppm max
Nickel	0.2 ppm max
Aluminum	0.5 ppm max
Magnesium	0.5 ppm max
Sodium	0.5 ppm max
Potassium	0.5 ppm max
Water Quality	DEMIN - ISO 3696 Applicable

Terra Industries Inc. * Terra Centre * 600 Fourth Street * Sioux City, Iowa 51101
(712) 277-1340 * www.terraindustries.com

rev. 1.1 5/2008

Material Safety Data Sheet

1. Chemical product and company identification

Product name	BP AUTRAN SYN 295
MSDS#	0000001558
Historic MSDS#:	None.
Product use	Automatic transmission fluid For specific application advice see appropriate Technical Data Sheet or consult our company representative.
Supplier	BP Lubricants North America 9300 Pulaski Highway Baltimore, Maryland 21220-2495
EMERGENCY HEALTH INFORMATION:	1 (800) 447-8735
EMERGENCY SPILL INFORMATION:	1 (800) 424-9300 CHEMTREC (USA)
OTHER PRODUCT INFORMATION	1 (866) 4 BP - MSDS (866-427-6737 Toll Free - North America) email: bpcares@bp.com

2. Composition/information on ingredients

Ingredient name	CAS #	% by weight	Exposure limits
1-DECENE, HOMOPOLYMER, HYDROGENATED	68037-01-4	60-100	None assigned.
Alkoxylated long chain alkyl amine	Proprietary	0.1-1	None assigned.
Proprietary performance additives	proprietary	5-10	None assigned.

3. Hazards identification

Physical state	Liquid.
Color	Red.
Emergency overview	WARNING! CAUSES EYE IRRITATION. MAY CAUSE ALLERGIC SKIN REACTION. Avoid contact with skin and clothing. Wash thoroughly after handling. Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis.
Routes of entry	Absorbed through skin. Eye contact. Inhalation. Ingestion.
Potential Health Effects	
Eyes	Causes eye irritation.
Skin	May cause allergic skin reaction. Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis.
Inhalation	Inhalation of oil mist or vapors at elevated temperatures may cause respiratory irritation.
Ingestion	Causes gastrointestinal irritation and diarrhea.

4. First aid measures

Eye Contact	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.
Skin Contact	Immediately wash exposed skin with soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if symptoms appear.
Ingestion	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms appear.

5. Fire-fighting measures

Flammability of the product	May be combustible at high temperature.
Flash point	235 °C (OPEN CUP) Cleveland.
Products of combustion	carbon oxides (CO, CO2), nitrogen oxides (NO, NO2...)
Unusual fire/explosion hazards	None identified.
	This material is not explosive as defined by established regulatory criteria.
Fire fighting media and instructions	SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.
Protective clothing (fire)	Firefighters should wear full bunker gear, including a positive pressure self-contained breathing apparatus.

6. Accidental release measures

Personal Precautions	Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment (Section 8). Follow all fire fighting procedures (Section 5).
Environmental precautions and clean-up methods	If emergency personnel are unavailable, contain spilled material. For small spills add absorbent (soil may be used in the absence of other suitable materials) scoop up material and place in a sealed, liquid-proof container for disposal. For large spills dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal. Minimize contact of spilled material with soils to prevent runoff to surface waterways. See Section 13 for Waste Disposal Information.
Personal protection in case of a large spill	Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

7. Handling and storage

Handling	Avoid contact with eyes. Avoid prolonged or repeated contact with skin. Wear suitable protective clothing. Wash thoroughly after handling.
Storage	Keep container tightly closed. Keep container in a cool, well-ventilated area. Empty containers may contain toxic, flammable/combustible or explosive residue or vapors. Do not cut, grind, drill, weld, reuse or dispose of containers unless adequate precautions are taken against these hazards.

8. Exposure controls/personal protection

Occupational exposure limits

1-DECENE, HOMOPOLYMER, HYDROGENATED	None assigned.

Control Measures	Use with adequate ventilation. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Hygiene measures	Wash hands after handling compounds and before eating, smoking, using lavatory, and at the end of day.

Personal protection

Eyes	Avoid contact with eyes. Chemical splash goggles.
Skin and Body	Avoid prolonged or repeated contact with skin. Wear protective clothing if prolonged or repeated contact is likely.
Respiratory	None required; however, use of adequate ventilation is good industrial practice. If heated and ventilation is inadequate, use a NIOSH certified respirator with an organic vapor cartridge and P95 particulate filter.
Hands	Wear protective gloves if prolonged or repeated contact is likely.

Consult local authorities for acceptable exposure limits.

9. Physical and chemical properties

Physical state	Liquid.
Odor	Mild
Color	Red.
Pour Point	-60 °C
Specific Gravity	0.845
Solubility	Not available.
Viscosity	kinematic: 38 mm^2/s (38 cSt) at 40°C kinematic: 7.8 mm^2/s (7.8 cSt) at 100°C
Viscosity Index	168

10. Stability and reactivity

Stability and Reactivity	The product is stable.
Conditions to avoid	Keep away from heat, sparks and flame. Keep away from sources of ignition.
Incompatibility with various substances	Reactive with oxidizing agents.
Hazardous Decomposition Products	carbon oxides (CO, CO2), nitrogen oxides (NO, NO2...)
Hazardous polymerization	Will not occur.

11. Toxicological information

Acute toxicity

Unlikely to cause harm if accidentally swallowed in small doses, though larger quantities may cause nausea and diarrhea.

At normal ambient temperatures this product will be unlikely to present an inhalation hazard because of its low volatility. May be harmful by inhalation if exposure to vapor, mists or fumes resulting from thermal decomposition products occurs.

Chronic toxicity

Carcinogenic effects

No component of this product at levels greater than 0.1% is identified as a carcinogen by ACGIH or the International Agency for Research on Cancer (IARC). No component of this product present at levels greater than 0.1% is identified as a carcinogen by the U.S. National Toxicology Program (NTP) or the U.S. Occupational Safety and Health Act (OSHA).

Mutagenic effects	No component of this product at levels greater than 0.1% is classified by established regulatory criteria as a mutagen.
Reproductive effects	No component of this product at levels greater than 0.1% is classified by established regulatory criteria as a reproductive toxin.
Teratogenic effects	No component of this product at levels greater than 0.1% is classified by established regulatory criteria as teratogenic or embryotoxic.

12. Ecological information

Ecotoxicity	Ecological testing has not been conducted on this product by BP.
Persistence/degradability	Inherently biodegradable
Mobility	Spillages may penetrate the soil causing ground water contamination.
Bioaccumulative potential	This product is not expected to bioaccumulate through food chains in the environment.
Other ecological information	Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

13. Disposal considerations

Waste information Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Consult your local or regional authorities.

14. Transport information

International transport regulations

Regulatory information	UN number	Proper shipping name	Class	Packing group	Label	Additional information
DOT Classification	Not regulated.	-----	-----			-
TDG Classification	Not regulated.	-----	-----			
IMDG Classification	Not regulated.	-----	-----			-
IATA Classification	Not regulated.	-----	-----			-

15. Regulatory information

U.S. Federal regulations US INVENTORY (TSCA): In compliance.

SARA Title III Section 302 Extremely Hazardous Substances (40 CFR Part 355): This product is not regulated under Section 302 of SARA and 40 CFR Part 355.
SARA Title III Sections 311/312 Hazardous Categorization (40 CFR Part 370): Immediate (Acute) Health Hazard
SARA 313 toxic chemical notification and release reporting: No products were found.
CERCLA Sections 102a/103 Hazardous Substances (40 CFR Part 302.4): acrylic acid: 5000 lbs. (2268 kg); ETHYL ACRYLATE: 1000 lbs. (453.6 kg);

State regulations	Pennsylvania RTK: ETHYL ACRYLATE: (special hazard, environmental hazard, generic environmental hazard) Massachusetts RTK: ETHYL ACRYLATE New Jersey: ETHYL ACRYLATE **WARNING:** This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: ETHYL ACRYLATE
Inventories	AUSTRALIAN INVENTORY (AICS): Not listed. CANADA INVENTORY (DSL): In compliance. CHINA INVENTORY (IECS): Not listed. EC INVENTORY (EINECS): In compliance. JAPAN INVENTORY (ENCS): Not determined. KOREA INVENTORY (ECL): In compliance. PHILIPPINE INVENTORY (PICCS): In compliance.

16. Other information

Label Requirements

WARNING!

CAUSES EYE IRRITATION.
MAY CAUSE ALLERGIC SKIN REACTION.

Hazardous Material Information System (U.S.A.)

Health	2
Fire hazard	1
Physical Hazard	0
Personal protection	X

National Fire Protection Association (U.S.A.)

History

Date of issue 05/06/2004.

Date of previous issue 05/06/2004.

Prepared by Product Stewardship

Notice to reader

NOTICE : This Material Safety Data Sheet is based upon data considered to be accurate at the time of its preparation. Despite our efforts, it may not be up to date or applicable to the circumstances of any particular case. We are not responsible for any damage or injury resulting from abnormal use, from any failure to follow appropriate practices or from hazards inherent in the nature of the product.

VOITH

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Your Reference
Your Message
Our Reference

Phone 8245
Fax 7826
Date Jun 14, 2006
E-mail helmut.krieger
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Renewal of Oil Approval for DIWA Transmissions - Extended Drain Intervals
List of Lubricants H55.6336.3x / DIWA Service Bulletin 013

Dear Mr. Kramer,

we have evaluated your reapplication dated May-04-2006 for the product

Castrol TranSynd (G-34010)

The approval for extended drain intervals is renewed.

The product remains listed in the Voith List of Lubricants H55.6336.3x / DIWA Service Bulletin 013.

Please note that this approval is limited to 24 months. To maintain the approval after expiration you have to reapply.
The approval can be withdrawn by Voith without stating any reason. However any change of components of the product has to be indicated immediately and will terminate the approval.

Kind regards,

Voith Turbo GmbH & Co. KG
Commercial Vehicle Transmissions

Application Engineering
Dr. Helmut Krieger

After-Sales Service
Norbert Vogelmann

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BP Lubricants USA Inc.
1500 Valley Road
Wayne, NJ 07501

Voith Renews BP Autran Syn 295 and Castrol TranSynd Approvals for DIWA Transmission Extended Drain Interval Specifications

Wayne, NJ – June 2006 -- Voith Turbo, a manufacturer of commercial automatic transmissions for transit buses, has renewed its approval of BP Autran Syn 295 and Castrol TranSynd against the Voith DIWA transmission extended drain interval specifications. Voith DIWA transmissions can be found in smaller bus fleets. Both of these products are listed in the Voith List of Lubricants H55.6336.3x/DIWA Service Bulletin 013.

Attached for your information are the actual approval communications from Voith.

Contact your BP representative should you have additional questions about Voith or its approvals of BP Autran Syn 295 and Castrol TranSynd.

VOITH

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BP Lubricants USA Inc.
Mr. Dwight Kramer
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Tel. +1 610 380 4905
dwight.kramer@bp.com

Your Reference
Your Message
Our Reference

Phone 8245
Fax 7826
Date Jun 14, 2006
E-mail helmut.krieger
@voith.com

Renewal of Oil Approval for DIWA Transmissions - Extended Drain Intervals
List of Lubricants H55.6336.3x / DIWA Service Bulletin 013

Dear Mr. Kramer,

we have evaluated your reapplication dated May-04-2006 for the product

BP Autran Syn 295 (G-36746)

The approval for extended drain intervals is renewed.

The product remains listed in the Voith List of Lubricants H55.6336.3x / DIWA Service Bulletin 013.

Please note that this approval is limited to 24 months. To maintain the approval after expiration you have to reapply.
The approval can be withdrawn by Voith without stating any reason. However any change of components of the product has to be indicated immediately and will terminate the approval.

Kind regards,

Voith Turbo GmbH & Co. KG
Commercial Vehicle Transmissions

Application Engineering
Dr. Helmut Krieger

After-Sales Service
Norbert Vogelmann

Chairman Supervisory Board
of the General Partner
Dr. Hermut Kormann

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BP Autran Syn 295

PRODUCT DESCRIPTION

BP Autran Syn 295 is a fully synthetic universal shift and automatic transmission fluid designed to increase efficiency through extended drain intervals. **BP Autran Syn 295** is formulated to maintain its stability even under the most severe operating conditions.

APPLICATION

BP Autran Syn 295 can be used in a variety of applications including:

- Inter/intra-city buses, school buses
- Delivery trucks and vans
- Refuse fleets
- Emergency vehicles
- Light duty pickup trucks and passenger cars (where DEXRON®-III is approved)
- Recreational vehicles/motor homes
- On/Off-highway vehicles

FEATURES AND BENEFITS

- Superior high/low temperature performance due to high VI synthetic base fluids
- Excellent shear stability provides a stable viscosity, providing wear protection throughout the drain interval
- Excellent corrosion and foaming resistance
- Allows for extended drain intervals and extended filter change intervals reducing operating costs
- Compatible with most other automotive transmission fluids and seals
- Offers flexibility of one fluid for year-round use in all geographic locations
- Provides durable and consistent transmission shifts
- Provides excellent thermal and oxidation stability resulting in lower deposit formation

In addition, **BP Autran Syn 295** meets or exceeds the performance requirements set forth by OEMs and listed or approved under the following specifications:

- Allison TES-295 (AN-031002)
- Allison C-4 (33014203)
- DEXRON®-III (G-36746)
- ZF Transmissions
- Voith Transmission

TYPICAL PROPERTIES

Viscosity, ASTM D-445, cSt	
@40°C (104°F)	37.7
@100°C (212°F)	7.35
Brookfield Viscosity, ASTM D-2983, cP@-40°C (-40°F)	8,150
Viscosity Index, ASTM D-2270	165
Specific Gravity, ASTM D-287, @ 16°C (60°F)	0.845
Flash Point, ASTM D-92, °C/°F	235/455
Fire Point, ASTM D-92, °C/°F	272/522
Pour Point, ASTM D-97, °C/°F	-60/-76
Foam Resistance Test, GM6417M	
@ 95 °C and 135 °C	No Foam
KRL Shear Test, % Viscosity Loss @ 20 hrs	3.8
Rust Protection, ASTM D1748 (modified)	No Rust

TANK NO. 4

MANUFACTURING IL CORPORATION

Material Safety Data Sheet

Long life Coolant L252 50%

Emergency Number : General Information :
Chemtrec : 800/424-9300 CCI : 630/739-0606

SECTION I - IDENTIFICATION

Product : Long Life Coolant L252 50%

Synonyms : None
Chemical Family : Ethylene Glycol solution of salts
CAS No. : Mixture - no single CAS number applicable

SECTION II - INGREDIENTS

Components	CAS No.	Nominal %	Hazard Code	PEL/TLV	Hazard
Ethylene Glycol	107-21-1	40 - 50 %	A	Ceiling : 100mg/m [Aerosol only]	Respiratory irritant Ingestion may produce liver, brain and kidney damage.
Diethylene Glycol	111-46-6	Less than 3 %	A	None	Ingestion may produce liver and kidney damage.
Hydrated inorganic acid, organic acid salts	Proprietary	Less than 5 %	N/A	None	None noted
Water	7732-18-5	45 - 55 %	N/A	None	None noted

SECTION III - HEALTH INFORMATION

Inhalation : Breathing excessive levels of the vapor or mist can irritate the respiratory tract. Excessive vapor concentrations of the major component (ethylene glycol), as might be generated during heating of this material, have occasionally been reported to cause adverse effects on the blood - forming system and the nervous system.

Ingestion : The acute oral toxicities of the components of this mixture are as follows :

Ethylene Glycol

The lowest dose reported to produce death in humans was estimated to be 710 mg/kg body weight; for a person weighting 150 pounds, this would be equivalent to drinking about one and one-half (1.5) fluid ounces of pure ethylene glycol in a short period of time.

Acute oral LD50's = 4,700 mg/kg (rat)
5,500 mg/kg (mouse)

Diethylene Glycol

Acute oral LD50's = 12,600 mg/kg (rat)
23,700 mg/kg (mouse)

Eye Contact : Based on the pH and irritation potential of this mixture's constituents, the mist or liquid can be expected to cause mild to moderate irritation or inflammation of the eyes.

Skin contact : The acute dermal LD50 of the major component(ethylene glycol) of this product is 9,530mg/kg(rabbits). Based on the pH and the irritation potential of this mixture's constituents, the mist or liquid can be expected to cause mild to moderate irritation of the skin.

Carcinogenicity Listing : IARC : ( ) OSHA : ( ) NTP : ( ) Not listed : (X)

SECTION IV - OCCUPATIONAL EXPOSURE LIMITS

PEL(OSHA Permissible Exposure Limit) : None established for mixture, See Section II.
TLV(ACGIH Threshold Limit Value) : None established for mixture, See Section II.

SECTION V - EMERGENCY FIRST AID PROCEDURE

For Overdose Exposure By :

Swallowing : If victim is conscious and able to swallow, quickly have victim drink water or milk to dilute. Do NOT give sodium bicarbonate, fruit juices or vinegar. NEVER give anything by mouth if victim is unconscious or having convulsions. Induce vomiting only if advised by physician or Poison Control Center. CALL PHYSICIAN OR POISON CONTROL CENTER IMMEDIATELY.

Skin Contact : Immediately flush skin with plenty of water while removing contaminated clothing.

Eye Contact : Immediately flush eyes with plenty of cool water for at least 15 minutes. Do NOT permit victim to rub eyes. GET MEDICAL ATTENTION IMMEDIATELY.

Inhalation : Immediately remove victim to fresh air. If victim has stopped breathing give artificial respiration, preferably mouth-to-mouth. GET MEDICAL ATTENTION IMMEDIATELY.

SECTION VI - PHYSICAL DATA

Boiling Point :	Higher than 226F
Melting Point :	Lower than -34F
Vapor Pressure :	Not determined
Density (20C) :	1.08 g/cm^3
Vapor Density (Air = 1) :	Not determined
pH (Original) :	7.8
Solubility in Water :	Infinite miscibility
Appearance and Color :	Clear, slightly viscous, blue dyed liquid

SECTION VII - FIRE AND EXPLOSION HAZARDS

Flash Point :	None
Auto-Ignition Temperature :	Not determined (752F for ethylene glycol)
Flammable Limits in Air, %by Vol.	
Lower :	Not determined (3.2% for ethylene glycol)
Upper :	Not determined (15.3% for ethylene glycol)
NFPA Rating :	Health (1) Flammability (1) Reactivity (0)
HMIS Rating :	Health (1) Flammability (1) Physical Hazard (0)
Fire Fighting Procedures :	(Note : Individuals should perform only those firefighting procedures for which they have been trained.) Use water spray, dry chemical, foam or carbon dioxide. Use water to keep fire-exposed containers cool. If a spill or leak has not ignited, use water spray to disperse the vapors. Water spray may be used to flush spills away from fire and diluted spills to noncombustible proportions(see warning on water spray on hot glycol below.)
Unusual Fire & Explosion Hazards :	Fire fighters should wear self-contained breathing apparatus in the positive pressure mode with a full face piece when, there is a possibility of exposure to smoke, fumes or hazardous decomposition products. Water spray may cause foaming of hot glycol so indirect application of water spray or use of other extinguishing media should be used on hot glycol.

SECTION VIII - REACTIVITY

Stability :	Generally stable
Hazardous Polymerization :	Not likely to occur
Conditions and Materials to Avoid :	Avoid concentrated strong acids, oxidizing agents and bases. Do not expose to open flame.
Hazardous Decomposition Products :	If pyrolyzed, thermal decomposition products of residue may include C, CO, CO_2, H_2O, NH_3, organic vapors and nitrogen-containing.

SECTION IX - EMPLOYEE PROTECTION

Control Measures :	Handle in the presence of adequate ventilation. Engineering controls should be used whenever feasible to maintain concentrations below acceptable exposure criteria (see Section II and IV), including enclosures and local exhaust ventilation.
Respiratory Protection :	Where exposure is likely to exceed acceptable criteria (see Section II and IV) and engineering controls are not feasible, use NIOSH/MSHA approved respiratory protection equipment. Respirators should be selected based on the form and concentration of contaminants in air and in accordance with OSHA (29 CFR 1910.134)
Protective Clothing :	Wear gloves and protective clothing which are impervious to the product for the duration of exposure if there is potential for skin contact.
Eye Protection :	Wear safety glasses meeting the specifications of ANSI Standard Z87.1 where no contact with the eye is anticipated. Chemical safety goggles meeting the specification of ANSI Standard Z87.1 should be worn whenever there is the possibility of splashing or other contact with the eyes.

SECTION X - ENVIRONMENTAL PROTECTION

Environmental Precautions :	Avoid uncontrolled releases of this material. Where spills are possible, a comprehensive spill release response plan should be developed and implemented.
Spill or Leak Procedures :	Wear appropriate respiratory equipment and protective equipment as described in Section IX. Contain spilled material. Transfer to secure containers. Where necessary, collect using absorbent media. In the event of an uncontrolled release is reportable under the applicable laws and regulations.
Waste Disposal :	All recovered material should be packaged, labeled, transported, and disposed of or reclaimed in conformance with good engineering practices. Avoid land filling of liquids. Reclaim where possible.

SECTION XI - REGULATORY CONTROLS

Department of Transportation :

DOT Classification (Bulk) :	Class 9 miscellaneous
DOT Proper Shipping Name :	Environmentally Hazardous Substance Liquid n.o.s. (ethylene glycol), 9, UN3082, III
DOT Classification (Non-bulk) :	Not regulated
IATA (Non-bulk) :	Not regulated
IMDG Code (Non-bulk) :	Not regulated

Other Regulatory Requirements :

Toxic Substance Control Act :

This product is a mixture : therefore, it is not listed in the TSCA Inventory of Chemical Substances. All of the components of the mixture are listed in the TSCA Inventory of Chemical Substances.

SARA Hazard Categories (as defined in Section 311/312)

SECTION XI - REGULATORY CONTROLS(CONTINUED)

Health Immediate (Acute) and Delayed (Chronic)

Physical None

The product contains greater than 40% ethylene glycol (CAS# 107-21-1) which is subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372.

California Proposition 65

This product does not contain any substances currently listed under California Proposition 65.

SECTION XII - PRECAUTIONS : HANDLING, STORAGE AND USAGE

- To prevent possible storage container rupture, do not permit to freeze; See Section VI.
- Do not expose children and pets to this material.
- Keep container closed.
- Keep away from open flames.
- After handling product, wash thoroughly with soap and water before drinking, eating, or smoking.
- Container hazardous when emptied. Since emptied containers retain product residues, all hazardous precautions described on this MSDS must be observed.

SECTION XIII - CONTACT INFORMATION

The information presented herein is believed to be factual as it has been derived from the works and opinions of people believed to be qualified experts; however, nothing contained in this information is to be taken as a warranty or representation for which CCI Manufacturing IL Corporation bears legal responsibility. The user should review any recommendation in the specific context of intended use to determine whether they are appropriate.

Prepared By CCI MANUFACTURING IL CORPORATION

For further information contact :

Technical Manager
CCI MANUFACTURING IL CORPORATION
15550 Canal Bank Rd
Lemont, IL 60439
(630)-739-0606

TANK NO. 5

Material Safety Data Sheet

1. MATERIAL AND COMPANY IDENTIFICATION

Material Name : **Rotella Extended Life Coolant/Antifreeze 50/50 Pre-Diluted**
Uses : Antifreeze and coolant.

Manufacturer/Supplier : **SOPUS Products**
700 Milam
Houston TX 77002-2806
USA

MSDS Request :

Emergency Telephone Number
Spill Information : 877-242-7400
Health Information : 877-504-9351

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Identity	CAS No.	Concentration
Ethanediol	107-21-1	30.00 - 60.00 %

Mixture of ethylene glycol, isopropyl alcohol and distilled water.

3. HAZARDS IDENTIFICATION

Emergency Overview

Appearance and Odour : May be dyed. Liquid at room temperature. Characteristic.

Health Hazards : Harmful or fatal if swallowed. May cause acidosis, cardiopulmonary and kidney effects.

Environmental Hazards : May cause long-term adverse effects in the aquatic environment.

Health Hazards

Inhalation : Slightly irritating to respiratory system.
Skin Contact : May cause moderate irritation to skin.
Eye Contact : Moderately irritating to eyes.
Ingestion : Harmful if swallowed.May cause acidosis, cardiopulmonary and kidney effects.Ingestion may cause drowsiness and dizziness.
Other Information : Possibility of organ or organ system damage from prolonged exposure; see Chapter 11 for details. Target organ(s):
Kidney.
Lungs.
Cardiovascular system.
Intentional abuse, misuse or other massive exposure may cause multiple organ damage and or death.
Signs and Symptoms : Kidney toxicity may be recognized by blood in the urine or increased or decreased urine flow. Other signs and symptoms can include nausea, vomiting, abdominal cramps, diarrhoea, lumbar pain shortly after ingestion, and possibly narcosis and

death. High concentrations may cause central nervous system depression resulting in headaches, dizziness and nausea; continued exposure may result in unconsciousness and/or death.

Aggravated Medical Condition : Pre-existing medical conditions of the following organ(s) or organ system(s) may be aggravated by exposure to this material: Kidney. Cardiovascular system.

Environmental Hazards : Not classified as dangerous for the environment.

Additional Information : Under normal conditions of use or in a foreseeable emergency, this product meets the definition of a hazardous chemical when evaluated according to the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

4. FIRST AID MEASURES

General Information : DO NOT DELAY. Keep victim calm. Obtain medical treatment immediately.

Inhalation : Remove to fresh air. If rapid recovery does not occur, transport to nearest medical facility for additional treatment.

Skin Contact : Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available. If persistent irritation occurs, obtain medical attention.

Eye Contact : Flush eye with copious quantities of water. If persistent irritation occurs, obtain medical attention.

Ingestion : DO NOT DELAY. If swallowed, do not induce vomiting: transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration.

Advice to Physician : IMMEDIATE TREATMENT IS EXTREMELY IMPORTANT! The preferred treatment is immediate transportation to a medical facility and use of appropriate treatment including possible administration of activated charcoal, gastric lavage and or gastric aspiration. If none of the above are immediately available and a delay of more than one hour is anticipated before such medical attention can be obtained, induction of vomiting may be appropriate using IPECAC syrup (Contraindicated if there are any signs of CNS depression). This should be considered on a case by case basis following specialist advice. Specific other treatments include may include ethanol therapy, fomepizole, treatment of acidosis and haemodialysis. Seek specialist advice without delay.

5. FIRE FIGHTING MEASURES

Clear fire area of all non-emergency personnel.

Flash point : Typical 130 °C / 266 °F (Pensky-Martens Closed Cup)

Upper / lower Flammability or Explosion limits : 3 - 15 %(V)

Auto ignition temperature : > 200 °C / 392 °F

Specific Hazards : Hazardous combustion products may include: A complex

		mixture of airborne solid and liquid particulates and gases (smoke). Carbon monoxide. Unidentified organic and inorganic compounds.
Suitable Extinguishing Media	:	Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
Unsuitable Extinguishing Media	:	Do not use water in a jet.
Protective Equipment for Firefighters	:	Proper protective equipment including breathing apparatus must be worn when approaching a fire in a confined space.

6. ACCIDENTAL RELEASE MEASURES

Avoid contact with spilled or released material. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. See Chapter 13 for information on disposal. Observe all relevant local and international regulations.

Protective measures	:	Avoid contact with skin and eyes. Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers.
Clean Up Methods	:	For large liquid spills (> 1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely. For small liquid spills (< 1 drum), transfer by mechanical means to a labelled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely.
Additional Advice	:	U.S. regulations may require reporting releases of this material to the environment which exceed the reportable quantity (refer to Chapter 15) to the National Response Centre at (800) 424-8802. Local authorities should be advised if significant spillages cannot be contained.

7. HANDLING AND STORAGE

General Precautions	:	Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols. Properly dispose of any contaminated rags or cleaning materials in order to prevent fires. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.
Handling	:	Avoid prolonged or repeated contact with skin. Avoid inhaling vapour and/or mists. When handling product in drums, safety footwear should be worn and proper handling equipment should be used.

Storage	:	Keep container tightly closed and in a cool, well-ventilated place. Use properly labelled and closeable containers. Storage Temperature: 0 - 50 °C / 32 - 122 °F
Recommended Materials	:	For containers or container linings, use mild steel or high density polyethylene.
Unsuitable Materials	:	Zinc. Avoid contact with galvanized materials.
Additional Information	:	Polyethylene containers should not be exposed to high temperatures because of possible risk of distortion.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

Material	Source	Type	ppm	mg/m3	Notation
Ethanediol	ACGIH	Ceiling(Aerosol.)		100 mg/m3	
Ethanediol	OSHA Z1A	Ceiling	50 ppm	125 mg/m3	

Exposure Controls	:	The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include: Adequate ventilation to control airborne concentrations. Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.
Personal Protective Equipment	:	Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.
Respiratory Protection	:	No respiratory protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid breathing of material. If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. Select a filter suitable for combined particulate/organic gases and vapours [boiling point >65 °C (149 °F)].
Hand Protection	:	Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove,material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly.

Application of a non-perfumed moisturizer is recommended.

Eye Protection	:	Wear safety glasses or full face shield if splashes are likely to occur.
Protective Clothing	:	Skin protection not ordinarily required beyond standard issue work clothes.
Monitoring Methods	:	Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate.
Environmental Exposure Controls	:	Minimise release to the environment. An environmental assessment must be made to ensure compliance with local environmental legislation.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	May be dyed. Liquid at room temperature.
Odour	:	Characteristic.
pH	:	Not applicable.
Initial Boiling Point and Boiling Range	:	> 100 °C / 212 °F estimated value(s)
Freezing Point	:	Typical -30 °C / -22 °F
Flash point	:	Typical 130 °C / 266 °F (Pensky-Martens Closed Cup)
Upper / lower Flammability or Explosion limits	:	3 - 15 %(V)
Auto-ignition temperature	:	> 200 °C / 392 °F
Specific gravity	:	Typical 1.1 at 15 °C / 59 °F
Density	:	Typical 909 g/cm3 at 15 °C / 59 °F
Water solubility	:	Completely Soluble
n-octanol/water partition coefficient (log Pow)	:	Data not available
Kinematic viscosity	:	Typical 30 mm2/s at 40 °C / 104 °F
Evaporation rate (nBuAc=1)	:	Data not available

10. STABILITY AND REACTIVITY

Stability	:	Stable.
Conditions to Avoid	:	Extremes of temperature and direct sunlight.
Materials to Avoid	:	Strong oxidising agents.
Hazardous Decomposition Products	:	Hazardous decomposition products are not expected to form during normal storage.

11. TOXICOLOGICAL INFORMATION

Basis for Assessment	:	Information given is based on data on the components and the toxicology of similar products.
Acute Oral Toxicity	:	Harmful if swallowed. LD50 > 300 - <= 2000 mg/kg , Rat Classified as harmful by the European Commission. There is a marked difference in acute oral toxicity between rodents and man, man being more susceptible than rodents. The estimated fatal dose for man is 100 millilitres (1/2 cup). This material has

also been shown to be toxic and potentially lethal by ingestion to cats and dogs. Ingestion may cause drowsiness and dizziness.

Acute Dermal Toxicity	:	Expected to be of low toxicity: LD50 >2000 mg/kg , Rabbit
Skin Irritation	:	May cause moderate skin irritation (but insufficient to classify).
Eye Irritation	:	Moderately irritating to eyes (but insufficient to classify).
Respiratory Irritation	:	Inhalation of vapours or mists may cause irritation.
Sensitisation	:	Not expected to be a skin sensitiser.
Repeated Dose Toxicity	:	Kidney: can cause kidney damage.
Mutagenicity	:	Not considered a mutagenic hazard.
Carcinogenicity	:	Components are not known to be associated with carcinogenic effects.

Material	:	**Carcinogenicity Classification**
Ethanediol	:	ACGIH Group A4: Not classifiable as a human carcinogen.
Sodium molybdate	:	ACGIH Group A3: Confirmed animal carcinogen with unknown relevance to humans.

Reproductive and Developmental Toxicity	:	Causes foetotoxicity in animals; considered to be secondary to maternal toxicity.

12. ECOLOGICAL INFORMATION

Ecotoxicological data have not been determined specifically for this product. Information given is based on a knowledge of the components and the ecotoxicology of similar products.

Acute Toxicity	:	Expected to be practically non toxic: LC/EC/IC50 > 100 mg/l (to aquatic organisms)
Mobility	:	Dissolves in water. If product enters soil, it will be highly mobile and may contaminate groundwater.
Persistence/degradability	:	Readily biodegradable.
Bioaccumulation	:	Not expected to bioaccumulate significantly.
Other Adverse Effects	:	Not expected to have ozone depletion potential, photochemical ozone creation potential or global warming potential.

13. DISPOSAL CONSIDERATIONS

Material Disposal	:	Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Do not dispose into the environment, in drains or in water courses.
Container Disposal	:	Dispose in accordance with prevailing regulations, preferably to a recognised collector or contractor. The competence of the collector or contractor should be established beforehand.
Local Legislation	:	Disposal should be in accordance with applicable regional, national, and local laws and regulations.

14. TRANSPORT INFORMATION

US Department of Transportation Classification (49CFR)

Identification number	UN 3082
Proper shipping name	Environmentally hazardous substances, liquid, n.o.s.
Technical name	(Ethylene glycol)
Class / Division	9
Packing group	III

IMDG

Identification number	UN 3082
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Technical name	(Ethylene glycol)
Class / Division	9
Packing group	III
Marine pollutant:	No

IATA (Country variations may apply)

Identification number	UN 3082
Proper shipping name	Environmentally hazardous substance, liquid, n.o.s.
Technical name	(Ethylene glycol)
Class / Division	9
Packing group	III

15. REGULATORY INFORMATION

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

Federal Regulatory Status

Notification Status

TSCA	All components listed.
EINECS	All components listed.
DSL	All components listed.

Comprehensive Environmental Release, Compensation & Liability Act (CERCLA)

Rotella Extended Life Coolant/Antifreeze 50/50 Pre-Diluted ()	Reportable quantity: 10937 lbs
Ethanediol (107-21-1)	Reportable quantity: 5000 lbs

SARA Hazard Categories (311/312)
Immediate (Acute) Health Hazard.

SARA Toxic Release Inventory (TRI) (313)

Ethanediol (107-21-1)	45.717%

State Regulatory Status

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)

This product contains a chemical known to the State of California to cause cancer.

New Jersey Right-To-Know Chemical List

Ethanediol (107-21-1)	Listed.

Pennsylvannia Right-To-Know Chemical List

Ethanediol (107-21-1)	Environmental hazard. Listed.

16. OTHER INFORMATION

NFPA Rating (Health, Fire, Reactivity)	:	2, 1, 0
MSDS Version Number	:	5.0
MSDS Effective Date	:	07/07/2008
MSDS Revisions	:	A vertical bar (|) in the left margin indicates an amendment from the previous version.
MSDS Regulation	:	The content and format of this MSDS is in accordance with the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
MSDS Distribution	:	The information in this document should be made available to all who may handle the product.
Disclaimer	:	The information contained herein is based on our current knowledge of the underlying data and is intended to describe the product for the purpose of health, safety and environmental requirements only. No warranty or guarantee is expressed or implied regarding the accuracy of these data or the results to be obtained from the use of the product.

TANK NO. 6

Material Safety Data Sheet

1. MATERIAL AND COMPANY IDENTIFICATION

Material Name : **Shell SPIRAX® HD GEAR OIL SAE 80W-90**
Uses : Transmission oil.

Manufacturer/Supplier : **SOPUS Products**
700 Milam
Houston TX 77002-2806
USA

MSDS Request :

Emergency Telephone Number
Spill Information : 877-242-7400
Health Information : 877-504-9351

2. COMPOSITION/INFORMATION ON INGREDIENTS

Highly refined mineral oil, severely hydrotreated slack wax, synthetic esters, polyolefins and additives.
The highly refined mineral oil contains <3% (w/w) DMSO-extract, according to IP346.

3. HAZARDS IDENTIFICATION

Emergency Overview

Appearance and Odour : May be dyed. Liquid at room temperature. Slight hydrocarbon.

Health Hazards : Not classified as dangerous for supply or conveyance.
Safety Hazards : Not classified as flammable but will burn.
Environmental Hazards : Not classified as dangerous for the environment.

Health Hazards : Not expected to be a health hazard when used under normal conditions.

Health Hazards
Inhalation : Under normal conditions of use, this is not expected to be a primary route of exposure.
Skin Contact : Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis.
Eye Contact : May cause slight irritation to eyes.
Ingestion : Low toxicity if swallowed.
Other Information : Used oil may contain harmful impurities.
Signs and Symptoms : Oil acne/folliculitis signs and symptoms may include formation of black pustules and spots on the skin of exposed areas. Ingestion may result in nausea, vomiting and/or diarrhoea.
Aggravated Medical Condition : Pre-existing medical conditions of the following organ(s) or organ system(s) may be aggravated by exposure to this material: Skin.
Environmental Hazards : Not classified as dangerous for the environment.

Additional Information	:	Under normal conditions of use or in a foreseeable emergency, this product does not meet the definition of a hazardous chemical when evaluated according to the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

4. FIRST AID MEASURES

General Information	:	Not expected to be a health hazard when used under normal conditions.
Inhalation	:	No treatment necessary under normal conditions of use. If symptoms persist, obtain medical advice.
Skin Contact	:	Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available. If persistent irritation occurs, obtain medical attention.
Eye Contact	:	Flush eye with copious quantities of water. If persistent irritation occurs, obtain medical attention.
Ingestion	:	In general no treatment is necessary unless large quantities are swallowed, however, get medical advice.
Advice to Physician	:	Treat symptomatically.

5. FIRE FIGHTING MEASURES

Clear fire area of all non-emergency personnel.

Flash point	:	Typical 350 °C / 662 °F (COC)
Upper / lower Flammability or Explosion limits	:	Typical 1 - 10 %(V)(based on mineral oil)
Auto ignition temperature	:	> 320 °C / 608 °F
Specific Hazards	:	Hazardous combustion products may include: A complex mixture of airborne solid and liquid particulates and gases (smoke). Carbon monoxide. Unidentified organic and inorganic compounds.
Suitable Extinguishing Media	:	Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
Unsuitable Extinguishing Media	:	Do not use water in a jet.
Protective Equipment for Firefighters	:	Proper protective equipment including breathing apparatus must be worn when approaching a fire in a confined space.

6. ACCIDENTAL RELEASE MEASURES

Avoid contact with spilled or released material. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. See Chapter 13 for information on disposal. Observe all relevant local and international regulations.

Protective measures	:	Avoid contact with skin and eyes. Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers.
Clean Up Methods	:	Slippery when spilt. Avoid accidents, clean up immediately. Prevent from spreading by making a barrier with sand, earth or

other containment material. Reclaim liquid directly or in an absorbent. Soak up residue with an absorbent such as clay, sand or other suitable material and dispose of properly.

Additional Advice : Local authorities should be advised if significant spillages cannot be contained.

7. HANDLING AND STORAGE

General Precautions : Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols. Properly dispose of any contaminated rags or cleaning materials in order to prevent fires. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.

Handling : Avoid prolonged or repeated contact with skin. Avoid inhaling vapour and/or mists. When handling product in drums, safety footwear should be worn and proper handling equipment should be used.

Storage : Keep container tightly closed and in a cool, well-ventilated place. Use properly labelled and closeable containers. Storage Temperature: 0 - 50 °C / 32 - 122 °F

Recommended Materials : For containers or container linings, use mild steel or high density polyethylene.

Unsuitable Materials : PVC.

Additional Information : Polyethylene containers should not be exposed to high temperatures because of possible risk of distortion.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

Material	Source	Type	ppm	mg/m3	Notation
Oil mist, mineral	ACGIH	TWA(Mist.)		5 mg/m3	
Oil mist, mineral	ACGIH	STEL(Mist.)		10 mg/m3	

Exposure Controls : The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include: Adequate ventilation to control airborne concentrations. Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.

Personal Protective Equipment : Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

Respiratory Protection : No respiratory protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid breathing of

		material. If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. Select a filter suitable for combined particulate/organic gases and vapours [boiling point >65 °C (149 °F)].
Hand Protection	:	Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.
Eye Protection	:	Wear safety glasses or full face shield if splashes are likely to occur.
Protective Clothing	:	Skin protection not ordinarily required beyond standard issue work clothes.
Monitoring Methods	:	Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate.
Environmental Exposure Controls	:	Minimise release to the environment. An environmental assessment must be made to ensure compliance with local environmental legislation.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	May be dyed. Liquid at room temperature.
Odour	:	Slight hydrocarbon.
pH	:	Not applicable.
Initial Boiling Point and Boiling Range	:	> 280 °C / 536 °F estimated value(s)
Pour point	:	Typical -10 °C / 14 °F
Flash point	:	Typical 350 °C / 662 °F (COC)
Upper / lower Flammability or Explosion limits	:	Typical 1 - 10 %(V) (based on mineral oil)
Auto-ignition temperature	:	> 320 °C / 608 °F
Vapour pressure	:	< 0.5 Pa at 20 °C / 68 °F (estimated value(s))
Specific gravity	:	Typical 0.885
Density	:	Typical 7.51 g/cm3
Water solubility	:	Negligible.
n-octanol/water partition coefficient (log Pow)	:	> 6 (based on information on similar products)

Kinematic viscosity	:	Typical 400 mm2/s at 40 °C / 104 °F
Vapour density (air=1)	:	> 1 (estimated value(s))
Evaporation rate (nBuAc=1)	:	Data not available

10. STABILITY AND REACTIVITY

Stability	:	Stable.
Conditions to Avoid	:	Extremes of temperature and direct sunlight.
Materials to Avoid	:	Strong oxidising agents.
Hazardous Decomposition Products	:	Hazardous decomposition products are not expected to form during normal storage.

11. TOXICOLOGICAL INFORMATION

Basis for Assessment	:	Information given is based on data on the components and the toxicology of similar products.
Acute Oral Toxicity	:	Expected to be of low toxicity: LD50 > 5000 mg/kg , Rat
Acute Dermal Toxicity	:	Expected to be of low toxicity: LD50 > 5000 mg/kg , Rabbit
Acute Inhalation Toxicity	:	Low toxicity by inhalation.
Skin Irritation	:	Expected to be slightly irritating. Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis.
Eye Irritation	:	Expected to be slightly irritating.
Respiratory Irritation	:	Inhalation of vapours or mists may cause irritation.
Sensitisation	:	Not expected to be a skin sensitiser.
Repeated Dose Toxicity	:	Not expected to be a hazard.
Mutagenicity	:	Not considered a mutagenic hazard.
Carcinogenicity	:	Product contains mineral oils of types shown to be non-carcinogenic in animal skin-painting studies. Highly refined mineral oils are not classified as carcinogenic by the International Agency for Research on Cancer (IARC). Other components are not known to be associated with carcinogenic effects.
Reproductive and Developmental Toxicity	:	Not expected to be a hazard.
Additional Information	:	Used oils may contain harmful impurities that have accumulated during use. The concentration of such impurities will depend on use and they may present risks to health and the environment on disposal. ALL used oil should be handled with caution and skin contact avoided as far as possible.

12. ECOLOGICAL INFORMATION

Ecotoxicological data have not been determined specifically for this product. Information given is based on a knowledge of the components and the ecotoxicology of similar products.

Acute Toxicity	:	Poorly soluble mixture. May cause physical fouling of aquatic organisms. Expected to be practically non toxic: LL/EL/IL50 > 100 mg/l (to aquatic organisms) (LL/EL50 expressed as the nominal amount of product required to prepare aqueous test extract). Mineral oil is not expected to cause any chronic

effects to aquatic organisms at concentrations less than 1 mg/l.

Mobility	:	Liquid under most environmental conditions. Floats on water. If it enters soil, it will adsorb to soil particles and will not be mobile.
Persistence/degradability	:	Expected to be not readily biodegradable. Major constituents are expected to be inherently biodegradable, but the product contains components that may persist in the environment.
Bioaccumulation	:	Contains components with the potential to bioaccumulate.
Other Adverse Effects	:	Product is a mixture of non-volatile components, which are not expected to be released to air in any significant quantities. Not expected to have ozone depletion potential, photochemical ozone creation potential or global warming potential.

13. DISPOSAL CONSIDERATIONS

Material Disposal	:	Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Do not dispose into the environment, in drains or in water courses.
Container Disposal	:	Dispose in accordance with prevailing regulations, preferably to a recognised collector or contractor. The competence of the collector or contractor should be established beforehand.
Local Legislation	:	Disposal should be in accordance with applicable regional, national, and local laws and regulations.

14. TRANSPORT INFORMATION

US Department of Transportation Classification (49CFR)
This material is not subject to DOT regulations under 49 CFR Parts 171-180.

IMDG
This material is not classified as dangerous under IMDG regulations.

IATA (Country variations may apply)
This material is not classified as dangerous under IATA regulations.

15. REGULATORY INFORMATION

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

Federal Regulatory Status

Notification Status

DSL	All components listed.
EINECS	All components listed.

TSCA All components listed.

SARA Hazard Categories (311/312)
No SARA 311/312 Hazards.

State Regulatory Status

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)

This material does not contain any chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

16. OTHER INFORMATION

NFPA Rating (Health, Fire, Reactivity)	:	0, 1, 0
MSDS Version Number	:	13.0
MSDS Effective Date	:	07/03/2008
MSDS Revisions	:	A vertical bar (|) in the left margin indicates an amendment from the previous version.
MSDS Regulation	:	The content and format of this MSDS is in accordance with the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
MSDS Distribution	:	The information in this document should be made available to all who may handle the product.
Disclaimer	:	The information contained herein is based on our current knowledge of the underlying data and is intended to describe the product for the purpose of health, safety and environmental requirements only. No warranty or guarantee is expressed or implied regarding the accuracy of these data or the results to be obtained from the use of the product.

TANK NO. 7

Material Safety Data Sheet

1. MATERIAL AND COMPANY IDENTIFICATION

Material Name : **Shell Spirax S2 ATF A389**
Uses : Transmission fluid

Manufacturer/Supplier : **SOPUS Products**
700 Milam
Houston TX 77002-2806
USA

MSDS Request :

Emergency Telephone Number
Spill Information : 877-242-7400
Health Information : 877-504-9351

2. COMPOSITION/INFORMATION ON INGREDIENTS

Highly refined mineral oils and additives.
The highly refined mineral oil contains <3% (w/w) DMSO-extract, according to IP346.
Sensitiser not sufficient to classify : May produce an allergic reaction.

3. HAZARDS IDENTIFICATION

Emergency Overview

Appearance and Odour : Red. Liquid at room temperature. Slight hydrocarbon.

Health Hazards : Not classified as dangerous for supply or conveyance.
Safety Hazards : Not classified as flammable but will burn.
Environmental Hazards : Not classified as dangerous for the environment.

Health Hazards : Not expected to be a health hazard when used under normal conditions.

Health Hazards
Inhalation : Under normal conditions of use, this is not expected to be a primary route of exposure.
Skin Contact : Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis.
Eye Contact : May cause slight irritation to eyes.
Ingestion : Low toxicity if swallowed.
Other Information : Used oil may contain harmful impurities.
Signs and Symptoms : Oil acne/folliculitis signs and symptoms may include formation of black pustules and spots on the skin of exposed areas. Ingestion may result in nausea, vomiting and/or diarrhoea.
Aggravated Medical Conditions : Pre-existing medical conditions of the following organ(s) or organ system(s) may be aggravated by exposure to this material: Skin.

Environmental Hazards	:	Not classified as dangerous for the environment.
Additional Information	:	Under normal conditions of use or in a foreseeable emergency, this product does not meet the definition of a hazardous chemical when evaluated according to the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

4. FIRST AID MEASURES

General Information	:	Not expected to be a health hazard when used under normal conditions.
Inhalation	:	No treatment necessary under normal conditions of use. If symptoms persist, obtain medical advice.
Skin Contact	:	Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available. If persistent irritation occurs, obtain medical attention.
Eye Contact	:	Flush eye with copious quantities of water. If persistent irritation occurs, obtain medical attention.
Ingestion	:	In general no treatment is necessary unless large quantities are swallowed, however, get medical advice.
Advice to Physician	:	Treat symptomatically.

5. FIRE FIGHTING MEASURES

Clear fire area of all non-emergency personnel.

Flash point	:	206 °C / 403 °F (COC)
Upper / lower Flammability or Explosion limits	:	Typical 1 - 10 %(V)(based on mineral oil)
Auto ignition temperature	:	> 320 °C / 608 °F
Specific Hazards	:	Hazardous combustion products may include: A complex mixture of airborne solid and liquid particulates and gases (smoke). Carbon monoxide. Unidentified organic and inorganic compounds.
Suitable Extinguishing Media	:	Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
Unsuitable Extinguishing Media	:	Do not use water in a jet.
Protective Equipment for Firefighters	:	Proper protective equipment including breathing apparatus must be worn when approaching a fire in a confined space.

6. ACCIDENTAL RELEASE MEASURES

Avoid contact with spilled or released material. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. See Chapter 13 for information on disposal. Observe the relevant local and international regulations.

Protective measures	:	Avoid contact with skin and eyes. Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers.
Clean Up Methods	:	Slippery when spilt. Avoid accidents, clean up immediately.

Prevent from spreading by making a barrier with sand, earth or other containment material. Reclaim liquid directly or in an absorbent. Soak up residue with an absorbent such as clay, sand or other suitable material and dispose of properly.

Additional Advice : Local authorities should be advised if significant spillages cannot be contained.

7. HANDLING AND STORAGE

General Precautions : Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols. Properly dispose of any contaminated rags or cleaning materials in order to prevent fires. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.

Handling : Avoid prolonged or repeated contact with skin. Avoid inhaling vapour and/or mists. When handling product in drums, safety footwear should be worn and proper handling equipment should be used.

Storage : Keep container tightly closed and in a cool, well-ventilated place. Use properly labelled and closeable containers. Storage Temperature: 0 - 50 °C / 32 - 122 °F

Recommended Materials : For containers or container linings, use mild steel or high density polyethylene.

Unsuitable Materials : PVC.

Additional Information : Polyethylene containers should not be exposed to high temperatures because of possible risk of distortion.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

Material	Source	Type	ppm	mg/m3	Notation
Oil mist, mineral	ACGIH	TWA(Inhalable fraction.)		5 mg/m3	
Oil mist, mineral	OSHA Z1	PEL(Mist.)		5 mg/m3	
Oil mist, mineral	OSHA Z1A	TWA(Mist.)		5 mg/m3	

Additional Information : Shell has adopted as Interim Standards the OSHA Z1A values that were established in 1989 and later rescinded.

Exposure Controls : The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include: Adequate ventilation to control airborne concentrations. Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.

Personal Protective Equipment	:	Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.
Respiratory Protection	:	No respiratory protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid breathing of material. If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. Select a filter suitable for combined particulate/organic gases and vapours [boiling point >65°C(149 °F)].
Hand Protection	:	Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.
Eye Protection	:	Wear safety glasses or full face shield if splashes are likely to occur.
Protective Clothing	:	Skin protection not ordinarily required beyond standard issue work clothes.
Monitoring Methods	:	Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate.
Environmental Exposure Controls	:	Minimise release to the environment. An environmental assessment must be made to ensure compliance with local environmental legislation.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Red. Liquid at room temperature.
Odour	:	Slight hydrocarbon.
pH	:	Not applicable.
Initial Boiling Point and Boiling Range	:	> 280 °C / 536 °F estimated value(s)
Pour point	:	-51 °C / -60 °F
Flash point	:	206 °C / 403 °F (COC)
Upper / lower Flammability or Explosion limits	:	Typical 1 - 10 %(V) (based on mineral oil)
Auto-ignition temperature	:	> 320 °C / 608 °F
Vapour pressure	:	< 0.5 Pa at 20 °C / 68 °F (estimated value(s))

Specific gravity	:	Typical 0.861 at 15.6 °C / 60.1 °F
Density	:	Typical 861 g/cm3 at 15.6 °C / 60.1 °F
Water solubility	:	Negligible.
n-octanol/water partition coefficient (log Pow)	:	> 6 (based on information on similar products)
Kinematic viscosity	:	Typical 35 mm2/s at 40 °C / 104 °F
Vapour density (air=1)	:	> 1 (estimated value(s))
Evaporation rate (nBuAc=1)	:	Data not available

10. STABILITY AND REACTIVITY

Stability	:	Stable.
Conditions to Avoid	:	Extremes of temperature and direct sunlight.
Materials to Avoid	:	Strong oxidising agents.
Hazardous Decomposition Products	:	Hazardous decomposition products are not expected to form during normal storage.

11. TOXICOLOGICAL INFORMATION

Basis for Assessment	:	Information given is based on data on the components and the toxicology of similar products.
Acute Oral Toxicity	:	Expected to be of low toxicity: LD50 > 5000 mg/kg , Rat
Acute Dermal Toxicity	:	Expected to be of low toxicity: LD50 > 5000 mg/kg , Rabbit
Acute Inhalation Toxicity	:	Not considered to be an inhalation hazard under normal conditions of use.
Skin Irritation	:	Expected to be slightly irritating. Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis.
Eye Irritation	:	Expected to be slightly irritating.
Respiratory Irritation	:	Inhalation of vapours or mists may cause irritation.
Sensitisation	:	Not expected to be a skin sensitiser.
Repeated Dose Toxicity	:	Not expected to be a hazard.
Mutagenicity	:	Not considered a mutagenic hazard.
Carcinogenicity	:	Product contains mineral oils of types shown to be non-carcinogenic in animal skin-painting studies. Highly refined mineral oils are not classified as carcinogenic by the International Agency for Research on Cancer (IARC). Other components are not known to be associated with carcinogenic effects.
Reproductive and Developmental Toxicity	:	Not expected to be a hazard.
Additional Information	:	Used oils may contain harmful impurities that have accumulated during use. The concentration of such impurities will depend on use and they may present risks to health and the environment on disposal. ALL used oil should be handled with caution and skin contact avoided as far as possible.

12. ECOLOGICAL INFORMATION

Ecotoxicological data have not been determined specifically for this product. Information given is based on a knowledge of the components and the ecotoxicology of similar products.

Acute Toxicity	:	Poorly soluble mixture. May cause physical fouling of aquatic organisms. Expected to be practically non toxic: LL/EL/IL50 > 100 mg/l (to aquatic organisms) (LL/EL50 expressed as the nominal amount of product required to prepare aqueous test extract). Mineral oil is not expected to cause any chronic effects to aquatic organisms at concentrations less than 1 mg/l.
Mobility	:	Liquid under most environmental conditions. Floats on water. If it enters soil, it will adsorb to soil particles and will not be mobile.
Persistence/degradability	:	Expected to be not readily biodegradable. Major constituents are expected to be inherently biodegradable, but the product contains components that may persist in the environment.
Bioaccumulation	:	Contains components with the potential to bioaccumulate.
Other Adverse Effects	:	Product is a mixture of non-volatile components, which are not expected to be released to air in any significant quantities. Not expected to have ozone depletion potential, photochemical ozone creation potential or global warming potential.

13. DISPOSAL CONSIDERATIONS

Material Disposal	:	Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Do not dispose into the environment, in drains or in water courses.
Container Disposal	:	Dispose in accordance with prevailing regulations, preferably to a recognised collector or contractor. The competence of the collector or contractor should be established beforehand.
Local Legislation	:	Disposal should be in accordance with applicable regional, national, and local laws and regulations.

14. TRANSPORT INFORMATION

US Department of Transportation Classification (49CFR)
This material is not subject to DOT regulations under 49 CFR Parts 171-180.

IMDG
This material is not classified as dangerous under IMDG regulations.

IATA (Country variations may apply)

This material is not classified as dangerous under IATA regulations.

15. REGULATORY INFORMATION

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

Federal Regulatory Status

Notification Status

EINECS	All components listed or polymer exempt.
TSCA	All components listed.
DSL	All components listed.

Shell classifies this material as an "oil" under the CERCLA Petroleum Exclusion, therefore releases to the environment are not reportable under CERCLA.

SARA Hazard Categories (311/312)
No SARA 311/312 Hazards.

State Regulatory Status

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)

This material does not contain any chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

16. OTHER INFORMATION

NFPA Rating (Health, Fire, Reactivity)	:	0, 1, 0
MSDS Version Number	:	1.0
MSDS Effective Date	:	03/07/2011
MSDS Revisions	:	A vertical bar (|) in the left margin indicates an amendment from the previous version.
MSDS Regulation	:	The content and format of this MSDS is in accordance with the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
MSDS Distribution	:	The information in this document should be made available to all who may handle the product.

Material Safety Data Sheet

Disclaimer : The information contained herein is based on our current knowledge of the underlying data and is intended to describe the product for the purpose of health, safety and environmental requirements only. No warranty or guarantee is expressed or implied regarding the accuracy of these data or the results to be obtained from the use of the product.

TANK NO. 8

MATERIAL SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: MOBIL DELVAC 1300 SUPER 15W40
Product Description: Base Oil and Additives
Product Code: 12560
Intended Use: Engine oil

COMPANY IDENTIFICATION

Supplier: **Canada Imperial Oil Limited, An Affliate of Exxon Mobil Corporation**
P.O. Box 2480, Station M
Calgary, ALBERTA. T2P 3M9 Canada

24 Hour Health Emergency	1-866-232-9563
Transportation Emergency Phone	1-866-232-9563
Supplier General Contact	1-800-567-3776

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

SECTION 3 HAZARDS IDENTIFICATION

This material is not considered to be hazardous according to regulatory guidelines (see (M)SDS Section 15).

POTENTIAL HEALTH EFFECTS

Low order of toxicity. Excessive exposure may result in eye, skin, or respiratory irritation. High-pressure injection under skin may cause serious damage.

ENVIRONMENTAL HAZARDS

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

NFPA Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0
HMIS Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 4 FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use

adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Smoke, Fume, Aldehydes, Sulfur oxides, Incomplete combustion products, Oxides of carbon

FLAMMABILITY PROPERTIES

Flash Point [Method]: 236C (457F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders. For emergency responders: Respiratory protection: respiratory protection will be necessary only in special cases, e.g., formation of mists. Half-face or full-face respirator with filter(s) for dust/organic vapor or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to hydrocarbons are recommended. Gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Avoid contact with used product. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Static Accumulator: This material is a static accumulator.

STORAGE

The container choice, for example storage vessel, may effect static accumulation and dissipation. Do not store in open or unlabelled containers. Keep away from incompatible materials.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limits/standards for materials that can be formed when handling this product: When mists / aerosols can occur, the following are recommended: 5 mg/m³ - ACGIH TLV, 10 mg/m³ - ACGIH STEL, 5 mg/m³ - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

See Sections 6, 7, 12, 13.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.

GENERAL INFORMATION

Physical State: Liquid
Color: Amber
Odor: Characteristic
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 C): 0.873
Flash Point [Method]: 236C (457F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D
Autoignition Temperature: N/D
Boiling Point / Range: N/D
Vapor Density (Air = 1): N/D
Vapor Pressure: < 0.013 kPa (0.1 mm Hg) at 20 C
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5
Solubility in Water: Negligible
Viscosity: [N/D at 40 °C] | 15 cSt (15 mm2/sec) at 100C
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: N/A
Pour Point: -27°C (-17°F)
DMSO Extract (mineral oil only), IP-346: < 3 %wt

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Excessive heat. High energy sources of ignition.

MATERIALS TO AVOID: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Route of Exposure	Conclusion / Remarks
Inhalation	
Toxicity (Rat): LC50 > 5000 mg/m3	Minimally Toxic. Based on test data for structurally similar materials.
Irritation: No end point data.	Negligible hazard at ambient/normal handling temperatures. Based

	on assessment of the components.
Ingestion	
Toxicity (Rat): LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Skin	
Toxicity (Rabbit): LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Irritation (Rabbit): Data available.	Negligible irritation to skin at ambient temperatures. Based on test data for structurally similar materials.
Eye	
Irritation (Rabbit): Data available.	May cause mild, short-lasting discomfort to eyes. Based on test data for structurally similar materials.

CHRONIC/OTHER EFFECTS

For the product itself:

Diesel engine oils: Not carcinogenic in animals tests. Used and unused diesel engine oils did not produce any carcinogenic effects in chronic mouse skin painting studies.
Oils that are used in gasoline engines may become hazardous and display the following properties: Carcinogenic in animal tests. Caused mutations in vitro. Possible allergen and photoallergen. Contains polycyclic aromatic compounds (PAC) from combustion products of gasoline and/or thermal degradation products.

Contains:

Base oil severely refined: Not carcinogenic in animal studies. Representative material passes IP-346, Modified Ames test, and/or other screening tests. Dermal and inhalation studies showed minimal effects; lung non-specific infiltration of immune cells, oil deposition and minimal granuloma formation. Not sensitizing in test animals.

Additional information is available by request.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	3 = IARC 1	5 = IARC 2B
2 = NTP SUS	4 = IARC 2A	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Expected to be harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:
Base oil component -- Expected to be inherently biodegradable

BIOACCUMULATION POTENTIAL
Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS
Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION
RCRA Information: Disposal of unused product may be subject to RCRA regulations (40 CFR 261). Disposal of the used product may also be regulated due to ignitability, corrosivity, reactivity or toxicity as determined by the Toxicity Characteristic Leaching Procedure (TCLP). Potential RCRA characteristics:
TCLP (BENZENE)

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT): Not Regulated for Land Transport

LAND (TDG): Not Regulated for Land Transport

SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

AIR (IATA): Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: When used for its intended purposes, this material is not classified as hazardous in accordance with OSHA 29 CFR 1910.1200.

Complies with the following national/regional chemical inventory requirements:: TSCA, DSL

EPCRA: This material contains no extremely hazardous substances.

SARA (311/312) REPORTABLE HAZARD CATEGORIES: None.

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
ZINC DITHIOPHOSPHATE	68649-42-3	15

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Revision Changes:
Section 01: Product Identification Product Name was modified.
Section 01: Company Contact Methods Sorted by Priority was modified.
Section 06: Protective Measures was added.
Section 09: Oxidizing Properties was modified.
Section 06: Accidental Release - Protective Measures - Header was added.
Section 13: Regulatory Disposal Information was modified.
Section 13: Disposal Recommendations - Note was modified.
Section 09: Color was modified.
Section 08: Personal Protection was modified.
Section 07: Handling and Storage - Handling was modified.
Section 07: Handling and Storage - Storage Phrases was modified.
Section 06: Accidental Release - Spill Management - Water was modified.
Section 09: Relative Density - Header was modified.
Section 09: Flash Point C(F) was modified.
Section 09: Viscosity was modified.
Section 14: Sea (IMDG) - Header was modified.
Section 14: Air (IATA) - Header was modified.
Section 14: LAND (TDG) - Header was modified.

Section 14: LAND (DOT) - Header was modified.
Composition: Component table was deleted.
Section 15: List Citations Table was modified.
Section 15: List Citation Table - Header was modified.
Section 14: LAND (DOT) - Default was modified.
Section 14: LAND (TDG) Default was modified.
Section 14: Sea (IMDG) - Default was modified.
Section 14: Air (IATA) - Default was modified.
Section 15: National Chemical Inventory Listing - Header was modified.
Section 15: SARA (313) TOXIC RELEASE INVENTORY - Header was modified.
Section 15: SARA (313) TOXIC RELEASE INVENTORY - Table was deleted.
Section 15: SARA 313 - Chemical Name - Header was deleted.
Section 15: SARA 313 - CAS Number - Header was deleted.
Section 15: SARA313 - Typical Value - Header was deleted.
Section 15: National Chemical Inventory Listing was modified.
Section 09: Relative Density was modified.
Composition: Primary Ingredient Name was deleted.
Composition: CAS Number was deleted.
Composition: Concentration - Header was deleted.
Composition: Substances Table - Header was deleted.
Section 08: Exposure limits/standards was modified.
Section 13: RCRA Information Header was added.
Section 13: RCRA TCLP was added.
Section 13: RCRA TCLP was added.
Hazard Identification: OSHA - May be Hazardous Statement was modified.
Section 08: Exposure Limit Values - Header was deleted.
Section 10 Stability and Reactivity - Header was modified.

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TANK NO. 9

Cognis Corporation

Material Safety Data Sheet

SDS no. : 245848

ROADRANGER 75W-90

Revision: 01/07/2009

printing date: 01/07/2009

1. Chemical product and company identification

Product name:
ROADRANGER 75W-90
Product use:
Synthetic lubricant

Supplier
Cognis Corporation
5051 Estecreek Drive
Cincinnati, OH 45232-1446
Phone: +1 (866) 910-0598
Fax-no.: +1 (513) 482-3576

Emergency Information Chemtrec:
+1-800-424-9300

2. Composition / information on ingredients

General chemical description:
Proprietary synthetic axle lubricant

COMPONENT:	CAS-No.	CONCENTRATION (Wt. %):
Proprietary component(s)		100

3. Hazards identification

EMERGENCY OVERVIEW

Low hazard for usual industrial or commercial handling.

Delivery state:
liquid

State:
liquid

Odor:
almost odourless

Color(s):
dark

Routes of entry:
Skin contact

Potential Health Acute Effects:
Inhalation:
May cause respiratory irritation.

Skin contact:
not irritating

Eye contact:
Non-irritating to the eyes.

Ingestion:
May be harmful if swallowed in large quantities.

Potential Chronic Health Effects:
None known

4. First aid measures

After inhalation:
Immediately remove victim to fresh air.
If breathing has stopped, administer artificial respiration.
Seek medical attention immediately.

After skin contact:
Wash thoroughly with soap and water.

After eye contact:
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Do not rub eyes; mechanical action may cause corneal damage.
If adverse health effects develop seek medical attention.

After ingestion:
Call a physician or poison control center immediately.

5. Fire fighting measures

Flash point:
400 °F (400 °F)
ASTM D 92-97; QP1363.2; Flash and Fire Points by Cleveland Open

Suitable extinguishing media:
Water Spray
Foam.
Carbon dioxide.
Dry Chemical

Unusual fire or explosion hazards:
None known

Hazardous combustion products:
nitrogen oxides, phosphorus oxides, carbon monoxide, Carbon dioxide., Sulphur oxides

Additional fire fighting advice:
In case of fire, keep containers cool with water spray.
If a spill or leak has not ignited, use water spray to disperse the vapors.
Water spray may be used to flush spills away from fire.

6. Accidental release measures

Personal precautions:
Wear adequate personal protective clothing and equipment.

Environmental precautions:
Add dry material to absorb spill (if large spill, dike to contain).

Process for cleaning and take-up:
Pick up spilled material and containerize for recovery or disposal.
Flush area with water to remove residues.

7. Handling and storage

Handling:
Handling advice:
No particular measures required.

Storage:
General storage advice:
Avoid container damage while handling and storing.

8. Exposure controls / personal protection

Indication for system design:
Ensure adequate ventilation.

Personal protection measures:
Respiratory protection:
NIOSH/MSHA approved respirator if necessary.
Follow manufacturer's recommendations.

Hand protection:
Protective gloves made of rubber.

Eye protection:
Safety glasses with side shields.

9. Physical and chemical properties

General description:

Delivery state:	liquid
State:	liquid
Odor:	almost odourless
Color(s):	dark

Designation	Value	Method
Density	0.89 g/cm3	
Solubility in Water	Insoluble	no information

10. Stability and reactivity

Stability:

Dangerous decomposition products:
Carbon dioxide.
carbon monoxide
phosphorus oxides
Sulphur oxides
nitrogen oxides

Decomposition advices:
No decomposition if used according to specifications.

Reactivity:
Materials to avoid:
Oxidizers
Bases
Strong Acids

Hazardous polymerization:
Will not occur

11. Toxicological information

General toxicological information:
No toxicity information available or testing conducted on this product.
Any health or toxicological information included in Section 3 was based on data associated with the components or an analogous product.

12. Ecological information

General ecological information:
no data available

13. Disposal considerations

Waste disposal of product:
Avoid landfilling liquids.
Reclaim where possible.
All recovered material should be packaged, labeled, transported, and disposed or reclaimed in conformance with applicable laws and regulations and in conformance with good engineering practices.

14. Transport information

General information:
Not hazardous according to RID, ADR, ADNR, IMDG, IATA-DGR, CFR and TDG.

The transport information provided represents the regulatory transport classification of the product without consideration to packaging, quantity, or modal restrictions and exceptions. It is the user's responsibility to determine the appropriate packaging and modal requirements and/or limitations for the product quantity being shipped.

15. Regulatory information

TSCA Inventory Status:
This product and/or all of its components are either included on or exempt from the TSCA Inventory of Chemical Substances.

SARA 311/312 Hazard Categories:
None

TSCA 12(b) Components:
none

SARA 313 Toxic Chemicals:
none

SARA 302 Extremely Hazardous Substances:
US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A)

ANILINE	CAS: 62-53-3	<20PPM

CERCLA Hazardous Chemicals:
US. EPA CERCLA Hazardous Substances (40 CFR 302)

BETA-NAPHTHYLAMINE	CAS: 91-59-8	<=0.0001%
ANILINE	CAS: 62-53-3	<20PPM
1-Naphthalenamine	CAS: 134-32-7	<5PPM
CADMIUM AND COMPOUNDS	CAS: 7440-43-9	<1PPM
LEAD AND COMPOUNDS	CAS: 7439-92-1	<1PPM
ARSENIC AND COMPOUNDS	CAS: 7440-38-2	<1PPM
ETHYL ACRYLATE	CAS: 140-88-5	<1PPM

California Proposition 65:
This product contains the following chemical/s known to the State of California to cause cancer and/or birth defects or other reproductive harm.

2-NAPHTHYLAMINE	CAS: 91-59-8	<=0.0001%

ANILINE	CAS: 62-53-3	<20PPM
1-Naphthalenamine	CAS: 134-32-7	<5PPM
CADMIUM (ORAL)	CAS: 7440-43-9	<1PPM
LEAD (ORAL)	CAS: 7439-92-1	<1PPM
ARSENIC (INHALATION)	CAS: 7440-38-2	<1PPM
ETHYL ACRYLATE	CAS: 140-88-5	<1PPM

16. Other information

NFPA Rating (US)	Value
Health	1
Fire	1
Reactivity	0
Special Hazard	

HMIS Rating (US)	Value
Health	1
Flammability	1
Reactivity	0

All information, recommendations, and suggestions appearing herein concerning our product are based upon tests and data believed to be reliable. However, it is the user's responsibility to determine the safety, toxicity, and suitability for his own use of the product described herein. Since the actual use by others is beyond our control, no guarantee, express or implied, is being made as to the effects of such use, the results obtained, or the safety and toxicity of the product nor is their any assumed liability arising out of use, by others, of the product referred to herein. The information herein is not to be construed as absolutely complete since additional information may be necessary or desirable when particular or exceptional conditions or circumstances exist or because of applicable laws or government regulations.

TANK NO. 10

SAFETY DATA SHEET

SDS ID NO.: 0290MAR019
Revision Date 06/01/2016

1. IDENTIFICATION

Product Name: Marathon Petroleum No. 2 Ultra Low Sulfur Diesel

Synonym: #2 Diesel; No. 2 Ultra Low Sulfur Diesel 15 ppm Sulfur Max; Ultra Low Sulfur Diesel No. 2 15 ppm Sulfur Max; Ultra Low Sulfur Diesel No. 2 15 ppm Sulfur Max with Polar Plus; No. 2 Diesel, Motor Vehicle Use, Undyed; No. 2 Diesel, Motor Vehicle Use, Undyed, with Polar Plus; ULSD No. 2 Diesel 15 ppm Sulfur Max; ULSD No. 2 Diesel 15 ppm Sulfur Max with Polar Plus; No. 2 MV 15 Diesel; No. 2 MV 15 Diesel with Polar Plus; No. 2 Ultra Low Sulfur Diesel Dyed 15 ppm Sulfur Max; Ultra Low Sulfur Diesel No. 2 Dyed 15 ppm Sulfur Max; Ultra Low Sulfur Diesel No. 2 Dyed 15 ppm Sulfur Max with Polar Plus; No. 2 Diesel, Tax Exempt-Motor Vehicle Use, Dyed; No. 2 Diesel, Tax Exempt-Motor Vehicle Use, Dyed, with Polar Plus; ULSD No. 2 Diesel Dyed 15 ppm Sulfur Max; ULSD No. 2 Diesel Dyed 15 ppm Sulfur Max, with Polar Plus; No. 2 MV 15 Diesel Dyed; #2 MV 15 CFI Diesel; #2 MV 15 CFI Diesel Dyed; No. 2 Low Sulfur Diesel (TxLED); No. 2 MV 15 Diesel Dyed, with Polar Plus; No. 2 NRLM 15 Diesel Dyed; No.2 NRLM Diesel Dyed; No. 2 MV 500 ppm TxLED; No.2 Low Emission Low Sulfur Diesel; No. 2 Low Sulfur Diesel (TxLED) 500 ppm Sulfur Max; No. 2 Heating Oil 5000 NMA Unmarked; NEMA No. 2 Heating Oil; Heating Oil, No. 2 Low Sulfur 5000 ppm; No. 2 Ultra Low Sulfur Diesel Dyed with <6% Renewable Diesel Fuel; Ultra Low Sulfur No. 2 Diesel Dyed with <6% Renewable Diesel Fuel; No. 2 Diesel Dyed with <6% Renewable Diesel Fuel 15 ppm Sulfur Max; No. 2 Ultra Low Sulfur Diesel with <6% Renewable Diesel Fuel; Ultra Low Sulfur No. 2 Diesel with <6% Renewable Diesel Fuel; No. 2 Diesel with <6% Renewable Diesel Fuel 15 ppm Sulfur Max; Garyville Export Diesel; Export Diesel, Garyville; Diesel Fuel, Export Garyville; #2 Motor Vehicle ULSD 15 ppm with 0-5% Renewable Diesel; Marathon No. 2 ULSD with 0-5% Renewable Fuel with R100; Marathon No. 2 ULSD with 0-5% Renewable Fuel with R99; No. 2 Heating Oil 2000 ppm Sulfur Max, Clear (Undyed) Unmarked;Ultra Low Sulfur Heating Oil 15 ppm Sulfur Max, Clear (Undyed) Unmarked; ULS Heating Oil 15 ppm Clear (Undyed) Unmarked; ULS HO 15 ppm CLR; Ultra-Low Sulfur Heating Oil (<= 15ppm, Undyed); No. 2 Heating Oil 2000 ppm Sulfur Max, Dyed Unmarked; No. 2 Heating Oil 2000 ppm Sulfur Max, Dyed Marked; Ultra Low Sulfur Heating Oil 15 ppm Sulfur Max, Dyed Unmarked; Ultra Low Sulfur Heating Oil 15 ppm Sulfur Max, Dyed Marked;15 ppm Sulfur Heating Oil Grade 67; 15 PPM Heating Oil; 15 PPM Dyed Heating Oil; 0291MAR019; 0306MAR019; 0308MAR019; 0334MAR019; 0335MAR019; 0336MAR019; 0337MAR019; 0340MAR019;

Product Code: 0290MAR019
Chemical Family: Complex Hydrocarbon Substance

Recommended Use: Fuel.
Restrictions on Use: All others.

Manufacturer, Importer, or Responsible Party Name and Address:

MARATHON CANADA MARKETING, Ltd.
Canadian Address Here

SDS information: 1-419-421-3070

Emergency Telephone: 1-877-627-5463

2. HAZARD IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids	Category 3
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 2
Carcinogenicity	Category 2
Specific target organ toxicity (single exposure)	Category 3
Specific target organ toxicity (repeated exposure)	Category 2
Aspiration toxicity	Category 1
Acute aquatic toxicity	Category 2
Chronic aquatic toxicity	Category 2

Hazards Not Otherwise Classified (HNOC)
Static accumulating flammable liquid

Label elements

EMERGENCY OVERVIEW

Danger

FLAMMABLE LIQUID AND VAPOR
May accumulate electrostatic charge and ignite or explode
May be fatal if swallowed and enters airways
Harmful if inhaled
Causes skin irritation
May cause respiratory irritation
May cause drowsiness or dizziness
Suspected of causing cancer
May cause damage to organs (thymus, liver, bone marrow) through prolonged or repeated exposure
Toxic to aquatic life with long lasting effects

Appearance Yellow to Red Liquid **Physical State** Liquid **Odor** Hydrocarbon

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use only non-sparking tools.
Use explosion-proof electrical/ventilating/lighting/equipment
Take precautionary measures against static discharge
Do not breathe mist/vapors/spray
Use only outdoors or in a well-ventilated area
Wear protective gloves/protective clothing/eye protection/face protection

Wash hands and any possibly exposed skin thoroughly after handling
Avoid release to the environment

Precautionary Statements - Response
IF exposed or concerned: Get medical attention
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
If skin irritation occurs: Get medical attention
Wash contaminated clothing before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Call a POISON CENTER or doctor if you feel unwell
IF SWALLOWED: Immediately call a POISON CENTER or doctor
Do NOT induce vomiting
In case of fire: Use water spray, fog or regular foam for extinction
Collect spillage

Precautionary Statements - Storage
Store in a well-ventilated place. Keep container tightly closed
Keep cool
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container at an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

No. 2 Ultra Low Sulfur Diesel is a complex mixture of paraffins, cycloparaffins, olefins and aromatic hydrocarbon chain lengths predominantly in the range of eleven to twenty carbons. May contain up to 5% Renewable Diesel. May contain small amounts of dye and other additives (<0.15%) which are not considered hazardous at the concentration(s) used. May contain a trace amount of benzene (<0.01%). Contains a trace amount of sulfur (<0.0015%)

Composition Information:

Name	CAS Number	% Concentration
No. 2 Diesel Fuel	68476-34-6	50-100
Kerosine (petroleum)	8008-20-6	0-50
Alkanes, C10-C20 branched and linear	928771-01-1	0-5
Naphthalene	91-20-3	0.3-2.6

All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

4. FIRST AID MEASURES

First Aid Measures

General Advice: In case of accident or if you feel unwell, seek medical advice immediately (show directions for use or safety data sheet if possible).

Inhalation: Remove to fresh air. If not breathing, institute rescue breathing. If breathing is difficult, ensure airway is clear, give oxygen and continue to monitor. If heart has stopped, immediately begin cardiopulmonary resuscitation (CPR). Keep affected person warm and at rest. GET IMMEDIATE MEDICAL ATTENTION.

Skin Contact: Immediately wash exposed skin with plenty of soap and water while removing contaminated clothing and shoes. May be absorbed through the skin in harmful amounts. Get medical attention if irritation persists. Any injection injury from high pressure equipment should be evaluated immediately by a physician as potentially serious (See NOTES TO PHYSICIAN).

Place contaminated clothing in closed container until cleaned or discarded. If clothing is to be laundered, inform the person performing the operation of contaminant's hazardous properties. Destroy contaminated, non-chemical resistant footwear.

Eye Contact: Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Gently remove contacts while flushing. Get medical attention if irritation persists.

Ingestion: Do not induce vomiting because of danger of aspirating liquid into lungs, causing serious damage and chemical pneumonitis. If spontaneous vomiting occurs, keep head below hips, or if patient is lying down, turn body and head to side to prevent aspiration and monitor for breathing difficulty. Never give anything by mouth to an unconscious person. Keep affected person warm and at rest. GET IMMEDIATE MEDICAL ATTENTION.

Most important signs and symptoms, both short-term and delayed with overexposure

Adverse Effects: Irritating to the skin and mucous membranes. Symptoms may include redness, itching, and inflammation. May cause nausea, vomiting, diarrhea, and signs of nervous system depression: headache, drowsiness, dizziness, loss of coordination, disorientation and fatigue. Aspiration hazard. May cause coughing, chest pains, shortness of breath, pulmonary edema and/or chemical pneumonitis. Repeated or prolonged skin contact may cause drying, reddening, itching and cracking. Prolonged or repeated exposure may cause adverse effects to the thymus, liver, and bone marrow.

Indication of any immediate medical attention and special treatment needed

Notes To Physician: INHALATION: This material (or a component) sensitizes the myocardium to the effects of sympathomimetic amines. Epinephrine and other sympathomimetic drugs may initiate cardiac arrhythmias in individuals exposed to this material. Administration of sympathomimetic drugs should be avoided.

SKIN: Leaks or accidents involving high-pressure equipment may inject a stream of material through the skin and initially produce an injury that may not appear serious. Only a small puncture wound may appear on the skin surface but, without proper treatment and depending on the nature, original pressure, volume, and location of the injected material, can compromise blood supply to an affected body part. Prompt surgical debridement of the wound may be necessary to prevent irreversible loss of function and/or the affected body part. High pressure injection injuries may be SERIOUS SURGICAL EMERGENCIES.

INGESTION: This material represents a significant aspiration and chemical pneumonitis hazard. Induction of emesis is not recommended.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
For small fires, Class B fire extinguishing media such as CO2, dry chemical, foam (AFFF/ATC) or water spray can be used. For large fires, water spray, fog or foam (AFFF/ATC) can be used. Firefighting should be attempted only by those who are adequately trained and equipped with proper protective equipment.

Unsuitable extinguishing media
Do not use straight water streams to avoid spreading fire.

Specific hazards arising from the chemical
This product has been determined to be a flammable liquid per the OSHA Hazard Communication Standard and should be handled accordingly. May accumulate electrostatic charge and ignite or explode. Vapors may travel along the ground or be moved by ventilation and ignited by many sources such as pilot lights, sparks, electric motors, static discharge, or other ignition sources at locations distant from material handling. Flashback can occur along vapor trail. For additional fire related information, see NFPA 30 or the Emergency Response Guidebook 128.

Hazardous combustion products
Smoke, carbon monoxide, and other products of incomplete combustion.

Explosion data
Sensitivity to Mechanical Impact No.

Sensitivity to Static Discharge Yes.

Special protective equipment and precautions for firefighters
Firefighters should wear full protective clothing and positive-pressure self-contained breathing apparatus (SCBA) with a full face-piece, as appropriate. Avoid using straight water streams. Water spray and foam (AFFF/ATC) must be applied carefully to avoid frothing and from as far a distance as possible. Avoid excessive water spray application. Keep surrounding area cool with water spray from a distance and prevent further ignition of combustible material. Keep run-off water out of sewers and water sources.

Additional firefighting tactics
FIRES INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after the fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles: if this is impossible, withdraw from area and let fire burn.

EVACUATION: Consider initial downwind evacuation for at least 1000 feet. If tank, rail car or tank truck is involved in a fire, ISOLATE for 5280 feet (1 mile) in all directions; also, consider initial evacuation of 5280 feet (1 mile) in all directions.

NFPA	Health 1	Flammability 2	Instability 0	Special Hazard -

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Keep public away. Isolate and evacuate area. Shut off source if safe to do so. Eliminate all ignition sources. All contaminated surfaces will be slippery.

Protective equipment: Use personal protection measures as recommended in Section 8.

Emergency procedures: Advise authorities and National Response Center (800-424-8802) if the product has entered a water course or sewer. Notify local health and pollution control agencies, if appropriate.

Environmental precautions: Avoid release to the environment. Avoid subsoil penetration.

Methods and materials for containment: Contain liquid with sand or soil. Prevent spilled material from entering storm drains, sewers, and open waterways.

Methods and materials for cleaning up: Use suitable absorbent materials such as vermiculite, sand, or clay to clean up residual liquids. Recover and return free product to proper containers. When recovering free liquids ensure all equipment is grounded and bonded. Use only non-sparking tools.

7. HANDLING AND STORAGE

Safe Handling Precautions: NEVER SIPHON THIS PRODUCT BY MOUTH. Use appropriate grounding and bonding practices. Static accumulating flammable liquid. Bonding and grounding may be insufficient to eliminate the hazard from static electricity. Do not expose to heat, open flames, strong oxidizers or other sources of ignition. Vapors may travel along the ground or be moved by ventilation. Flashback may occur along vapor trails. No smoking. Use only non-sparking tools. Avoid breathing fumes, gas, or vapors. Use only with adequate ventilation. Avoid repeated and prolonged skin contact. Use personal protection measures as recommended in Section 8. Exercise good personal hygiene including removal of soiled clothing and prompt washing with soap and water. Do not cut, drill, grind or weld on empty containers since explosive residues may remain. Refer to applicable EPA, OSHA, NFPA and consistent state and local requirements.

Hydrocarbons are basically non-conductors of electricity and can become electrostatically charged during mixing, filtering, pumping at high flow rates or loading and transfer operations. If this charge reaches a sufficiently high level, sparks can form that may ignite the vapors of flammable liquids. Sudden release of hot organic chemical vapors or mists

from process equipment operating under elevated temperature and pressure, or sudden ingress of air into vacuum equipment may result in ignition of vapors or mists without the presence of obvious ignition sources. Nozzle spouts must be kept in contact with the containers or tank during the entire filling operation.

Portable containers should never be filled while in or on a motor vehicle or marine craft. Containers should be placed on the ground. Static electric discharge can ignite fuel vapors when filling non-grounded containers or vehicles on trailers. The nozzle spout must be kept in contact with the container before and during the entire filling operation. Use only approved containers.

A buildup of static electricity can occur upon re-entry into a vehicle during fueling especially in cold or dry climate conditions. The charge is generated by the action of dissimilar fabrics (i.e., clothing and upholstery) rubbing across each other as a person enters/exits the vehicle. A flash fire can result from this discharge if sufficient flammable vapors are present. Therefore, do not get back in your vehicle while refueling.

Cellular phones and other electronic devices may have the potential to emit electrical charges (sparks). Sparks in potentially explosive atmospheres (including fueling areas such as gas stations) could cause an explosion if sufficient flammable vapors are present. Therefore, turn off cellular phones and other electronic devices when working in potentially explosive atmospheres or keep devices inside your vehicle during refueling.

High-pressure injection of any material through the skin is a serious medical emergency even though the small entrance wound at the injection site may not initially appear serious. These injection injuries can occur from high-pressure equipment such as paint spray or grease or guns, fuel injectors, or pinhole leaks in hoses or hydraulic lines and should all be considered serious. High pressure injection injuries may be SERIOUS SURGICAL EMERGENCIES (See First Aid Section 4).

Storage Conditions: Store in properly closed containers that are appropriately labeled and in a cool, well-ventilated area. Do not store near an open flame, heat or other sources of ignition.

Incompatible Materials Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Name	ACGIH TLV	OSHA PELS:	OSHA - Vacated PELs	NIOSH IDLH
No. 2 Diesel Fuel 68476-34-6	100 mg/m³ TWA Skin - potential significant contribution to overall exposure by the cutaneous route	-	-	-
Kerosine (petroleum) 8008-20-6	200 mg/m³ TWA Skin - potential significant contribution to overall exposure by the cutaneous route	-	-	-
Alkanes, C10-C20 branched and linear 928771-01-1	-	-	-	-
Naphthalene 91-20-3	10 ppm TWA Skin - potential significant contribution to overall exposure by the cutaneous route	TWA: 10 ppm TWA: 50 mg/m³	10 ppm TWA 50 mg/m³ TWA 15 ppm STEL 75 mg/m³ STEL	250 ppm

Notes: The manufacturer has voluntarily elected to provide exposure limits contained in OSHA's 1989 air contaminants standard in its SDSs, even though certain of those exposure limits were vacated in 1992.

Engineering measures: Local or general exhaust required in an enclosed area or with inadequate ventilation. Use mechanical ventilation equipment that is explosion-proof.

Personal protective equipment

Eye protection:	Use goggles or face-shield if the potential for splashing exists.
Skin and body protection:	Wear neoprene, nitrile or PVA gloves to prevent skin contact. Glove suitability is based on workplace conditions and usage. Contact the glove manufacturer for specific advice on glove selection and breakthrough times.
Respiratory protection:	Use a NIOSH approved organic vapor chemical cartridge or supplied air respirators when there is the potential for airborne exposures to exceed permissible exposure limits or if excessive vapors are generated. Observe respirator assigned protection factors (APFs) criteria cited in federal OSHA 29 CFR 1910.134. Self-contained breathing apparatus should be used for fire fighting.
Hygiene measures:	Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State	Liquid
Appearance	Yellow to Red Liquid
Color	Yellow to Red
Odor	Hydrocarbon
Odor Threshold	No data available.

Property	**Values (Method)**
Melting Point / Freezing Point	No data available.
Initial Boiling Point / Boiling Range	154-366 °C / 310-691 °F (ASTM D86)
Flash Point	58-76 °C / 136-168 °F (ASTM D93)
Evaporation Rate	No data available.
Flammability (solid, gas)	Not applicable.
Flammability Limit in Air (%):	
Upper Flammability Limit:	No data available.
Lower Flammability Limit:	No data available.
Explosion limits:	No data available.
Vapor Pressure	No data available.
Vapor Density	No data available.
Specific Gravity / Relative Density	0.82-0.86
Water Solubility	No data available.
Solubility in other solvents	No data available.
Partition Coefficient	No data available.
Decomposition temperature	No data available.
pH:	Not applicable
Autoignition Temperature	No data available.
Kinematic Viscosity	1.90-3.32 cSt @ 40°C (ASTM D445)
Dynamic Viscosity	No data available.
Explosive Properties	No data available.
VOC Content (%)	No data available.
Density	No data available.
Bulk Density	Not applicable.

10. STABILITY AND REACTIVITY

Reactivity	The product is non-reactive under normal conditions.
Chemical stability	The material is stable at 70°F (21°C), 760 mmHg pressure.
Possibility of hazardous reactions	None under normal processing.

Hazardous polymerization Will not occur.

Conditions to avoid Excessive heat, sources of ignition, open flame.

Incompatible Materials Strong oxidizing agents.

Hazardous decomposition products None known under normal conditions of use.

11. TOXICOLOGICAL INFORMATION

Potential short-term adverse effects from overexposures

Inhalation Harmful if inhaled. May cause irritation of respiratory tract. May cause drowsiness or dizziness. Breathing high concentrations of this material in a confined space or by intentional abuse can cause irregular heartbeats which can cause death.

Eye contact Exposure to vapor or contact with liquid may cause mild eye irritation, including tearing, stinging, and redness.

Skin contact Irritating to skin. Effects may become more serious with repeated or prolonged contact. May be absorbed through the skin in harmful amounts.

Ingestion May be fatal if swallowed or vomited and enters airways. May cause irritation of the mouth, throat and gastrointestinal tract.

Acute toxicological data

Name	Oral LD50	Dermal LD50	Inhalation LC50
No. 2 Diesel Fuel 68476-34-6	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	>1 - <5 mg/L (Rat) 4 h
Kerosine (petroleum) 8008-20-6	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 5.28 mg/L (Rat) 4 h
Alkanes, C10-C20 branched and linear 928771-01-1	-	-	>1 - <5 mg/l (Rat) 4 h
Naphthalene 91-20-3	490 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 340 mg/m³ (Rat) 1 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

MIDDLE DISTILLATES, PETROLEUM: Long-term repeated (lifetime) skin exposure to similar materials has been reported to result in an increase in skin tumors in laboratory rodents. The relevance of these findings to humans is not clear at this time. Altered mental state, drowsiness, peripheral motor neuropathy, irreversible brain damage (so-called Petrol Sniffer's Encephalopathy), delirium, seizures, and sudden death have been reported from repeated overexposure to some hydrocarbon solvents, naphthas, and gasoline.

MIDDLE DISTILLATES WITH CRACKED STOCKS: Light cracked distillates have been shown to be carcinogenic in animal tests and have tested positive with in vitro genotoxicity tests. Repeated dermal exposures to high concentrations in test animals resulted in reduced litter size and litter weight, and increased fetal resorptions at maternally toxic doses. Dermal exposure to high concentrations resulted in severe skin irritation with weight loss and some mortality. Inhalation exposure to high concentrations resulted in respiratory tract irritation, lung changes/infiltration/accumulation, and reduction in lung function.

ISOPARAFFINS: Studies in laboratory animals have shown that long-term exposure to similar materials (isoparaffins) can cause kidney damage and kidney cancer in male laboratory rats. However, in-depth research indicates that these findings are unique to the male rat, and that these effects are not relevant to humans.

NAPHTHALENE: Severe jaundice, neurotoxicity (kernicterus) and fatalities have been reported in young children and infants as a result of hemolytic anemia from overexposure to naphthalene. Persons with glucose 6-phosphate dehydrogenase (G6PD) deficiency are more prone to the hemolytic effects of naphthalene. Adverse effects on the kidney have been reported in persons overexposed to naphthalene but these effects are believed to be a consequence of hemolytic anemia, and not a direct effect. Hemolytic anemia has been observed in laboratory animals exposed to naphthalene. Laboratory rodents exposed to naphthalene vapor for 2 years (lifetime studies) developed non-neoplastic and neoplastic tumors and inflammatory lesions of the nasal and respiratory tract. Cataracts and other adverse effects on the eye have been observed in laboratory animals exposed to high levels of naphthalene. Findings from a large number of bacterial and mammalian cell mutation assays have been negative. A few studies have shown chromosomal effects (elevated levels of Sister Chromatid Exchange or chromosomal aberrations) in vitro. Naphthalene has been classified as Possibly Carcinogenic to Humans (2B) by IARC, based on findings from studies in laboratory animals.

DIESEL EXHAUST: The combustion of diesel fuels produces gases including carbon monoxide, carbon dioxide, oxides of nitrogen and/or sulfur, and hydrocarbons that can be irritating and hazardous with overexposure. Long-term occupational overexposure to diesel exhaust and diesel exhaust particulate matter has been associated with an increased risk of respiratory disease, including lung cancer, and is characterized as a “known human carcinogen” by the International Agency for Research on Cancer (IARC), as “a reasonably anticipated human carcinogen” by the National Toxicology Program, and as “likely to be carcinogenic to humans” by the EPA, based upon animal and occupational exposure studies. However, uncertainty exists with these classifications because of deficiencies in the supporting occupational exposure/epidemiology studies, including reliable exposure estimates. Lifetime animal inhalation studies with pulmonary overloading exposure concentrations of diesel exhaust emissions have produced tumors and other adverse health effects. However, in more recent long-term animal inhalation studies of diesel exhaust emissions, no increase in tumor incidence and in fact a substantial reduction in adverse health effects along with significant reductions in the levels of hazardous material emissions were observed and are associated with fuel composition alterations coupled with new technology diesel engines.

Adverse effects related to the physical, chemical and toxicological characteristics

Signs and Symptoms Irritating to the skin and mucous membranes. Symptoms may include redness, itching, and inflammation. May cause nausea, vomiting, diarrhea, and signs of nervous system depression: headache, drowsiness, dizziness, loss of coordination, disorientation and fatigue. Aspiration hazard. May cause coughing, chest pains, shortness of breath, pulmonary edema and/or chemical pneumonitis. Repeated or prolonged skin contact may cause drying, reddening, itching and cracking. Prolonged or repeated exposure may cause damage to organs.

Skin corrosion/irritation Causes skin irritation.
Serious eye damage/eye irritation None known.
Sensitization None known.

Mutagenic effects None known.

Carcinogenicity Suspected of causing cancer.

Cancer designations are listed in the table below

Name	ACGIH (Class)	IARC (Class)	NTP	OSHA
No. 2 Diesel Fuel 68476-34-6	Confirmed animal carcinogen (A3)	Not Classifiable (3)	Not Listed	Not Listed
Kerosine (petroleum) 8008-20-6	Confirmed animal carcinogen (A3)	Not Classifiable (3)	Not Listed	Not Listed
Alkanes, C10-C20 branched and linear 928771-01-1	Not Listed	Not Listed	Not Listed	Not Listed

Naphthalene 91-20-3	Confirmed animal carcinogen (A3)	Possible human carcinogen (2B)	Reasonably anticipated to be a human carcinogen	Not Listed

Reproductive toxicity None known.

Specific Target Organ Toxicity (STOT) - single exposure Respiratory system. Central nervous system.

Specific Target Organ Toxicity (STOT) - repeated exposure Thymus. Liver. Bone marrow.

Aspiration hazard May be fatal if swallowed or vomited and enters airways.

12. ECOLOGICAL INFORMATION

Ecotoxicity This product should be considered toxic to aquatic organisms, with the potential to cause long lasting adverse effects in the aquatic environment.

Name	Algae/aquatic plants	Fish	Toxicity to Microorganisms	Crustacea
No. 2 Diesel Fuel 68476-34-6	-	96-hr LC50 = 35 mg/l Fathead minnow (flow-through)	-	48-hr EL50 = 6.4 mg/l Daphnia magna
Kerosine (petroleum) 8008-20-6	72-hr EL50 = 5.0-11 mg/l Algae	96-hr LL50 = 18-25 mg/l Fish	-	48-hr EL50 = 1.4-21 mg/l Invertebrates
Alkanes, C10-C20 branched and linear 928771-01-1	-	-	-	-
Naphthalene 91-20-3	-	96-hr LC50 = 0.91-2.82 mg/l Rainbow trout (static) 96-hr LC50 = 1.99 mg/l Fathead minnow (static)	-	48-hr LC50 = 1.6 mg/l Daphnia magna

Persistence and degradability Expected to be inherently biodegradable.

Bioaccumulation Has the potential to bioaccumulate.

Mobility in soil May partition into air, soil and water.

Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Description of Waste Residues
This material may be a flammable liquid waste.

Safe Handling of Wastes
Handle in accordance with applicable local, state, and federal regulations. Use personal protection measures as required. Use appropriate grounding and bonding practices. Use only non-sparking tools. Do not expose to heat, open flames, strong oxidizers or other sources of ignition. No smoking.

Disposal of Wastes / Methods of Disposal
The user is responsible for determining if any discarded material is a hazardous waste (40 CFR 262.11). Dispose of in accordance with federal, state and local regulations.

Methods of Contaminated Packaging Disposal
Empty containers should be completely drained and then discarded or recycled, if possible. Do not cut, drill, grind or weld on empty containers since explosive residues may be present. Dispose of in accordance with federal, state and local regulations.

14. TRANSPORT INFORMATION

DOT (49 CFR 172.101):

UN Proper Shipping Name:	Fuel Oil, No. 2
UN/Identification No:	NA 1993
Class:	3
Packing Group:	III

TDG (Canada):

UN Proper Shipping Name:	Diesel Fuel
UN/Identification No:	UN 1202
Transport Hazard Class(es):	3
Packing Group:	III

15. REGULATORY INFORMATION

US Federal Regulatory Information:

US TSCA Chemical Inventory Section 8(b): This product and/or its components are listed on the TSCA Chemical Inventory.

EPA Superfund Amendment & Reauthorization Act (SARA):

SARA Section 302: This product does not contain any component(s) included on EPA's Extremely Hazardous Substance (EHS) List.

Name	CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs
No. 2 Diesel Fuel	NA
Kerosine (petroleum)	NA
Alkanes, C10-C20 branched and linear	NA
Naphthalene	NA

SARA Section 304: This product may contain component(s) identified either as an EHS or a CERCLA Hazardous substance which in case of a spill or release may be subject to SARA reporting requirements:

Name	Hazardous Substances RQs
No. 2 Diesel Fuel	NA
Kerosine (petroleum)	NA
Alkanes, C10-C20 branched and linear	NA
Naphthalene	100 lb final RQ 45.4 kg final RQ

SARA Section 311/312: The following EPA hazard categories apply to this product:

Acute Health Hazard
Fire Hazard
Chronic Health Hazard

SARA Section 313: This product may contain component(s), which if in exceedance of the de minimus threshold, may be subject to the reporting requirements of SARA Title III Section 313 Toxic Release Reporting (Form R).

Name	CERCLA/SARA 313 Emission reporting:
No. 2 Diesel Fuel	None
Kerosine (petroleum)	None
Alkanes, C10-C20 branched and linear	None
Naphthalene	0.1 % de minimis concentration

State and Community Right-To-Know Regulations:
The following component(s) of this material are identified on the regulatory lists below:

No. 2 Diesel Fuel

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	SN 2444
Pennsylvania Right-To-Know:	Not Listed
Massachusetts Right-To Know:	Not Listed
Florida Substance List:	Not Listed
Rhode Island Right-To-Know:	Not Listed
Michigan Critical Materials Register List:	Not Listed
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	SN 2444 TPQ: 10000 lb (Under N.J.A.C. 7:1G, environmental hazardous substances in mixtures such as gasoline or new and used petroleum oil may be reported under these categories)
Illinois - Toxic Air Contaminants:	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Kerosine (petroleum)

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	SN 1091
Pennsylvania Right-To-Know:	Present
Massachusetts Right-To Know:	Present
Florida Substance List:	Not Listed
Rhode Island Right-To-Know:	Not Listed
Michigan Critical Materials Register List:	Not Listed
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	SN 1091 TPQ: 10000 lb (Under N.J.A.C. 7:1G, environmental hazardous substances in mixtures such as gasoline or new and used petroleum oil may be reported under these categories)
Illinois - Toxic Air Contaminants:	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Alkanes, C10-C20 branched and linear

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	Not Listed
Pennsylvania Right-To-Know:	Not Listed
Massachusetts Right-To Know:	Not Listed
Florida Substance List:	Not Listed
Rhode Island Right-To-Know:	Not Listed
Michigan Critical Materials Register List:	Not Listed
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants:	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Naphthalene

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Carcinogen, initial date 4/19/02

New Jersey Right-To-Know:	SN 1322 SN 3758
Pennsylvania Right-To-Know:	Environmental hazard Present (particulate)
Massachusetts Right-To Know:	Present
Florida Substance List:	Not Listed
Rhode Island Right-To-Know:	Toxic; Flammable
Michigan Critical Materials Register List:	Not Listed
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Carcinogen
New Jersey - Environmental Hazardous Substances List:	SN 1322 TPQ: 500 lb (Reportable at the de minimis quantity of >0.1%)
Illinois - Toxic Air Contaminants:	Present
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	100 lb RQ (air); 1 lb RQ (land/water)

Canada DSL/NDSL Inventory: This product and/or its components are listed either on the Domestic Substances List (DSL) or are exempt.

Canadian Regulatory Information: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all of the information required by those regulations.

Name	Canada - WHMIS: Classifications of Substances:	Canada - WHMIS: Ingredient Disclosure:
No. 2 Diesel Fuel	B3,D2A,D2B	0.1%
Kerosine (petroleum)	B3,D2B	1%
Alkanes, C10-C20 branched and linear	B3,D2A,D2B	0.1%
Naphthalene	B4,D2A	0.1%

Note: Not applicable.

16. OTHER INFORMATION

Prepared By Toxicology and Product Safety

Issue Date 10/31/2016

Revision Notes

Revision Date 06/01/2016

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is intended as guidance for safe handling, use, processing, storage, transportation, accidental release, clean-up and disposal and is not considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

THE FOLLOWING MATERIALS WILL BE IN TOTES

Material Safety Data Sheet

1. MATERIAL AND COMPANY IDENTIFICATION

Material Name : **Rotella T Engine Oil SAE 30**

Manufacturer/Supplier : **SOPUS Products**
PO BOX 4427
Houston, TX 77210-4427
USA

MSDS Request : 877-276-7285

Emergency Telephone Number

Spill Information : 877-242-7400
Health Information : 877-504-9351

2. COMPOSITION/INFORMATION ON INGREDIENTS

The highly refined mineral oil contains <3% (w/w) DMSO-extract, according to IP346.
Highly refined mineral oils and additives.

3. HAZARDS IDENTIFICATION

Emergency Overview

Appearance and Odour : May be dyed. Liquid at room temperature. Slight hydrocarbon.

Health Hazards : Not classified as dangerous for supply or conveyance.
Safety Hazards : Not classified as flammable but will burn.
Environmental Hazards : Not classified as dangerous for the environment.

Health Hazards : Not expected to be a health hazard when used under normal conditions.

Health Hazards

Inhalation : Under normal conditions of use, this is not expected to be a primary route of exposure.

Skin Contact : Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis.

Eye Contact : May cause slight irritation to eyes.

Ingestion : Low toxicity if swallowed.

Other Information : Used oil may contain harmful impurities.

Signs and Symptoms : Oil acne/folliculitis signs and symptoms may include formation of black pustules and spots on the skin of exposed areas. Ingestion may result in nausea, vomiting and/or diarrhoea.

Aggravated Medical Condition : Pre-existing medical conditions of the following organ(s) or organ system(s) may be aggravated by exposure to this material: Skin.

Environmental Hazards : Not classified as dangerous for the environment.

Additional Information : Under normal conditions of use or in a foreseeable emergency, this product does not meet the definition of a hazardous

chemical when evaluated according to the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

4. FIRST AID MEASURES

General Information	:	Not expected to be a health hazard when used under normal conditions.
Inhalation	:	No treatment necessary under normal conditions of use. If symptoms persist, obtain medical advice.
Skin Contact	:	Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available. If persistent irritation occurs, obtain medical attention.
Eye Contact	:	Flush eye with copious quantities of water. If persistent irritation occurs, obtain medical attention.
Ingestion	:	In general no treatment is necessary unless large quantities are swallowed, however, get medical advice.
Advice to Physician	:	Treat symptomatically.

5. FIRE FIGHTING MEASURES

Clear fire area of all non-emergency personnel.

Flash point	:	>= 200 °C / 392 °F (COC)
Upper / lower Flammability or Explosion limits	:	Typical 1 - 10 %(V)(based on mineral oil)
Auto ignition temperature	:	> 320 °C / 608 °F
Specific Hazards	:	Hazardous combustion products may include: A complex mixture of airborne solid and liquid particulates and gases (smoke). Carbon monoxide. Unidentified organic and inorganic compounds.
Suitable Extinguishing Media	:	Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
Unsuitable Extinguishing Media	:	Do not use water in a jet.
Protective Equipment for Firefighters	:	Proper protective equipment including breathing apparatus must be worn when approaching a fire in a confined space.

6. ACCIDENTAL RELEASE MEASURES

Avoid contact with spilled or released material. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. See Chapter 13 for information on disposal. Observe all relevant local and international regulations.

Protective measures	:	Avoid contact with skin and eyes. Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers.
Clean Up Methods	:	Slippery when spilt. Avoid accidents, clean up immediately. Prevent from spreading by making a barrier with sand, earth or other containment material. Reclaim liquid directly or in an absorbent. Soak up residue with an absorbent such as clay,

sand or other suitable material and dispose of properly.

Additional Advice : Local authorities should be advised if significant spillages cannot be contained.

7. HANDLING AND STORAGE

General Precautions : Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols. Properly dispose of any contaminated rags or cleaning materials in order to prevent fires. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.

Handling : Avoid prolonged or repeated contact with skin. Avoid inhaling vapour and/or mists. When handling product in drums, safety footwear should be worn and proper handling equipment should be used.

Storage : Keep container tightly closed and in a cool, well-ventilated place. Use properly labelled and closeable containers. Storage Temperature: 0 - 50 °C / 32 - 122 °F

Recommended Materials : For containers or container linings, use mild steel or high density polyethylene.

Unsuitable Materials : PVC.

Additional Information : Polyethylene containers should not be exposed to high temperatures because of possible risk of distortion.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

Material	Source	Type	ppm	mg/m3	Notation
Oil mist, mineral	ACGIH	TWA(Mist.)		5 mg/m3	
Oil mist, mineral	ACGIH	STEL(Mist.)		10 mg/m3	

Exposure Controls : The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include: Adequate ventilation to control airborne concentrations. Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.

Personal Protective Equipment : Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

Respiratory Protection : No respiratory protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid breathing of material. If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker

		health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. Select a filter suitable for combined particulate/organic gases and vapours [boiling point >65 °C (149 °F)].
Hand Protection	:	Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.
Eye Protection	:	Wear safety glasses or full face shield if splashes are likely to occur.
Protective Clothing	:	Skin protection not ordinarily required beyond standard issue work clothes.
Monitoring Methods	:	Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate.
Environmental Exposure Controls	:	Minimise release to the environment. An environmental assessment must be made to ensure compliance with local environmental legislation.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	May be dyed. Liquid at room temperature.
Odour	:	Slight hydrocarbon.
pH	:	Data not available
Initial Boiling Point and Boiling Range	:	> 280 °C / 536 °F estimated value(s)
Pour point	:	Typical -12 °C / 10 °F
Flash point	:	>= 200 °C / 392 °F (COC)
Upper / lower Flammability or Explosion limits	:	Typical 1 - 10 %(V) (based on mineral oil)
Auto-ignition temperature	:	> 320 °C / 608 °F
Vapour pressure	:	< 0.5 Pa at 20 °C / 68 °F (estimated value(s))
Specific gravity	:	>= 0.87 at 15 °C / 59 °F
Density	:	>= 7.5 g/cm3 at 15 °C / 59 °F
Water solubility	:	Negligible.
n-octanol/water partition coefficient (log Pow)	:	> 6 (based on information on similar products)
Kinematic viscosity	:	Typical 251 mm2/s at 40 °C / 104 °F

Vapour density (air=1)	:	> 1 (estimated value(s))
Evaporation rate (nBuAc=1)	:	Data not available

10. STABILITY AND REACTIVITY

Stability	:	Stable.
Conditions to Avoid	:	Extremes of temperature and direct sunlight.
Materials to Avoid	:	Strong oxidising agents.
Hazardous Decomposition Products	:	Hazardous decomposition products are not expected to form during normal storage.

11. TOXICOLOGICAL INFORMATION

Basis for Assessment	:	Information given is based on data on the components and the toxicology of similar products.
Acute Oral Toxicity	:	Expected to be of low toxicity: LD50 > 5000 mg/kg , Rat
Acute Dermal Toxicity	:	Expected to be of low toxicity: LD50 > 5000 mg/kg , Rabbit
Acute Inhalation Toxicity	:	Not considered to be an inhalation hazard under normal conditions of use.
Skin Irritation	:	Expected to be slightly irritating. Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis.
Eye Irritation	:	Expected to be slightly irritating.
Respiratory Irritation	:	Inhalation of vapours or mists may cause irritation.
Sensitisation	:	Not expected to be a skin sensitiser.
Repeated Dose Toxicity	:	Not expected to be a hazard.
Mutagenicity	:	Not considered a mutagenic hazard.
Carcinogenicity	:	Product contains mineral oils of types shown to be non-carcinogenic in animal skin-painting studies. Highly refined mineral oils are not classified as carcinogenic by the International Agency for Research on Cancer (IARC). Other components are not known to be associated with carcinogenic effects.
Reproductive and Developmental Toxicity	:	Not expected to be a hazard.
Additional Information	:	Used oils may contain harmful impurities that have accumulated during use. The concentration of such impurities will depend on use and they may present risks to health and the environment on disposal. ALL used oil should be handled with caution and skin contact avoided as far as possible. Continuous contact with used engine oils has caused skin cancer in animal tests.

12. ECOLOGICAL INFORMATION

Ecotoxicological data have not been determined specifically for this product. Information given is based on a knowledge of the components and the ecotoxicology of similar products.

Acute Toxicity	:	Poorly soluble mixture. May cause physical fouling of aquatic organisms. Expected to be practically non toxic: LL/EL/IL50 > 100 mg/l (to aquatic organisms) (LL/EL50 expressed as the

nominal amount of product required to prepare aqueous test extract). Mineral oil is not expected to cause any chronic effects to aquatic organisms at concentrations less than 1 mg/l.

Mobility	:	Liquid under most environmental conditions. Floats on water. If it enters soil, it will adsorb to soil particles and will not be mobile.
Persistence/degradability	:	Expected to be not readily biodegradable. Major constituents are expected to be inherently biodegradable, but the product contains components that may persist in the environment.
Bioaccumulation	:	Contains components with the potential to bioaccumulate.
Other Adverse Effects	:	Product is a mixture of non-volatile components, which are not expected to be released to air in any significant quantities. Not expected to have ozone depletion potential, photochemical ozone creation potential or global warming potential.

13. DISPOSAL CONSIDERATIONS

Material Disposal	:	Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Do not dispose into the environment, in drains or in water courses.
Container Disposal	:	Dispose in accordance with prevailing regulations, preferably to a recognised collector or contractor. The competence of the collector or contractor should be established beforehand.
Local Legislation	:	Disposal should be in accordance with applicable regional, national, and local laws and regulations.

14. TRANSPORT INFORMATION

US Department of Transportation Classification (49CFR)
This material is not subject to DOT regulations under 49 CFR Parts 171-180.

IMDG
This material is not classified as dangerous under IMDG regulations.

IATA (Country variations may apply)
This material is not classified as dangerous under IATA regulations.

15. REGULATORY INFORMATION

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

Federal Regulatory Status

Notification Status

EINECS	All components listed.
TSCA	All components listed.
DSL	All components listed.

SARA Hazard Categories (311/312)
No SARA 311/312 Hazards.

State Regulatory Status

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)

This material does not contain any chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

16. OTHER INFORMATION

NFPA Rating (Health, Fire, Reactivity)	:	0, 1, 0
MSDS Version Number	:	16.0
MSDS Effective Date	:	07/07/2008
MSDS Revisions	:	A vertical bar (|) in the left margin indicates an amendment from the previous version.
MSDS Regulation	:	The content and format of this MSDS is in accordance with the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
MSDS Distribution	:	The information in this document should be made available to all who may handle the product.
Disclaimer	:	The information contained herein is based on our current knowledge of the underlying data and is intended to describe the product for the purpose of health, safety and environmental requirements only. No warranty or guarantee is expressed or implied regarding the accuracy of these data or the results to be obtained from the use of the product.

Material Safety Data Sheet

Attention. Ula Niles – 248-442-9068

1. Chemical product and company identification

Product name	Castrol Hypuron 15W-40
MSDS #	465215
Code	465215-US06
Product use	Diesel engine oil. For specific application advice see appropriate Technical Data Sheet or consult our company representative.
Manufacturer	BP Lubricants USA Inc. 1500 Valley Road Wayne, NJ 07470 Telephone: (973) 633-2200 Telecopier: (973) 633-7476
EMERGENCY HEALTH INFORMATION:	1 (800) 447-8735 Outside the US: +1 703-527-3887 (CHEMTREC)
EMERGENCY SPILL INFORMATION:	1 (800) 424-9300 CHEMTREC (USA)
OTHER PRODUCT INFORMATION	1 (866) 4 BP - MSDS (866-427-6737 Toll Free - North America) email: bpcares@bp.com

2. Composition/Information on Ingredients

Ingredient name	CAS #	%
Base oil - highly refined	64742-54-7	85 - 90
Zinc alkyl dithiophosphate	68649-42-3	1 - 5

3. Hazards identification

Physical state	Liquid.
Color	Clear. Brown.
Emergency overview	CAUTION! MAY CAUSE EYE IRRITATION. MAY CAUSE SKIN IRRITATION. MAY CAUSE RESPIRATORY TRACT IRRITATION. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.
Routes of entry	Dermal contact. Eye contact. Inhalation. Ingestion.
Potential health effects	
Eyes	May cause eye irritation.
Skin	May cause skin irritation. Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis. Used engine oil may contain hazardous components which have the potential to cause skin cancer.
Inhalation	May cause respiratory tract irritation.
Ingestion	Ingestion may cause gastrointestinal irritation and diarrhea.

Medical conditions aggravated by over-exposure	None identified.

See toxicological information (section 11).

4. First aid measures

Eye contact	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs.
Skin contact	Immediately wash exposed skin with soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention if irritation develops.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Ingestion	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms appear. If large quantities of this material are swallowed, call a physician immediately.

5. Fire-fighting measures

Flammability of the product	May be combustible at high temperature.
Flash point	224 °C (Open cup) Cleveland.
Products of combustion	These products are carbon oxides nitrogen oxides sulfur oxides phosphorus oxides metal oxide/oxides
Unusual fire/explosion hazards	This material is not explosive as defined by established regulatory criteria.
Fire-fighting media and instructions	In case of fire, use water fog, foam, dry chemicals, or carbon dioxide. Do not use water jet.
Protective clothing (fire)	Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

6. Accidental release measures

Personal precautions	Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment (See Section: "Exposure controls/personal protection"). Follow all fire fighting procedures (See Section: "Fire-fighting measures").
Environmental precautions and clean-up methods	If emergency personnel are unavailable, contain spilled material. For small spills add absorbent (soil may be used in the absence of other suitable materials) scoop up material and place in a sealed, liquid-proof container for disposal. For large spills dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal. Avoid contact of spilled material with soil and prevent runoff entering surface waterways. See Section 13 for Waste Disposal Information.
Personal protection in case of a large spill	Chemical splash goggles. Chemical resistant protective suit. Boots. Chemical resistant gloves. Vapor respirator or a self-contained breathing apparatus. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product. CAUTION: The protection provided by air-purifying respirators is limited. Use a positive pressure air-supplied respirator if there is any potential for an uncontrolled release, if exposure levels are not known, or if concentrations exceed the protection limits of air-purifying respirator.

7. Handling and storage

Handling Avoid contact with skin and clothing. Avoid prolonged or repeated contact with skin. Avoid contact with eyes. Use only with adequate ventilation Avoid breathing vapor or mist. Wash thoroughly after handling.

Storage Keep container tightly closed. Keep container in a cool, well-ventilated area. Empty containers may contain harmful, flammable/combustible or explosive residue or vapors. Do not cut, grind, drill, weld, reuse or dispose of containers unless adequate precautions are taken against these hazards.

8. Exposure controls/personal protection

Occupational exposure limits

Ingredient name	Occupational exposure limits
Base oil - highly refined	**ACGIH (United States).** TWA: 5 mg/m³ 8 hour(s). Form: Oil mist, mineral STEL: 10 mg/m³ 15 minute(s). Form: Oil mist, mineral **OSHA (United States).** TWA: 5 mg/m³ 8 hour(s). Form: Oil mist, mineral
Zinc alkyl dithiophosphate	None assigned.

Some states may enforce more stringent exposure limits.

Control Measures Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are close to the work-station location.

Hygiene measures Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.

Personal protection

Eyes Avoid contact with eyes. Chemical splash goggles.

Skin and body Avoid contact with skin and clothing. Wear suitable protective clothing.

Respiratory Use only with adequate ventilation In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable.

Hands Wear gloves that cannot be penetrated by chemicals or oil.
Recommended: Nitrile gloves.
The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Consult your supervisor or S.O.P. for special handling directions

Consult local authorities for acceptable exposure limits.

9. Physical and chemical properties

Physical state Liquid.

Color Clear, Brown.

Heat of combustion Not available.

Solubility Insoluble in cold water.

Viscosity Kinematic: 120 mm²/s (120 cSt) at 40°C

10. Stability and reactivity

Stability and reactivity	The product is stable.
Conditions to avoid	Keep away from heat, sparks and flame.
Incompatibility with various substances	Reactive or incompatible with the following materials: oxidizing materials.
Hazardous decomposition products	Products of combustion : carbon oxides (CO, CO_2) (carbon monoxide, carbon dioxide) , phosphorus oxides , sulfur oxides (SO_2, SO_3 etc.) nitrogen oxides (NO, NO_2 etc.) and metal oxide/oxides .
Hazardous polymerization	Not available.

11. Toxicological information

Acute toxicity

USED ENGINE OILS
Combustion products resulting from the operation of internal combustion engines contaminate engine oils during use. Used engine oil may contain hazardous components which have the potential to cause skin cancer. Frequent or prolonged contact with all types and makes of used engine oil must therefore be avoided and a high standard of personal hygiene maintained.

Chronic toxicity

Carcinogenic effects	No component of this product at levels greater than 0.1% is identified as a carcinogen by ACGIH or the International Agency for Research on Cancer (IARC). No component of this product present at levels greater than 0.1% is identified as a carcinogen by the U.S. National Toxicology Program (NTP) or the U.S. Occupational Safety and Health Act (OSHA).
Mutagenic effects	No component of this product at levels greater than 0.1% is classified by established regulatory criteria as a mutagen.
Reproductive effects	This product contains low levels of para-dodecylphenol. Para-dodecylphenol given orally to rats repeatedly at high dose levels caused adverse reproductive effects. The relevance of these findings to humans is uncertain. These effects are not expected to occur with the use of this product as intended when good personal hygiene is practiced.
Teratogenic effects	This product contains low levels of para-dodecylphenol. Para-dodecylphenol given orally to rats repeatedly at high dose levels caused teratogenic effects (cleft palate and skeletal malformations). The relevance of these findings to humans is uncertain. These effects are not expected to occur with the use of this product as intended when good personal hygiene is practiced.

12. Ecological information

Ecotoxicity

No testing has been performed by the manufacturer.

13. Disposal considerations

Waste information

Avoid contact of spilled material and runoff with soil and surface waterways. Consult an environmental professional to determine if local, regional or national regulations would classify spilled or contaminated materials as hazardous waste. Use only approved transporters, recyclers, treatment, storage or disposal facilities. Dispose of in accordance with all applicable local and national regulations.

Consult your local or regional authorities.

14. Transport information

Not classified as hazardous for transport (DOT, TDG, IMO/IMDG, IATA/ICAO)

15. Regulatory information

U.S. Federal regulations

United States inventory (TSCA 8b): All components are listed or exempted.

TSCA 12(b) one-time export notification:: Diphenylamine

This product is not regulated under Section 302 of SARA and 40 CFR Part 355.

SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Castrol Hypuron 15W-40: Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard

SARA 313

	Product name	CAS number	Concentration
Form R - Reporting requirements	Zinc alkyl dithiophosphate	68649-42-3	0.926 - 1.8335
Supplier notification	Zinc alkyl dithiophosphate	68649-42-3	0.926 - 1.8335

CERCLA Sections 102a/103 Hazardous Substances (40 CFR Part 302.4):: Zinc alkyl dithiophosphate;

State regulations

Massachusetts Substances: **Massachusetts RTK:** None of the components are listed.

New Jersey Hazardous Substances: **New Jersey Hazardous Substances:** The following components are listed: Zinc alkyl dithiophosphate

Pennsylvania RTK Hazardous Substances: **Pennsylvania RTK:** The following components are listed: Zinc alkyl dithiophosphate

California Prop 65: No products were found

Inventories

Canada inventory: All components are listed or exempted.

Europe inventory: At least one component is not listed in EINECS but all such components are listed in ELINCS.
Please contact your supplier for information on the inventory status of this material.

Australia inventory (AICS): At least one component is not listed.

China inventory (IECSC): At least one component is not listed.

Japan inventory (ENCS): At least one component is not listed.

Korea inventory (KECI): All components are listed or exempted.

Philippines inventory (PICCS): At least one component is not listed.

16. Other information

Label requirements

CAUTION!

MAY CAUSE EYE IRRITATION.
MAY CAUSE SKIN IRRITATION.
MAY CAUSE RESPIRATORY TRACT IRRITATION.

HMIS® Rating :

Health	* 1
Flammability	1
Physical Hazard	0
Personal protection	X

National Fire Protection Association (U.S.A.)

History

Date of issue	04/26/2007.
Date of previous issue	02/08/2007.
Prepared by	Product Stewardship

Notice to reader

NOTICE : This Material Safety Data Sheet is based upon data considered to be accurate at the time of its preparation. Despite our efforts, it may not be up to date or applicable to the circumstances of any particular case. We are not responsible for any damage or injury resulting from abnormal use, from any failure to follow appropriate practices or from hazards inherent in the nature of the product.

Cognis Corporation

Material Safety Data Sheet

SDS no. : 230106

ROADRANGER SAE 50

Revision: 08/27/2007

printing date: 09/10/2007

1. Chemical product and company identification

Product name:
ROADRANGER SAE 50

Supplier
Cognis Corporation
5051 Estecreek Drive
Cincinnati, OH 45232-1446
Phone: +1 (866) 910-0598
Fax-no.: +1 (513) 482-3576

Emergency Information Chemtrec:
+1-800-424-9300

2. Composition / information on ingredients

General chemical description:
Synthetic Lubricant

COMPONENT:	CAS-No.	CONCENTRATION (Wt. %):
Proprietary component(s)		100

3. Hazards identification

EMERGENCY OVERVIEW

Low hazard for usual industrial or commercial handling.

State:
liquid

Odor:
little intrinsic odour

Color(s):
light amber

Routes of entry:
Inhalation, Skin contact, Ingestion

Potential Health Acute Effects:
Inhalation:
May cause respiratory irritation.

Skin contact:
May cause skin irritation.

Eye contact:
May cause eye irritation.

Ingestion:
May be harmful if swallowed in large quantities.

Potential Chronic Health Effects:
None known

4. First aid measures

General Advices:
In case of adverse health effects seek medical advice.

After inhalation:
not relevant.

After skin contact:
Rinse with running water and soap. Apply replenishing cream. Change all contaminated clothing.

After eye contact:
Rinse immediately with plenty of running water (for 10 minutes). Seek medical attention if necessary.

After ingestion:
Rinse the mouth. Drink 1-2 glasses of water.

5. Fire fighting measures

Flash point:
> 375.1 °F (> 190.6 °C)
ASTM D 92-97; QP1363.2; Flash and Fire Points by Cleveland Open

Suitable extinguishing media:
foam, extinguishing powder, carbon dioxide
water spray jet

Improper extinguishing media:
High pressure waterjet

Special protection equipment for firefighters:
Wear self-contained breathing apparatus.

Hazardous combustion products:
Carbon dioxide., carbon monoxide, nitrogen oxides, phosphorus compounds, Sulphur oxides

Additional fire fighting advice:
In case of fire, keep containers cool with water spray.

6. Accidental release measures

General information:
Danger of slipping on spilled product.
Clean up spills immediately.

Process for cleaning and take-up:
Using adequate protective equipment, add dry material to absorb spill (if large spill, first dike to contain).
Pick up spilled material and containerize for recovery or disposal.
Flush area with water to remove residues.

7. Handling and storage

Handling:
Handling advice:
Avoid formation of aerosols or mist.
Danger of slipping on spilled product.

Storage:
General storage advice:
No particular measures required.

8. Exposure controls / personal protection

Indication for system design:
Not necessary under normal use conditions.

Components with specific control parameters for workplace:

Valid for USA

Name on list	Basis	Type	Value	Category	Remarks
OIL MIST (MINERAL)	NIOSH	Recommended exposure limit (REL):	5 mg/m^3		
OIL MIST (MINERAL)	NIOSH	Short Term Exposure Limit (STEL):	10 mg/m^3		
OIL MIST (MINERAL)	OSHA Z1	PEL:	5 mg/m^3		
OIL MIST (MINERAL)	OSHA Z1				Listed.
OIL MIST (MINERAL)	OSHA Z1A	Time Weighted Average (TWA).	5 mg/m^3		
OIL (MINERAL) MIST, PARTICULATE	US CA OEL	Time Weighted Average (TWA) Permissible Exposure Limit (PEL):	5 mg/m^3		
OIL MIST, MINERAL	ACGIH	Time Weighted Average (TWA).	5 mg/m^3		
OIL MIST, MINERAL	ACGIH	Short Term Exposure Limit (STEL):	10 mg/m^3		
OIL MIST, MINERAL	ACGIH NIC				Included in the regulation but with no data values. See regulation for further details.
MINERAL OIL, POORLY AND MILDLY REFINED, INHALABLE FRACTION	ACGIH NIC	Time Weighted Average (TWA).	0.2 mg/m^3		
MINERAL OIL, POORLY AND MILDLY REFINED, INHALABLE FRACTION	ACGIH NIC	Time Weighted Average (TWA).	0.2 mg/m^3		

Personal protection measures:
Respiratory protection:
Not applicable with adequate ventilation.
NIOSH/MSHA approved respirator if necessary.
Follow manufacturer's recommendations.

Hand protection:
Appropriate chemical resistant gloves.

Eye protection:
Safety glasses with side shields.

9. Physical and chemical properties

General description:

State:	liquid
Odor:	little intrinsic odour
Color(s):	light amber

Designation	Value	Method
Density	0.8610 g/cm3	no information
Solubility in Demineralised water (25.0 °C (77°F);)	practically insoluble	no information

10. Stability and reactivity

Stability:

Decomposition advices:

No decomposition if used according to specifications.

Reactivity:

Materials to avoid:

Reaction with strong acids.
Reaction with strong bases
Reaction with oxidants.

Hazardous polymerization:

Will not occur

11. Toxicological information

General toxicological information:

Any toxicological information included in this section is based upon data associated with the components or an analogous product.

Acute oral toxicity:

LD50 > 2000 mg/kg body weight

Skin irritation:

not irritating

Eye irritation:

not irritating

12. Ecological information

General ecological information:
The ecological evaluation of the product is based on data from the raw material and/or comparable substances.

Acute fish toxicity:
LC50 > 10 - <= 100 mg product/l.

Acute bacterial toxicity:
EC0 > 10 - <= 100 mg product/l.

Ultimate biodegradation:
The total of the organic components contained in the product achieve values below 60% BOD/COD or CO2 liberation, or below 70% DOC reduction in tests for ease of degradability. Threshold values for 'readily degradable' (e.g. to OECD method 301) are not reached.

13. Disposal considerations

Waste disposal of product:
All recovered material should be packaged, labeled, transported, and disposed or reclaimed in conformance with applicable laws and regulations and in conformance with good engineering practices.
Avoid landfilling liquids.
Reclaim where possible.

14. Transport information

General information:
Not hazardous according to RID, ADR, ADNR, IMDG, IATA-DGR, CFR and TDG.

The transport information provided represents the regulatory transport classification of the product without consideration to packaging, quantity, or modal restrictions and exceptions. It is the user's responsibility to determine the appropriate packaging and modal requirements and/or limitations for the product quantity being shipped.

15. Regulatory information

TSCA Inventory Status:	This product and/or all of its components are either included on or exempt from the TSCA Inventory of Chemical Substances.
SARA 311/312 Hazard Categories:	None

TSCA 12(b) Components: none

SARA 313 Toxic Chemicals: none

SARA 302 Extremely Hazardous Substances: US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A)

Benzenamine	CAS: 62-53-3	PPM - <5PPM

CERCLA Hazardous Chemicals: US. EPA CERCLA Hazardous Substances (40 CFR 302)

Benzenamine	CAS: 62-53-3	PPM - <5PPM
2-Naphthylamine	CAS: 91-59-8	PPM - <1PPM
2-Propenoic acid, ethyl ester	CAS: 140-88-5	PPM - <1PPM

California Proposition 65: This product contains the following chemical/s known to the State of California to cause cancer and/or birth defects or other reproductive harm.

1-Naphthalenamine	CAS: 134-32-7	PPM - <1PPM
Benzenamine	CAS: 62-53-3	PPM - <5PPM
2-Naphthylamine	CAS: 91-59-8	PPM - <1PPM
2-Propenoic acid, ethyl ester	CAS: 140-88-5	PPM - <1PPM

16. Other information

NFPA Rating (US)	Value
Health	1
Fire	1
Reactivity	0
Special Hazard	

HMIS Rating (US)	Value
Health	1
Flammability	1
Reactivity	0

All information, recommendations, and suggestions appearing herein concerning our product are based upon tests and data believed to be reliable. However, it is the user's responsibility to determine the safety, toxicity, and suitability for his own use of the product described herein. Since the actual use by others is beyond our control, no guarantee, express or

implied, is being made as to the effects of such use, the results obtained, or the safety and toxicity of the product nor is their any assumed liability arising out of use, by others, of the product referred to herein. The information herein is not to be construed as absolutely complete since additional information may be necessary or desirable when particular or exceptional conditions or circumstances exist or because of applicable laws or government regulations.

MATERIAL SAFETY DATA SHEET

MSDS No. 108712
Date : 4/23/2007

Brake Fluid GC325

Emergency Number : Chemtrec : 800/424-9300	General Information : CCI : 630/739-0606

SECTION I - IDENTIFICATION

Product :	Brake Fluid GC325
Synonyms :	None
Chemical Family :	Mixture of glycols, glycol ethers and additives
Formula :	Not applicable/Mixture
Use Description :	Brake fluid
OSHA Hazard Classification :	Mild skin, eye and mucous membrane irritant
CAS No. :	Mixture - no single CAS number applicable

SECTION II - INGREDIENTS

Product Composition

Descriptive Name :	Glycol ether
CAS Number :	Proprietary - See Section XII
Percentage	Proprietary - See Section XII
Hazardous Per 29 CFR 1910.1200 :	Yes
Exposure Standards :	None established
Descriptive Name :	Glycol derivative
CAS Number :	Proprietary - See Section XII
Percentage	Proprietary - See Section XII
Hazardous Per 29 CFR 1910.1200:	Yes
Exposure Standards :	None established
Descriptive Name :	Glycol ether borate ester
CAS Number :	Proprietary - See Section XII
Percentage	Proprietary - See Section XII
Hazardous Per 29 CFR 1910.1200:	Yes
Exposure Standards :	None established

SECTION III - HEALTH INFORMATION

Glycol ether

Inhalation :	Inhalation of vapors/mists may cause respiratory irritation.
Ingestion :	Ingestion may cause gastrointestinal discomfort with any or all of the following symptoms: nausea, vomiting, lethargy or diarrhea.
Eye Contact :	It may cause moderate to severe eye irritation. Effects on eye irritations are reversible.
Skin Contact :	If significant quantities of this mixture come into contact with the skin, it may cause mild irritation consisting of transient redness.
Chronic effects :	Repeated or prolonged contact may cause skin irritation. May cause dermatitis by defatting the skin from prolonged or repeat contact.

Glycol derivative

Inhalation :	May produce symptoms of central nervous system depression including headache, dizziness, nausea, euphoria, loss of equilibrium, drowsiness, visual disturbances, fatigue, unconsciousness and respiratory arrest. Can cause pulmonary edema if aspirated into lings
Ingestion :	Central nervous system symptoms similar to those by inhalation, followed by rapid breathing, increased heart rate, possible toxicity to the kidneys, decreased urine volume and severe metabolic acidosis.
Eye Contact :	May be irritating to the eyes
Skin Contact :	In severe overexposure enough material might be absorbed into the skin to cause systemic injury.
Chronic effects :	Prolonged or repeated inhalation or ingestion may result in kidney and liver changes. May produce symptoms of central nervous depression including headache, dizziness, nausea, euphoria, loss of equilibrium, drowsiness, visual disturbances, fatigue and respiratory arrest..

Glycol ether borate ester

Inhalation :	Inhalation of vapors/mists may cause respiratory irritation.
Ingestion :	May cause abdominal discomfort, nausea and diarrhea
Eye Contact :	May be irritating to the eyes
Skin Contact :	Brief skin contact may cause slight to moderate irritation. Prolonged contact may cause redness and swelling
Chronic effects :	There are no known or reported effects from chronic exposures.

SECTION IV - OCCUPATIONAL EXPOSURE LIMITS

PEL (OSHA Permissible Exposure Limit) :	None established for mixture, See Section II.
TLV (ACGIH Threshold Limit Value) :	None established for mixture, See Section II.

SECTION V - EMERGENCY FIRST AID PROCEDURE

Ingestion :	Immediately drink large quantities of water. Induce vomiting. Call a physician at once. Do NOT give anything by mouth if the person is unconscious or if having convulsions.
Inhalation :	This product is not toxic by inhalation. Remove individual to fresh air.
Eye Contact :	Immediately flush with large amounts of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Call a physician at once.
Skin Contact :	Immediately flush with water for 15 minutes. Wash the contaminated skin with soap and water. If irritation develops, call a physician. If clothing comes in contact with the product, the clothing should be laundered before reuse.

SECTION VI - PHYSICAL DATA

Boiling Point :	Higher than 450 F
Vapor Pressure :	Below 0.1 mmHg
Solubility in Water :	Complete
Volatile, percent by Volume :	No data
Specific Gravity (60/60 F):	1.05
Vapor Density (AIR = 1) :	Approx. 7
pH (50% Water Solution) :	9.6
Molecular Weight :	Not applicable/ Mixture
Appearance and Color :	Light yellow homogeneous liquid
Odor :	Mild, Characteristic
Coefficient of Oil/Water Distribution :	No data

SECTION VII - FIRE AND EXPLOSION HAZARDS

Flammability Data :

Flammable :	No
Combustible :	No
Pyrophoric :	No
Flash Point :	129 C (266 F) Test Method : Cleveland Open Cup
Autoignition Temperature :	No data

Flammable Limits at Normal Atmospheric Temp. and Pressure (Percent Volume in Air):

LEL - No data
UEL - No data

NFPA Rating :	Health : 1	Flammability : 1	Instability : 1
HMIS Ratings :	Health : 1	Flammability : 1	Physical hazard : 1

Extinguishing Media : Alcohol foam, carbon dioxide, dry chemical, water spray

Fire Fighting Techniques and Comments : Use water to cool containers exposed to fire. See section X for protective equipment for fire fighting.

SECTION VIII - REACTIVITY

Conditions under Which This Product May Be Unstable :

Temperature Above :	Stable at normal temperature
Mechanical Shock or Impact :	No
Electrical (Static) Discharge :	No
Hazardous Polymerization :	Will not occur
Incompatible Materials :	Strong oxidizers, aids and alkalis
Hazardous Decomposition products:	Carbon monoxide, carbon dioxide

Summary of Reactivity :

Oxidizer :	No
Pyrophoric :	No
Organic Peroxide :	No
Water Reactive :	No

SECTION IX - EMPLOYEE PROTECTION

Control Measures :	Handle in the presence of adequate ventilation. Engineering controls should be used whenever feasible to maintain concentrations below acceptable exposure criteria (see Section II and IV), including enclosures and local exhaust ventilation.
Respiratory Protection :	Where exposure is likely to exceed acceptable criteria (see Section II and IV) and engineering controls are not feasible, use NOSH/MISHA approved respiratory protection equipment. Respirators should be selected based on the form and concentration of contaminants in air and in accordance with OSHA (29 CFR 1910.134).
Protective Clothing :	Wear gloves and protective clothing which are impervious to the product for the duration of exposure if there is potential for skin contact.
Eye Protection :	Wear safety glasses meeting the specifications of ANSI standard Z87.1 where no contact with the eye is anticipated. Chemical safety goggles meeting the specification of ANSI Standard Z87.1 should be worn whenever there is the possibility of splashing or other contact with the eyes.

SECTION X - ENVIRONMENTAL PROTECTION

For all transportation accidents, call CHEMTREC at **800-424-9300**.

Reportable quantity :	Not applicable
Spill Mitigation Procedures:	Evacuation procedures must be placed into effect. Evacuate all nonessential personnel. Utilize emergency response personal protective equipment prior to the start of any response. Remove all sources of ignition. Stop source of spill as soon as possible and notify appropriate personnel.
Air Release :	Vapors may be suppressed by the use of water fog or spray. Contain all liquid for treatment and/or disposal as a (potential) hazardous waste.

SECTION X - ENVIRONMENTAL PROTECTION (CONTINUED)

Water Release :	This material is heavier than and soluble in water. Notify all downstream water users of possible contamination. Divert water flow around spill if possible and safe to do so if unable to divert, create an overflow dam to contain material. Continue to handle as described in land spill.
Land Spill :	Create a dike or trench to contain materials. Spill materials may be absorbed using sand, clay or commercial absorbent. Do not place spill materials back in their original container. Containerize and label all spill materials properly. Decontaminate all clothing and the spill area using soap solution and flush with large amounts of water.
Spill Residues :	Dispose of per guidelines under Waste Disposal.
Waste Disposal :	If this product becomes a waste, it DOES NOT meet the criteria of a hazardous waste as defined under 40 CFR 261, in that it does not exhibit the characteristics of hazardous waste of Subpart C, nor is it listed as a hazardous waste under Subpart D. As a non-hazardous liquid waste, it should be disposed of in accordance with local, state and federal regulations by incineration. **Care must be taken to prevent environmental contamination from the use of this material. The use of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes.**

SECTION XI - REGULATORY CONTROLS

Department of Transportation :

DOT Classification :	No DOT Classification
Other DOT Information :	Not applicable
IATA :	Not regulated
IMDG Code :	Not regulated

Other Regulatory Requirements :

Toxic Substance Control Act :

This product is a mixture: therefore, it is not listed in the TSCA Inventory of Chemical Substances. All of the components of the mixture are listed in the TSCA Inventory of Chemical Substances.

Other Regulatory Requirements :

Toxic Substance Control Act :

This product is a mixture: therefore, it is not listed in the TSCA Inventory of Chemical Substances. All of the components of the mixture are listed in the TSCA Inventory of Chemical Substances.

SARA Hazard Categories PER 40 CFR 370.2 :

Health :	Immediate(Acute) and Delayed (Chronic)
Physical :	None

SECTION XI - REGULATORY CONTROLS

Emergency Planning and Community Right to Know

Extremely Hazardous Substance - Threshold Planning Quantity :

None established

Supplier Notification Requirements, PER 40 CFR 372.45 :

This mixture or trade name product contains a toxic chemical or chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR 372.

Chemicals Listed Are : Glycol Ethers

The specific chemical identity and percentage composition are being withheld as trade secrets.

State Right to Know :

Pennsylvania : The specific chemical identity and percentage composition are being withheld as trade secrets.

New Jersey : The specific chemical identity and percentage composition are being withheld as trade secrets.

SECTION XII - ADDITIONAL INFORMATION

The specific chemical identity and percentage composition are being withheld as trade secrets (as per Section II).

SECTION XIII - PRECAUTIONS: HANDLING, STORAGE AND USAGE

Do not take internally. Avoid contact with skin, eyes and clothing. Upon contact with skin or eyes, wash off with water.

Storage Conditions : Do not store at temperatures above: Normal room temperature is satisfactory.

Product Stability and Compatibility :

Incompatible materials for storage or transport : Strong oxidizers, acids and alkalis.

SECTION XIV - CONTACT INFORMATION

The information presented herein is believed to be factual as it has been derived from the works and opinions of people believed to be qualified experts; however, nothing contained in this information is to be taken as a warranty or representation for which CCI Manufacturing IL Corporation bears legal responsibility. The user should review any recommendation in the specific context of intended use to determine whether they are appropriate.

Prepared By CCI MANUFACTURING IL CORPORATION

For further information contact :

Technical Manager
CCI MANUFACTURING IL CORPORATION
15550 Canal Bank Road.
Lemont, IL 60439
(630)-739-0606

ATTACHMENT I

EMISSION UNITS TABLE

Attachment I

Emission Units Table

(includes all emission units and air pollution control devices that will be part of this permit application review, regardless of permitting status)

Emission Unit ID[1]	Emission Point ID[2]	Emission Unit Description	Year Installed/ Modified	Design Capacity	Type[3] and Date of Change	Control Device[4]
1S	1E	Paint Booth No. 1 with Heater	2018	Paint Gun 225 gm/min Heater 1.5126 MMBtu/hr	New	Filter
2S	2E	Paint Booth No. 2 with Heater	2018	Paint Gun 225 gm/min Heater 1.5126 MMBtu/hr	New	Filter
3S	3E	Paint Booth No. 3 with Heater (Future)	(Future)	Paint Gun 225 gm/min Heater 1.5126 MMBtu/hr	New	Filter
4S	4E	Body Prep Room	2018	NA	New	Filter
5S	5E	Inspection, Touchup, Cleaning, and Miscellaneous	2018	NA	New	NA
6S	6E	Welding	2018	NA	New	NA
7S	7E	Truck Engine Emissions	2018	NA	New	NA
8S	8E	Parts Washers	2018	NA	New	NA
9S	9E	Fire Pump Engine	1999	368 hp	Existing	NA
10S	10E	Building Heaters	1998/2018	Btu/hr	Existing/New	NA
11S	11E	Retractable Paint Booth	2018	Paint Gun 49.61 gm/min	New	Filter
12S	12E	Windshield Installation	2018	2,100 gm/hr	New	NA
13S	13E	Diesel Tank – Tank No. 10	2018	10,000 gallons	New	NA
14S	14E	Windshield Washer Fluid Tank – Tank No. 1	2018	5,000 gallons	New	NA
15S	15E	Diesel Exhaust Fluid Tank – Tank No. 2	2018	6,000 gallons	New	NA

[1] For Emission Units (or Sources) use the following numbering system: 1S, 2S, 3S, or other appropriate designation.
[2] For Emission Points use the following numbering system: 1E, 2E, 3E, or other appropriate designation.
[3] New, modification, removal
[4] For Control Devices use the following numbering system: 1C, 2C, 3C, or other appropriate designation.

Attachment I

Emission Units Table

(includes all emission units and air pollution control devices that will be part of this permit application review, regardless of permitting status)

Emission Unit ID[1]	Emission Point ID[2]	Emission Unit Description	Year Installed/ Modified	Design Capacity	Type[3] and Date of Change	Control Device[4]
De Minimis		Vehicle Fluid Storage Totes, Drums and Containers	2018	8,800 gallons	New	NA
De Minimis		Transmission Oil Tank – Tank No. 3	2018	8,800 gallons	New	NA
De Minimis		Coolant Tank – Tank No. 4	2018	6,800 gallons	New	NA
De Minimis		Cooland Fluid Tank – Tank No. 5	2018	3,600 gallons	New	NA
De Minimis		Differential Oil Tank – Tank No. 6	2018	6,800 gallons	New	NA
De Minimis		Automatic Transmission and Power Streering Fluid Tank – Tank No. 7	2018	1,300 gallons	New	NA
De Minimis		Engine Oil Tank – Tank No. 8	2018	6,800 gallons	New	NA
De Minimis		Differential Oil Tank – Tank No. 9	2018	3,000 gallons	New	NA
VA	VA	Vehicle Activity	2018	Various	New	NA
16S	16E	Existing Diesel Tank – Tank No. 11	1998	2,000 gallons	Existing	NA
17S	17E	Existing Emergency Generator	1998	1,490 hp	Existing	NA
18S	18E	Existing Emergency Generator	2006	755 hp	Existing	NA

[1] For Emission Units (or Sources) use the following numbering system: 1S, 2S, 3S, or other appropriate designation.
[2] For Emission Points use the following numbering system: 1E, 2E, 3E, or other appropriate designation.
[3] New, modification, removal
[4] For Control Devices use the following numbering system: 1C, 2C, 3C, or other appropriate designation.

ATTACHMENT J

EMISSION POINTS DATA SUMMARY SHEET

Attachment J
EMISSION POINTS DATA SUMMARY SHEET

Table 1: Emissions Data

Emission Point ID No. *(Must match Emission Units Table & Plot Plan)*	Emission Point Type[1]	Emission Unit Vented Through This Point *(Must match Emission Units Table & Plot Plan)*		Air Pollution Control Device *(Must match Emission Units Table & Plot Plan)*		Vent Time for Emission Unit *(chemical processes only)*		All Regulated Pollutants - Chemical Name/CAS[3] *(Speciate VOCs & HAPS)*	Maximum Potential Uncontrolled Emissions [4]		Maximum Potential Controlled Emissions [5]		Emission Form or Phase *(At exit conditions, Solid, Liquid or Gas/ Vapor)*	Est. Method Used [6]	Emission Concentration [7] (ppmv or mg/m^4)
		ID No.	Source	ID No.	Device Type	Short Term[2]	Max (hr/yr)		lb/hr	ton/yr	lb/hr	ton/yr			
1E	Vertical	1S	Paint Booth No. 1 with Heater	1C	Filter	NA	NA	VOC (Paint/Heat) PM/PM10/PM2.5 CO (Heat) NO_X (Heat) SO_2 (Heat) Lead (Heat) HAPs (Paint/Heat)	16.00/0.01 9.89/0.01 0.12 0.15 0.01 0.000001 3.90/2.80E^{-3}	28.25/0.04 19.93/0.05 0.55 0.65 0.01 0.000003 2.62/1.22E^{-2}	16.00/0.01 0.10/0.01 0.12 0.15 0.01 0.000001 3.90/2.80E^{-3}	28.25/0.04 0.20/0.05 0.55 0.65 0.01 0.000003 2.62/1.22E^{-2}	Vapor Solid Gas Gas Gas Solid Vapor/Solid	Mass Balance and AP-42	NA
2E	Vertical	2S	Paint Booth No. 2 with Heater	2C	Filter	NA	NA	VOC (Paint/Heat) PM/PM10/PM2.5 CO (Heat) NO_X (Heat) SO_2 (Heat) Lead (Heat) HAPs (Paint/Heat)	16.00/0.01 9.89/0.01 0.12 0.15 0.01 0.000001 3.90/2.80E^{-3}	*/0.04 */0.05 0.55 0.65 0.01 0.000003 */1.22E^{-2}	16.00/0.01 9.89/0.01 0.12 0.15 0.01 0.000001 3.90/2.80E^{-3}	*/0.04 19.93/0.05 0.55 0.65 0.01 0.000003 */1.22E^{-2}	Vapor Solid Gas Gas Gas Solid Vapor/Solid	Mass Balance and AP-42	NA
3E	Vertical	3S	Paint Booth No. 3 with Heater	3C	Filter	NA	NA	VOC (Paint/Heat) PM/PM10/PM2.5 CO (Heat) NO_X (Heat) SO_2 (Heat) Lead (Heat) HAPs (Paint/Heat)	16.00/0.01 9.89/0.01 0.12 0.15 0.01 0.000001 3.90/2.80E^{-3}	*/0.04 */0.05 0.55 0.65 0.01 0.000003 */1.22E^{-2}	16.00/0.01 9.89/0.01 0.12 0.15 0.01 0.000001 3.90/2.80E^{-3}	*/0.04 */0.05 0.55 0.65 0.01 0.000003 */1.22E^{-2}	Vapor Solid Gas Gas Gas Solid Vapor/Solid	Mass Balance and AP-42	NA
11E	Vertical	11S	Retractable Paint Booth	11C	Filter	NA	NA	VOC PM/PM10/PM2.5 HAPs	3.53 2.18 0.86	* * *	3.53 0.11 0.86	* * *	Vapor Solid Vapor	Mass Balance	NA
*The yearly emissions for paint VOC, PM/PM10/PM2.5, and HAPs are combined and shown under Paint Booth No. 1 with Heater. These emissions may be from either of the three (3) paint booths or the proposed Retractable Paint Booth.															
4E	Vents Inside Building	4S	Body Prep Room	4C	Filter	NA	NA	PM PM10 PM2.5	5.00 2.38 2.38	21.90 10.43 10.43	5.00 2.38 2.38	21.90 10.43 10.43	Solid Solid Solid	Reg. 7 Limit	NA
5E	NA	5S	Inspection, Touchups Cleaning, and Miscellaneous	NA	NA	NA	NA	VOC HAPs	6.29 1.87	8.99 2.67	6.29 1.87	8.99 2.67	Vapor Vapor	Mass Balance	NA

Attachment J Continued
EMISSION POINTS DATA SUMMARY SHEET

Table 1: Emissions Data

Emission Point ID No. *(Must match Emission Units Table & Plot Plan)*	Emission Point Type[1]	Emission Unit Vented Through This Point *(Must match Emission Units Table & Plot Plan)*		Air Pollution Control Device *(Must match Emission Units Table & Plot Plan)*		Vent Time for Emission Unit *(chemical processes only)*		All Regulated Pollutants - Chemical Name/CAS[3] *(Speciate VOCs & HAPS)*	Maximum Potential Uncontrolled Emissions [4]		Maximum Potential Controlled Emissions [5]		Emission Form or Phase *(At exit conditions, Solid, Liquid or Gas/Vapor)*	Est. Method Used [6]	Emission Concentration [7] (ppmv or mg/m^4)
		ID No.	Source	ID No.	Device Type	Short Term[2]	Max (hr/yr)		lb/hr	ton/yr	lb/hr	ton/yr			
6E	NA	6S	Welding	NA	NA	NA	NA	PM/PM10/PM2.5 HAPs	0.08 0.0298	0.02 0.0077	0.08 0.0298	0.02 0.0077	Solid Vapor	AP-42	NA
7E	NA	7S	Truck Engine Emissions	NA	NA	NA	NA	VOC PM/PM10/PM2.5 CO NO_X SO_2 HAPs	0.04 0.04 0.05 0.75 3.56 0.0460	0.05 0.04 0.06 0.97 4.62 0.0598	0.04 0.04 0.05 0.75 3.56 0.0460	0.05 0.04 0.06 0.97 4.62 0.0598	Vapor Solid Gas Gas Gas Vapor	AP-42 and Manufacturer EF	NA
8E	NA	8S	Parts Washer	NA	NA	NA	NA	VOC	0.15	0.66	0.13	0.57	Vapor	AP-42	NA
9E	Vertical	9S	Fire Pump Engine	NA	NA	NA	NA	VOC PM/PM10/PM2.5 CO NO_X SO_2 HAPs	0.93 0.81 2.46 11.41 0.75 0.0097	0.23 0.20 0.62 2.85 0.19 0.0038	0.93 0.81 2.46 11.41 0.75 0.0097	0.23 0.20 0.62 2.85 0.19 0.0038	Vapor Solid Gas Gas Gas Vapor	AP-42	NA
10E	Vertical	10E	Building Heaters	NA	NA	NA	NA	VOC PM/PM10/PM2.5 CO NO_X SO_2 Pb HAPs	0.14 0.19 2.14 2.54 0.02 0.000003 0.05	0.62 0.85 9.36 11.15 0.06 0.000056 0.21	0.14 0.19 2.14 2.54 0.02 0.000003 0.05	0.62 0.85 9.36 11.15 0.06 0.000056 0.21	Vapor Solid Gas Gas Gas Solid Vapor	AP-42	NA
12E	NA	12S	Windshield Installation	NA	NA	NA	NA	VOC Xylene Ethylbenzene 4,4'-methylenediphenyl diisocyanate HAPs	0.50 0.28 0.11 0.16 0.45	0.65 0.36 0.15 0.07 0.58	0.50 0.28 0.11 0.16 0.45	0.65 0.36 0.15 0.07 0.58	Vapor Vapor Vapor Vapor Vapor	Mass Balance	NA

The EMISSION POINTS DATA SUMMARY SHEET provides a summation of emissions by emission unit. Note that uncaptured process emission unit emissions are not typically considered to be fugitive and must be accounted for on the appropriate EMISSIONS UNIT DATA SHEET and on the EMISSION POINTS DATA SUMMARY SHEET. Please note that total emissions from the source are equal to all vented emissions, all fugitive emissions, plus all other emissions (e.g. uncaptured emissions). Please complete the FUGITIVE EMISSIONS DATA SUMMARY SHEET for fugitive emission activities.

[1] Please add descriptors such as upward vertical stack, downward vertical stack, horizontal stack, relief vent, rain cap, etc.

[2] Indicate by "C" if venting is continuous. Otherwise, specify the average short-term venting rate with units, for intermittent venting (ie., 15 min/hr). Indicate as many rates as needed to clarify frequency of venting (e.g., 5 min/day, 2 days/wk).

[3] List all regulated air pollutants. Speciate VOCs, including all HAPs. Follow chemical name with Chemical Abstracts Service (CAS) number. **LIST** Acids, CO, CS_2, VOCs, H_2S, Inorganics, Lead, Organics, O_3, NO, NO_2, SO_2, SO_3, all applicable Greenhouse Gases (including CO_2 and methane), etc. **DO NOT LIST** H_2, H_2O, N_2, O_2, and Noble Gases.

[4] Give maximum potential emission rate with no control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

[5] Give maximum potential emission rate with proposed control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

[6] Indicate method used to determine emission rate as follows: MB = material balance; ST = stack test (give date of test); EE = engineering estimate; O = other (specify).

[7] Provide for all pollutant emissions. Typically, the units of parts per million by volume (ppmv) are used. If the emission is a mineral acid (sulfuric, nitric, hydrochloric or phosphoric) use units of milligram per dry cubic meter (mg/m^3) at standard conditions (68 °F and 29.92 inches Hg) (see 45CSR7). If the pollutant is SO_2, use units of ppmv (See 45CSR10).

Attachment J Continued
EMISSION POINTS DATA SUMMARY SHEET

Table 1: Emissions Data

Emission Point ID No. *(Must match Emission Units Table & Plot Plan)*	Emission Point Type[1]	Emission Unit Vented Through This Point *(Must match Emission Units Table & Plot Plan)*		Air Pollution Control Device *(Must match Emission Units Table & Plot Plan)*		Vent Time for Emission Unit *(chemical processes only)*		All Regulated Pollutants - Chemical Name/CAS[3] *(Speciate VOCs & HAPS)*	Maximum Potential Uncontrolled Emissions [4]		Maximum Potential Controlled Emissions [5]		Emission Form or Phase *(At exit conditions, Solid, Liquid or Gas/Vapor)*	Est. Method Used [6]	Emission Concentration [7] (ppmv or mg/m^4)
		ID No.	Source	ID No.	Device Type	Short Term[2]	Max (hr/yr)		lb/hr	ton/yr	lb/hr	ton/yr			
13E	NA	13S	Diesel Tank	NA	NA	NA	NA	VOC	0.153	0.005	0.153	0.005	Vapor	Tanks	NA
14E	NA	14S	Windshield Washer Fluid	NA	NA	NA	NA	Methanol	1.782	0.013	1.782	0.013	Vapor	Tanks	NA
15E	NA	15S	Diesel Exhaust Fluid	NA	NA	NA	NA	VOC	0.372	0.005	0.372	0.005	Vapor	Tanks	NA
16E	NA	16S	Existing Diesel Tank	NA	NA	NA	NA	VOC	0.040	0.001	0.040	0.001	Vapor	Tanks	NA
17E	Vertical	17S	Existing Emergency Generator	NA	NA	NA	NA	VOC PM/PM10/PM2.5 CO NO_X SO_2 HAPs	1.06 1.05 8.20 35.76 0.02 0.0160	0.27 0.26 2.05 8.94 0.01 0.0041	1.06 1.05 8.20 35.76 0.02 0.0160	0.27 0.26 2.05 8.94 0.01 0.0041	Vapor Solid Gas Gas Gas Vapor	AP-42	NA
18E	Vertical	18S	Existing Emergency Generator	NA	NA	NA	NA	VOC PM/PM10/PM2.5 CO NO_X SO_2 HAPs	0.53 0.23 4.30 8.00 0.01 0.0083	0.13 0.06 1.08 2.00 0.01 0.0022	0.53 0.23 4.30 8.00 0.01 0.0083	0.13 0.06 1.08 2.00 0.01 0.0022	Vapor Solid Gas Gas Gas Vapor	AP-42 and Manufacturer EF	NA

The EMISSION POINTS DATA SUMMARY SHEET provides a summation of emissions by emission unit. Note that uncaptured process emission unit emissions are not typically considered to be fugitive and must be accounted for on the appropriate EMISSIONS UNIT DATA SHEET and on the EMISSION POINTS DATA SUMMARY SHEET. Please note that total emissions from the source are equal to all vented emissions, all fugitive emissions, plus all other emissions (e.g. uncaptured emissions). Please complete the FUGITIVE EMISSIONS DATA SUMMARY SHEET for fugitive emission activities.

[1] Please add descriptors such as upward vertical stack, downward vertical stack, horizontal stack, relief vent, rain cap, etc.

[2] Indicate by "C" if venting is continuous. Otherwise, specify the average short-term venting rate with units, for intermittent venting (ie., 15 min/hr). Indicate as many rates as needed to clarify frequency of venting (e.g., 5 min/day, 2 days/wk).

[3] List all regulated air pollutants. Speciate VOCs, including all HAPs. Follow chemical name with Chemical Abstracts Service (CAS) number. **LIST** Acids, CO, CS_2, VOCs, H_2S, Inorganics, Lead, Organics, O_3, NO, NO_2, SO_2, SO_3, all applicable Greenhouse Gases (including CO_2 and methane), etc. **DO NOT LIST** H_2, H_2O, N_2, O_2, and Noble Gases.

[4] Give maximum potential emission rate with no control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

[5] Give maximum potential emission rate with proposed control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

[6] Indicate method used to determine emission rate as follows: MB = material balance; ST = stack test (give date of test); EE = engineering estimate; O = other (specify).

[7] Provide for all pollutant emissions. Typically, the units of parts per million by volume (ppmv) are used. If the emission is a mineral acid (sulfuric, nitric, hydrochloric or phosphoric) use units of milligram per dry cubic meter (mg/m^3) at standard conditions (68 °F and 29.92 inches Hg) (see 45CSR7). If the pollutant is SO_2, use units of ppmv (See 45CSR10).

Attachment J
EMISSION POINTS DATA SUMMARY SHEET

Table 2: Release Parameter Data								
Emission Point ID No. *(Must match Emission Units Table)*	Inner Diameter (ft.)	Exit Gas			Emission Point Elevation (ft)		UTM Coordinates (km)	
		Temp. (°F)	Volumetric Flow [1] (acfm) *at operating conditions*	Velocity (fps)	Ground Level *(Height above mean sea level)*	Stack Height [2] *(Release height of emissions above ground level)*	Northing	Easting
1E*	NA	Ambient	NA	NA	~626	~25 FT	4,340.12648	454.68510
2E*	NA	Ambient	NA	NA	~626	~25 FT		
3E*	NA	Ambient	NA	NA	~626	~25 FT		
4E	NA	Ambient	NA	NA	~626	~25 FT		
5E	NA	Ambient	NA	NA	~626	NA		
6E	NA	Ambient	NA	NA	~626	NA		
7E*	NA	Engine Exhaust	NA	NA	~626	NA		
8E	NA	Ambient	NA	NA	~626	NA		
9E*	NA	Engine Exhaust	NA	NA	~626	NA		
10E*	NA	Ambient	NA	NA	~626	NA		
11E*	NA	Ambient	NA	NA	~626	NA		
12E	NA	Ambient	NA	NA	~626	NA		
13E	NA	Ambient	NA	NA	~626	NA		
14E	NA	Ambient	NA	NA	~626	NA		
15E	NA	Ambient	NA	NA	~626	NA		
16E	NA	Ambient	NA	NA	~626	NA		
17E*	NA	Engine Exhaust	NA	NA	~626	NA		
18E*	NA	Engine Exhaust	NA	NA	~626	NA		

[1] Give at operating conditions. Include inerts.
[2] Release height of emissions above ground level.
*See design details in the Appendix.

ATTACHMENT K

FUGITIVE EMISSIONS DATA SUMMARY SHEET

Attachment K

FUGITIVE EMISSIONS DATA SUMMARY SHEET

The FUGITIVE EMISSIONS SUMMARY SHEET provides a summation of fugitive emissions. Fugitive emissions are those emissions which could not reasonably pass through a stack, chimney, vent or other functionally equivalent opening. Note that uncaptured process emissions are not typically considered to be fugitive, and must be accounted for on the appropriate EMISSIONS UNIT DATA SHEET and on the EMISSION POINTS DATA SUMMARY SHEET.

Please note that total emissions from the source are equal to all vented emissions, all fugitive emissions, plus all other emissions (e.g. uncaptured emissions).

APPLICATION FORMS CHECKLIST - FUGITIVE EMISSIONS
1.) Will there be haul road activities? ☒ Yes ☐ No ☐ If YES, then complete the HAUL ROAD EMISSIONS UNIT DATA SHEET.
2.) Will there be Storage Piles? ☐ Yes ☒ No ☐ If YES, complete Table 1 of the NONMETALLIC MINERALS PROCESSING EMISSIONS UNIT DATA SHEET.
3.) Will there be Liquid Loading/Unloading Operations? ☐ Yes ☒ No ☐ If YES, complete the BULK LIQUID TRANSFER OPERATIONS EMISSIONS UNIT DATA SHEET.
4.) Will there be emissions of air pollutants from Wastewater Treatment Evaporation? ☐ Yes ☒ No ☐ If YES, complete the GENERAL EMISSIONS UNIT DATA SHEET.
5.) Will there be Equipment Leaks (e.g. leaks from pumps, compressors, in-line process valves, pressure relief devices, open-ended valves, sampling connections, flanges, agitators, cooling towers, etc.)? ☐ Yes ☒ No ☐ If YES, complete the LEAK SOURCE DATA SHEET section of the CHEMICAL PROCESSES EMISSIONS UNIT DATA SHEET.
6.) Will there be General Clean-up VOC Operations? ☐ Yes ☒ No ☐ If YES, complete the GENERAL EMISSIONS UNIT DATA SHEET.
7.) Will there be any other activities that generate fugitive emissions? ☐ Yes ☒ No ☐ If YES, complete the GENERAL EMISSIONS UNIT DATA SHEET or the most appropriate form.
If you answered "NO" to all of the items above, it is not necessary to complete the following table, "Fugitive Emissions Summary."

FUGITIVE EMISSIONS SUMMARY	All Regulated Pollutants - Chemical Name/CAS [1]	Maximum Potential Uncontrolled Emissions [2]		Maximum Potential Controlled Emissions [3]		Est. Method Used [4]
		lb/hr	ton/yr	lb/hr	ton/yr	
Haul Road/Road Dust Emissions Paved Haul Roads	PM PM10 PM2.5	8.93 1.80 0.50	11.32 2.29 0.64	8.93 1.80 0.50	11.32 2.29 0.64	AP-42
Unpaved Haul Roads	PM PM10 PM2.5	52.54 14.06 1.42	68.30 18.28 1.85	52.54 14.06 1.42	68.30 18.28 1.85	AP-42
Storage Pile Emissions						
Loading/Unloading Operations						
Wastewater Treatment Evaporation & Operations						
Equipment Leaks						
General Clean-up VOC Emissions						
Other						

[1] List all regulated air pollutants. Speciate VOCs, including all HAPs. Follow chemical name with Chemical Abstracts Service (CAS) number. LIST Acids, CO, CS_2, VOCs, H_2S, Inorganics, Lead, Organics, O_3, NO, NO_2, SO_2, SO_3, etc. DO NOT LIST CO_2, H_2, H_2O, N_2, O_2, and Noble Gases.

[2] Give rate with no control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

[3] Give rate with proposed control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

[4] Indicate method used to determine emission rate as follows: MB = material balance; ST = stack test (give date of test); EE = engineering estimate; O = other (specify).

ATTACHMENT L

EMISSION UNIT DATA SHEETS

/Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): 1S (1E), 2S (2E) and 3S (3E)

1. Name or type and model of proposed affected source:

   Paint Booths Nos. 1 to 3 with Heater – See Information in Appendix (Includes Paint Mix Booth)

2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.

3. Name(s) and maximum amount of proposed process material(s) charged per hour:

   Paint Gun – 29.74 pounds per hour per booth
   Natural Gas Heater – 1.5126 MM Btu/hr per heater

4. Name(s) and maximum amount of proposed material(s) produced per hour:

   Painted Materials

5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:

   None

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):

(a) Type and amount in appropriate units of fuel(s) to be burned:

Approximately 1.5126 MM Btu/hr per heater

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

Pipeline Quality Natural Gas

(c) Theoretical combustion air requirement (ACF/unit of fuel): NA

@ °F and psia.

(d) Percent excess air:

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

1.5126 MM Btu/hr per heater

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

NA

(g) Proposed maximum design heat input: 1.5126 × 10^6 BTU/hr.

7. Projected operating schedule:

Hours/Day	24	Days/Week	7	Weeks/Year	52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used: Per Booth

@ Ambient °F and Ambient psia

a.	NO_X (Heat)	0.15	lb/hr	grains/ACF
b.	SO_2 (Heat)	0.01	lb/hr	grains/ACF
c.	CO (Heat)	0.12	lb/hr	grains/ACF
d.	PM_{10} (Paint/Heat)	9.89/0.01	lb/hr	grains/ACF
e.	Hydrocarbons		lb/hr	grains/ACF
f.	VOCs (Paint/Heat)	16.00/0.01	lb/hr	grains/ACF
g.	Pb (Heat)	0.000001	lb/hr	grains/ACF
h.	Specify other(s)			
	HAPs* (Paint/Heat)	$3.90/2.80E^{-3}$		
	*Speciated HAPs in Attachment N		lb/hr	grains/ACF
			lb/hr	grains/ACF
			lb/hr	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING	RECORDKEEPING
Track the amount of paint used and VOC content.	Record the amount of paint used and VOC content.
REPORTING	TESTING
None	None

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

None Provided

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): 4S (4E)

1. Name or type and model of proposed affected source:

   Body Prep Room – See Information in Appendix

2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.

3. Name(s) and maximum amount of proposed process material(s) charged per hour:

   Truck parts are prepared for painting/repainting with an estimated rate of 5,000 pounds per hour

4. Name(s) and maximum amount of proposed material(s) produced per hour:

   Prepared parts at 5,000 pounds per hour

5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:

   None

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable): NA

(a) Type and amount in appropriate units of fuel(s) to be burned:

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

(c) Theoretical combustion air requirement (ACF/unit of fuel):

@ °F and psia.

(d) Percent excess air:

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

(g) Proposed maximum design heat input: $\times 10^6$ BTU/hr.

7. Projected operating schedule:

Hours/Day	24	Days/Week	7	Weeks/Year	52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@ Ambient °F and Ambient psia

a.	NO_X		lb/hr	grains/ACF
b.	SO_2		lb/hr	grains/ACF
c.	CO		lb/hr	grains/ACF
d.	PM_{10}	2.38	lb/hr	grains/ACF
e.	Hydrocarbons		lb/hr	grains/ACF
f.	VOCs		lb/hr	grains/ACF
g.	Pb		lb/hr	grains/ACF
h.	Specify other(s)			
			lb/hr	
			lb/hr	grains/ACF
			lb/hr	grains/ACF
			lb/hr	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING	RECORDKEEPING
None – the Body Prep Room vents back inside the building	None – the Body Prep Room vents back inside the building
REPORTING	TESTING
None – the Body Prep Room vents back inside the building	None – the Body Prep Room vents back inside the building

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

None

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): 5S (5E)

1. Name or type and model of proposed affected source:

   Inspection, Touchup, Cleaning, and Miscellaneous

2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.

3. Name(s) and maximum amount of proposed process material(s) charged per hour:

   Various uses of materials throughout the site for spot repair of paint, cleaning, etc.

4. Name(s) and maximum amount of proposed material(s) produced per hour:

   NA

5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:

   NA

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable): NA

(a) Type and amount in appropriate units of fuel(s) to be burned:

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

(c) Theoretical combustion air requirement (ACF/unit of fuel):

@ °F and psia.

(d) Percent excess air:

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

(g) Proposed maximum design heat input: $\times 10^6$ BTU/hr.

7. Projected operating schedule:

Hours/Day	24	Days/Week	7	Weeks/Year	52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:			
@		°F and	psia
a.	NO_X	lb/hr	grains/ACF
b.	SO_2	lb/hr	grains/ACF
c.	CO	lb/hr	grains/ACF
d.	PM_{10}	lb/hr	grains/ACF
e.	Hydrocarbons	lb/hr	grains/ACF
f.	VOCs	6.29 lb/hr	grains/ACF
g.	Pb	lb/hr	grains/ACF
h.	Specify other(s)		
	HAPs	1.87 lb/hr	
		lb/hr	grains/ACF
		lb/hr	grains/ACF
		lb/hr	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING	RECORDKEEPING
Track the purchase of each identified material and the actual use of the paint products.	Record the purchase of each identified material and the actual use of the paint products.
REPORTING	TESTING
None	None

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

NA

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): 6S (6E)

1. Name or type and model of proposed affected source:

   Welding

2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.

3. Name(s) and maximum amount of proposed process material(s) charged per hour:

   1 pound per hour

4. Name(s) and maximum amount of proposed material(s) produced per hour:

   NA

5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:

   NA

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable): NA

(a) Type and amount in appropriate units of fuel(s) to be burned:

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

(c) Theoretical combustion air requirement (ACF/unit of fuel):

@ °F and psia.

(d) Percent excess air:

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

(g) Proposed maximum design heat input: $\times 10^6$ BTU/hr.

7. Projected operating schedule:

Hours/Day	24	Days/Week	7	Weeks/Year	52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@ °F and psia

a.	NO_X		lb/hr	grains/ACF
b.	SO_2		lb/hr	grains/ACF
c.	CO		lb/hr	grains/ACF
d.	PM_{10}	0.08	lb/hr	grains/ACF
e.	Hydrocarbons		lb/hr	grains/ACF
f.	VOCs		lb/hr	grains/ACF
g.	Pb		lb/hr	grains/ACF
h.	Specify other(s)			
	HAPs*	0.0298	lb/hr	grains/ACF
	*Speciated HAPs in Attachment N.		lb/hr	grains/ACF
			lb/hr	grains/ACF
			lb/hr	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING	RECORDKEEPING
Track the amount of welding wire purchased.	Record the amount of welding wire purchased.
REPORTING	**TESTING**
None	None

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

NA

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): 7S (7E)

1. Name or type and model of proposed affected source:

   Truck Engine Emissions

2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.

3. Name(s) and maximum amount of proposed process material(s) charged per hour:

   The engine emissions are for a 40 minute test time of an estimated 10 vehicles per hour inside the building. Once this test is complete, the vehicle is a mobile source and the emissions from the engines no longer count toward the PTE.

4. Name(s) and maximum amount of proposed material(s) produced per hour:

   NA

5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:

   NA

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):

(a) Type and amount in appropriate units of fuel(s) to be burned:

Diesel Fuel

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

Commercially available diesel fuels

(c) Theoretical combustion air requirement (ACF/unit of fuel): NA

@ °F and psia.

(d) Percent excess air: NA

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

NA - Engine

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

NA

(g) Proposed maximum design heat input: NA $\times 10^6$ BTU/hr.

7. Projected operating schedule:

Hours/Day	24	Days/Week	7	Weeks/Year	52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@ Truck Exhaust °F and Ambient psia

a.	NO_X	0.75	lb/hr	grains/ACF
b.	SO_2	3.56	lb/hr	grains/ACF
c.	CO	0.05	lb/hr	grains/ACF
d.	PM_{10}	0.04	lb/hr	grains/ACF
e.	Hydrocarbons		lb/hr	grains/ACF
f.	VOCs	0.04	lb/hr	grains/ACF
g.	Pb		lb/hr	grains/ACF
h.	Specify other(s)			
	HAPs*	0.046	lb/hr	grains/ACF
	*Speciated HAPs in Attachment N.		lb/hr	grains/ACF
			lb/hr	grains/ACF
			lb/hr	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING	RECORDKEEPING
Track the number of trucks assembled per year.	Record the number of trucks assembled per year.
REPORTING	**TESTING**
None	None

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

NA

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): 8S (8E)

1. Name or type and model of proposed affected source:

Parts Washers

2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.

3. Name(s) and maximum amount of proposed process material(s) charged per hour:

This source is two parts washers which are refreshed as needed.

4. Name(s) and maximum amount of proposed material(s) produced per hour:

None

5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:

NA

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable): NA

(a) Type and amount in appropriate units of fuel(s) to be burned:

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

(c) Theoretical combustion air requirement (ACF/unit of fuel):

@ °F and psia.

(d) Percent excess air:

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

(g) Proposed maximum design heat input: $\times 10^6$ BTU/hr.

7. Projected operating schedule:

Hours/Day	24	Days/Week	7	Weeks/Year	52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:			
@		°F and	psia
a.	NO_X	lb/hr	grains/ACF
b.	SO_2	lb/hr	grains/ACF
c.	CO	lb/hr	grains/ACF
d.	PM_{10}	lb/hr	grains/ACF
e.	Hydrocarbons	lb/hr	grains/ACF
f.	VOCs	0.15 lb/hr	grains/ACF
g.	Pb	lb/hr	grains/ACF
h.	Specify other(s)		
		lb/hr	grains/ACF
		lb/hr	grains/ACF
		lb/hr	grains/ACF
		lb/hr	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING	RECORDKEEPING
None	None
REPORTING	TESTING
None	None

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

NA

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): 9S (9E)

1. Name or type and model of proposed affected source:

   Fire Pump Engine – See Information in Appendix

2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.

3. Name(s) and maximum amount of proposed process material(s) charged per hour:

   This source is the 368 horsepower engine.

4. Name(s) and maximum amount of proposed material(s) produced per hour:

   NA

5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:

   NA

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable): NA

(a) Type and amount in appropriate units of fuel(s) to be burned:

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

(c) Theoretical combustion air requirement (ACF/unit of fuel): NA

@ °F and psia.

(d) Percent excess air: NA

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

NA

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

NA

(g) Proposed maximum design heat input: $\times 10^6$ BTU/hr.

7. Projected operating schedule: Limited to 500 Hours Per Year

Hours/Day	24	Days/Week	7	Weeks/Year	52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@ Engine Exhaust °F and Ambient psia

a.	NO_X	11.41	lb/hr	grains/ACF
b.	SO_2	0.75	lb/hr	grains/ACF
c.	CO	2.46	lb/hr	grains/ACF
d.	PM_{10}	0.81	lb/hr	grains/ACF
e.	Hydrocarbons		lb/hr	grains/ACF
f.	VOCs	0.93	lb/hr	grains/ACF
g.	Pb		lb/hr	grains/ACF
h.	Specify other(s)			
	HAPs*	0.0097	lb/hr	grains/ACF
	*Speciated HAPs shown in Attachment N.		lb/hr	grains/ACF
			lb/hr	grains/ACF
			lb/hr	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING	RECORDKEEPING
Track run time.	Record run time.
REPORTING	TESTING
None	None

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

NA

EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): 10S (10E)

1. Name or type and model of proposed affected source:

   Building Heaters (multiple heaters)

2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.

3. Name(s) and maximum amount of proposed process material(s) charged per hour:

   This emission unit is for the natural gas fired building heaters with a total heat input of 25.948 MM Btu/hr.

4. Name(s) and maximum amount of proposed material(s) produced per hour:

   None

5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:

   NA

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):

(a) Type and amount in appropriate units of fuel(s) to be burned:

Natural gas at a total of 25.948 MM Btu/hr.

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

Pipeline Quality Natural Gas

(c) Theoretical combustion air requirement (ACF/unit of fuel): NA

@ °F and psia.

(d) Percent excess air: NA

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

Various

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

NA

(g) Proposed maximum design heat input: 25.948 × 10^6 BTU/hr.

7. Projected operating schedule:

Hours/Day	24	Days/Week	7	Weeks/Year	52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@ °F and psia

a.	NO_X	2.54	lb/hr	grains/ACF
b.	SO_2	0.02	lb/hr	grains/ACF
c.	CO	2.14	lb/hr	grains/ACF
d.	PM_{10}	0.19	lb/hr	grains/ACF
e.	Hydrocarbons		lb/hr	grains/ACF
f.	VOCs	0.14	lb/hr	grains/ACF
g.	Pb	0.000003	lb/hr	grains/ACF
h.	Specify other(s)			
	HAPs*	0.05	lb/hr	
	*Speciated HAPs shown in Attachment N.		lb/hr	grains/ACF
			lb/hr	grains/ACF
			lb/hr	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING	RECORDKEEPING
None	None
REPORTING	TESTING
None	None

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

None

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): 11S (11E)

1. Name or type and model of proposed affected source:

   Retractable Paint Booth – See Information in Appendix

2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.

3. Name(s) and maximum amount of proposed process material(s) charged per hour:

   Paint Gun – 6.56 pounds per hour

4. Name(s) and maximum amount of proposed material(s) produced per hour:

   Painted Materials

5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:

   None

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):

(a) Type and amount in appropriate units of fuel(s) to be burned:

NA

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

NA

(c) Theoretical combustion air requirement (ACF/unit of fuel): NA

@ °F and psia.

(d) Percent excess air:

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

NA

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

NA

(g) Proposed maximum design heat input: $\times 10^6$ BTU/hr.

7. Projected operating schedule:

Hours/Day	52	Days/Week	7	Weeks/Year	52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used: Per Booth

@ Ambient °F and Ambient psia

a.	NO_X		lb/hr	grains/ACF
b.	SO_2		lb/hr	grains/ACF
c.	CO		lb/hr	grains/ACF
d.	PM_{10}	2.18	lb/hr	grains/ACF
e.	Hydrocarbons		lb/hr	grains/ACF
f.	VOCs	3.53	lb/hr	grains/ACF
g.	Pb		lb/hr	grains/ACF
h.	Specify other(s) HAPs*	0.86		
	*Speciated HAPs in Attachment N		lb/hr	grains/ACF
			lb/hr	grains/ACF
			lb/hr	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING	RECORDKEEPING
Track the amount of paint used and VOC content.	Record the amount of paint used and VOC content.
REPORTING	TESTING
None	None

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

None Provided

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): 12S (12E)

1. Name or type and model of proposed affected source:

   Windshield Installation Operation

2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.

3. Name(s) and maximum amount of proposed process material(s) charged per hour:

   Windshield Sealant: 2,500 grams per hour
   Activator: 35.50 grams per hour

4. Name(s) and maximum amount of proposed material(s) produced per hour:

   NA

5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:

   None

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):

(a) Type and amount in appropriate units of fuel(s) to be burned:

NA

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

NA

(c) Theoretical combustion air requirement (ACF/unit of fuel): NA

@ °F and psia.

(d) Percent excess air:

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

NA

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

NA

(g) Proposed maximum design heat input: NA $\times 10^6$ BTU/hr.

7. Projected operating schedule:

Hours/Day	52	Days/Week	7	Weeks/Year	52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used: Per Booth

@ Ambient °F and Ambient psia

a.	NO_X		lb/hr	grains/ACF
b.	SO_2		lb/hr	grains/ACF
c.	CO		lb/hr	grains/ACF
d.	PM_{10}		lb/hr	grains/ACF
e.	Hydrocarbons		lb/hr	grains/ACF
f.	VOCs	0.50	lb/hr	grains/ACF
g.	Pb		lb/hr	grains/ACF
h.	Specify other(s)			
	HAPs*	0.45	lb/hr	
	*Speciated HAPs in Attachment N		lb/hr	grains/ACF
			lb/hr	grains/ACF
			lb/hr	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING	RECORDKEEPING
None	Record the amount of sealant and activator purchased.
REPORTING	TESTING
None	None

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

NA

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): 17S (17E)

1. Name or type and model of proposed affected source:

   Emergency Generator – See Information in Appendix.

2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.

3. Name(s) and maximum amount of proposed process material(s) charged per hour:

   This source is the 1,490 horsepower engine.

4. Name(s) and maximum amount of proposed material(s) produced per hour:

   NA

5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:

   NA

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable): NA

(a) Type and amount in appropriate units of fuel(s) to be burned:

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

(c) Theoretical combustion air requirement (ACF/unit of fuel): NA

@ °F and psia.

(d) Percent excess air: NA

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

NA

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

NA

(g) Proposed maximum design heat input: $\times 10^6$ BTU/hr.

7. Projected operating schedule: Limited to 500 Hours Per Year

Hours/Day	24	Days/Week	7	Weeks/Year	52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@ Engine Exhaust °F and Ambient psia

a.	NO_X	35.76	lb/hr	grains/ACF
b.	SO_2	0.02	lb/hr	grains/ACF
c.	CO	8.20	lb/hr	grains/ACF
d.	PM_{10}	1.05	lb/hr	grains/ACF
e.	Hydrocarbons		lb/hr	grains/ACF
f.	VOCs	1.06	lb/hr	grains/ACF
g.	Pb		lb/hr	grains/ACF
h.	Specify other(s)			
	HAPs*	0.0160	lb/hr	grains/ACF
	*Speciated HAPs shown in Attachment N.		lb/hr	grains/ACF
			lb/hr	grains/ACF
			lb/hr	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING	RECORDKEEPING
Track run time.	Record run time.
REPORTING	TESTING
None	None

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

NA

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): 18S (18E)

1. Name or type and model of proposed affected source:

   Emergency Generator – See Information in Appendix.

2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.

3. Name(s) and maximum amount of proposed process material(s) charged per hour:

   This source is the 755 horsepower engine.

4. Name(s) and maximum amount of proposed material(s) produced per hour:

   NA

5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:

   NA

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable): NA

(a) Type and amount in appropriate units of fuel(s) to be burned:

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

(c) Theoretical combustion air requirement (ACF/unit of fuel): NA

@ °F and psia.

(d) Percent excess air: NA

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

NA

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

NA

(g) Proposed maximum design heat input: $\times 10^6$ BTU/hr.

7. Projected operating schedule: Limited to 500 Hours Per Year

Hours/Day	24	Days/Week	7	Weeks/Year	52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@ Engine Exhaust °F and Ambient psia

a.	NO_X	8.00	lb/hr	grains/ACF
b.	SO_2	0.01	lb/hr	grains/ACF
c.	CO	4.30	lb/hr	grains/ACF
d.	PM_{10}	0.23	lb/hr	grains/ACF
e.	Hydrocarbons		lb/hr	grains/ACF
f.	VOCs	0.53	lb/hr	grains/ACF
g.	Pb		lb/hr	grains/ACF
h.	Specify other(s)			
	HAPs*	0.0083	lb/hr	grains/ACF
	*Speciated HAPs shown in Attachment N.		lb/hr	grains/ACF
			lb/hr	grains/ACF
			lb/hr	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING	RECORDKEEPING
Track run time.	Record run time.
REPORTING	TESTING
None	None

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

NA

Attachment L
EMISSIONS UNIT DATA SHEET
STORAGE TANKS

Provide the following information for each new or modified bulk liquid storage tank as shown on the *Equipment List Form* and other parts of this application. A tank is considered modified if the material to be stored in the tank is different from the existing stored liquid.

IF USING US EPA'S TANKS EMISSION ESTIMATION PROGRAM (AVAILABLE AT **www.epa.gov/tnn/tanks.html**), APPLICANT MAY ATTACH THE SUMMARY SHEETS IN LIEU OF COMPLETING SECTIONS III, IV, & V OF THIS FORM. HOWEVER, SECTIONS I, II, AND VI OF THIS FORM MUST BE COMPLETED. US EPA'S AP-42, SECTION 7.1, "ORGANIC LIQUID STORAGE TANKS," MAY ALSO BE USED TO ESTIMATE VOC AND HAP EMISSIONS (**http://www.epa.gov/tnn/chief/**).

I. GENERAL INFORMATION (required)

1. Bulk Storage Area Name NA	2. Tank Name Diesel Fuel
3. Tank Equipment Identification No. (as assigned on *Equipment List Form*) 13S	4. Emission Point Identification No. (as assigned on *Equipment List Form*) 13E
5. Date of Commencement of Construction (for existing tanks) May 1, 2018	
6. Type of change ☒ New Construction ☐ New Stored Material ☐ Other Tank Modification	
7. Description of Tank Modification (if applicable) NA	
7A. Does the tank have more than one mode of operation? (e.g. Is there more than one product stored in the tank?) ☐ Yes ☒ No	
7B. If YES, explain and identify which mode is covered by this application (Note: A separate form must be completed for each mode). NA	
7C. Provide any limitations on source operation affecting emissions, any work practice standards (e.g. production variation, etc.): NA	

II. TANK INFORMATION (required)

8. Design Capacity (specify barrels or gallons). Use the internal cross-sectional area multiplied by internal height. 10,000 gallons	
9A. Tank Internal Diameter (ft) 8.00	9B. Tank Internal Height (or Length) (ft) 27.00
10A. Maximum Liquid Height (ft) 27.00	10B. Average Liquid Height (ft) 13.50
11A. Maximum Vapor Space Height (ft) 27.00	11B. Average Vapor Space Height (ft) 13.50
12. Nominal Capacity (specify barrels or gallons). This is also known as "working volume" and considers design liquid levels and overflow valve heights.	

13A. Maximum annual throughput (gal/yr)	13B. Maximum daily throughput (gal/day)
500,000	1,370[1]

14. Number of Turnovers per year (annual net throughput/maximum tank liquid volume): 50

15. Maximum tank fill rate (gal/min): 100

16. Tank fill method: ☐ Submerged ☐ Splash ☒ Bottom Loading

17. Complete 17A and 17B for Variable Vapor Space Tank Systems ☐ Does Not Apply

17A. Volume Expansion Capacity of System (gal)	17B. Number of transfers into system per year

18. Type of tank (check all that apply):

☐ Fixed Roof ___ vertical X horizontal ___ flat roof ___ cone roof ___ dome roof
___ other (describe)

☐ External Floating Roof ___ pontoon roof ___ double deck roof

☐ Domed External (or Covered) Floating Roof

☐ Internal Floating Roof ___ vertical column support ___ self-supporting

☐ Variable Vapor Space ___ lifter roof ___ diaphragm

☐ Pressurized ___ spherical ___ cylindrical

☐ Underground

☐ Other (describe)

III. TANK CONSTRUCTION & OPERATION INFORMATION (optional if providing TANKS Summary Sheets)

19. Tank Shell Construction:

☐ Riveted ☐ Gunite lined ☐ Epoxy-coated rivets ☐ Other (describe)

20A. Shell Color	20B. Roof Color	20C. Year Last Painted

21. Shell Condition (if metal and unlined):

☐ No Rust ☐ Light Rust ☐ Dense Rust ☐ Not applicable

22A. Is the tank heated? ☐ YES ☐ NO

22B. If YES, provide the operating temperature (°F)

22C. If YES, please describe how heat is provided to tank.

23. Operating Pressure Range (psig): to

24. Complete the following section for **Vertical Fixed Roof Tanks** ☐ Does Not Apply

24A. For dome roof, provide roof radius (ft)

24B. For cone roof, provide slope (ft/ft)

25. Complete the following section for **Floating Roof Tanks** ☐ Does Not Apply

25A. Year Internal Floaters Installed:

25B. Primary Seal Type: (check one) ☐ Metallic (Mechanical) Shoe Seal ☐ Liquid Mounted Resilient Seal ☐ Vapor Mounted Resilient Seal ☐ Other (describe):

25C. Is the Floating Roof equipped with a Secondary Seal? ☐ YES ☐ NO

25D. If YES, how is the secondary seal mounted? (check one) ☐ Shoe ☐ Rim ☐ Other (describe):

25E. Is the Floating Roof equipped with a weather shield? ☐ YES ☐ NO

[1]Maximum daily throughput is maximum yearly throughput/365 days.

25F. Describe deck fittings; indicate the number of each type of fitting:		
ACCESS HATCH		
BOLT COVER, GASKETED:	UNBOLTED COVER, GASKETED:	UNBOLTED COVER, UNGASKETED:
AUTOMATIC GAUGE FLOAT WELL		
BOLT COVER, GASKETED:	UNBOLTED COVER, GASKETED:	UNBOLTED COVER, UNGASKETED:
COLUMN WELL		
BUILT-UP COLUMN – SLIDING COVER, GASKETED:	BUILT-UP COLUMN – SLIDING COVER, UNGASKETED:	PIPE COLUMN – FLEXIBLE FABRIC SLEEVE SEAL:
LADDER WELL		
PIP COLUMN – SLIDING COVER, GASKETED:	PIPE COLUMN – SLIDING COVER, UNGASKETED:	
GAUGE-HATCH/SAMPLE PORT		
SLIDING COVER, GASKETED:	SLIDING COVER, UNGASKETED:	
ROOF LEG OR HANGER WELL		
WEIGHTED MECHANICAL ACTUATION, GASKETED:	WEIGHTED MECHANICAL ACTUATION, UNGASKETED:	SAMPLE WELL-SLIT FABRIC SEAL (10% OPEN AREA)
VACUUM BREAKER		
WEIGHTED MECHANICAL ACTUATION, GASKETED:	WEIGHTED MECHANICAL ACTUATION, UNGASKETED:	
RIM VENT		
WEIGHTED MECHANICAL ACTUATION GASKETED:	WEIGHTED MECHANICAL ACTUATION, UNGASKETED:	
DECK DRAIN (3-INCH DIAMETER)		
OPEN:	90% CLOSED:	
STUB DRAIN		
1-INCH DIAMETER:		
OTHER (DESCRIBE, ATTACH ADDITIONAL PAGES IF NECESSARY)		

26. Complete the following section for Internal Floating Roof Tanks ☐ Does Not Apply	
26A. Deck Type: ☐ Bolted ☐ Welded	
26B. For Bolted decks, provide deck construction:	
26C. Deck seam: ☐ Continuous sheet construction 5 feet wide ☐ Continuous sheet construction 6 feet wide ☐ Continuous sheet construction 7 feet wide ☐ Continuous sheet construction 5 × 7.5 feet wide ☐ Continuous sheet construction 5 × 12 feet wide ☐ Other (describe)	
26D. Deck seam length (ft)	26E. Area of deck (ft^2)
For column supported tanks: 26F. Number of columns:	26G. Diameter of each column:

IV. SITE INFORMANTION (optional if providing TANKS Summary Sheets)

27. Provide the city and state on which the data in this section are based.
28. Daily Average Ambient Temperature (°F)
29. Annual Average Maximum Temperature (°F)
30. Annual Average Minimum Temperature (°F)
31. Average Wind Speed (miles/hr)
32. Annual Average Solar Insulation Factor (BTU/(ft^2·day))
33. Atmospheric Pressure (psia)

V. LIQUID INFORMATION (optional if providing TANKS Summary Sheets)

34. Average daily temperature range of bulk liquid:	
34A. Minimum (°F)	34B. Maximum (°F)
35. Average operating pressure range of tank:	
35A. Minimum (psig)	35B. Maximum (psig)
36A. Minimum Liquid Surface Temperature (°F)	36B. Corresponding Vapor Pressure (psia)
37A. Average Liquid Surface Temperature (°F)	37B. Corresponding Vapor Pressure (psia)
38A. Maximum Liquid Surface Temperature (°F)	38B. Corresponding Vapor Pressure (psia)

39. Provide the following for <u>each</u> liquid or gas to be stored in tank. Add additional pages if necessary.

39A. Material Name or Composition			
39B. CAS Number			
39C. Liquid Density (lb/gal)			
39D. Liquid Molecular Weight (lb/lb-mole)			
39E. Vapor Molecular Weight (lb/lb-mole)			

Maximum Vapor Pressure 39F. True (psia) 39G. Reid (psia)			
Months Storage per Year 39H. From 39I. To			

VI. EMISSIONS AND CONTROL DEVICE DATA (required)

40. Emission Control Devices (check as many as apply): ☐ Does Not Apply

- ☐ Carbon Adsorption[1]
- ☐ Condenser[1]
- ☒ Conservation Vent (psig)
  - Vacuum Setting — Pressure Setting 1.25
- ☐ Emergency Relief Valve (psig)
- ☐ Inert Gas Blanket of
- ☐ Insulation of Tank with
- ☐ Liquid Absorption (scrubber)[1]
- ☐ Refrigeration of Tank
- ☐ Rupture Disc (psig)
- ☐ Vent to Incinerator[1]
- ☐ Other[1] (describe):

[1] Complete appropriate Air Pollution Control Device Sheet.

41. Expected Emission Rate (submit Test Data or Calculations here or elsewhere in the application).

Material Name & CAS No.	Breathing Loss (lb/hr)	Working Loss Amount	Working Loss Units	Annual Loss (lb/yr)	Estimation Method[1]
VOC	0.001	7.64	lbs/yr	9.42	Tanks 4.0.9d

[1] EPA = EPA Emission Factor, MB = Material Balance, SS = Similar Source, ST = Similar Source Test, Throughput Data, O = Other (specify)

☐ Remember to attach emissions calculations, including TANKS Summary Sheets if applicable.

Attachment L

EMISSIONS UNIT DATA SHEET
STORAGE TANKS

Provide the following information for each new or modified bulk liquid storage tank as shown on the *Equipment List Form* and other parts of this application. A tank is considered modified if the material to be stored in the tank is different from the existing stored liquid.

IF USING US EPA'S TANKS EMISSION ESTIMATION PROGRAM (AVAILABLE AT **www.epa.gov/tnn/tanks.html**), APPLICANT MAY ATTACH THE SUMMARY SHEETS IN LIEU OF COMPLETING SECTIONS III, IV, & V OF THIS FORM. HOWEVER, SECTIONS I, II, AND VI OF THIS FORM MUST BE COMPLETED. US EPA'S AP-42, SECTION 7.1, "ORGANIC LIQUID STORAGE TANKS," MAY ALSO BE USED TO ESTIMATE VOC AND HAP EMISSIONS (**http://www.epa.gov/tnn/chief/**).

I. GENERAL INFORMATION (required)

1. Bulk Storage Area Name Fluids Building	2. Tank Name Window Washer Fluid
3. Tank Equipment Identification No. (as assigned on *Equipment List Form*) 14S	4. Emission Point Identification No. (as assigned on *Equipment List Form*) 14E
5. Date of Commencement of Construction (for existing tanks) May 1, 2018	
6. Type of change ☒ New Construction ☐ New Stored Material ☐ Other Tank Modification	
7. Description of Tank Modification (if applicable)	
7A. Does the tank have more than one mode of operation? (e.g. Is there more than one product stored in the tank?) ☐ Yes ☒ No	
7B. If YES, explain and identify which mode is covered by this application (Note: A separate form must be completed for each mode).	
7C. Provide any limitations on source operation affecting emissions, any work practice standards (e.g. production variation, etc.): NA	

II. TANK INFORMATION (required)

8. Design Capacity (specify barrels or gallons). Use the internal cross-sectional area multiplied by internal height. 5,000	
9A. Tank Internal Diameter (ft) 7.83	9B. Tank Internal Height (or Length) (ft) 14.00
10A. Maximum Liquid Height (ft) 14.00	10B. Average Liquid Height (ft) 7.00
11A. Maximum Vapor Space Height (ft) 14.00	11B. Average Vapor Space Height (ft) 7.00
12. Nominal Capacity (specify barrels or gallons). This is also known as "working volume" and considers design liquid levels and overflow valve heights.	

13A. Maximum annual throughput (gal/yr)	13B. Maximum daily throughput (gal/day)
25,000	68[1]

14. Number of Turnovers per year (annual net throughput/maximum tank liquid volume)
5

15. Maximum tank fill rate (gal/min) 100 gallons/min

16. Tank fill method ☐ Submerged ☐ Splash ☒ Bottom Loading

17. Complete 17A and 17B for Variable Vapor Space Tank Systems ☐ Does Not Apply

17A. Volume Expansion Capacity of System (gal)	17B. Number of transfers into system per year

18. Type of tank (check all that apply):
- ☒ Fixed Roof x vertical ___ horizontal ___ flat roof ___ cone roof X dome roof
  ___ other (describe)
- ☐ External Floating Roof ___ pontoon roof ___ double deck roof
- ☐ Domed External (or Covered) Floating Roof
- ☐ Internal Floating Roof ___ vertical column support ___ self-supporting
- ☐ Variable Vapor Space ___ lifter roof ___ diaphragm
- ☐ Pressurized ___ spherical ___ cylindrical
- ☐ Underground
- ☐ Other (describe)

III. TANK CONSTRUCTION & OPERATION INFORMATION (optional if providing TANKS Summary Sheets)

19. Tank Shell Construction:
☐ Riveted ☐ Gunite lined ☐ Epoxy-coated rivets ☐ Other (describe)

20A. Shell Color	20B. Roof Color	20C. Year Last Painted

21. Shell Condition (if metal and unlined):
☐ No Rust ☐ Light Rust ☐ Dense Rust ☐ Not applicable

22A. Is the tank heated? ☐ YES ☐ NO

22B. If YES, provide the operating temperature (°F)

22C. If YES, please describe how heat is provided to tank.

23. Operating Pressure Range (psig): to

24. Complete the following section for **Vertical Fixed Roof Tanks** ☐ Does Not Apply

24A. For dome roof, provide roof radius (ft)

24B. For cone roof, provide slope (ft/ft)

25. Complete the following section for **Floating Roof Tanks** ☐ Does Not Apply

25A. Year Internal Floaters Installed:

25B. Primary Seal Type: (check one)
☐ Metallic (Mechanical) Shoe Seal ☐ Liquid Mounted Resilient Seal
☐ Vapor Mounted Resilient Seal ☐ Other (describe):

25C. Is the Floating Roof equipped with a Secondary Seal? ☐ YES ☐ NO

25D. If YES, how is the secondary seal mounted? (check one) ☐ Shoe ☐ Rim ☐ Other (describe):

25E. Is the Floating Roof equipped with a weather shield? ☐ YES ☐ NO

[1]Maximum daily throughput is maximum yearly throughput/365 days.

25F. Describe deck fittings; indicate the number of each type of fitting:		
ACCESS HATCH		
BOLT COVER, GASKETED:	UNBOLTED COVER, GASKETED:	UNBOLTED COVER, UNGASKETED:
AUTOMATIC GAUGE FLOAT WELL		
BOLT COVER, GASKETED:	UNBOLTED COVER, GASKETED:	UNBOLTED COVER, UNGASKETED:
COLUMN WELL		
BUILT-UP COLUMN – SLIDING COVER, GASKETED:	BUILT-UP COLUMN – SLIDING COVER, UNGASKETED:	PIPE COLUMN – FLEXIBLE FABRIC SLEEVE SEAL:
LADDER WELL		
PIP COLUMN – SLIDING COVER, GASKETED:	PIPE COLUMN – SLIDING COVER, UNGASKETED:	
GAUGE-HATCH/SAMPLE PORT		
SLIDING COVER, GASKETED:	SLIDING COVER, UNGASKETED:	
ROOF LEG OR HANGER WELL		
WEIGHTED MECHANICAL ACTUATION, GASKETED:	WEIGHTED MECHANICAL ACTUATION, UNGASKETED:	SAMPLE WELL-SLIT FABRIC SEAL (10% OPEN AREA)
VACUUM BREAKER		
WEIGHTED MECHANICAL ACTUATION, GASKETED:	WEIGHTED MECHANICAL ACTUATION, UNGASKETED:	
RIM VENT		
WEIGHTED MECHANICAL ACTUATION GASKETED:	WEIGHTED MECHANICAL ACTUATION, UNGASKETED:	
DECK DRAIN (3-INCH DIAMETER)		
OPEN:	90% CLOSED:	
STUB DRAIN		
1-INCH DIAMETER:		
OTHER (DESCRIBE, ATTACH ADDITIONAL PAGES IF NECESSARY)		

26. Complete the following section for Internal Floating Roof Tanks ☐ Does Not Apply	
26A. Deck Type: ☐ Bolted ☐ Welded	
26B. For Bolted decks, provide deck construction:	
26C. Deck seam: ☐ Continuous sheet construction 5 feet wide ☐ Continuous sheet construction 6 feet wide ☐ Continuous sheet construction 7 feet wide ☐ Continuous sheet construction 5 × 7.5 feet wide ☐ Continuous sheet construction 5 × 12 feet wide ☐ Other (describe)	
26D. Deck seam length (ft)	26E. Area of deck (ft^2)
For column supported tanks: 26F. Number of columns:	26G. Diameter of each column:

IV. SITE INFORMANTION (optional if providing TANKS Summary Sheets)

27. Provide the city and state on which the data in this section are based.
28. Daily Average Ambient Temperature (°F)
29. Annual Average Maximum Temperature (°F)
30. Annual Average Minimum Temperature (°F)
31. Average Wind Speed (miles/hr)
32. Annual Average Solar Insulation Factor (BTU/(ft^2·day))
33. Atmospheric Pressure (psia)

V. LIQUID INFORMATION (optional if providing TANKS Summary Sheets)

34. Average daily temperature range of bulk liquid:	
34A. Minimum (°F)	34B. Maximum (°F)
35. Average operating pressure range of tank:	
35A. Minimum (psig)	35B. Maximum (psig)
36A. Minimum Liquid Surface Temperature (°F)	36B. Corresponding Vapor Pressure (psia)
37A. Average Liquid Surface Temperature (°F)	37B. Corresponding Vapor Pressure (psia)
38A. Maximum Liquid Surface Temperature (°F)	38B. Corresponding Vapor Pressure (psia)

39. Provide the following for <u>each</u> liquid or gas to be stored in tank. Add additional pages if necessary.

39A. Material Name or Composition			
39B. CAS Number			
39C. Liquid Density (lb/gal)			
39D. Liquid Molecular Weight (lb/lb-mole)			
39E. Vapor Molecular Weight (lb/lb-mole)			

Maximum Vapor Pressure 39F. True (psia) 39G. Reid (psia)			
Months Storage per Year 39H. From 39I. To			

VI. EMISSIONS AND CONTROL DEVICE DATA (required)

40. Emission Control Devices (check as many as apply): ☐ Does Not Apply

- ☐ Carbon Adsorption[1]
- ☐ Condenser[1]
- ☒ Conservation Vent (psig)
  - Vacuum Setting — Pressure Setting 1.25
- ☐ Emergency Relief Valve (psig)
- ☐ Inert Gas Blanket of
- ☐ Insulation of Tank with
- ☐ Liquid Absorption (scrubber)[1]
- ☐ Refrigeration of Tank
- ☐ Rupture Disc (psig)
- ☐ Vent to Incinerator[1]
- ☐ Other[1] (describe):

[1] Complete appropriate Air Pollution Control Device Sheet.

41. Expected Emission Rate (submit Test Data or Calculations here or elsewhere in the application).

Material Name & CAS No.	Breathing Loss (lb/hr)	Working Loss Amount	Working Loss Units	Annual Loss (lb/yr)	Estimation Method[1]
Methanol (67561)	0.003	8.91	lbs/yr	24.13	Tanks 4.0.9d

[1] EPA = EPA Emission Factor, MB = Material Balance, SS = Similar Source, ST = Similar Source Test, Throughput Data, O = Other (specify)

☐ Remember to attach emissions calculations, including TANKS Summary Sheets if applicable.

Attachment L
EMISSIONS UNIT DATA SHEET
STORAGE TANKS

Provide the following information for each new or modified bulk liquid storage tank as shown on the *Equipment List Form* and other parts of this application. A tank is considered modified if the material to be stored in the tank is different from the existing stored liquid.

IF USING US EPA'S TANKS EMISSION ESTIMATION PROGRAM (AVAILABLE AT **www.epa.gov/tnn/tanks.html**), APPLICANT MAY ATTACH THE SUMMARY SHEETS IN LIEU OF COMPLETING SECTIONS III, IV, & V OF THIS FORM. HOWEVER, SECTIONS I, II, AND VI OF THIS FORM MUST BE COMPLETED. US EPA'S AP-42, SECTION 7.1, "ORGANIC LIQUID STORAGE TANKS," MAY ALSO BE USED TO ESTIMATE VOC AND HAP EMISSIONS (**http://www.epa.gov/tnn/chief/**).

I. GENERAL INFORMATION (required)

1. Bulk Storage Area Name Fluids Building	2. Tank Name Diesel Exhaust Fluid (DEF)
3. Tank Equipment Identification No. (as assigned on *Equipment List Form*) 15S	4. Emission Point Identification No. (as assigned on *Equipment List Form*) 15E
5. Date of Commencement of Construction (for existing tanks) May 1, 2018	
6. Type of change ☒ New Construction ☐ New Stored Material ☐ Other Tank Modification	
7. Description of Tank Modification (if applicable) NA	
7A. Does the tank have more than one mode of operation? (e.g. Is there more than one product stored in the tank?) ☐ Yes ☒ No	
7B. If YES, explain and identify which mode is covered by this application (Note: A separate form must be completed for each mode).	
7C. Provide any limitations on source operation affecting emissions, any work practice standards (e.g. production variation, etc.): NA	

II. TANK INFORMATION (required)

8. Design Capacity (specify barrels or gallons). Use the internal cross-sectional area multiplied by internal height. 6,000	
9A. Tank Internal Diameter (ft) 8.50	9B. Tank Internal Height (or Length) (ft) 14.00
10A. Maximum Liquid Height (ft) 14.00	10B. Average Liquid Height (ft) 7.00
11A. Maximum Vapor Space Height (ft) 14.00	11B. Average Vapor Space Height (ft) 7.00
12. Nominal Capacity (specify barrels or gallons). This is also known as "working volume" and considers design liquid levels and overflow valve heights.	

13A. Maximum annual throughput (gal/yr)	13B. Maximum daily throughput (gal/day)
92,500	253[1]

14. Number of Turnovers per year (annual net throughput/maximum tank liquid volume)
16

15. Maximum tank fill rate (gal/min) 100 gal/min

16. Tank fill method ☐ Submerged ☐ Splash ☒ Bottom Loading

17. Complete 17A and 17B for Variable Vapor Space Tank Systems ☐ Does Not Apply

17A. Volume Expansion Capacity of System (gal)	17B. Number of transfers into system per year

18. Type of tank (check all that apply):
- ☒ Fixed Roof X vertical ___ horizontal ___ flat roof ___ cone roof X dome roof
  ___ other (describe)
- ☐ External Floating Roof ___ pontoon roof ___ double deck roof
- ☐ Domed External (or Covered) Floating Roof
- ☐ Internal Floating Roof ___ vertical column support ___ self-supporting
- ☐ Variable Vapor Space ___ lifter roof ___ diaphragm
- ☐ Pressurized ___ spherical ___ cylindrical
- ☐ Underground
- ☐ Other (describe)

III. TANK CONSTRUCTION & OPERATION INFORMATION (optional if providing TANKS Summary Sheets)

19. Tank Shell Construction:
☐ Riveted ☐ Gunite lined ☐ Epoxy-coated rivets ☐ Other (describe)

20A. Shell Color	20B. Roof Color	20C. Year Last Painted

21. Shell Condition (if metal and unlined):
☐ No Rust ☐ Light Rust ☐ Dense Rust ☐ Not applicable

22A. Is the tank heated? ☐ YES ☐ NO

22B. If YES, provide the operating temperature (°F)

22C. If YES, please describe how heat is provided to tank.

23. Operating Pressure Range (psig): to

24. Complete the following section for **Vertical Fixed Roof Tanks** ☐ Does Not Apply

24A. For dome roof, provide roof radius (ft)

24B. For cone roof, provide slope (ft/ft)

25. Complete the following section for **Floating Roof Tanks** ☐ Does Not Apply

25A. Year Internal Floaters Installed:

25B. Primary Seal Type: (check one)
☐ Metallic (Mechanical) Shoe Seal ☐ Liquid Mounted Resilient Seal
☐ Vapor Mounted Resilient Seal ☐ Other (describe):

25C. Is the Floating Roof equipped with a Secondary Seal? ☐ YES ☐ NO

25D. If YES, how is the secondary seal mounted? (check one) ☐ Shoe ☐ Rim ☐ Other (describe):

25E. Is the Floating Roof equipped with a weather shield? ☐ YES ☐ NO

[1]Maximum daily throughput is maximum yearly throughput/365 days.

25F. Describe deck fittings; indicate the number of each type of fitting:		
ACCESS HATCH		
BOLT COVER, GASKETED:	UNBOLTED COVER, GASKETED:	UNBOLTED COVER, UNGASKETED:
AUTOMATIC GAUGE FLOAT WELL		
BOLT COVER, GASKETED:	UNBOLTED COVER, GASKETED:	UNBOLTED COVER, UNGASKETED:
COLUMN WELL		
BUILT-UP COLUMN – SLIDING COVER, GASKETED:	BUILT-UP COLUMN – SLIDING COVER, UNGASKETED:	PIPE COLUMN – FLEXIBLE FABRIC SLEEVE SEAL:
LADDER WELL		
PIP COLUMN – SLIDING COVER, GASKETED:	PIPE COLUMN – SLIDING COVER, UNGASKETED:	
GAUGE-HATCH/SAMPLE PORT		
SLIDING COVER, GASKETED:	SLIDING COVER, UNGASKETED:	
ROOF LEG OR HANGER WELL		
WEIGHTED MECHANICAL ACTUATION, GASKETED:	WEIGHTED MECHANICAL ACTUATION, UNGASKETED:	SAMPLE WELL-SLIT FABRIC SEAL (10% OPEN AREA)
VACUUM BREAKER		
WEIGHTED MECHANICAL ACTUATION, GASKETED:	WEIGHTED MECHANICAL ACTUATION, UNGASKETED:	
RIM VENT		
WEIGHTED MECHANICAL ACTUATION GASKETED:	WEIGHTED MECHANICAL ACTUATION, UNGASKETED:	
DECK DRAIN (3-INCH DIAMETER)		
OPEN:	90% CLOSED:	
STUB DRAIN		
1-INCH DIAMETER:		
OTHER (DESCRIBE, ATTACH ADDITIONAL PAGES IF NECESSARY)		

26. Complete the following section for Internal Floating Roof Tanks ☐ Does Not Apply	
26A. Deck Type: ☐ Bolted ☐ Welded	
26B. For Bolted decks, provide deck construction:	
26C. Deck seam: ☐ Continuous sheet construction 5 feet wide ☐ Continuous sheet construction 6 feet wide ☐ Continuous sheet construction 7 feet wide ☐ Continuous sheet construction 5 × 7.5 feet wide ☐ Continuous sheet construction 5 × 12 feet wide ☐ Other (describe)	
26D. Deck seam length (ft)	26E. Area of deck (ft^2)
For column supported tanks: 26F. Number of columns:	26G. Diameter of each column:

IV. SITE INFORMANTION (optional if providing TANKS Summary Sheets)

27. Provide the city and state on which the data in this section are based.
28. Daily Average Ambient Temperature (°F)
29. Annual Average Maximum Temperature (°F)
30. Annual Average Minimum Temperature (°F)
31. Average Wind Speed (miles/hr)
32. Annual Average Solar Insulation Factor (BTU/(ft^2·day))
33. Atmospheric Pressure (psia)

V. LIQUID INFORMATION (optional if providing TANKS Summary Sheets)

34. Average daily temperature range of bulk liquid:	
34A. Minimum (°F)	34B. Maximum (°F)
35. Average operating pressure range of tank:	
35A. Minimum (psig)	35B. Maximum (psig)
36A. Minimum Liquid Surface Temperature (°F)	36B. Corresponding Vapor Pressure (psia)
37A. Average Liquid Surface Temperature (°F)	37B. Corresponding Vapor Pressure (psia)
38A. Maximum Liquid Surface Temperature (°F)	38B. Corresponding Vapor Pressure (psia)

39. Provide the following for <u>each</u> liquid or gas to be stored in tank. Add additional pages if necessary.

39A. Material Name or Composition			
39B. CAS Number			
39C. Liquid Density (lb/gal)			
39D. Liquid Molecular Weight (lb/lb-mole)			
39E. Vapor Molecular Weight (lb/lb-mole)			

Maximum Vapor Pressure 39F. True (psia) 39G. Reid (psia)			
Months Storage per Year 39H. From 39I. To			

VI. EMISSIONS AND CONTROL DEVICE DATA (required)

40. Emission Control Devices (check as many as apply): ☐ Does Not Apply

- ☐ Carbon Adsorption[1]
- ☐ Condenser[1]
- ☒ Conservation Vent (psig)
  - Vacuum Setting — Pressure Setting 1.25
- ☐ Emergency Relief Valve (psig)
- ☐ Inert Gas Blanket of
- ☐ Insulation of Tank with
- ☐ Liquid Absorption (scrubber)[1]
- ☐ Refrigeration of Tank
- ☐ Rupture Disc (psig)
- ☐ Vent to Incinerator[1]
- ☐ Other[1] (describe):

[1] Complete appropriate Air Pollution Control Device Sheet.

41. Expected Emission Rate (submit Test Data or Calculations here or elsewhere in the application).

Material Name & CAS No.	Breathing Loss (lb/hr)	Working Loss Amount	Working Loss Units	Annual Loss (lb/yr)	Estimation Method[1]
Urea (57-13-6)	0.003	18.62	lbs/yr	25.04	Tanks 4.0.9d

[1] EPA = EPA Emission Factor, MB = Material Balance, SS = Similar Source, ST = Similar Source Test, Throughput Data, O = Other (specify)

☐ Remember to attach emissions calculations, including TANKS Summary Sheets if applicable.

Attachment L
EMISSIONS UNIT DATA SHEET
STORAGE TANKS

Provide the following information for each new or modified bulk liquid storage tank as shown on the *Equipment List Form* and other parts of this application. A tank is considered modified if the material to be stored in the tank is different from the existing stored liquid.

IF USING US EPA'S TANKS EMISSION ESTIMATION PROGRAM (AVAILABLE AT **www.epa.gov/tnn/tanks.html**), APPLICANT MAY ATTACH THE SUMMARY SHEETS IN LIEU OF COMPLETING SECTIONS III, IV, & V OF THIS FORM. HOWEVER, SECTIONS I, II, AND VI OF THIS FORM MUST BE COMPLETED. US EPA'S AP-42, SECTION 7.1, "ORGANIC LIQUID STORAGE TANKS," MAY ALSO BE USED TO ESTIMATE VOC AND HAP EMISSIONS (**http://www.epa.gov/tnn/chief/**).

I. GENERAL INFORMATION (required)

1. Bulk Storage Area Name NA	2. Tank Name Existing Diesel Fuel
3. Tank Equipment Identification No. (as assigned on *Equipment List Form*) 16S	4. Emission Point Identification No. (as assigned on *Equipment List Form*) 16E
5. Date of Commencement of Construction (for existing tanks) 1998	
6. Type of change ☐ New Construction ☐ New Stored Material ☐ Other Tank Modification NA	
7. Description of Tank Modification (if applicable) NA	
7A. Does the tank have more than one mode of operation? (e.g. Is there more than one product stored in the tank?) ☐ Yes ☒ No	
7B. If YES, explain and identify which mode is covered by this application (Note: A separate form must be completed for each mode). NA	
7C. Provide any limitations on source operation affecting emissions, any work practice standards (e.g. production variation, etc.): NA	

II. TANK INFORMATION (required)

8. Design Capacity (specify barrels or gallons). Use the internal cross-sectional area multiplied by internal height. 2,000 gallons	
9A. Tank Internal Diameter (ft) 5.30	9B. Tank Internal Height (or Length) (ft) 12.00
10A. Maximum Liquid Height (ft) 12.00	10B. Average Liquid Height (ft) 6.00
11A. Maximum Vapor Space Height (ft) 12.00	11B. Average Vapor Space Height (ft) 6.00
12. Nominal Capacity (specify barrels or gallons). This is also known as "working volume" and considers design liquid levels and overflow valve heights.	

13A. Maximum annual throughput (gal/yr)	13B. Maximum daily throughput (gal/day)
20,000	NA

14. Number of Turnovers per year (annual net throughput/maximum tank liquid volume): 10

15. Maximum tank fill rate (gal/min): 100 gal/min

16. Tank fill method: ☐ Submerged ☐ Splash ☒ Bottom Loading

17. Complete 17A and 17B for Variable Vapor Space Tank Systems ☐ Does Not Apply

17A. Volume Expansion Capacity of System (gal)	17B. Number of transfers into system per year

18. Type of tank (check all that apply):
- ☐ Fixed Roof ___vertical __**X**__ horizontal ___ flat roof ___ cone roof ___ dome roof
  ___ other (describe)
- ☐ External Floating Roof ___ pontoon roof ___ double deck roof
- ☐ Domed External (or Covered) Floating Roof
- ☐ Internal Floating Roof ___ vertical column support ___ self-supporting
- ☐ Variable Vapor Space ___ lifter roof ___ diaphragm
- ☐ Pressurized ___ spherical ___ cylindrical
- ☐ Underground
- ☐ Other (describe)

III. TANK CONSTRUCTION & OPERATION INFORMATION (optional if providing TANKS Summary Sheets)

19. Tank Shell Construction:
☐ Riveted ☐ Gunite lined ☐ Epoxy-coated rivets ☐ Other (describe)

20A. Shell Color	20B. Roof Color	20C. Year Last Painted

21. Shell Condition (if metal and unlined):
☐ No Rust ☐ Light Rust ☐ Dense Rust ☐ Not applicable

22A. Is the tank heated? ☐ YES ☐ NO

22B. If YES, provide the operating temperature (°F)

22C. If YES, please describe how heat is provided to tank.

23. Operating Pressure Range (psig): to

24. Complete the following section for **Vertical Fixed Roof Tanks** ☐ Does Not Apply

24A. For dome roof, provide roof radius (ft)

24B. For cone roof, provide slope (ft/ft)

25. Complete the following section for **Floating Roof Tanks** ☐ Does Not Apply

25A. Year Internal Floaters Installed:

25B. Primary Seal Type (check one): ☐ Metallic (Mechanical) Shoe Seal ☐ Liquid Mounted Resilient Seal ☐ Vapor Mounted Resilient Seal ☐ Other (describe):

25C. Is the Floating Roof equipped with a Secondary Seal? ☐ YES ☐ NO

25D. If YES, how is the secondary seal mounted? (check one) ☐ Shoe ☐ Rim ☐ Other (describe):

25E. Is the Floating Roof equipped with a weather shield? ☐ YES ☐ NO

25F. Describe deck fittings; indicate the number of each type of fitting:		
ACCESS HATCH		
BOLT COVER, GASKETED:	UNBOLTED COVER, GASKETED:	UNBOLTED COVER, UNGASKETED:
AUTOMATIC GAUGE FLOAT WELL		
BOLT COVER, GASKETED:	UNBOLTED COVER, GASKETED:	UNBOLTED COVER, UNGASKETED:
COLUMN WELL		
BUILT-UP COLUMN – SLIDING COVER, GASKETED:	BUILT-UP COLUMN – SLIDING COVER, UNGASKETED:	PIPE COLUMN – FLEXIBLE FABRIC SLEEVE SEAL:
LADDER WELL		
PIP COLUMN – SLIDING COVER, GASKETED:	PIPE COLUMN – SLIDING COVER, UNGASKETED:	
GAUGE-HATCH/SAMPLE PORT		
SLIDING COVER, GASKETED:	SLIDING COVER, UNGASKETED:	
ROOF LEG OR HANGER WELL		
WEIGHTED MECHANICAL ACTUATION, GASKETED:	WEIGHTED MECHANICAL ACTUATION, UNGASKETED:	SAMPLE WELL-SLIT FABRIC SEAL (10% OPEN AREA)
VACUUM BREAKER		
WEIGHTED MECHANICAL ACTUATION, GASKETED:	WEIGHTED MECHANICAL ACTUATION, UNGASKETED:	
RIM VENT		
WEIGHTED MECHANICAL ACTUATION GASKETED:	WEIGHTED MECHANICAL ACTUATION, UNGASKETED:	
DECK DRAIN (3-INCH DIAMETER)		
OPEN:	90% CLOSED:	
STUB DRAIN		
1-INCH DIAMETER:		
OTHER (DESCRIBE, ATTACH ADDITIONAL PAGES IF NECESSARY)		

26. Complete the following section for Internal Floating Roof Tanks ☐ Does Not Apply	
26A. Deck Type: ☐ Bolted ☐ Welded	
26B. For Bolted decks, provide deck construction:	
26C. Deck seam: ☐ Continuous sheet construction 5 feet wide ☐ Continuous sheet construction 6 feet wide ☐ Continuous sheet construction 7 feet wide ☐ Continuous sheet construction 5 × 7.5 feet wide ☐ Continuous sheet construction 5 × 12 feet wide ☐ Other (describe)	
26D. Deck seam length (ft)	26E. Area of deck (ft^2)
For column supported tanks: 26F. Number of columns:	26G. Diameter of each column:

IV. SITE INFORMANTION (optional if providing TANKS Summary Sheets)

27. Provide the city and state on which the data in this section are based.
28. Daily Average Ambient Temperature (°F)
29. Annual Average Maximum Temperature (°F)
30. Annual Average Minimum Temperature (°F)
31. Average Wind Speed (miles/hr)
32. Annual Average Solar Insulation Factor (BTU/(ft^2·day))
33. Atmospheric Pressure (psia)

V. LIQUID INFORMATION (optional if providing TANKS Summary Sheets)

34. Average daily temperature range of bulk liquid:	
34A. Minimum (°F)	34B. Maximum (°F)
35. Average operating pressure range of tank:	
35A. Minimum (psig)	35B. Maximum (psig)
36A. Minimum Liquid Surface Temperature (°F)	36B. Corresponding Vapor Pressure (psia)
37A. Average Liquid Surface Temperature (°F)	37B. Corresponding Vapor Pressure (psia)
38A. Maximum Liquid Surface Temperature (°F)	38B. Corresponding Vapor Pressure (psia)

39. Provide the following for <u>each</u> liquid or gas to be stored in tank. Add additional pages if necessary.

39A. Material Name or Composition			
39B. CAS Number			
39C. Liquid Density (lb/gal)			
39D. Liquid Molecular Weight (lb/lb-mole)			
39E. Vapor Molecular Weight (lb/lb-mole)			

Maximum Vapor Pressure 39F. True (psia) 39G. Reid (psia)			
Months Storage per Year 39H. From 39I. To			

VI. EMISSIONS AND CONTROL DEVICE DATA (required)

40. Emission Control Devices (check as many as apply): ☒ Does Not Apply

- ☐ Carbon Adsorption[1]
- ☐ Condenser[1]
- ☐ Conservation Vent (psig)

  Vacuum Setting Pressure Setting
- ☐ Emergency Relief Valve (psig)
- ☐ Inert Gas Blanket of
- ☐ Insulation of Tank with
- ☐ Liquid Absorption (scrubber)[1]
- ☐ Refrigeration of Tank
- ☐ Rupture Disc (psig)
- ☐ Vent to Incinerator[1]
- ☐ Other[1] (describe):

[1] Complete appropriate Air Pollution Control Device Sheet.

41. Expected Emission Rate (submit Test Data or Calculations here or elsewhere in the application).

Material Name & CAS No.	Breathing Loss (lb/hr)	Working Loss		Annual Loss (lb/yr)	Estimation Method[1]
		Amount	Units		
VOC	0.001	0.40	lbs/yr	0.79	Tanks 4.0.9d

[1] EPA = EPA Emission Factor, MB = Material Balance, SS = Similar Source, ST = Similar Source Test, Throughput Data, O = Other (specify)

☐ Remember to attach emissions calculations, including TANKS Summary Sheets if applicable.

Attachment L
FUGITIVE EMISSIONS FROM UNPAVED HAULROADS

UNPAVED HAULROADS (including all equipment traffic involved in process, haul trucks, endloaders, etc.)

		PM	PM-10
k =	Particle size multiplier	4.9	1.5
s =	Silt content of road surface material (%)	6	6
p =	Number of days per year with precipitation >0.01 in.	150	150

Item Number	Description	Number of Wheels	Mean Vehicle Weight (tons)	Mean Vehicle Speed (mph)	Miles per Trip	Maximum Trips per Hour	Maximum Trips per Year	Control Device ID Number	Control Efficiency (%)
1	Plant to Gravel Area	6	16.5	15	0.69	10	26,000	NA	0
2	Leaving Site	6	16.5	15	0.73	10	26,000	NA	0
3									
4									
5									
6									
7									
8									

Source: *AP-42 Fifth Edition – 13.2.2 Unpaved Roads*

$E = k \times 5.9 \times (s \div 12) \times (W \div 3)^{0.7} \times ((365 - p) \div 365) =$ lb/Vehicle Mile Traveled (VMT)

Where:

		PM	PM-10
k =	Particle size multiplier	4.9	1.5
s =	Silt content of road surface material (%)	6	6
S =	Mean vehicle speed (mph)	15	15
W =	Mean vehicle weight (tons)	16.5	16.5
w =	Mean number of wheels per vehicle	6	6
p =	Number of days per year with precipitation >0.01 in.	157	157

For lb/hr: [lb ÷ VMT] × [VMT ÷ trip] × [Trips ÷ Hour] = lb/hr

For TPY: [lb ÷ VMT] × [VMT ÷ trip] × [Trips ÷ Hour] × [Ton ÷ 2000 lb] = Tons/year

SUMMARY OF UNPAVED HAULROAD EMISSIONS

Item No.	PM				PM-10/PM2.5			
	Uncontrolled		Controlled		Uncontrolled		Controlled	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
1	25.53	33.19	25.53	33.19	6.83/0.69	8.88/0.90	6.83/0.69	8.88/0.90
2	27.01	35.11	27.01	35.11	7.23/0.73	9.40/0.95	7.23/0.73	9.40/0.95
3								
4								
5								
6								
7								
TOTALS	52.54	68.30	52.54	68.30	14.06/1.42	18.28/1.85	14.06/1.42	18.28/1.85

FUGITIVE EMISSIONS FROM PAVED HAULROADS

INDUSTRIAL PAVED HAULROADS (including all equipment traffic involved in process, haul trucks, endloaders, etc.)

I =	Industrial augmentation factor (dimensionless)	
n =	Number of traffic lanes	
s =	Surface material silt content (%)	
L =	Surface dust loading (lb/mile)	

Item Number	Description	Mean Vehicle Weight (tons)	Miles per Trip	Maximum Trips per Hour	Maximum Trips per Year	Control Device ID Number	Control Efficiency (%)
1	Finished Trucks to Parking Area	16.5	0.89	10	26,000	NA	0
2	Finished Trucks Leaving Site	16.5	0.13	10	26,000	NA	0
3	Delivery Trucks	40	0.67	6	15,000	NA	0
4							
5							
6							
7							
8							

Source: *AP-42 Fifth Edition – ~~11.2.6~~* 13.2.1.3 *Industrial Paved Roads*

$E = 0.077 \times I \times (4 \div n) \times (s \div 10) \times (L \div 1000) \times (W \div 3)^{0.7}$ = lb/Vehicle Mile Traveled (VMT)

Where:

I =	Industrial augmentation factor (dimensionless)	
n =	Number of traffic lanes	
s =	Surface material silt content (%)	
L =	Surface dust loading (lb/mile)	
W =	Average vehicle weight (tons)	

For lb/hr: [lb ÷ VMT] × [VMT ÷ trip] × [Trips ÷ Hour] = lb/hr

For TPY: [lb ÷ VMT] × [VMT ÷ trip] × [Trips ÷ Hour] × [Ton ÷ 2000 lb] = Tons/year

SUMMARY OF PAVED HAULROAD EMISSIONS (PM/PM10/PM2.5)

Item No.	Uncontrolled		Controlled	
	lb/hr	TPY	lb/hr	TPY
1	3.12/0.62/0.18	4.05/0.81/0.24	3.12/0.62/0.18	4.05/0.81/0.24
2	0.46/0.09/0.03	0.59/0.12/0.04	0.46/0.09/0.03	0.59/0.12/0.04
3	5.35/1.09/0.29	6.68/1.36/0.36	5.35/1.09/0.29	6.68/1.36/0.36
4				
5				
6				
7				
8				
TOTALS	8.93/1.80/0.50	11.32/2.29/0.64	8.93/1.80/0.50	11.32/2.29/0.64

ATTACHMENT M

AIR POLLUTION CONTROL DEVICE SHEETS

Air Pollution Control Device Sheet

(OTHER COLLECTORS)Control Device ID No. (must match List Form):

Equipment Information

1. Manufacturer: Global (or Equivalent) Model No. NA	2. Control Device Name: FF Type: Fabric Filter for Paint Booths Nos. 1-3
3. Provide diagram(s) of unit describing capture system with duct arrangement and size of duct, air volume, capacity, horsepower of movers. If applicable, state hood face velocity and hood collection efficiency.	
4. On a separate sheet(s) supply all data and calculations used in selecting or designing this collection device.	
5. Provide a scale diagram of the control device showing internal construction. See Appendix	
6. Submit a schematic and diagram with dimensions and flow rates. See Appendix	
7. Guaranteed minimum collection efficiency for each pollutant collected: 99	
8. Attached efficiency curve and/or other efficiency information. NA	
9. Design inlet volume SCFM	10. Capacity: NA
11. Indicate the liquid flow rate and describe equipment provided to measure pressure drop and flow rate, if any. NA	
12. Attach any additional data including auxiliary equipment and operation details to thoroughly evaluate the control equipment. NA	
13. Description of method of handling the collected material(s) for reuse of disposal. Filter is replaced and used filters are disposed.	

Gas Stream Characteristics

14. Are halogenated organics present?	☒ Yes	☐ No
Are particulates present?	☒ Yes	☐ No
Are metals present?	☒ Yes	☐ No

15. Inlet Emission stream parameters:	**Maximum**	**Typical**
Pressure (mmHg):	NA	
Heat Content (BTU/scf):		
Oxygen Content (%):		
Moisture Content (%):		
Relative Humidity (%):		

16. Type of pollutant(s) controlled: ☐ SO_x ☐ Odor ☒ Particulate (type): ☐ Other	
17. Inlet gas velocity: NA ft/min	18. Pollutant specific gravity: Varies
19. Gas flow into the collector: Variable	20. Gas stream temperature: Ambient Inlet: °F Outlet: °F
21. Gas flow rate: Design Maximum: ACFM Average Expected: ACFM	22. Particulate Grain Loading in grains/scf: Inlet: Outlet:

23. Emission rate of each pollutant (specify) into and out of collector:

Pollutant	IN Pollutant		Emission Capture Efficiency %	OUT Pollutant		Control Efficiency %
	lb/hr	grains/acf		lb/hr	grains/acf	
PM/ PM10/PM2.5	9.89		100	0.10		99
D						
E						

24. Dimensions of stack: Height Diameter ft.

25. Supply a curve showing proposed collection efficiency versus gas volume from 25 to 130 percent of design rating of collector.

Particulate Distribution

26. Complete the table:	Particle Size Distribution at Inlet to Collector	Fraction Efficiency of Collector
Particulate Size Range (microns)	**Weight % for Size Range**	**Weight % for Size Range**
0 – 2		
2 – 4		99
4 – 6		
6 – 8		
8 – 10		
10 – 12		
12 – 16		
16 – 20		
20 – 30		
30 – 40		
40 – 50		
50 – 60		
60 – 70		
70 – 80		
80 – 90		
90 – 100		
>100		

27. Describe any air pollution control device inlet and outlet gas conditioning processes (e.g., gas cooling, gas reheating, gas humidification): Ambient

28. Describe the collection material disposal system: Filters are landfilled.

29. Have you included ***Other Collectores Control Device*** in the Emissions Points Data Summary Sheet?

30. **Proposed Monitoring, Recordkeeping, Reporting, and Testing**
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING: Track when the filters are replaced.	RECORDKEEPING: Record when the filters are replaced.
REPORTING: None	TESTING: None

MONITORING:	Please list and describe the process parameters and ranges that are proposed to be monitored in order to demonstrate compliance with the operation of this process equipment or air control device.
RECORDKEEPING:	Please describe the proposed recordkeeping that will accompany the monitoring.
REPORTING:	Please describe any proposed emissions testing for this process equipment on air pollution control device.
TESTING:	Please describe any proposed emissions testing for this process equipment on air pollution control device.

31. Manufacturer's Guaranteed Control Efficiency for each air pollutant. 99

32. Manufacturer's Guaranteed Control Efficiency for each air pollutant. 99

33. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty.
Use as required in the paint booth.

Air Pollution Control Device Sheet

(OTHER COLLECTORS)Control Device ID No. (must match List Form): Filter

Equipment Information

1. Manufacturer: Taffguard Model No. NA	2. Control Device Name: FF Type: Fabric Filter for Retractable Paint Booth
3. Provide diagram(s) of unit describing capture system with duct arrangement and size of duct, air volume, capacity, horsepower of movers. If applicable, state hood face velocity and hood collection efficiency.	
4. On a separate sheet(s) supply all data and calculations used in selecting or designing this collection device.	
5. Provide a scale diagram of the control device showing internal construction. See Appendix	
6. Submit a schematic and diagram with dimensions and flow rates. See Appendix	
7. Guaranteed minimum collection efficiency for each pollutant collected: 95	
8. Attached efficiency curve and/or other efficiency information. NA	
9. Design inlet volume SCFM	10. Capacity: NA
11. Indicate the liquid flow rate and describe equipment provided to measure pressure drop and flow rate, if any. NA	
12. Attach any additional data including auxiliary equipment and operation details to thoroughly evaluate the control equipment. NA	
13. Description of method of handling the collected material(s) for reuse of disposal. Filter is replaced and used filters are disposed.	

Gas Stream Characteristics

14. Are halogenated organics present?	☒ Yes	☐ No
Are particulates present?	☒ Yes	☐ No
Are metals present?	☒ Yes	☐ No

15. Inlet Emission stream parameters:	Maximum	Typical
Pressure (mmHg):		
Heat Content (BTU/scf):		
Oxygen Content (%):		NA
Moisture Content (%):		
Relative Humidity (%):		

16. Type of pollutant(s) controlled:	☐ SO_x	☐ Odor
☒ Particulate (type):		☐ Other
17. Inlet gas velocity: NA ft/min		18. Pollutant specific gravity: Varies
19. Gas flow into the collector: Variable		20. Gas stream temperature: Ambient Inlet: °F Outlet: °F
21. Gas flow rate: Design Maximum: ACFM Average Expected: ACFM		22. Particulate Grain Loading in grains/scf: Inlet: Outlet:

23. Emission rate of each pollutant (specify) into and out of collector:

Pollutant	IN Pollutant		Emission Capture Efficiency %	OUT Pollutant		Control Efficiency %
	lb/hr	grains/acf		lb/hr	grains/acf	
PM/ PM10/PM2.5	2.18		100	0.11		95
D						
E						

24. Dimensions of stack: Height NA Diameter NA

25. Supply a curve showing proposed collection efficiency versus gas volume from 25 to 130 percent of design rating of collector.

Particulate Distribution

26. Complete the table:	Particle Size Distribution at Inlet to Collector	Fraction Efficiency of Collector
Particulate Size Range (microns)	**Weight % for Size Range**	**Weight % for Size Range**
0 – 2		
2 – 4		95
4 – 6		
6 – 8		
8 – 10		
10 – 12		
12 – 16		
16 – 20		
20 – 30		
30 – 40		
40 – 50		
50 – 60		
60 – 70		
70 – 80		
80 – 90		
90 – 100		
>100		

27. Describe any air pollution control device inlet and outlet gas conditioning processes (e.g., gas cooling, gas reheating, gas humidification): Ambient

28. Describe the collection material disposal system: Filters are landfilled.

29. Have you included ***Other Collectores Control Device*** in the Emissions Points Data Summary Sheet?

30. **Proposed Monitoring, Recordkeeping, Reporting, and Testing**
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING: Track when the filters are replaced.	RECORDKEEPING: Record when the filters are replaced.
REPORTING: None	TESTING: None

MONITORING:	Please list and describe the process parameters and ranges that are proposed to be monitored in order to demonstrate compliance with the operation of this process equipment or air control device.
RECORDKEEPING:	Please describe the proposed recordkeeping that will accompany the monitoring.
REPORTING:	Please describe any proposed emissions testing for this process equipment on air pollution control device.
TESTING:	Please describe any proposed emissions testing for this process equipment on air pollution control device.

31. Manufacturer's Guaranteed Control Efficiency for each air pollutant. 95

32. Manufacturer's Guaranteed Control Efficiency for each air pollutant. 95

33. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty.
Use as required in the paint booth.

ATTACHMENT N

SUPPORTING EMISSIONS CALCULATIONS

By: AM
Date: 02/21/2018

Checked by: PEW
Date: 02/21/2018

Proposed PTE

Pollutant Type	Total Emissions			
	Uncontrolled		Controlled	
	lb/hour	ton/yr	lb/hour	ton/yr
VOC	63.56	39.99	63.54	39.90
PM	100.75	123.03	69.30	103.30
PM10	52.52	52.51	21.08	32.78
PM2.5	38.58	34.43	7.14	14.70
NOx	58.91	27.86	58.91	27.86
CO	17.51	14.82	17.51	14.82
SO2	4.39	4.92	4.39	4.92
Total HAPs	16.80	6.20	16.80	6.20
Lead	0.000005	0.000065	0.000005	0.000065

Total Fugitives

Pollutant Type	Uncontrolled		Controlled	
	lb/hour	tons/yr	lbs/hour	tons/yr
PM	61.47	79.62	61.47	79.62
PM10	15.86	20.57	15.86	20.57
PM2.5	1.92	2.49	1.92	2.49

HAPs Emissions	lb/hr	ton/yr
Benzene	0.0274	0.0188
Ethylbenzene	1.1948	0.7229
Xylene	4.4044	1.9456
Toluene	0.8014	1.1371
Methanol	1.9786	0.2938
1,3-Butadiene	0.00057	0.0016
4,4-Methylenediphenyl diisocyanate	0.0551	0.0716
Naphthalene	0.4428	0.0935
Ethylene Gylcol Monobutyl Ether Acetate	7.7809	1.6230
Formaldehyde	0.0187	0.0199
Acetaldehyde	0.0118	0.0128
Acrolein	0.0015	0.0018
Natural Gas Heating HAPs	0.0563	0.2468
Welding metal (Cr, Cr (VI), Co, Mn, Ni, Pb) HAPs	0.0298	0.0077
Total HAPs	16.80	6.20

By: AM
Date: 02/21/2018

Checked by: PEW
Date: 02/21/2018

Paint Booths (1S, 2S, & 3S)

There are three identical paint booths proposed for this facility. To estimate the hourly emissions the Regulation 21, Section 19, limitations are being utilized. The paint and primer meet the definition of air dried coatings with a VOC limits of 3.5 pounds per gallon. The clear coat has a limit of 4.3 pounds per gallon. Therefore, for the maximum hourly VOC emissions it is assumed that the operation will use clear coat for one hour. The maximum hourly particulate emissions (PM, PM10, and PM2.5 assumed to be equal) are based on the highest solids coating being utilized for the entire hour. Maximum HAP emissions are based on the percent by weights of the HAPS present in the materials, the gallons per hour capacity of the paint gun, and the unit weight of the specific material. It is assumed that the material is used for an entire hour and the highest HAP value is requested to be the emissions value.

Paint Gun Capability

Paint Gun Theoretical Throughput =	225	gm/min (Dan-Am Co. SATA Distributor USA)
	454	gm/lb
	60	min/hr
	29.74	pph

Hourly Emissions Estimate

Volatile Organic Compounds

Minimum Weight Per Gallon of Paint =	7.99	ppg (Imron Elite Appearance Clear Coat (8430S)
Maximum Gallons =	3.72	gph
VOC Content =	4.3	ppg (Regulation 21, Section 19 Limit)
VOC Emissions =	16.00	pph

Particulate Matter (PM, PM10, and PM2.5 Assumed Equal)

Maximum Solids Content =	7.59	ppg (Color Atlas White (CAS992))
Usage Rate of Solids =	28.26	pph
Transfer Efficiency of Solids =	65	%
Uncontrolled PM/PM10/PM2.5 Emissions =	9.89	pph
Control Efficiency =	99	%
Controlled PM/PM10/PM2.5 Emissions =	0.10	pph

By: AM
Date: 02/21/2018

Checked by: PEW
Date: 02/21/2018

Hourly Emissions Estimate (Continued)

Hazardous Air Pollutants

Paint

Weight =	8.55	ppg	(Color Atlas Yellow (CAS250))	
Ethylbenzene =	0.1	%	0.03	pph

Primers

Weight =	12.28	ppg	(Gray Hybrid Epoxy Primer (825P32760))	
Xylene =	2	%	0.91	pph
Ethylbenzene =	0.4	%	0.18	pph
Naphthalene =	0.3	%	0.14	pph
Weight =	10.82	ppg	(Gray Urethane Sandable Primer (1220S))	
Ethylene Glycol Monobutyl Ether Acetate =	6	%	2.42	pph
Weight =	7.37	ppg	(Hybrid Primer Medium Activator (FGP32765))	
Xylene =	4	%	1.10	pph
Ethylbenzene =	0.9	%	0.25	pph

Total Hourly Emissions

	One Booth		Three Booths		
	Uncontrolled	Controlled	Uncontrolled	Controlled	
VOC	16.00	16.00	48.01	48.01	pph
PM/PM10/PM2.5	9.89	0.10	29.67	0.30	pph
Xylene	1.10	1.10	3.29	3.29	pph
Ethylbenzene	0.25	0.25	0.74	0.74	pph
Naphthalene	0.14	0.14	0.41	0.41	pph
Ethylene Glycol Monobutyl Ether Acetate	2.42	2.42	7.25	7.25	pph
Total HAPS	3.90	3.90	11.69	11.69	pph

By: AM
Date: 02/21/2018

Checked by: PEW
Date: 02/21/2018

Yearly Emissions Estimate

A mass balance is used for the yearly emissions with the required coating usages for each truck being painted. It is estimated that each truck will take one gallon each of primer, paint, and clear coat. The total estimated coating usage is based on the total number of trucks to be painted. For total particulate from painting it is assumed that all the coatings have the highest solids presented as in the hourly emissions estimate. Maximum HAP emissions are based on the weight percents of the HAPS present in the materials, the gallons per year use of each material, and the unit weight of the specific material. It is assumed that the material is used for an entire hour and the highest HAP value is requested to be the emissions value.

Number of Trucks Painted =	5,000	trucks per year

Volatile Organic Compounds

Clear Coat

Application Rate Per Truck =	1	gallon per truck
Total Amount Used =	5,000	gpy
VOC Content =	4.3	ppg (Regulation 21, Section 19 Limit)
VOC Emissions =	21,500	ppy
	10.75	tpy

Paint

Application Rate Per Truck =	1	gallon per truck
Total Amount Used =	5,000	gpy
VOC Content =	3.5	ppg (Regulation 21, Section 19 Limit)
VOC Emissions =	17,500	ppy
	8.75	tpy

Primer

Application Rate Per Truck =	1	gallon per truck
Total Amount Used =	5,000	gpy
VOC Content =	3.5	ppg (Regulation 21, Section 19 Limit)
VOC Emissions =	17,500	ppy
	8.75	tpy
Total VOC Emissions =	28.25	tpy

Particulate Matter (PM, PM10, and PM2.5 Assumed Equal)

Maximum Solids Content =	7.59	ppg (Color Atlas White (CAS992))
Total Coating =	15,000	gpy
Usage Rate of Solids =	113,903	ppy
Transfer Efficiency of Solids =	65	%
Uncontrolled PM/PM10/PM2.5 Emissions =	39,865.93	ppy
	19.93	tpy
Control Efficiency =	99	%
Controlled PM/PM10/PM2.5 Emissions =	398.66	ppy
	0.20	tpy

By: AM
Date: 02/21/2018

Checked by: PEW
Date: 02/21/2018

Yearly Emissions Estimate (Continued)

Hazardous Air Pollutants

Paint

Weight =	8.55	ppg (Color Atlas Yellow (CAS250))	
Ethylbenzene =	0.1	%	0.02 tpy

Primers

Weight =	12.28	ppg (Gray Hybrid Epoxy Primer (825P32760))	
Xylene =	2	%	0.61 tpy
Ethylbenzene =	0.4	%	0.12 tpy
Naphthalene =	0.3	%	0.09 tpy
Weight =	10.82	ppg (Gray Urethane Sandable Primer (1220S))	
Ethylene Glycol Monobutyl Ether Acetate =	6	%	1.62 tpy
Weight =	7.37	ppg (Hybrid Primer Medium Activator (FGP32765))	
Xylene =	4	%	0.74 tpy
Ethylbenzene =	0.9	%	0.17 tpy

Maximum Emissions for HAPS

Xylene =	0.74 tpy
Ethylbenzene =	0.17 tpy
Naphthalene =	0.09 tpy
Ethylene Glycol Monobutyl Ether Acetate =	1.62 tpy
Total =	2.62 tpy

By: AM
Date: 02/21/2018

Checked by: PEW
Date: 02/21/2018

Paint Booth Heaters (1S, 2S, & 3S)

There are three identical paint booths proposed for the site each with the same heating unit and each are fueled with natural gas.

Paint Booth Heater =	1,512,600	Btu/hr
	1.5126	MMBtu/hr
Operating Hours =	8,760	hrs/yr
Number of Units =	3	

Emission Type	EF[a]		One Unit Emissions	
	lb/10^6 scf	lb/MMBtu	lb/hr	tons/year
CO	84	0.08235	0.12	0.55
NOx	100	0.09804	0.15	0.65
PM	7.6	0.00745	0.01	0.05
PM10[1]	7.6	0.00745	0.01	0.05
PM2.5[1]	7.6	0.00745	0.01	0.05
SO2	0.6	0.00059	0.01	0.01
VOC/TOC	5.5	0.00539	0.01	0.04
Lead	0.0005	4.90E-07	0.000001	0.000003

Rounding to = 2

Emission Type	Three Units Emissions	
	lb/hr	tons/year
CO	0.36	1.65
NOx	0.45	1.95
PM	0.03	0.15
PM10[1]	0.03	0.15
PM2.5[1]	0.03	0.15
SO2	0.03	0.03
VOC/TOC	0.03	0.12
Lead	2.22E-06	9.74E-06

Conversion from lb/10^6 scf to lb/MMBtu (divide by) = 1,020

References:
a. Emission factors from AP-42, 1.4, Natural Gas Combustion, 7/98.

Note:
1. It is assumed that PM10 and PM2.5 are equal to PM.

By: AM
Date: 02/21/2018

Checked by: PEW
Date: 02/21/2018

Paint Booth Heaters (1S, 2S, & 3S)

Total Heat Rating =	1.5126	MMBtu/hr
Operating Hours =	8,760	hrs/yr

CAS No.	Hazardous Air Pollutants	EF[1]		One Unit Emissions		Three Units Emissions	
		lb/10^6 scf	lb/MMBtu	lb/hr	tons/year	lb/hr	tons/year
91-57-6	2-Methylnaphthalene	2.40E-05	2.35E-08	3.56E-08	1.56E-07	1.07E-07	4.68E-07
56-49-5	3-Methylchloranthrene	1.80E-06	1.76E-09	2.67E-09	1.17E-08	8.01E-09	3.51E-08
57-97-6	7,12-Dimethylbenz(a)anthracene	1.60E-05	1.57E-08	2.37E-08	1.04E-07	7.12E-08	3.12E-07
83-32-9	Acenaphthene	1.80E-06	1.76E-09	2.67E-09	1.17E-08	8.01E-09	3.51E-08
203-96-8	Acenaphthylene	1.80E-06	1.76E-09	2.67E-09	1.17E-08	8.01E-09	3.51E-08
120-12-7	Anthracene	2.40E-06	2.35E-09	3.56E-09	1.56E-08	1.07E-08	4.68E-08
56-55-3	Benz(a)anthracene	1.80E-06	1.76E-09	2.67E-09	1.17E-08	8.01E-09	3.51E-08
71-43-2	Benzene	2.10E-03	2.06E-06	3.11E-06	1.36E-05	9.34E-06	4.09E-05
50-32-8	Benzo(a)pyrene	1.20E-06	1.18E-09	1.78E-09	7.79E-09	5.34E-09	2.34E-08
205-99-2	Benzo(b)fluoranthene	1.80E-06	1.76E-09	2.67E-09	1.17E-08	8.01E-09	3.51E-08
191-24-2	Benzo(g,h,i)perylene	1.20E-06	1.18E-09	1.78E-09	7.79E-09	5.34E-09	2.34E-08
205-82-3	Benzo(k)fluoranthene	1.80E-06	1.76E-09	2.67E-09	1.17E-08	8.01E-09	3.51E-08
218-01-9	Chrysene	1.80E-06	1.76E-09	2.67E-09	1.17E-08	8.01E-09	3.51E-08
53-70-3	Dibenzo(a,h)anthracene	1.20E-06	1.18E-09	1.78E-09	7.79E-09	5.34E-09	2.34E-08
25321-22-6	Dichlorobenzene	1.20E-03	1.18E-06	1.78E-06	7.79E-06	5.34E-06	2.34E-05
206-44-0	Fluoranthene	3.00E-06	2.94E-09	4.45E-09	1.95E-08	1.33E-08	5.85E-08
86-73-7	Fluorene	2.80E-06	2.75E-09	4.15E-09	1.82E-08	1.25E-08	5.46E-08
50-00-0	Formaldehyde	7.20E-02	7.06E-05	1.07E-04	4.68E-04	3.20E-04	1.40E-03
110-54-3	Hexane	1.80E+00	1.76E-03	2.67E-03	1.17E-02	8.01E-03	3.51E-02
193-39-5	Indeno(1,2,3-cd)pyrene	1.80E-06	1.76E-09	2.67E-09	1.17E-08	8.01E-09	3.51E-08
91-20-3	Naphthalene	6.10E-04	5.98E-07	9.05E-07	3.96E-06	2.71E-06	1.19E-05
85-01-8	Phenanathrene	1.70E-05	1.67E-08	2.52E-08	1.10E-07	7.56E-08	3.31E-07
129-00-0	Pyrene	5.00E-06	4.90E-09	7.41E-09	3.25E-08	2.22E-08	9.74E-08
108-88-3	Toluene	3.40E-03	3.33E-06	5.04E-06	2.21E-05	1.51E-05	6.63E-05
7440-38-2	Arsenic	2.00E-04	1.96E-07	2.97E-07	1.30E-06	8.90E-07	3.90E-06
7440-41-7	Beryllium	1.20E-05	1.18E-08	1.78E-08	7.79E-08	5.34E-08	2.34E-07
7440-43-9	Cadmium	1.10E-03	1.08E-06	1.63E-06	7.14E-06	4.89E-06	2.14E-05
7440-47-3	Chromium	1.40E-03	1.37E-06	2.08E-06	9.09E-06	6.23E-06	2.73E-05
7440-48-4	Cobalt	8.40E-05	8.24E-08	1.25E-07	5.46E-07	3.74E-07	1.64E-06
7439-96-5	Manganese	3.80E-04	3.73E-07	5.64E-07	2.47E-06	1.69E-06	7.40E-06
7439-97-6	Mercury	2.60E-04	2.55E-07	3.86E-07	1.69E-06	1.16E-06	5.07E-06
7440-02-0	Nickel	2.10E-03	2.06E-06	3.11E-06	1.36E-05	9.34E-06	4.09E-05
7782-49-2	Selenium	2.40E-05	2.35E-08	3.56E-08	1.56E-07	1.07E-07	4.68E-07
			VOC HAPs Subtotal	2.79E-03	1.22E-02	8.36E-03	3.66E-02
			Metal HAPs Subtotal	8.25E-06	3.61E-05	2.47E-05	1.08E-04
			Total HAPs	2.80E-03	1.22E-02	8.39E-03	3.67E-02

References:
1. AP42 Table 1.4-3 and Table 1.4-4.
Conversion from lb/10^6 scf to lb/MMBtu (divide by) = 1,020

Body Prep Room (4S)

The following methodology for estimating emissions is used for particulate matter from sanding of the truck body to allow for painting. The Regulation 7 particulate mass standard limit is used to estimate these emissions. Using 5,000 lbs/hour as the maximum weight of process material processed through the operations in a single hour, for an 'a' source Table 45-7A results in a particulate matter emission rate of 5.0 lbs/hour.

	Regulation 7 Mass Weight Limit	Requested Permit Limits	
	(lbs/hr)	lbs/hr	tons/yr
PM	5.00	5.00	21.90
PM10 (2)	2.38	2.38	10.43
PM2.5 (2)	2.38	2.38	10.43

(1) For calculation purposes it is assumed that grinding operates at 8,760 hrs/year.
(2) PM10=PM/2.1 and PM2.5=PM10

Welding (6S)

	Particulates				
	Usage		Emission Factor(1)	Emissions	
	lbs/hr	lbs/yr	PM/PM10/PM2.5 (per 1,000 pounds)	lbs/hr	tons/yr
Welding	1	500	81.6	0.08	0.02

(1) Emission factor from AP-42 Table 12.19-1 worst case of all electrode types.

HAPs			
HAP	Emission Factor(1) (10^{-1}/per 1,000 pounds)	Emissions	
		lbs/hr	tons/yr
Cr	25.30	0.0026	0.0007
Cr(VI)	18.80	0.0019	0.0005
Co	0.01	0.0001	0.0001
Mn	232.00	0.0232	0.0058
Ni	17.10	0.0018	0.0005
Pb	1.62	0.0002	0.0001
	Total =	0.0298	0.0077

Rounded to = 4

(1) Emission factors from worst case of electrode type for each HAP in AP-42 Table 12.19-2 of all electrode types.

Miscellaneous Touch-up Paint, Cleaning, and Material Use (5S)

Item Name	Item Description	VOC (g/l)	VOC (%)	VOC (lb/gal)	Xylene	Ethlybenzene	Toluene	Methanol
Rustoleum Enamel	Black Spray Paint	541			10	5	5	
Rustoleum	Clear Enamel Paint	584					20	
Rustoleum Industrial Choice	White Spray Paint	507			10	5		
Rustoleum Industrial Choice	Yellow Spray Paint	509			10	5		
3M Protector	Rubberized Undercoating	440					30	0.5
Magnaflux Spotcheck SKC-5	CF Cleaner		90					
Magnaflux Spotcheck SKD-S2	Developer	750						
WD - 40	WD - 40	412	49.5					
CRC Brakleen	Brake Cleaner	657.2	84				25	50
Asian	Black Paint for Online Sprayer	0	0					
Lacquer Thinner 106	Paint Gun Cleaner			4.4	3	0.8	30	20
Low HAP Cleaning Solvent	Paint Gun Cleaner			3.9			10	
Final Klean Fast Dry Cleaner	Cleaning Solvent			6.1			12	
Low VOC Final Klean	Cleaning Solvent			0.5				

Item Name	2014	Max Usage	Can Size		
	Cans/Yr	Cans/Yr	fl-oz	g/can	liter/can
Rustoleum Enamel	5,175	16,658	15	426	0.444
Rustoleum	132	425	15	426	0.444
Rustoleum Industrial Choice	122	393	15	426	0.444
Rustoleum Industrial Choice	53	171	15	426	0.444
3M Protector	121	390	16	454	0.473
Magnaflux Spotcheck SKC-5	478	1,539	16	454	0.473
Magnaflux Spotcheck SKD-S2	577	1,857	16	454	0.473
WD - 40	47	151	16	454	0.473
CRC Brakleen	46	148	20	397	0.591
Asian	169	544	NA	NA	NA
		gal/yr	lb/gal		
Lacquer Thinner 106		365	6.78		
Low HAP Cleaning Solvent		365	6.56		
Final Klean Fast Dry Cleaner		365	6.07		
Low VOC Final Klean		365	8.31		

Item Name	Max Weight	Usage	VOC			
	lbs/yr		grams/yr	lb/hr(1)	lbs/yr(2)	tpy(2)
Rustoleum Enamel	15,631	7390	3,997,842	3.08	8,805.82	4.40
Rustoleum	399	188	110,079	0.08	242.46	0.12
Rustoleum Industrial Choice	368	174	88,325	0.07	194.55	0.10
Rustoleum Industrial Choice	160	76	38,522	0.03	84.85	0.04
3M Protector	390	184	81,093	0.06	178.62	0.09
Magnaflux Spotcheck SKC-5	1,539	728	628,709	0.48	1,384.82	0.69
Magnaflux Spotcheck SKD-S2	1,857	879	659,149	0.51	1,451.87	0.73
WD - 40	151	72	29,495	0.02	64.97	0.03
CRC Brakleen	129	88	57,559	0.04	126.78	0.06
Asian	NA	NA	NA	NA	NA	NA
Lacquer Thinner 106	2,475	NA	NA	0.56	1,606.00	0.80
Low HAP Cleaning Solvent	2,394	NA	NA	0.50	1,423.50	0.71
Final Klean Fast Dry Cleaner	2,216	NA	NA	0.78	2,226.50	1.11
Low VOC Final Klean	3,033		NA	0.06	182.50	0.09
			Total	6.29	17,973.24	8.99

Item Name	Xylene		Ethlybenzene		Toluene		Methanol	
	lb/hr(1)	tpy(2)	lb/hr(1)	tpy(2)	lb/hr(1)	tpy(2)	lb/hr(1)	tpy(2)
Rustoleum Enamel	0.5471	0.7816	0.2735	0.3908	0.2735	0.3908	0	0
Rustoleum	0	0	0	0	0.0279	0.0399	0	0
Rustoleum Industrial Choice	0.0129	0.0184	0.0064	0.0092	0	0	0	0
Rustoleum Industrial Choice	0.0056	0.0080	0.0028	0.0040	0	0	0	0
3M Protector	0	0	0	0	0.0409	0.0584	0.0007	0.0010
Magnaflux Spotcheck SKC-5	0	0	0	0	0	0	0	0
Magnaflux Spotcheck SKD-S2	0	0	0	0	0	0	0	0
WD - 40	0	0	0	0	0	0	0	0
CRC Brakleen	0	0	0	0	0.0113	0.0162	0.0227	0.0324
Asian	NA	NA	NA	NA	NA	NA	NA	NA
Lacquer Thinner 106	0.0260	0.0371	0.0069	0.0099	0.2598	0.3712	0.1732	0.2475
Low HAP Cleaning Solvent	0	0	0	0	0.0838	0.1197	0	0
Final Klean Fast Dry Cleaner	0	0	0	0	0.0931	0.1329	0	0
Low VOC Final Klean	0	0	0	0	0	0	0	0
Total	0.5916	0.8451	0.2897	0.4139	0.7904	1.1291	0.1966	0.2808
						Total HAPS	1.87	2.67

1 liter = 33.814 fluid ounces
1 pound = 454 grams

Notes:
1. Based on seven (7) trucks per hour.
2. Based on 20,000 trucks per year.

By: AM
Date: 02/21/2018

Checked by: PEW
Date: 02/21/2018

Truck Engine Emissions (7S)

Engine =	260	horsepower	1 gram =	0.002204	lbs
Engine Test Time =	40	minutes	Trucks/year =	26,000	Provided
	0.67	hours	Trucks/hour =	10.0	Provided
			BSFC(3)=	7,000	Btu/hp/hr

1. Criteria Pollutant Emissions

Criteria Pollutant	Emission Factor			Emissions	
	(g/hp-hr)	(lb/hp-hr)	EF Source	lb/hr	ton/yr
PM/PM10/PM2.5	0.008	1.76E-05	Manufacturer	0.04	0.04
SO2	NA	2.05E-03	AP42 Table 3.3-1.	3.56	4.62
VOC	0.01	2.20E-05	Manufacturer	0.04	0.05
CO	0.013	2.87E-05	Manufacturer	0.05	0.06
NOx	0.195	4.30E-04	Manufacturer	0.75	0.97

2. Hazardous Air Pollutant Emissions

		Emissions	
Hazardous Air Pollutant	Emission Factor (3) (lb/MMBtu)	lb/hr	ton/yr
Benzene(2)	9.33E-04	0.0113	0.0147
Toluene	4.09E-04	0.0050	0.0065
Xylenes	2.85E-04	0.0035	0.0045
1,3-Butadiene(2)	3.91E-05	0.00047	0.0006
Formaldehyde(2)	1.18E-03	0.0143	0.0186
Acetaldehyde	7.67E-04	0.0093	0.0121
Acrolein	9.25E-05	0.0011	0.0015
Naphthalene	8.48E-05	0.0010	0.0013
Total HAPs		0.0460	0.0598

1. AP42 Table 3.3-2.
2. Toxic Air Pollutant (TAP) by 45CSR13 Table 45-13A.
3. Brake Specific Fuel Consumption.

By: PEW
Date: 02/21/2018

Checked by: PEW
Date: 02/21/2018

Parts Washer (8S)

	Uncontrolled	Controlled	
Emission Factor(1)	0.33	0.2871	tpy/unit
Number of Units	2	2	No.
Hours Per Year	8,760	8,760	hrs/yr
VOC Emission	1,320	1,148	lbs/yr
	0.15	0.13	lbs/hr
	0.66	0.57	tpy

Emission Reduction for Cover(2)	13	%

References:
1. AP-42, Table 4.6-2
2. AP-42, Table 4.6-3 Footnote E

Total Building Heaters (10S)

Emission Type	Emissions	
	lb/hr	tons/year
CO	2.14	9.36
NOx	2.54	11.15
PM	0.19	0.85
PM10	0.19	0.85
PM2.5	0.19	0.85
SO2	0.02	0.06
VOC/TOC	0.14	0.62
Lead	0.000003	0.000056
Total HAPS	0.05	0.21

By: AM
Date: 02/21/2018

Checked by: PEW
Date: 02/21/2018

Existing Building Heaters

There are multiple existing building heaters at this facility with variable heat ratings. The emissions provided here are for the existing building heaters and the total heat rating (total Btu/hr).

Total Heat Rating =	20,230,000	Btu/hr
	20.23	MMBtu/hr
Operating Hours =	8,760	hrs/yr

Emission Type	EF (1)		Emissions	
	$lb/10^6$ scf	lb/MMBtu (3)	lb/hr	tons/year
CO	84	0.08235	1.67	7.30
NOx	100	0.09804	1.98	8.69
PM	7.6	0.00745	0.15	0.66
PM10 (2)	7.6	0.00745	0.15	0.66
PM2.5 (2)	7.6	0.00745	0.15	0.66
SO2	0.6	0.00059	0.01	0.05
VOC/TOC	5.5	0.00539	0.11	0.48
Lead	0.0005	4.90E-07	0.00000	0.000043

Rounding to = 2

Note:
1. Emission factors from AP-42, 1.4, Natural Gas Combustion, 7/98.
2. It is assumed that PM10 and PM2.5 are equal to PM.
3. Conversion from lb/10^6 scf to lb/MMBtu (divide by) = 1,020

By: AM
Date: 02/21/2018

Checked by: PEW
Date: 02/21/2018 Date: 02/21/2018

Existing Building Heaters HAPs

Total Heat Rating =	20.23	MMBtu/hr
Operating Hours =	8,760	hrs/yr

CAS No.	Hazardous Air Pollutants	EF (1)		Emissions	
		lb/10^6 scf	lb/MMBtu (2)	lb/hr	tons/year
91-57-6	2-Methylnaphthalene	2.40E-05	2.35E-08	4.76E-07	2.08E-06
56-49-5	3-Methylchloranthrene	1.80E-06	1.76E-09	3.57E-08	1.56E-07
57-97-6	7,12-Dimethylbenz(a)anthracene	1.60E-05	1.57E-08	3.17E-07	1.39E-06
83-32-9	Acenaphthene	1.80E-06	1.76E-09	3.57E-08	1.56E-07
203-96-8	Acenaphthylene	1.80E-06	1.76E-09	3.57E-08	1.56E-07
120-12-7	Anthracene	2.40E-06	2.35E-09	4.76E-08	2.08E-07
56-55-3	Benz(a)anthracene	1.80E-06	1.76E-09	3.57E-08	1.56E-07
71-43-2	Benzene	2.10E-03	2.06E-06	4.17E-05	1.82E-04
50-32-8	Benzo(a)pyrene	1.20E-06	1.18E-09	2.38E-08	1.04E-07
205-99-2	Benzo(b)fluoranthene	1.80E-06	1.76E-09	3.57E-08	1.56E-07
191-24-2	Benzo(g,h,i)perylene	1.20E-06	1.18E-09	2.38E-08	1.04E-07
205-82-3	Benzo(k)fluoranthene	1.80E-06	1.76E-09	3.57E-08	1.56E-07
218-01-9	Chrysene	1.80E-06	1.76E-09	3.57E-08	1.56E-07
53-70-3	Dibenzo(a,h)anthracene	1.20E-06	1.18E-09	2.38E-08	1.04E-07
25321-22-6	Dichlorobenzene	1.20E-03	1.18E-06	2.38E-05	1.04E-04
206-44-0	Fluoranthene	3.00E-06	2.94E-09	5.95E-08	2.61E-07
86-73-7	Fluorene	2.80E-06	2.75E-09	5.55E-08	2.43E-07
50-00-0	Formaldehyde	7.20E-02	7.06E-05	1.43E-03	6.25E-03
110-54-3	Hexane	1.80E+00	1.76E-03	3.57E-02	1.56E-01
193-39-5	Indeno(1,2,3-cd)pyrene	1.80E-06	1.76E-09	3.57E-08	1.56E-07
91-20-3	Naphthalene	6.10E-04	5.98E-07	1.21E-05	5.30E-05
85-01-8	Phenanathrene	1.70E-05	1.67E-08	3.37E-07	1.48E-06
129-00-0	Pyrene	5.00E-06	4.90E-09	9.92E-08	4.34E-07
108-88-3	Toluene	3.40E-03	3.33E-06	6.74E-05	2.95E-04
7440-38-2	Arsenic	2.00E-04	1.96E-07	3.97E-06	1.74E-05
7440-41-7	Beryllium	1.20E-05	1.18E-08	2.38E-07	1.04E-06
7440-43-9	Cadmium	1.10E-03	1.08E-06	2.18E-05	9.56E-05
7440-47-3	Chromium	1.40E-03	1.37E-06	2.78E-05	1.22E-04
7440-48-4	Cobalt	8.40E-05	8.24E-08	1.67E-06	7.30E-06
7439-96-5	Manganese	3.80E-04	3.73E-07	7.54E-06	3.30E-05
7439-97-6	Mercury	2.60E-04	2.55E-07	5.16E-06	2.26E-05
7440-02-0	Nickel	2.10E-03	2.06E-06	4.17E-05	1.82E-04
7782-49-2	Selenium	2.40E-05	2.35E-08	4.76E-07	2.08E-06
			VOC HAPs Subtotal	3.73E-02	1.63E-01
			Metal HAPs Subtotal	1.10E-04	4.83E-04
			Total HAPs	3.74E-02	1.64E-01

References:
1. AP42 Table 1.4-3 and Table 1.4-4.
2. Conversion from lb/10^6 scf to lb/MMBtu (divide by) = 1,020

By: AM
Date: 02/21/2018

Checked by: PEW
Date: 02/21/2018

New Building Heaters

There are multiple new/proposed building heaters for the expansion. The emissions provided here are for the new building heaters and the total heat rating (total Btu/hr).

Total Heat Rating =	5,718,000	Btu/hr
	5.718	MMBtu/hr
Operating Hours =	8,760	hrs/yr

Emission Type	EF (1)		Emissions	
	lb/10^6 scf	lb/MMBtu (3)	lb/hr	tons/year
CO	84	0.08235	0.47	2.06
NOx	100	0.09804	0.56	2.46
PM	7.6	0.00745	0.04	0.19
PM10 (2)	7.6	0.00745	0.04	0.19
PM2.5 (2)	7.6	0.00745	0.04	0.19
SO2	0.6	0.00059	0.01	0.01
VOC/TOC	5.5	0.00539	0.03	0.14
Lead	0.0005	4.90E-07	0.000003	0.000012
Rounding to =	2			

Note:
1. Emission factors from AP-42, 1.4, Natural Gas Combustion, 7/98.
2. It is assumed that PM10 and PM2.5 are equal to PM.
3. Conversion from lb/10^6 scf to lb/MMBtu (divide by) = 1,020

By: AM
Date: 02/21/2018

Checked by: PEW
Date: 02/21/2018

New Building Heaters HAPs

Total Heat Rating =	5.718	MMBtu/hr
Operating Hours =	8,760	hrs/yr

CAS No.	Hazardous Air Pollutants	EF (1)		Emissions	
		lb/10^6 scf	lb/MMBtu (2)	lb/hr	tons/year
91-57-6	2-Methylnaphthalene	2.40E-05	2.35E-08	1.35E-07	5.89E-07
56-49-5	3-Methylchloranthrene	1.80E-06	1.76E-09	1.01E-08	4.42E-08
57-97-6	7,12-Dimethylbenz(a)anthracene	1.60E-05	1.57E-08	8.97E-08	3.93E-07
83-32-9	Acenaphthene	1.80E-06	1.76E-09	1.01E-08	4.42E-08
203-96-8	Acenaphthylene	1.80E-06	1.76E-09	1.01E-08	4.42E-08
120-12-7	Anthracene	2.40E-06	2.35E-09	1.35E-08	5.89E-08
56-55-3	Benz(a)anthracene	1.80E-06	1.76E-09	1.01E-08	4.42E-08
71-43-2	Benzene	2.10E-03	2.06E-06	1.18E-05	5.16E-05
50-32-8	Benzo(a)pyrene	1.20E-06	1.18E-09	6.73E-09	2.95E-08
205-99-2	Benzo(b)fluoranthene	1.80E-06	1.76E-09	1.01E-08	4.42E-08
191-24-2	Benzo(g,h,i)perylene	1.20E-06	1.18E-09	6.73E-09	2.95E-08
205-82-3	Benzo(k)fluoranthene	1.80E-06	1.76E-09	1.01E-08	4.42E-08
218-01-9	Chrysene	1.80E-06	1.76E-09	1.01E-08	4.42E-08
53-70-3	Dibenzo(a,h)anthracene	1.20E-06	1.18E-09	6.73E-09	2.95E-08
25321-22-6	Dichlorobenzene	1.20E-03	1.18E-06	6.73E-06	2.95E-05
206-44-0	Fluoranthene	3.00E-06	2.94E-09	1.68E-08	7.37E-08
86-73-7	Fluorene	2.80E-06	2.75E-09	1.57E-08	6.88E-08
50-00-0	Formaldehyde	7.20E-02	7.06E-05	4.04E-04	1.77E-03
110-54-3	Hexane	1.80E+00	1.76E-03	1.01E-02	4.42E-02
193-39-5	Indeno(1,2,3-cd)pyrene	1.80E-06	1.76E-09	1.01E-08	4.42E-08
91-20-3	Naphthalene	6.10E-04	5.98E-07	3.42E-06	1.50E-05
85-01-8	Phenanathrene	1.70E-05	1.67E-08	9.53E-08	4.17E-07
129-00-0	Pyrene	5.00E-06	4.90E-09	2.80E-08	1.23E-07
108-88-3	Toluene	3.40E-03	3.33E-06	1.91E-05	8.35E-05
7440-38-2	Arsenic	2.00E-04	1.96E-07	1.12E-06	4.91E-06
7440-41-7	Beryllium	1.20E-05	1.18E-08	6.73E-08	2.95E-07
7440-43-9	Cadmium	1.10E-03	1.08E-06	6.17E-06	2.70E-05
7440-47-3	Chromium	1.40E-03	1.37E-06	7.85E-06	3.44E-05
7440-48-4	Cobalt	8.40E-05	8.24E-08	4.71E-07	2.06E-06
7439-96-5	Manganese	3.80E-04	3.73E-07	2.13E-06	9.33E-06
7439-97-6	Mercury	2.60E-04	2.55E-07	1.46E-06	6.38E-06
7440-02-0	Nickel	2.10E-03	2.06E-06	1.18E-05	5.16E-05
7782-49-2	Selenium	2.40E-05	2.35E-08	1.35E-07	5.89E-07
			VOC HAPs Subtotal	1.05E-02	4.61E-02
			Metal HAPs Subtotal	3.12E-05	1.37E-04
			Total HAPs	1.06E-02	4.63E-02

References:
1. AP42 Table 1.4-3 and Table 1.4-4.
2. Conversion from lb/10^6 scf to lb/MMBtu (divide by) = 1,020

By: AM
Date: 02/21/2018

Checked by: PEW
Date: 02/21/2018

Retractable Paint Booth 11S

There is one retractable paint booth proposed for this facility. To estimate the hourly emissions the Regulation 21, Section 19, limitations are being utilized. The paint and primer meet the definition of air dried coatings with a VOC limits of 3.5 pounds per gallon. The clear coat has a limit of 4.3 pounds per gallon. Therefore, for the maximum hourly VOC emissions it is assumed that the operation will use clear coat for one hour. The maximum hourly particulate emissions (PM, PM10, and PM2.5 assumed to be equal) are based on the highest solids coating being utilized for the entire hour. Maximum HAP emissions are based on the percent by weights of the HAPS present in the materials, the gallons per hour capacity of the paint gun, and the unit weight of the specific material. It is assumed that the material is used for an entire hour and the highest HAP value is requested to be the emissions value.

Paint Gun Capability

Paint Gun Theoretical Throughput =	1.75	oz/min (Supplied by Client)
	28.3495	gm/oz
	49.61	gm/min
	454	gm/lb
	60	min/hr
	6.56	pph

Hourly Emissions Estimate

Volatile Organic Compounds

Minimum Weight Per Gallon of Paint =	7.99	ppg (Imron Elite Appearance Clear Coat (8430S)
Maximum Gallons =	0.821	gph
VOC Content =	4.3	ppg (Regulation 21, Section 19 Limit)
VOC Emissions =	3.529	pph

Particulate Matter (PM, PM10, and PM2.5 Assumed Equal)

Maximum Solids Content =	7.59	ppg (Color Atlas White (CAS992))
Usage Rate of Solids =	6.23	pph
Transfer Efficiency of Solids =	65	%
Uncontrolled PM/PM10/PM2.5 Emissions =	2.181	pph
Control Efficiency =	95	%
Controlled PM/PM10/PM2.5 Emissions =	0.1090	pph

Hourly Emissions Estimate (Continued)

Hazardous Air Pollutants

Paint

Weight =	8.55	ppg (Color Atlas Yellow (CAS250))	
Ethylbenzene =	0.1	%	0.0070 pph

Primers

Weight =	12.28	ppg (Gray Hybrid Epoxy Primer (825P32760))	
Xylene =	2	%	0.2015 pph
Ethylbenzene =	0.4	%	0.0403 pph
Naphthalene =	0.3	%	0.0302 pph
Weight =	10.82	ppg (Gray Urethane Sandable Primer (1220S))	
Ethylene Glycol Monobutyl Ether Acetate =	6	%	0.53 pph
Weight =	7.37	ppg (Hybrid Primer Medium Activator (FGP32765))	
Xylene =	4	%	0.2419 pph
Ethylbenzene =	0.9	%	0.0544 pph

Total Hourly Emissions

	Uncontrolled	Controlled	
VOC	3.53	3.53	pph
PM/PM10/PM2.5	2.18	0.11	pph
Xylene	0.24	0.24	pph
Ethylbenzene	0.05	0.05	pph
Naphthalene	0.03	0.03	pph
Ethylene Glycol Monobutyl Ether Acetate	0.53	0.53	pph
Total HAPS	0.86	0.86	pph

Yearly Emissions Estimate

No additional yearly emissions will be produced. The total yearly paint throughput will not increase with the addition of the Portable Paint Booth and no new paint types will be used.

By: AM
Date: 02/21/2018

Checked by: PEW
Date: 02/21/2018

Windshield Installation Operation (12S)

Sikaflex - 255 FC

Throughput =	250	g/vehicle (Provided)
	2,500	g/hr
	10	Vehicles /hr
	26,000	Vehicles per year
	454	g/lb
	5.51	lb/hr
	6,500	kg/yr
	0.454	kg/lb
	14,317	lb/yr
Weight Per Gallon of Sealant =	10.10	lb/gal (Product Data Sheet)
VOC Content =	0.53	lb/gal (Product Data Sheet)
Maximum Gallons =	0.55	gal/hr
Gallons per Year =	1,418	gal/yr

Hazardous Air Pollutants

Xylene =	5%	Concentration (SDS)
Ethylbenzene =	2%	Concentration (SDS)
4,4-methylenediphenyl diisocyanate =	1%	Concentration (SDS)

Total Emissions

Pollutant	Uncontrolled		Controlled	
	pph	tpy	pph	tpy
VOC	0.45	0.57	0.45	0.57
Xylene	0.28	0.36	0.28	0.36
Ethylbenzene	0.11	0.14	0.11	0.14
4,4-Methylenediphenyl diisocyanate	0.06	0.07	0.06	0.07
Total HAPS	0.45	0.57	0.45	0.57

Sika Aktivator - 100

Throughput =	5.00	ml/vehicle (Provided)
	3.55	g/Vehicle
	35.50	g/hr
	10	Vehicles /hr
	26,000	Vehicles/year
	1.02E-01	tons/year
	454	g/lb
Density of Sika Aktivator -100 =	0.71	g/cm^3 (ml) (SDS)
	0.07819	lb/hr
	101.6520	kg/yr
	0.454	kg/lb
	223.9031	lb/yr
	3,785.41	mls/gal
Weight of Aktivator =	5.92	lb/gal
VOC content =	677.10	g/L (g/1000 g)
Maximum Gallons =	0.013209	gal/hr
Gallons per Year =	37.8220	gal/yr
VOC content =	0.6771	%

Pollutant	Uncontrolled		Controlled	
	pph	tpy	pph	tpy
VOC	0.05	0.08	0.05	0.08

Total Emissions

Pollutant	Uncontrolled		Controlled	
	pph	tpy	pph	tpy
VOC	0.50	0.65	0.50	0.65
Xylene	0.28	0.36	0.28	0.36
Ethylbenzene	0.11	0.14	0.11	0.14
4,4-Methylenediphenyl diisocyanate	0.06	0.07	0.06	0.07
Total HAPS	0.45	0.57	0.45	0.57

Fluids Building Emissions Summary
Hino Motors Manufacturing U.S.A., Inc.

POTESTA & ASSCIATES, INC.
Project No. 0101-17-0079-007

By: AM
Date: 02/21/2018

Checked By: PEW
Date: 02/21/2018

Emissions Estimate Summary 13S, 14S, 15S)

The following table is a summary of the emissions generated by Tanks 4.0.9d. The tanks program provides the working, breathing, and total emissions. The worst case (filling) hourly emissions are estimated as one fill-up of the tanks which is the working losses divided by the number of tank turnovers. The average hourly emissions are the total pounds per year divided by 8,760 hours per year. The yearly emissions are the total emissions converted to tons. The Tanks 4.0.9d printouts are provide on the following pages.

						Tanks 4.0.9d Emissions				Emissions		
Tank ID	**Fluid**	**Vapor Pressure [1]**	**Volume (gallons)**	**Yearly Throughput (gallons)**	**Emissions**	**Working Loss (lb/yr)**	**Breathing Loss (lb/yr)**	**Total Emissions (lb/yr)**	**Number of Turnovers**	**Filling lb/hr [5]**	**Average lb/hr [6]**	**tpy**
1 (14S)	Windshield Washer Fluid	0.6126 psia [2]	5,000	25,000	VOC & HAP (Methanol) [4]	8.91	15.22	24.13	5	1.782	0.003	0.013
2 (15S)	Diesel Exhaust Fluid (DEF)	6.4 kpa/0.93 psia	6,000	92,500	VOC (32.5% Urea VOC) [3]	18.62	6.42	25.04	16	0.372	0.003	0.005
3	Transmission Oil	<0.013 kpa/0.0019 psia	8,800	2,750	De minimis per Table 45-13B of 45CSR13 (Regulation 13)							
4	Coolant	0.12 mmHg/0.00232 psia	6,800	166,500	De minimis per Table 45-13B of 45CSR13 (Regulation 13)							
5	Coolant Fluid	0.12 mmHg/0.00232 psia	3,600	74,000	De minimis per Table 45-13B of 45CSR13 (Regulation 13)							
6	Differential Oil	<0.5 pa/0.0000725 psia	6,800	79,625	De minimis per Table 45-13B of 45CSR13 (Regulation 13)							
7	Automatic Trans. and Power Steering Fluid	<0.5 pa/0.0000725 psia	1,300	22,500	De minimis per Table 45-13B of 45CSR13 (Regulation 13)							
8	Engine Oil	<0.013 kpa/0.0019 psia	6,800	35,000	De minimis per Table 45-13B of 45CSR13 (Regulation 13)							
9	Differential Oil	<0.1 mmHg/0.0019 psia	3,000	49,000	De minimis per Table 45-13B of 45CSR13 (Regulation 13)							
10 (13S)	Diesel Fuel	0.0064 psia [2]	10,000	500,000	VOC	7.64	1.79	9.42	50	0.153	0.001	0.005
11 (16S)	Existing Diesel Tank	0.0064 psia [2]	2,000	20,000	VOC	0.40	0.39	0.79	10	0.040	0.001	0.001
								Total VOC Emissions =		2.347	0.008	0.024
								Total HAP Emissions =		1.782	0.003	0.013

Notes:
1. Vapor pressure from safety data sheets, except where indicated.
2. Vapor pressure from Tanks 4.0.9d. Program.
3. DEF is 32.5% Urea which is the VOC content of the material. The Tank 4.0.9d. Emissions are for DEF. The lb/hr and tpy emissions are 32.5% of the DEF emissions to account for the VOC emissions only.
4. Emission value shown is methanol only from the Tanks 4.0.9d. printout.
5. The filling lb/hr emissions are based on working losses divided by the number of filling events which are assumed to occur in one hour. These emissions only occur during filling events.
6. Average lb/hr emissions losses are based on the total emissions divided by 8,760 hours per year.

By: AM
Date: 02/21/2018

Checked by: PEW
Date: 02/21/2018

Vehicle Activity (VA)

Paved Roadway: Finished trucks going from the plant to the parking area including test track.

Emission Factor Equation from AP-42 Section 13.2.1, Paved Roads (January 2011):
E = [k * (sL/2)^0.65 * (W/3)^1.5 - C] * (1 - (P/4*N) = lb / Vehicle Mile Traveled (VMT)

	PM	PM10	PM2.5	
k =	0.011	0.0022	0.00054	dimensionless, particle size multiplier
sL =	9.7	9.7	9.7	surface material silt content (g/m^2)
W =	16.5	16.5	16.5	tons, mean vehicle weight
P =	157	157	157	no. days/year with 0.01 in of rain
C =	0.00047	0.00047	0.00047	factor for exhaust, brake wear and tire wear
e =	0.35	0.07	0.02	lb/VMT

Rounding to 2

Trucks

Pollutant	No. of Vehicles		Miles Per Trip	Control Device		Emissions			
						Uncontrolled		Controlled	
	Per Hour	Per Year	(mi)	Type	Effic(%)	(lb/hr)	(tpy)	(lb/hr)	(tpy)
PM	10	26,000	0.89	N	0	3.12	4.05	3.12	4.05
PM10	10	26,000	0.89	N	0	0.62	0.81	0.62	0.81
PM2.5	10	26,000	0.89	N	0	0.18	0.24	0.18	0.24

Paved road to parking area: test track (2,720 ft plus building to gravel 1,980 ft) =4,700 ft = 0.89 miles

Paved Roadway: Finished trucks leaving the site.

Emission Factor Equation from AP-42 Section 13.2.1, Paved Roads (January 2011):
E = [k * (sL/2)^0.65 * (W/3)^1.5 - C] * (1 - (P/4*N) = lb / Vehicle Mile Traveled (VMT)

	PM	PM10	PM2.5	
k =	0.011	0.0022	0.00054	dimensionless, particle size multiplier
sL =	9.7	9.7	9.7	surface material silt content (g/m2)
W =	16.5	16.5	16.5	tons, mean vehicle weight
P =	157	157	157	no. days/year with 0.01 in of rain
C =	0.00047	0.00047	0.00047	ıaust, brake wear and tire wear
e =	0.35	0.07	0.02	lb/VMT

Rounding to 2.00

Trucks

Pollutant	No. of Vehicles		Miles Per Trip	Control Device		Emissions			
						Uncontrolled		Controlled	
	Per Hour	Per Year	(mi)	Type	Effic(%)	(lb/hr)	(tpy)	(lb/hr)	(tpy)
PM	10	26,000	0.13	N	0	0.46	0.59	0.46	0.59
PM10	10	26,000	0.13	N	0	0.09	0.12	0.09	0.12
PM2.5	10	26,000	0.13	N	0	0.03	0.04	0.03	0.04

Paved portion of road from parking area = 680 ft = 0.13 miles

Paved Roadway: Delivery trucks entering and then leaving the site.

Emission Factor Equation from AP-42 Section 13.2.1, Paved Roads (January 2011):
E = [k * (sL/2)^0.65 * (W/3)^1.5 - C] * (1 - (P/4*N) = lb / Vehicle Mile Traveled (VMT)

	PM	PM10	PM2.5	
k =	0.011	0.0022	0.00054	dimensionless, particle size multiplier
sL =	9.7	9.7	9.7	surface material silt content (g/m^2)
W =	40.0	40.0	40.0	tons, mean vehicle weight (80,000 pounds maximum road weight)
P =	157	157	157	no. days/year with 0.01 in of rain
C =	0.00047	0.00047	0.00047	factor for exhaust, brake wear and tire wear
e =	1.33	0.27	0.07	lb/VMT

Rounding to 2

Trucks

Pollutant	No. of Vehicles (1)		Miles Per Trip	Control Device		Emissions			
						Uncontrolled		Controlled	
	Per Hour [2]	Per Year	(mi)	Type	Effic(%)	(lb/hr)	(tpy)	(lb/hr)	(tpy)
PM	6	15,000	0.67	N	0	5.35	6.68	5.35	6.68
PM10	6	15,000	0.67	N	0	1.09	1.36	1.09	1.36
PM2.5	6	15,000	0.67	N	0	0.29	0.36	0.29	0.36

1. Number of vehicles is based on 42 trucks per day, average trucks per hour of 6, and 365 days per year.
20,000 Vehicles require 10,950 delivery trucks
26,000 Vehicles require 15,000 delivery trucks
2. Delivery trucks per hour is based on 8 hour delivery schedule.
Round trip for delivery trucks = 3,512 ft = 0.67 miles

Total Paved Roadway Emissions			
Uncontrolled		Controlled	
(lb/hr)	(tpy)	(lb/hr)	(tpy)
8.93	11.32	8.93	11.32
1.80	2.29	1.80	2.29
0.50	0.64	0.50	0.64

By: AM
Date: 02/21/2018

Checked by: PEW
Date: 02/21/2018

Vehicular Traffic (VA)

Unpaved Haulroads

PM Emissions

Source	Vehicle Trips per Hour	Vehicle Trips per Year	Miles per Trip	Emission Factor [1] (lb/VMT)	Uncontrolled (lb/hr)	Uncontrolled (tpy)	Control Device	Control Efficiency (%)	Controlled (lb/hr)	Controlled (tpy)
Plant to Gravel Area	10	26,000	0.69	3.70	25.53	33.19	N	0	25.53	33.19
Leaving Site	10	26,000	0.73	3.70	27.01	35.11	N	0	27.01	35.11
				Total	52.54	68.30		Total	52.54	68.30

PM10 Emissions

Source	Vehicle Trips per Hour	Vehicle Trips per Year	Miles per Trip	Emission Factor [1] (lb/VMT)	Uncontrolled (lb/hr)	Uncontrolled (tpy)	Control Device	Control Efficiency (%)	Controlled (lb/hr)	Controlled (tpy)
Plant to Gravel Area	10	26,000	0.69	0.99	6.83	8.88	N	0	6.83	8.88
Leaving Site	10	26,000	0.73	0.99	7.23	9.40	N	0	7.23	9.40
				Total	14.06	18.28		Total	14.06	18.28

PM2.5 Emissions

Source	Vehicle Trips per Hour	Vehicle Trips per Year	Miles per Trip	Emission Factor [1] (lb/VMT)	Uncontrolled (lb/hr)	Uncontrolled (tpy)	Control Device	Control Efficiency (%)	Controlled (lb/hr)	Controlled (tpy)
Plant to Gravel Area	10	26,000	0.69	0.10	0.69	0.90	N	0	0.69	0.90
Leaving Site	10	26,000	0.73	0.10	0.73	0.95	N	0	0.73	0.95
				Total	1.42	1.85		Total	1.42	1.85

Plant into Gravel Area = 3,631 feet = 0.69 miles
Leaving Site = 3,830 feet = 0.73 miles

Emission Equation AP-42 Section 13.2.2, Unpaved Roads (12/03), where:
$e = k [(s/12)^a (W/3)^b] [(365-p)/365]$ = lb/ Vehicle Mile Traveled (VMT)

	Emission Factors[1] PM	PM10	PM2.5	
k =	4.9	1.5	0.15	dimensionless, particle size multiplier
s =	6	6	6	%, surface material silt content
W =	16.5	16.5	16.5	tons, mean vehicle weight
a =	0.7	0.9	0.9	constants
b =	0.45	0.45	0.45	constants
p =	157	157	157	no. days/year with 0.1 in of rain
e =	3.70	0.99	0.10	lb/VMT

1. AP-42, Section 13.2.2 (11/06)

By: AM
Date: 02/21/2018

Checked by: PEW
Date: 02/21/2018

Total Engines (9S, 17S, 18S)

Emission	Emissions	
Type	lb/hr	tons/year
NOx	55.17	13.79
CO	14.96	3.75
SO2	0.78	0.21
PM	2.09	0.52
PM10	2.09	0.52
PM2.5	2.09	0.52
VOC/TOC	2.52	0.63
Total HAPS	0.03	0.01

By: AM
Date: 02/21/2018

Checked by: PEW
Date: 02/21/2018

Fire Pump Engine, Model DDFP-06FA 8175F (1999) (9S)

Manufacturer's Specifications

Maximum Horsepower: 368 hp-hr (Stated on Engine)
Hours Per Year = 500

Regulated Pollutant	Emission Factor[1] (lb/MMBtu)	Emission Factor[1] lb/hp-hr	Hourly Emissions (lbs/hour)	Annual Emissions (tons/year)
NOx	4.41	0.031	11.41	2.85
CO	0.95	6.68E-03	2.46	0.62
SO2	0.29	2.05E-03	0.75	0.19
PM/PM10/PM2.5	0.31	2.20E-03	0.81	0.20
TOC (VOC)	0.36	0.0025141	0.93	0.23
Hazardous Air Pollutants (HAPS)[2]				
Benzene	9.33E-04	6.52E-06	0.0024	0.0006
Toluene	4.09E-04	2.86E-06	0.0011	0.0003
Xylenes	2.85E-04	1.99E-06	0.0007	0.0002
1,3-Butadiene	3.91E-05	2.73E-07	0.0001	0.0010
Formaldehyde	1.18E-03	8.24E-06	0.0030	0.0010
Acetaldehyde	7.67E-04	5.36E-06	0.0020	0.0005
Acrolein	9.25E-05	6.46E-07	0.0002	0.0001
Naphthalene	8.48E-05	5.92E-07	0.0002	0.0001
Total HAPS			0.0097	0.0038

Notes:
1. Emission factors from AP-42 Table 3.3-1(Criteria Pollutants) Table 3.3-2 (HAPS) unless noted.
2. Emission factors for hazardous air pollutants converted from lb/MMBtu to lb/hp-hr based on the ratio of TOC emission factors shown above.
TOC lb/hp-hr/lb/MMBtu Ratio = 0.006983611

By: AM
Date: 02/21/2018

Checkd by: PEW
Date: 02/21/2018

Cummins Engine, Model 1000DF JD (1998) (17S)

Manufacturer's Specifications

Maximum Horsepower: 1,490 hp (Stated on Engine)

Hours Per Year = 500

Regulated Pollutant	Emission Factor[1]		Hourly Emissions (lbs/hour)	Annual Emissions (tons/year)
	lb/MMBtu	lb/hp-hr		
NOx	3.20	0.024	35.76	8.94
CO	0.85	5.50E-03	8.20	2.05
SO2	1.52E-03	1.214E-05	0.02	0.01
PM/PM10/PM2.5	0.10	0.0007	1.05	0.26
TOC (VOC)	0.09	7.05E-04	1.06	0.27
Hazardous Air Pollutants (HAPS)[2]				
Benzene	7.76E-04	6.08E-06	0.0091	0.0023
Toluene	2.81E-04	2.20E-06	0.0033	0.0008
Xylenes	1.93E-04	1.51E-06	0.0023	0.0006
Formaldehyde	7.89E-05	6.18E-07	0.0009	0.0002
Acetaldehyde	2.52E-05	1.97E-07	0.0003	0.0001
Acrolein	7.88E-06	6.17E-08	0.0001	0.0001
Total HAPS			0.0160	0.0041

Notes:

1. Emission factors from AP-42 Table 3.4-1(Criteria Pollutants) Table 3.4-3 (HAPS).

2. Emission factors for hazardous air pollutants converted from lb/MMBtu to lb/hp-hr using TOC emission factors shown above.

TOC lb/hp-hr/lb/MMBtu Ratio 0.00783

Emission factor (lb/MMBtu) for SO2 = 1.01 x Sulfur content in the fuel

Sulfur (S_1) in diesel = 0.0015

SO2 emission factor in lb/hp-hr = 8.09E-03 lb/hp-hr x 0.0015

By: AM
Date: 02/21/2018

Checked by: PEW
Date: 02/21/2018

Cummins 6CEXL015.AAB (2006) (18S)

Manufacturer's Specifications

Maximum Horsepower: 755 hp

Hours Per Year = 500

Regulated Pollutant	Emission Factor[1]			Hourly Emissions	Annual Emissions
	lb/MMBtu	(g/hp-hr)	lb/hp-hr	(lbs/hour)	(tons/year)
NOx		4.80	1.06E-02	8.00	2.00
CO		2.60	5.7E-03	4.30	1.08
SO2	1.52E-03		1.214E-05	0.01	0.01
PM/PM10/PM2.5		0.15	3.0E-04	0.23	0.06
TOC (VOC)[2]	0.09		0.000705	0.53	0.13
Hazardous Air Pollutants (HAPS)[3]					
Benzene	7.76E-04		6.08E-06	0.0046	0.0012
Toluene	2.81E-04		2.20E-06	0.0017	0.0004
Xylenes	1.93E-04		1.51E-06	0.0012	0.0003
Formaldehyde	7.89E-05		6.18E-07	0.0005	0.0001
Acetaldehyde	2.52E-05		1.97E-07	0.0002	0.0001
Acrolein	7.88E-06		6.17E-08	0.0001	0.0001
Total HAPS				0.0083	0.0022

Notes:

1. Emission factors for Criteria Pollutants from Manufacturer are converted from g/hp-hr to lb/hp-hr.
2. Emission factors for TOC are from AP-42 Table 3.4-1
3. Emission factors for hazardous air pollutants (AP-42 Table 3.4.3) are converted from lb/MMBtu to lb/hp-hr using TOC emission factors shown above.

TOC lb/hp-hr/lb/MMBtu Ratio = 0.00783 454 gram/lb

Emission factor (lb/MMBtu) for SO2 = 1.01 x Sulfur content in the fuel

Sulfur (S_1) in diesel = 0.0015

SO2 emission factor in lb/hp-hr = 8.09E-03 lb/hp-hr x 0.0015

The following are printouts from Tanks 4.0.9d for Tank No. 1 (Window Washer Fluid), Tank No. 2 (Diesel Exhaust Fluid) and Tank No. 10 (Diesel).

Tank No. 1: Window Washer Fluid

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification		
User Identification:	Window Washer Fluid	
City:	Parkersburg	
State:	West Virginia	
Company:	HINO	
Type of Tank:	Vertical Fixed Roof Tank	
Description:		
Tank Dimensions		
Shell Height (ft):		14.00
Diameter (ft):		7.83
Liquid Height (ft) :		14.00
Avg. Liquid Height (ft):		7.00
Volume (gallons):		5,000.00
Turnovers:		5.00
Net Throughput(gal/yr):		25,000.00
Is Tank Heated (y/n):	N	
Paint Characteristics		
Shell Color/Shade:	White/White	
Shell Condition	Good	
Roof Color/Shade:	White/White	
Roof Condition:	Good	
Roof Characteristics		
Type:	Dome	
Height (ft)		1.00
Radius (ft) (Dome Roof)		7.83
Breather Vent Settings		
Vacuum Settings (psig):		-0.03
Pressure Settings (psig)		0.03

Meterological Data used in Emissions Calculations: Charleston, West Virginia (Avg Atmospheric Pressure = 14.25 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Window Washer Fluid - Vertical Fixed Roof Tank
Parkersburg, West Virginia

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Windshield Washer Fluid	All	56.67	51.31	62.04	55.00	0.6126	0.5122	0.7296	28.7110			23.07	
Methyl alcohol						1.2977	1.0908	1.5373	32.0400	0.5000	0.8510	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Water						0.2273	0.1867	0.2753	18.0200	0.5000	0.1490	18.02	Option 2: A=8.10765, B=1750.286, C=235

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Window Washer Fluid - Vertical Fixed Roof Tank
Parkersburg, West Virginia

Annual Emission Calcaulations	
Standing Losses (lb):	17.8862
Vapor Space Volume (cu ft):	361.6628
Vapor Density (lb/cu ft):	0.0032
Vapor Space Expansion Factor:	0.0531
Vented Vapor Saturation Factor:	0.8040
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	361.6628
Tank Diameter (ft):	7.8300
Vapor Space Outage (ft):	7.5109
Tank Shell Height (ft):	14.0000
Average Liquid Height (ft):	7.0000
Roof Outage (ft):	0.5109
Roof Outage (Dome Roof)	
Roof Outage (ft):	0.5109
Dome Radius (ft):	7.8300
Shell Radius (ft):	3.9150
Vapor Density	
Vapor Density (lb/cu ft):	0.0032
Vapor Molecular Weight (lb/lb-mole):	28.7110
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.6126

Daily Avg. Liquid Surface Temp. (deg. R):	516.3441
Daily Average Ambient Temp. (deg. F):	54.9833
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	514.6733
Tank Paint Solar Absorptance (Shell):	0.1700
Tank Paint Solar Absorptance (Roof):	0.1700
Daily Total Solar Insulation Factor (Btu/sqft day):	1,250.5726

Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.0531
Daily Vapor Temperature Range (deg. R):	21.4567
Daily Vapor Pressure Range (psia):	0.2174
Breather Vent Press. Setting Range(psia):	0.0600
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.6126
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.5122
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.7296
Daily Avg. Liquid Surface Temp. (deg R):	516.3441
Daily Min. Liquid Surface Temp. (deg R):	510.9799
Daily Max. Liquid Surface Temp. (deg R):	521.7082
Daily Ambient Temp. Range (deg. R):	21.5333

Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.8040
Vapor Pressure at Daily Average Liquid: Surface Temperature (psia):	0.6126
Vapor Space Outage (ft):	7.5109

Working Losses (lb):	10.4687
Vapor Molecular Weight (lb/lb-mole):	28.7110
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.6126
Annual Net Throughput (gal/yr.):	25,000.0000
Annual Turnovers:	5.0000
Turnover Factor:	1.0000
Maximum Liquid Volume (gal):	5,000.0000
Maximum Liquid Height (ft):	14.0000
Tank Diameter (ft):	7.8300
Working Loss Product Factor:	1.0000

Total Losses (lb):	28.3549

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Window Washer Fluid - Vertical Fixed Roof Tank
Parkersburg, West Virginia

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Windshield Washer Fluid	10.47	17.89	28.35
Methyl alcohol	8.91	15.22	24.13
Water	1.56	2.67	4.23

Tank No. 2: DEF

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification		
User Identification:	DEF	
City:	Parkersburg	
State:	West Virginia	
Company:	HINO	
Type of Tank:	Vertical Fixed Roof Tank	
Description:		
Tank Dimensions		
Shell Height (ft):		14.00
Diameter (ft):		8.50
Liquid Height (ft) :		14.00
Avg. Liquid Height (ft):		7.00
Volume (gallons):		6,000.00
Turnovers:		16.00
Net Throughput(gal/yr):		92,500.00
Is Tank Heated (y/n):	N	
Paint Characteristics		
Shell Color/Shade:	White/White	
Shell Condition	Good	
Roof Color/Shade:	White/White	
Roof Condition:	Good	
Roof Characteristics		
Type:	Dome	
Height (ft)		1.00
Radius (ft) (Dome Roof)		8.50
Breather Vent Settings		
Vacuum Settings (psig):		-0.03
Pressure Settings (psig)		0.03

Meterological Data used in Emissions Calculations: Charleston, West Virginia (Avg Atmospheric Pressure = 14.25 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

DEF - Vertical Fixed Roof Tank
Parkersburg, West Virginia

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
DEF	All	56.67	51.31	62.04	55.00	0.9300	0.9300	0.9300	9.0900			60.06	Option 1: VP50 = .93 VP60 = .93

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

DEF - Vertical Fixed Roof Tank
Parkersburg, West Virginia

Annual Emission Calcaulations	
Standing Losses (lb):	6.4170
Vapor Space Volume (cu ft):	426.1112
Vapor Density (lb/cu ft):	0.0015
Vapor Space Expansion Factor:	0.0371
Vented Vapor Saturation Factor:	0.7299
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	426.1112
Tank Diameter (ft):	8.5000
Vapor Space Outage (ft):	7.5092
Tank Shell Height (ft):	14.0000
Average Liquid Height (ft):	7.0000
Roof Outage (ft):	0.5092
Roof Outage (Dome Roof)	
Roof Outage (ft):	0.5092
Dome Radius (ft):	8.5000
Shell Radius (ft):	4.2500
Vapor Density	
Vapor Density (lb/cu ft):	0.0015
Vapor Molecular Weight (lb/lb-mole):	9.0900
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.9300
Daily Avg. Liquid Surface Temp. (deg. R):	516.3441
Daily Average Ambient Temp. (deg. F):	54.9833

Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	514.6733
Tank Paint Solar Absorptance (Shell):	0.1700
Tank Paint Solar Absorptance (Roof):	0.1700
Daily Total Solar Insulation Factor (Btu/sqft day):	1,250.5726
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.0371
Daily Vapor Temperature Range (deg. R):	21.4567
Daily Vapor Pressure Range (psia):	0.0000
Breather Vent Press. Setting Range(psia):	0.0600
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.9300
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.9300
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.9300
Daily Avg. Liquid Surface Temp. (deg R):	516.3441
Daily Min. Liquid Surface Temp. (deg R):	510.9799
Daily Max. Liquid Surface Temp. (deg R):	521.7082
Daily Ambient Temp. Range (deg. R):	21.5333
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.7299
Vapor Pressure at Daily Average Liquid: Surface Temperature (psia):	0.9300
Vapor Space Outage (ft):	7.5092
Working Losses (lb):	18.6183
Vapor Molecular Weight (lb/lb-mole):	9.0900
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.9300
Annual Net Throughput (gal/yr.):	92,500.0000
Annual Turnovers:	16.0000
Turnover Factor:	1.0000
Maximum Liquid Volume (gal):	6,000.0000
Maximum Liquid Height (ft):	14.0000
Tank Diameter (ft):	8.5000
Working Loss Product Factor:	1.0000
Total Losses (lb):	25.0352

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

DEF - Vertical Fixed Roof Tank
Parkersburg, West Virginia

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
DEF	18.62	6.42	25.04

Tank No. 10: Diesel Tank

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	HINO - Diesel
City:	Parkersburg
State:	West Virginia
Company:	HINO
Type of Tank:	Horizontal Tank
Description:	

Tank Dimensions

Shell Length (ft):	27.00
Diameter (ft):	8.00
Volume (gallons):	10,000.00
Turnovers:	50.00
Net Throughput(gal/yr):	500,000.00
Is Tank Heated (y/n):	N
Is Tank Underground (y/n):	N

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition	Good

Breather Vent Settings

Vacuum Settings (psig):	-0.03
Pressure Settings (psig)	0.03

Meterological Data used in Emissions Calculations: Charleston, West Virginia (Avg Atmospheric Pressure = 14.25 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

HINO - Diesel - Horizontal Tank
Parkersburg, West Virginia

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Distillate fuel oil no. 2	All	56.67	51.31	62.04	55.00	0.0064	0.0049	0.0077	130.0000			188.00	Option 1: VP50 = .0045 VP60 = .0074

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

HINO - Diesel - Horizontal Tank
Parkersburg, West Virginia

Annual Emission Calcaulations	
Standing Losses (lb):	1.7861
Vapor Space Volume (cu ft):	864.4382
Vapor Density (lb/cu ft):	0.0002
Vapor Space Expansion Factor:	0.0375
Vented Vapor Saturation Factor:	0.9986
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	864.4382
Tank Diameter (ft):	8.0000
Effective Diameter (ft):	16.5879
Vapor Space Outage (ft):	4.0000
Tank Shell Length (ft):	27.0000
Vapor Density	
Vapor Density (lb/cu ft):	0.0002
Vapor Molecular Weight (lb/lb-mole):	130.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0064
Daily Avg. Liquid Surface Temp. (deg. R):	516.3441
Daily Average Ambient Temp. (deg. F):	54.9833
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	514.6733
Tank Paint Solar Absorptance (Shell):	0.1700
Daily Total Solar Insulation Factor (Btu/sqft day):	1,250.5726
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.0375
Daily Vapor Temperature Range (deg. R):	21.4567
Daily Vapor Pressure Range (psia):	0.0028
Breather Vent Press. Setting Range(psia):	0.0600
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0064
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.0049
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.0077
Daily Avg. Liquid Surface Temp. (deg R):	516.3441
Daily Min. Liquid Surface Temp. (deg R):	510.9799
Daily Max. Liquid Surface Temp. (deg R):	521.7082
Daily Ambient Temp. Range (deg. R):	21.5333
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.9986
Vapor Pressure at Daily Average Liquid: Surface Temperature (psia):	0.0064
Vapor Space Outage (ft):	4.0000

Working Losses (lb):	7.6357
Vapor Molecular Weight (lb/lb-mole):	130.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0064
Annual Net Throughput (gal/yr.):	500,000.0000
Annual Turnovers:	50.0000
Turnover Factor:	0.7667
Tank Diameter (ft):	8.0000
Working Loss Product Factor:	1.0000
Total Losses (lb):	9.4219

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

HINO - Diesel - Horizontal Tank
Parkersburg, West Virginia

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Distillate fuel oil no. 2	7.64	1.79	9.42

Tank No. 11: Existing Diesel Tank

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	HINO - Existing 2000 Gallon Diesel
City:	Charleston
State:	West Virginia
Company:	HINO
Type of Tank:	Horizontal Tank
Description:	

Tank Dimensions

Shell Length (ft):	12.00
Diameter (ft):	5.30
Volume (gallons):	2,000.00
Turnovers:	10.00
Net Throughput(gal/yr):	20,000.00
Is Tank Heated (y/n):	N
Is Tank Underground (y/n):	N

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition	Good

Breather Vent Settings

Vacuum Settings (psig):	0.00
Pressure Settings (psig)	0.00

Meterological Data used in Emissions Calculations: Charleston, West Virginia (Avg Atmospheric Pressure = 14.25 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

HINO - Existing 2000 Gallon Diesel - Horizontal Tank
Charleston, West Virginia

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Distillate fuel oil no. 2	All	56.67	51.31	62.04	55.00	0.0064	0.0049	0.0077	130.0000			188.00	Option 1: VP50 = .0045 VP60 = .0074

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

HINO - Existing 2000 Gallon Diesel - Horizontal Tank
Charleston, West Virginia

Annual Emission Calcaulations	
Standing Losses (lb):	0.3877
Vapor Space Volume (cu ft):	168.6255
Vapor Density (lb/cu ft):	0.0002
Vapor Space Expansion Factor:	0.0418
Vented Vapor Saturation Factor:	0.9991
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	168.6255
Tank Diameter (ft):	5.3000
Effective Diameter (ft):	9.0011
Vapor Space Outage (ft):	2.6500
Tank Shell Length (ft):	12.0000
Vapor Density	
Vapor Density (lb/cu ft):	0.0002
Vapor Molecular Weight (lb/lb-mole):	130.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0064
Daily Avg. Liquid Surface Temp. (deg. R):	516.3441
Daily Average Ambient Temp. (deg. F):	54.9833
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	514.6733
Tank Paint Solar Absorptance (Shell):	0.1700
Daily Total Solar Insulation Factor (Btu/sqft day):	1,250.5726
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.0418
Daily Vapor Temperature Range (deg. R):	21.4567
Daily Vapor Pressure Range (psia):	0.0028
Breather Vent Press. Setting Range(psia):	0.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0064
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.0049
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.0077
Daily Avg. Liquid Surface Temp. (deg R):	516.3441
Daily Min. Liquid Surface Temp. (deg R):	510.9799
Daily Max. Liquid Surface Temp. (deg R):	521.7082
Daily Ambient Temp. Range (deg. R):	21.5333
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.9991
Vapor Pressure at Daily Average Liquid: Surface Temperature (psia):	0.0064
Vapor Space Outage (ft):	2.6500

Working Losses (lb):	0.3984
Vapor Molecular Weight (lb/lb-mole):	130.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0064
Annual Net Throughput (gal/yr.):	20,000.0000
Annual Turnovers:	10.0000
Turnover Factor:	1.0000
Tank Diameter (ft):	5.3000
Working Loss Product Factor:	1.0000
Total Losses (lb):	0.7861

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

HINO - Existing 2000 Gallon Diesel - Horizontal Tank
Charleston, West Virginia

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Distillate fuel oil no. 2	0.40	0.39	0.79

ATTACHMENT O

MONITORING, RECORDKEEPING, REPORTING, TESTING PLANS

ATTACHMENT O

MONITORING/RECORDKEEPING/REPORTING/TESTING PLANS

Hino Motors Manufacturing U.S.A., Inc. requests monitoring, recordkeeping, reporting and testing as stated in the Emissions Unit Data Sheets contained in Attachment L.

ATTACHMENT P

PUBLIC NOTICE

LEGAL ADVERTISEMENT

AIR QUALITY PERMIT NOTICE
Notice of Application

Notice is given that Hino Motors Manufacturing U.S.A., Inc. has applied to the West Virginia Department of Environmental Protection, Division of Air Quality, for a Regulation 13 construction permit for their truck assembly facility known as Hino West Virginia South to be located on Coldwater Creek Drive, Parkersburg, Wood County, West Virginia. The latitude and longitude coordinates are: 39.208752 and -81.525989.

The applicant estimates the potential to discharge the following Regulated Air Pollutants will be: VOC of 39.90 tons per year (tpy), PM of 103.30 tpy including fugitive emissions of 79.62 tpy, PM10 of 32.78 tpy including fugitive emissions of 20.57 tpy, PM2.5 of 14.70 tpy including fugitive emissions of 2.49 tpy, NOx of 27.86 tpy, SO2 of 4.92 tpy, CO of 14.82 tpy, Methanol of 0.2938 tpy, Xylene of 1.9456 tpy, Ethylbenzene of 0.7229 tpy, Naphthalene of 0.0935 tpy, Ethylene Glycol Monobutyl Ether Acetate of 1.6230 tpy, 4,4-Methylenediphenyl diisocyanate of 0.0716 tpy, Benzene of 0.0188 tpy, Formaldehyde of 0.0199 tpy, Toluene of 1.1371 tpy, 1,3-Butadiene of 0.0016 tpy, Acetaldehyde of 0.0128 tpy, Acrolein of 0.0018 tpy, Pb of 0.000065 tpy, natural gas heating HAPS of 0.2468 tpy, welding metal [Cr, Cr(VI), CO, Mn, Ni, Pb] HAPS of 0.0077 tpy with total HAPS of 6.20 tpy.

Startup of operation is planned to begin on or about the 1st day of January 2019. Written comments will be received by the West Virginia Department of Environmental Protection, Division of Air Quality, 601 57th Street, Charleston, WV 25304, for at least 30 calendar days from the date of publication of this notice.

Any questions regarding this permit application should be directed to the DAQ at (304) 926-0499, Extension 1250, during normal business hours.

Dated this the (PLEASE INSERT DATE) day of March 2018.

By: Hino Motors Manufacturing U.S.A., Inc.
Brent Craine
Vice President, Corporate Strategy Development
1 Hino Way
Williamstown, West Virginia 26187

APPENDIX

ADDITIONAL EQUIPMENT INFORMATION

PAINT BOOTHS AND PAINT GUN INFORMATION
(1S, 2S & 3S)

THIS TYPE OF PAINT BOOTH OR EQUIVALENT WILL BE INSTALLED

LIGHTING

Each six tube light fixture (standard) requires 1.42 FLA (Full Load Amps) at 120 V and 0.62 FLA at 277 V.
(28 lights at 120 V =39.76FLA. 28 lights at 277 V =17.36FLA.)

A 40 Amp 120 V or 277 V circuit is required (by others) to connection point Ⓛ.

FILTERS

Intake Filter, pocket style :	95% average arrestance
Plenum Filter :	99.9% efficient at removing particles 10 microns and larger
Primary Exhaust Filter, GFS WAVE ® roll media:	99.67% average arrestance
Secondary Exhaust Filter, pocket style :	95% average arrestance

BOOTH LENGTH

Inside Length - Overall	42'–0" [12802]
Outside Length - Booth only	42'–5" [12929]
Outside Length - SB w/ Door Swing	45'–4" [13818]
Outside Length - DT w/ Door Swing	48'–3" [14707]

GLOBAL FINISHING SOLUTIONS L.L.C. offers a complete line of automotive spray booths that conform to the requirements of:

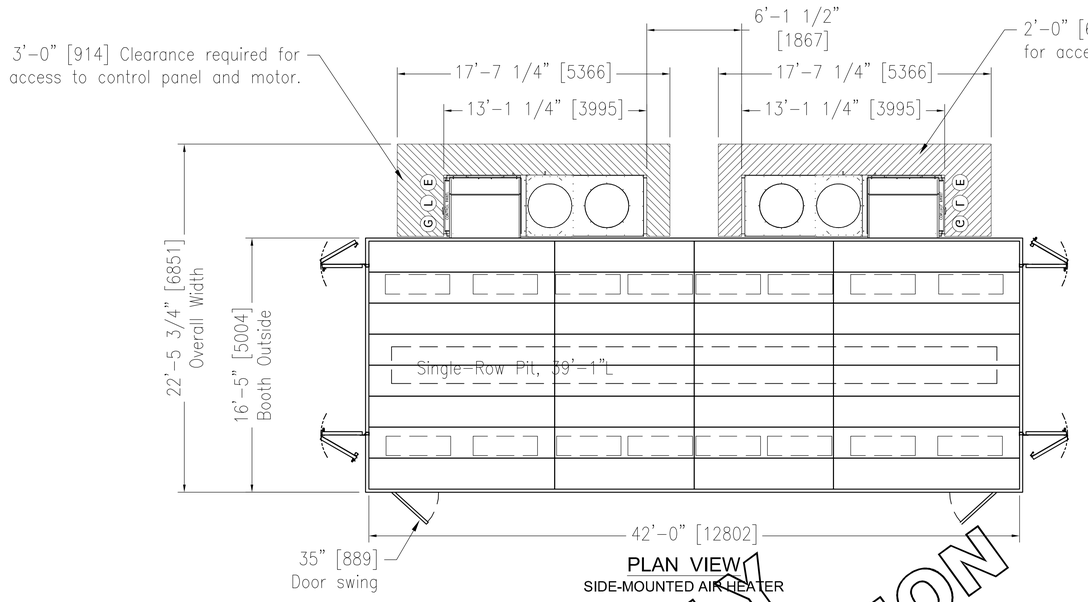
* NFPA-33 Standard for spray application using flammable or combustible materials
* NFPA-86 Standard for ovens and furnaces
* NFPA-91 Standard for exhaust systems for air conveying of materials
* NFPA-101 Life Safety Code
* NFPA-70 National Electric Code
* OSHA Safety and Health Standards (29CFR 1910, 1910.107)
* 2009 IBC International Building Code
* 2009 IFC International Fire Code Chapter 15

This booth has been approved by:
*ETL Equipment Testing Laboratory report # 3049856-3 Cabin
*ETL Equipment Testing Laboratory report # 3179888CRT-001 Direct Fired Industrial Air Heater

Conformance to all these requirements is dependent upon the manner in which the equipment is installed. The contractor will make certain that all of the electrical wiring and conduit, piping, gas supply, roof penetrations, automatic fire protection systems, and the location of the equipment within the building also conforms to the cited codes and other references.

Glass used in the spray booth meets and exceeds ANSI Z-97.1 standard.

Fire suppression system is NOT included with the standard booth but is required by NFPA-33.

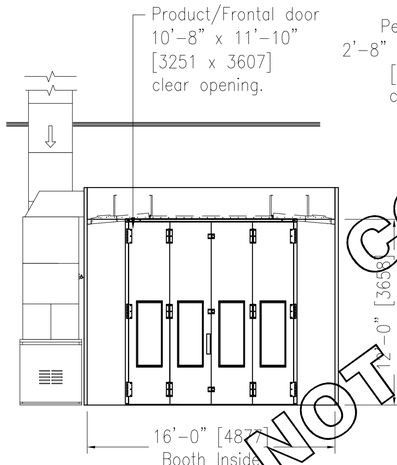


PLAN VIEW
SIDE-MOUNTED AIR HEATER

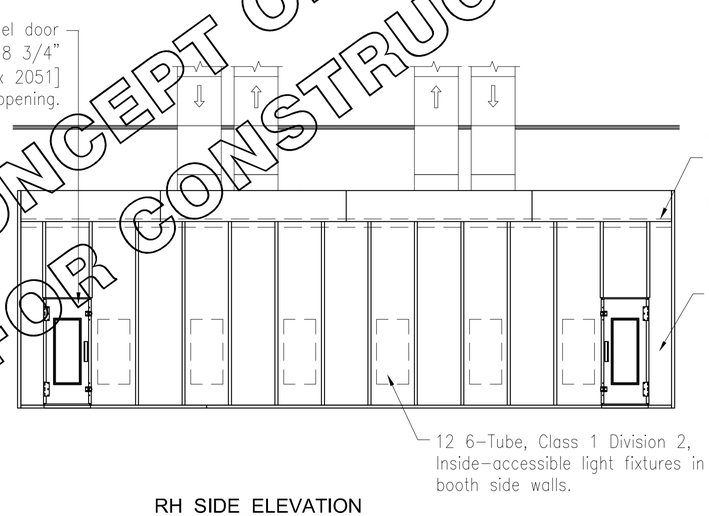
THIS DRAWING IS INTENDED TO BE A CONCEPTUAL AID AND IS PROVIDED FOR GENERAL ILLUSTRATIVE PURPOSES ONLY.

THIS DRAWING IS NOT INTENDED FOR USE AS AN ENGINEERING DESIGN PLAN, AND IS NOT WARRANTED WITH RESPECT TO MERCHANTABILITY, SUITABILITY, OR FITNESS FOR A PARTICULAR PURPOSE.

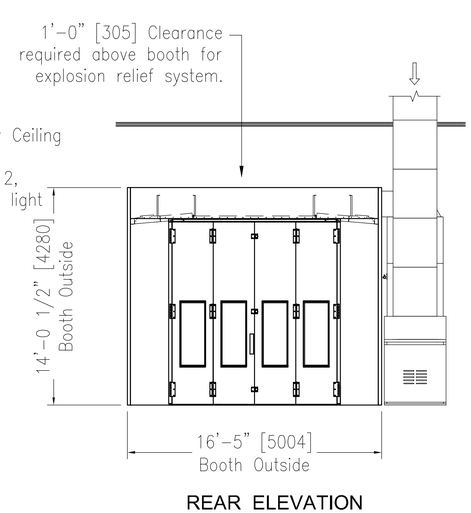
NOTE:
Air exhaust must be:
- at least 6 ft [1829] from any exterior wall or roof
- at least 10 ft [3048] away from the intake
- not lower than the air intake
- at least 30 ft [9144] away from the property line



FRONT ELEVATION



RH SIDE ELEVATION



REAR ELEVATION

NOT FOR CONSTRUCTION
CONCEPT ONLY

GAS TRAIN

MOTOR POWER (hp)	FLOW RATE (cfm)	FUEL TYPE	Maximum CO CONC. (ppm)	Maximum NO_2 CONC. (ppm)	PROFILE PLATE Delta P (inWC) Min.	PROFILE PLATE Delta P (inWC) Max.	ENERGY PRODUCTION (Btu/h) Min.	ENERGY PRODUCTION (Btu/h) Max.	Maximum MANIFOLD PRESSURE (inWC)	INLET PRESSURE @ Max. Btu & cfm (inWC)	TEMP. RISE (°F)	INLET PIPE
15	15,200 (x2)	NATURAL GAS	1.40	0.40	0.9	0.9	346,200	1,512,600	8.8	14.2	91	1 1/4" NPT
		PROPANE	1.40	0.44	0.9	0.9	321,400	1,323,500	2.5	5	80	

Gas supply required (by others) to gas connection point Ⓖ. Minimum gas pressure is required at maximum volume consumed.

MOTOR ELECT SPECS

FULL LOAD AMP DRAW							
MOTOR	HP	QTY	230V,1ph	200V, 3ph	220V, 3ph	440V, 3ph	575V, 3ph
INTAKE, EXHAUST	15	4	N/A	169.2	160	80	64
MINIMUM CIRCUIT CAPACITY (AMPS)							
15hp INTAKE, 15hp EXHAUST			N/A	215	200	100	80

Minimum circuit capacity is required (by others) to connection point Ⓔ. Motors UL recognized PRGYZ.

c ETL LISTED US
3088468

GLOBAL FINISHING SOLUTIONS, LLC
12731 NORWAY ROAD
OSSEO, WI 54758 USA
PHONE: 800-848-8738 OR 800-468-5872

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CONCEPT REVISION

REV.: 1	DATE:	BY:
REV.: 2	DATE:	BY:
REV.: 3	DATE:	BY:
REV.: 4	DATE:	BY:
REV.: 5	DATE:	BY:
REV.: 6	DATE:	BY:
REV.: 7	DATE:	BY:
REV.: 8	DATE:	BY:

GLOBAL FINISHING SOLUTIONS

DESCRIPTION: ULTRA ATP DOWNDRAFT BOOTH 42'L x 16'W x 12'H w/(2) ULTRA AIR HEATERS
SCALE: 7/32" = 1'-0"
DRAWN BY: CRB
DATE: 12/31/14
REVIEWED BY
DATE
CUSTOMER: DHI for HINO TRUCK

MANUFACTURING LEVELS: CONCEPT
DRAWING NUMBER: DHI-HINOTRUCK-ATP
SHEET: 1 of 1

LIGHTING

Each four tube light fixture (standard) requires 1.0 FLA (Full Load Amps) at 120 V and 0.5 FLA at 277 V.
(16 lights at 120 V = 16 FLA. 16 lights at 277 V = 8.0 FLA.)

Each six tube light fixture (optional) requires 1.5 FLA at 120 V and 0.64 V at 277 V.

An appropriately sized 120 V or 277 V circuit is required (by others) to connection point L .

FILTERS

Intake Filter, pocket style:	95% average arrestance
Plenum Filter, 51" x 97":	99.9% efficient at removing particles 10 microns and larger
Exhaust Filter, GFS WAVE ® roll media:	99.67% average arrestance

BOOTH LENGTH

Inside Length	27'–0"
Outside Length - Booth only	27'–8"
Outside Length - SB w/ Door Swing	30'–10"
Outside Length - DT w/ Door Swing	34'–3"

Note:
Ductwork is fabricated from 18 gage galvanized steel.

Global Finishing Solutions offer a complete line of automotive spray booths that conform to the requirements of:

* NFPA–33 Standard for Spray Application Using Flammable and Combustible Materials
* NFPA–86 Standard for Ovens and Furnaces
* NFPA–91 Standard for Exhaust Systems for Air Conveying of Materials
* NFPA–101 Life Safety Code
* NFPA–70 National Electric Code
* OSHA Safety and Health Standards (29CFR 1910, 1910.107)
* 2006 IBC International Building Code
* 2006 IFC International Fire Code Ch.15

Electrical components, such as motors, motor starters, disconnect switches and push buttons, are listed or approved for the Class or Division in which they are located.

Motors UL recognized PRGYZ
Marathon Electric file E49747 (or equal)

Glass used in the spray booth, mix room and drying room is tempered and meets and exceeds ANSI Z–97.1.

This plenum has been approved by:
ETL Equipment Testing Laboratory
report # 556591.

Conformance to all these requirements is dependent upon the manner in which the equipment is installed. The contractor will make certain that all of the electrical wiring and conduit, piping, gas supply, roof penetrations, automatic fire protection systems, and the location of the equipment within the building also conform to the cited codes and other references.

NOTES:

1. AIR EXTRACTION BOX : 10 H.P. TEFC MOTOR WITH DIRECT DRIVE, BACKWARD INCLINED TURBO FAN PRODUCES 12,000 cfm.

2. PREP STATION PLENUM LIGHTING : SIXTEEN INSIDE ACCESS FLUORESCENT LIGHT FIXTURES. EACH FIXTURE – FOUR T8 TUBES, 85% COLOUR CORRECTED, 265 mA, 32 W. DUAL VOLTAGE ELECTRONIC BALLAST 120/277 V, 50/60 Hz. 128 TOTAL WATTS (4 x 32 W). 1.0 FLA PER FIXTURE.
INTERLOCKING SAFETY SWITCH.
ETL & ETL–C Listed. Class 1, Division 2, Groups A,B,C,D.

A 20A circuit is required (by others) to connection point L .

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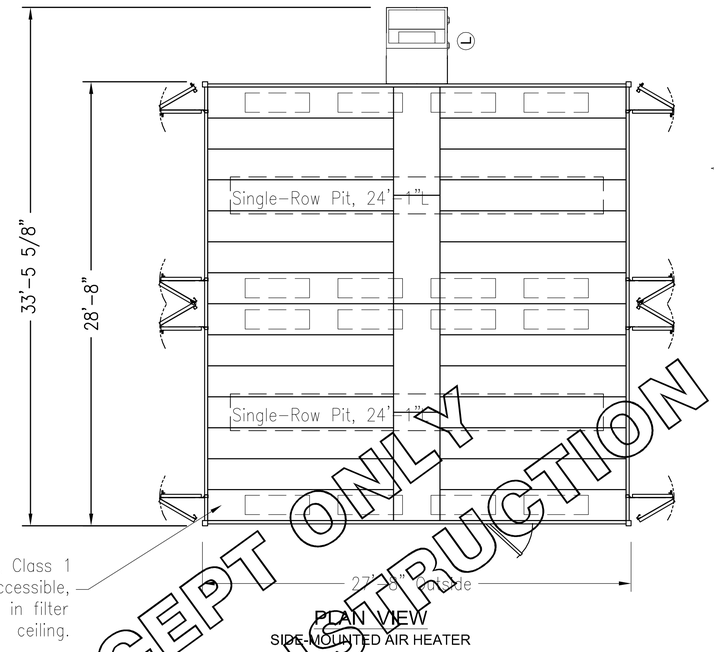
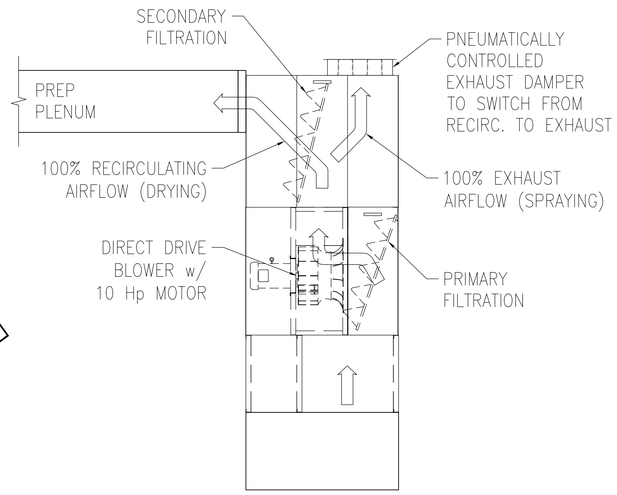
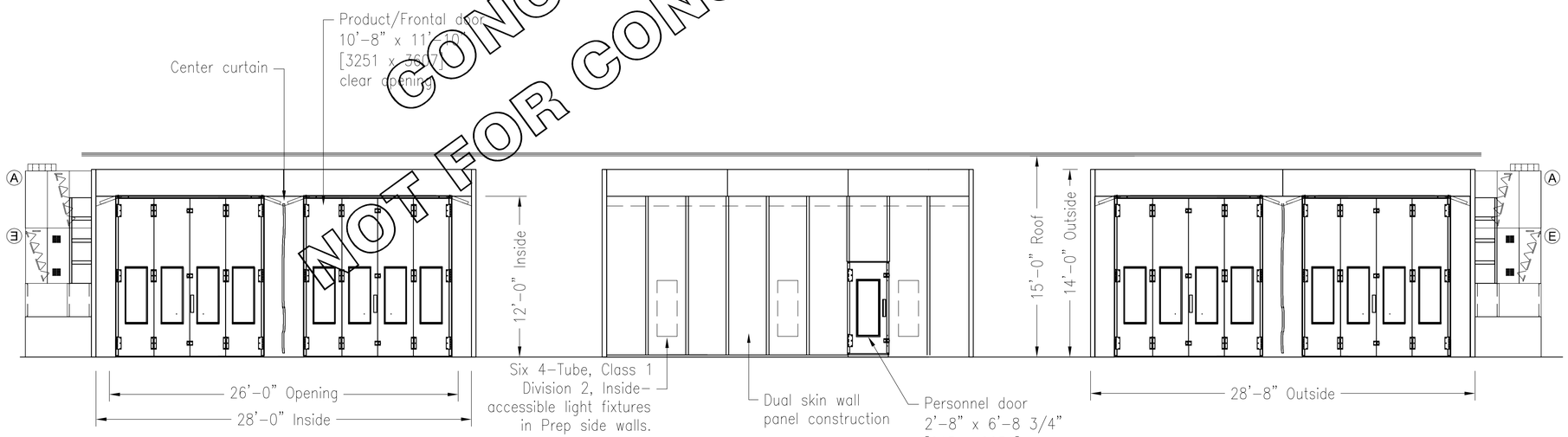


PLAN VIEW
SIDE–MOUNTED AIR HEATER





FRONT ELEVATION

RH SIDE ELEVATION

REAR ELEVATION

CONCEPT ONLY
NOT FOR CONSTRUCTION

AIR LINE

1/4" Tubing. Maximum Pressure of 140 psi. Customer to supply clean, dry air source. Bring air line to connection point Ⓐ.

MOTOR

Description	FULL LOAD AMP DRAW [60 Hz] 1 Ph 230 V	3 Ph 200 V	3 Ph 220 - 240 V	3 Ph 440 - 480 V	3 Ph 575 V
Exhaust Motor 10 Hp	50	28.6	27	14	11
Min. circuit capacity	65	40	35	20	15

Minimum circuit capacity is required (by others) to connection point Ⓔ.

3088468

GLOBAL FINISHING SOLUTIONS, LLC
12731 NORWAY ROAD
OSSEO, WI 54758 USA
PHONE: 800-848-8738 OR 800-468-5872

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CONCEPT REVISION

REV.: 1	DATE:	BY:
REV.: 2	DATE:	BY:
REV.: 3	DATE:	BY:
REV.: 4	DATE:	BY:
REV.: 5	DATE:	BY:
REV.: 6	DATE:	BY:
REV.: 7	DATE:	BY:
REV.: 8	DATE:	BY:

GLOBAL FINISHING SOLUTIONS

DESCRIPTION: PROFESSIONAL DOWNDRAFT PREP 28'W x 27'L x 12'H w/EXTRACTION BOX

SCALE: 7/32" = 1'-0"

DRAWN BY: CRB

DATE: 12/31/14

REVIEWED BY: DATE:

CUSTOMER: DHI for HINO TRUCK

MANUFACTURING LEVELS
CONCEPT

DRAWING NUMBER
DHI-HINOTRUCK-PREP

SHEET
1 of 1

Filters			
Location	Dimensions	Description	Qty
Pre-filter (optional)	20" x 25"	Wire framed filter panel	1
Intake Filter	20" x 48"	Wire framed Micro Clean panel	1

Electrical Requirements PMR with Optional Intake Fan		
Electrical Device	Full Load Amp Draw	Minimum Circuit Capacity
Intake Motor, 1/2hp, 120V, 1ph	9.8	30 Amp
Exhaust Motor, 1/2hp, 120V, 1ph	9.8	
Light Fixtures, Four Tube, 120V / 277V	1.0 / 0.5 (each)	

Electrical Requirements PMR with Exhaust Fan Only		
Electrical Device	Full Load Amp Draw	Minimum Circuit Capacity
Exhaust Motor, 1/2hp, 120V, 1ph	9.8	20 Amp
Light Fixtures, Four Tube, 120V / 277V	1.0 / 0.5 (each)	

This Paint Mix Room has been approved by ETL (Equipment Testing Laboratory) report # 100690377CRT-001.

Conformance to all these requirements is dependent upon the manner in which the equipment is installed. The contractor will make certain that all of the electrical wiring and conduit, piping, gas supply, roof penetrations, automatic fire protection systems, and the location of the equipment within the building also conforms to the cited codes and other references.

C ETL US LISTED
3088468

Paint Mix Room Construction Note:
1. Minimum circuit capacity is required (by others) to connection point E.
2. Booth is fabricated from 20 gage white precoat sheet steel.
3. Ductwork is fabricated from 18 gage G90 galvanized steel.
4. Glass used in the paint mix room meets and exceeds ANSI Z-97.1 standard.
5. Motors UL recognized PRGYZ.
6. Fire suppression system is NOT included with the standard booth but is required by NFPA-33.
7. Paint Mix Room air flow rate is 1150cfm.

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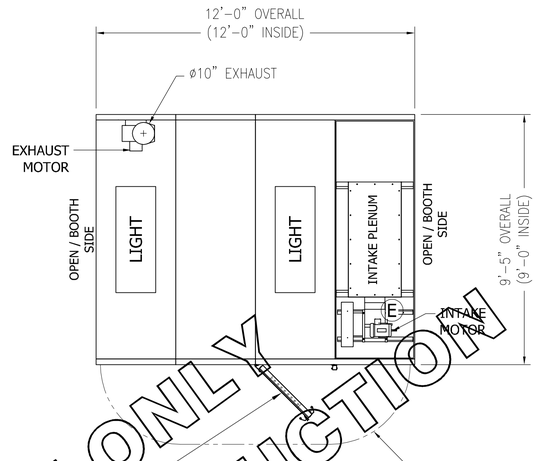

CONCEPT ONLY
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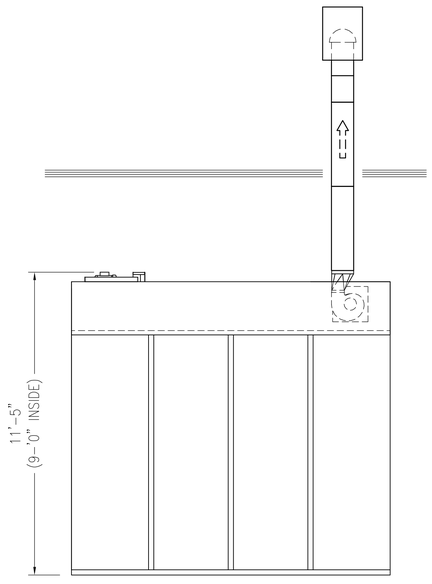
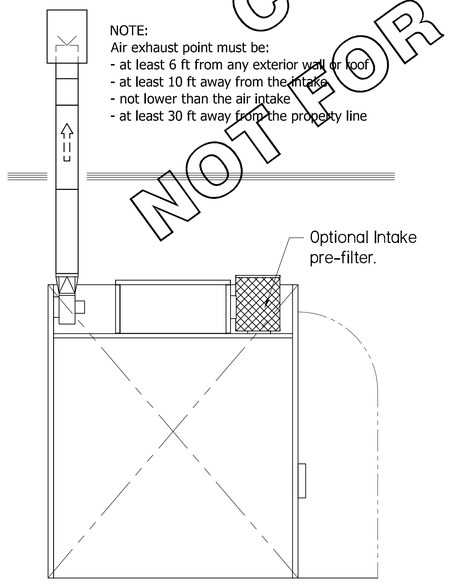
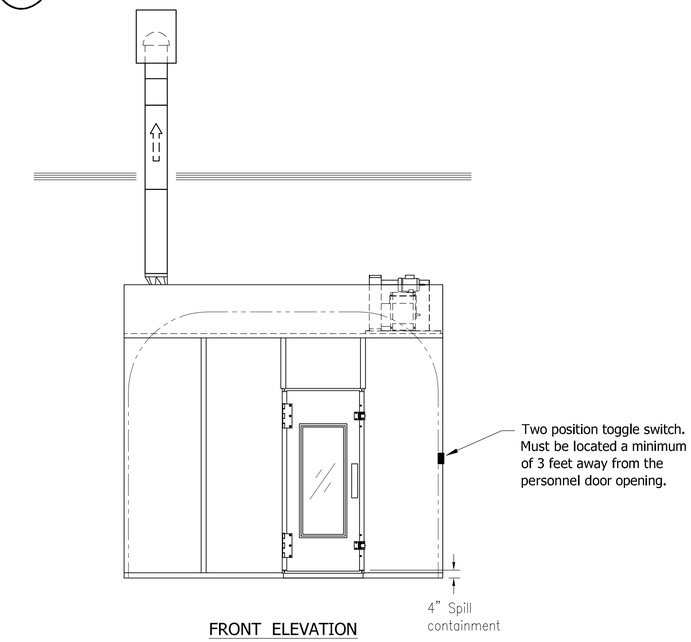


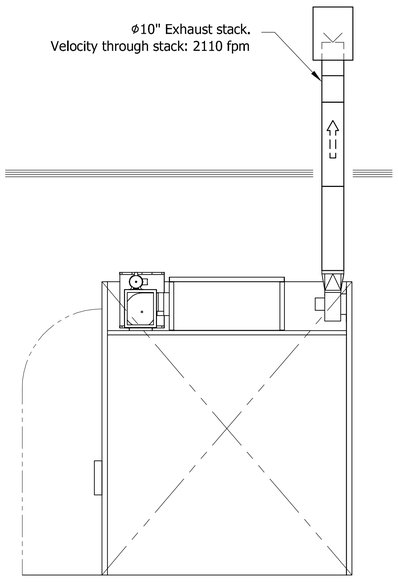
REAR ELEVATION



LH SIDE ELEVATION



FRONT ELEVATION



RH SIDE ELEVATION
OPEN SIDE OF MIX ROOM

GLOBAL FINISHING SOLUTIONS, LLC
12731 NORWAY ROAD
OSSEO, WI 54758 USA
PHONE: 800-848-8738 OR 800-468-5872

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REV.: 6	DATE:	BY:
REV.: 7	DATE:	BY:
REV.: 8	DATE:	BY:

GLOBAL FINISHING SOLUTIONS

DESCRIPTION
ULTRA XD - GENERAL ARRANGEMENT
UMR227 - 12'W x 9'L x 9'H WORKING AREA

SCALE 3/8" = 1'-0" | DRAWN BY CRB | DATE 12/31/2014 | REVIEWED BY DATE

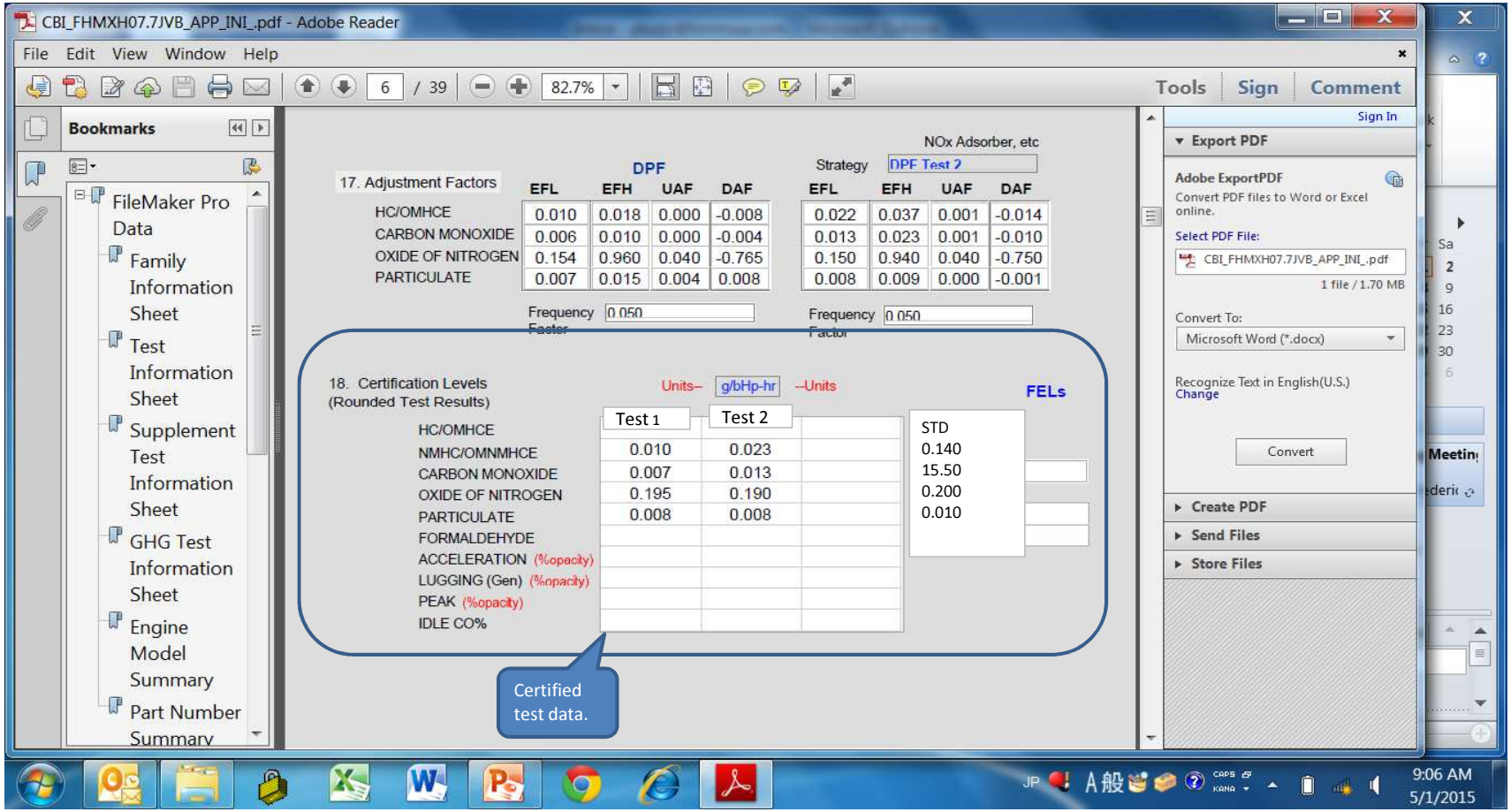
CUSTOMER
DHI for HINO TRUCK

MANUFACTURING LEVELS
CONCEPT

DRAWING NUMBER
DHI-HINOTRUCK-UMR

SHEET
1 of 1

TRUCK ENGINE EMISSIONS INFORMATION (7S)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File Edit View Window Help
6 / 39
82.7%
Tools Sign Comment
Bookmarks
FileMaker Pro Data
Family Information Sheet
Test Information Sheet
Supplement Test Information Sheet
GHG Test Information Sheet
Engine Model Summary
Part Number Summary
NOx Adsorber, etc
Strategy
DPF Test 2
DPF
17. Adjustment Factors
EFL EFH UAF DAF
HC/OMHCE 0.010 0.018 0.000 -0.008
CARBON MONOXIDE 0.006 0.010 0.000 -0.004
OXIDE OF NITROGEN 0.154 0.960 0.040 -0.765
PARTICULATE 0.007 0.015 0.004 0.008
EFL EFH UAF DAF
0.022 0.037 0.001 -0.014
0.013 0.023 0.001 -0.010
0.150 0.940 0.040 -0.750
0.008 0.009 0.000 -0.001
Frequency Factor 0.050
Frequency Factor 0.050
18. Certification Levels (Rounded Test Results)
Units– g/bHp-hr --Units
FELs
Test 1 Test 2
HC/OMHCE 0.010 0.023
NMHC/OMNMHCE 0.007 0.013
CARBON MONOXIDE 0.195 0.190
OXIDE OF NITROGEN 0.008 0.008
PARTICULATE
FORMALDEHYDE
ACCELERATION (%opacity)
LUGGING (Gen) (%opacity)
PEAK (%opacity)
IDLE CO%
STD
0.140
15.50
0.200
0.010
Certified test data.
Sign In
Export PDF
Adobe ExportPDF
Convert PDF files to Word or Excel online.
Select PDF File:
CBI_FHMXH07.7JVB_APP_INI_.pdf
1 file / 1.70 MB
Convert To:
Microsoft Word (*.docx)
Recognize Text in English(U.S.)
Change
Convert
Create PDF
Send Files
Store Files
9:06 AM
5/1/2015

RETRACTABLE PAINT BOOTH (11S)

TOLL FREE
1-855-618-4646

Revised Proposal - PE1131-1

Increase your efficiency, profitability, wiggle room & get a peace of mind solution!

Retractable System Model 50-15.5-14 **Date: March 7, 2016**

Engineered

Expandable

Retractable

Flexible

Accessible

Canada
Phone: 519-622-4646
Buffalo, N.Y., USA
Phone: 716-240-2611

CLIENT: Hino Motors Mfg. USA
Attn: Anthony Frontera | V/R
1 Hino Way,
Williamstown, WV 26187
Email: afrontera@hmmusa.com
Phone: (304) 617-8518

Account Manager: James Stankiewicz,
V.P Business Development,
19 Thorne St., 305, Cambridge, ON N1R 1S3
Phone: 1.855.618.4646 or 716.240.2611
Email: james@rollitbooths.com

"A Factory Direct… Retractable Paint Area Solution"

Retractable By Design…

Our modular retractable structures can handle any size from a motorcycle or furniture application or expanded to fit a car, truck, oversized vessels or large industrial fixtures.

A Portable Solution…

Roll it Booths tubular steel structure is easily assembled, it's on casters wheels to make extension, retraction or moving an easy and smooth operation.

A Space Saver…

Once the job is finished the enclosure retracts to 20 - 25% of the extended length. Saving valuable shop workspace while assisting & reducing material handling.

Increased Productivity…

Our retractable systems insure better efficiency because it lets you carry out more functions in the same space. It also lets you adjust business processes, without having to work your processes around a fixture.

Retractable Functionality…

Our retractable enclosures can be designed to function as extensions for your existing structure; or custom sized to suit your space and specific application or project requirements.

Compliant Turn-Key Solutions…

Roll it Booths meet both the Environmental, Health & Safety and NFPA Regulations. Plus we can assist your project from start to finish with an On-Site Adviser to help you to get a prompt **"return on investment"**.

www.rollitbooths.com

Applied Engineered Design for Fire, Health and Life Safety Compliance

Code Compliance: Roll it Booths are engineered to meet the requirement of:

Electrical Certified - ETL or UL Listed | Fans AMCA Certified
EPA 40CFR – Spray Finishing Requirements – Part 63.11173
NFPA 17 – Dry Chemical Extinguishing Systems
NFPA 33 - Spray Applications Using Flammable or Combustible Materials
NFPA 91 – Standard for Exhaust Systems for Conveying of Vapors, Gases, Mists, and Noncombustible Particulate Solids
NFPA 101 – Life Safety Code
NFPA 259 – Standard Test Method for Potential Heat of Building Material
NFPA 701– Flame Resistance – Fabric
OSHA 29CFR – 1910.107 Spray Finishing
OSHA 29CFR – 1910.94 Ventilation

Overall Dimensions:
50ft.Lx **15.5**ft.Wx **14**ft.H
Entrance Clearance:
12.5 ft W x 13 ft H
Retracted Size: 8-10 ft.
20-25% of extracted length
Model Style: 5015.514

Structure: 50ft. L x 15.5ft. W x 14ft. H Indoor (RIB-IN) Model Style-5015.514

- **Qik-Fit** Tubular Steel **Double Scissor Arm Structure** for strength; **plus a coated finish**
- **Flat Roof,** trussed for stability, max cubic capacity & entrance clearance
- **Safety Lock-Outs**, positioned to restrict the structure collapsing beyond a set dimension
- **Qik-Lok Tension System**: fast & easy 2 point structure stabilization
- **Unique Scalable Design** - Add length at anytime, or as future Project Work requires;

Traction: *Mobility*

- **Tru-Trak Mobility System**: using a 'Heavy Duty Tread' - **(Rigid & Swivel) Casters** for 'enhanced' load capacity and ease of operation - on extension or retraction.
- An individual **Wheel Lock Function on the casters assists the positioning function.**
- **Mobility Mode -** a lock function for when the structure needs to be relocated

Openings: [Front/Rear]

Front Entrance Wall: [Inside Shop]

- **Overall Front Opening Dimensions 12.5' W x 13' H**
- **Door Style: Bi-Fold Doors approx. 3.08ft W x 13 ft H per Door Panel**
- **Front Wall Exterior Safety Brace Support System - Optional $795.00**
- ***Door Safety Lock Bar, included for when opening/closing, moving structure or relocating***
- **Front Doors fitted with 24" x 24" Universal Filter Frame Holders for pre-filtered air**
- **Includes the *first set of door filter panels* (Input Air Pre-filters)**

End Drive Thru Wall: [@ Roll up Door]

- **Overall Front Opening Dimensions 12.5' W x 13' H**
- **Door Style: Bi-Fold Doors approx. 3.08ft W x 13 ft H per Door Panel**
- **Rear Wall Exterior Safety Brace Support System - Optional $795.00**

Enclosure Cover:

- **Fire Retardant (NFPA 701 Approved) PVC** Cover Material
- **1) Clear;** Heavy Duty Translucent PVC Cover
- **2) Clear Reinforced;** *Webbed Fiberglas Heavy Duty Translucent PVC Cover*
- **3)* Sun-Roof Combo;** Clear Roof Panels with Clear Reinforced PVC for Side/End Panels
- **Unique - Sectional Cover System; easier to install, repair or replace [& cost effective]**
- **Apron Trim Color; (RED)**
- **Apron Management with Side Apron Holdbacks/Tie ups - included**
- **[Optional** - PVC Patch Repair Kit - $100.00]

Enhanced Safety Features - For a 'Retractable Structure'

- **Double Scissor Arm - Pantograph Structure** - aids overall structural integrity, maintains balance of retractable structure when extending, moving, retracting or storing.
- **Safety Lock Out Pins - positioned to ensures that the structure cannot be retracted beyond a safe retraction point.**
- **Mobility Mode - pin lock positions for when the structure needs to be moved to another location within the facility.**
- **Heavy Duty Tread - Rigid & Swivel Casters** for 'enhanced' load capacity per wheel. Improves manoeuvrability and minimizes manpower expenditure or physically strain when moving or positioning the retractable structure.
- **Caster Wheel Locks - provides a primary method to position and lock the structure into any dimension position quickly.**
- **Bi-Fold Door Lock Bars - secure the doors in position for the relocation process avoiding a safety hazard.**
- **Outrigger Support System - 'Front Wall / Rear Wall - Optional' - provides additional and integral support to the structure front whether positioning or relocating etc.**
- **Fire Extinguisher Holders - positioned near man doors or located elsewhere for Fire Safety.**
- **Emergency Egress Doors - more additional emergency egress doors than building code requires.**

Delivery & Setup:

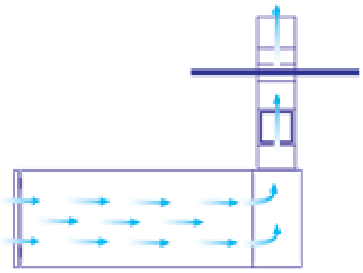
- **Door-to-Door Shipping is extra; est. $1,550.00 - Flatbed (charged separately)**
- **Customer is responsible to unload at site; boom or fork truck, or crane**
- **On-Site Adviser cost for installation of enclosure is - est. $900.00 (charged separately)**
- Packaged with Assembly Instructions
- **Engineer Report for NFPA, Health & Safety on Structure - *included***

Warranty: 24 Month Limited Warranty [*visit website @ www.rollitbooths.com for complete details*]

Retractable Enclosure
Model 50-15.5-14
$26,000.00
(Meets NFPA & OSHA Requirements)

Roll it Booths

Roll it Booths



A Cross Draft Retractable Paint System intakes fresh air through pre-filters in the main entry doors. Then the clean filtrated air moves through the booth over the item or vehicle being painted. It is then exhausted through an exhaust filter unit at the opposite end. Roll it Booths - Cross Draft Retractable Paint Systems are cost effective, efficient to operate, easy to maintain.

But...Best of All...When you are finished painting or prepping, the structure retracts back to 15% of the overall length, giving you back valuable shop floor space for other purposes.

Optional - Cross Draft Filter System - Portable Fan/Filter Unit (1 Fan Unit)

Filter Unit Dimensions: *Specifications per Unit (2 Corner Angled Column Filter Units Required)*
Unit approx. 26" W x 18". D x 6ft. H approx.

Construction: Tubular Steel Frame
18 gauge steel construction panels,
Seated on a base frame with caster wheels with select locking

Air Movement: Dimensional Airflow req. 20,925 CFM (75% Capacity 15,289 CFM provided)
1 - 30" Fan Unit: 15,289 CFM (+/-) @ 0.50" SP (static pressure)

Motor (s): 30" Unit - 5.0 HP/ 3 Phase / 460V/ 60Hz, Fan Motor * Belt Guard provided

Control: Optional VFD Control Available - $ 1,295.00
(Variable Frequency Drive - Controls Motor Speed and Airflow Volume)

Fan (s): 1 - 30" UL Approved Tube Axial Fan, non sparking - AMCA Certified

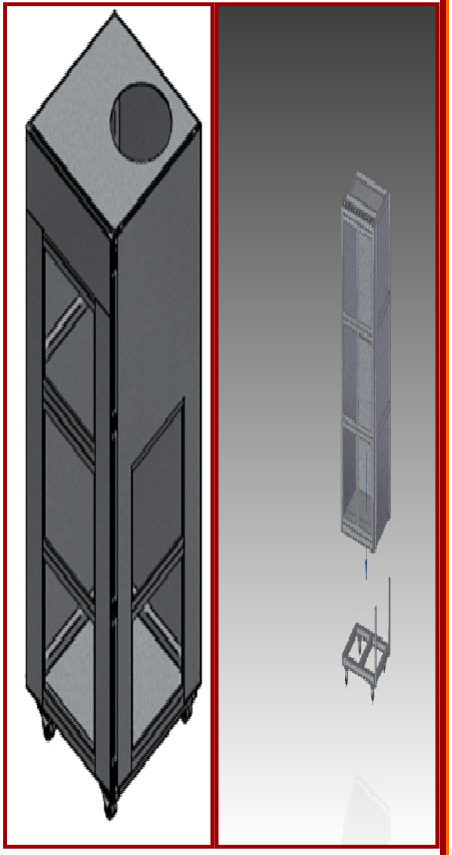
Filters: 20" or 24" - Square Universal Filter Frame Holders plus 1st starter set of Filters

Manometer: Gauge provided to check filter replacement on Filter Unit.

Duct Connection: 30" Companion Flange (s) 1 provided per Fan Unit
Additional Companion Flanges - Available as an Option

Flexible Ducting Options: 30" Available as an Option

Ducting: Excludes connecting duct work etc.



"1 Fan Unit 15,289 CFM"
Fan / Filter Unit
$ 8,495.00
(Meets NFPA & OHSA Requirements)

Warranty: 24 Month Limited Warranty on Filtration Unit and 12 Months on the Fan/Motor Assembly

Exclusions: Control Panels, Ducting, Electrical Connections, Exhaust Stack, Makeup Air, Installation or Setup, EPA, MOE, Local, Municipal, Provincial, State or Federal, Certifications, Licences and Permits.

'Our Factory Direct Advantage'

- **The choice is yours. You can blow a bundle, choose the middle of the road approach or decide on a smart choice; realize overall savings and leave more money in the budget and your pocket.**

Do you sacrifice anything to realize a saving?

- **When it comes to Retractable Spray Paint Systems, it's a pretty much a level playing field.**
- **You either pay the middle man or cut him out, but you do not sacrifice anything in the process. All competitive products have to meet the same Fire, Health and Safety Regulations and Requirements, (it's a level field). How we accomplish it, is what separates us.**
- **Higher advertising, marketing, operating costs, or the use of third party agents, marketers and suppliers, is what drives the price point higher than it needs to be.**

Decide what course of action is right for you & your Project. Spend or Save, the Choice is Yours!

"ROLL IT BOOTH…PROVIDING MORE OPTIONS FOR YOUR BUDGET "

"FACTORY DIRECT…PROVIDES MORE WIGGLE ROOM FOR YOUR BUDGET "

	Investment
Custom-sized Retractable Structure: 50ftLx15.5ftWx13.75ft H	$ 26,000.00
1 Fan Unit + 2 Column Filter Units for 15,289 CFM @ 0.50" SP	$ 8,495.00
VDF Control—Variable Frequency Drive	$ 1,295.00
Estimated Shipping Charge	$ 1,550.00
On-Site Adviser Charge	$ 900.00
Investment	$ 38,240.00
Order Confirmation Deposit 50%	$ 19,120.00
*due with order prior to commencement	
Balance is Due 7 Days Prior to Shipping	

Option - Full Payment in Advance…
'Cash in Advance'
Discount 2.50 % Applies
$38,240.00 - $956.00 = $37,284.00 Due

Please Note: *This Proposal is based on the Clients known design criteria and may vary from final design requirements; The Vendor reserves the right to correct this Proposal for any errors or omissions.*

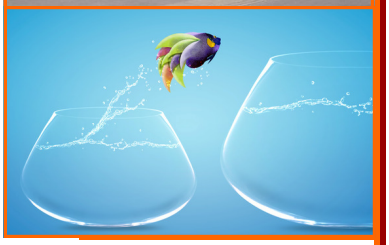
- **Any Requested or Required Engineering changes are an addition to this proposal.**
- **Excludes allowance and correction for any errors and omissions .**
- **Excludes any additional Shipping and/or On-Site Advisor costs which are estimated at this time and may vary from actual costs.**

Toll Free 1.855.618.4646

Roll it Booths

19 Thorne St., 305
Cambridge, ON
N1R 1S3

Canada
Phone: 519-622-4646
Buffalo, N.Y., USA
Phone: 716-240-2611



Get more wiggle room for your business!

Secure Payments By PayPal

VISA MasterCard DISCOVER AMERICAN EXPRESS

NO PAYPAL ACCOUNT NEEDED!

www.RollitBooths.com

Timeline from Order to Delivery…

1. **Order Confirmation:** Deposit Funds are required to validate the Order
2. **Order Deposit:** Predefined Deposit Funds required prior to order commencement
3. **Manufacturing Process**: 4 — 10+ weeks from confirmed order and deposit receipt
4. **Balance Due:** The remaining funds balance of order is due 7 days prior to shipping
5. **Engineer Review:** order is packaged, documented & signed off by our Engineer
6. **Shipping:** Order is loaded and Shipping details, ETA etc are forwarded to client
7. **On-Site Adviser:** if elected, the Adviser will be On-site within 72 hrs of delivery

Terms of Payment: Deposit by Bank Wire Transfer, *Surcharge applies to Credit Card or PayPal
Finance Option: Lease Finance Available OAC

Terms and Conditions of Sale:

Order Confirmation: a 50% Order Deposit is required to confirm order.

Non Refundable Custom Product: due to custom manufacturing, deposits are non-refundable and finished products are not returnable.

Mounting and Accessories: as part of the sale, an installation manual is supplied.

Installation Adviser: (if this Option is elected), to be On-Site at Purchasers Location within approx. 72 hours or 3 business days of confirmed delivery at Purchasers location. The On-site Adviser is to advise on the correct setup of the retractable enclosure. Installation and setup labour is the responsibility of the Purchaser.

Customer Installation: If the customer or purchaser chooses to oversee their own installation, the customer assumes all responsibility for assembly, functionality and installation.

Alternative Suppliers: to supply their own instructions and technical support for their products

Code Compliance & Connection Services: The customer is responsible for all costs of ductwork, exhaust stack, electrical work, fire suppression and makeup air needed to complete the installation.

Permits, Licenses, Inspections, Safety Reviews: In addition, all local permits licenses, environmental, inspections and pre-start reviews are the responsibility of the customer/end-user or purchaser.

Guarantees and Warranties: The enclosure and filter unit is warranted separately; the control panel, fan/motor units, dust collection units or fire suppression systems are provided by the alternative suppliers. It is the customer's responsibility to read and understand all terms and conditions, return policies etc., of each alternative supplier's warranty.

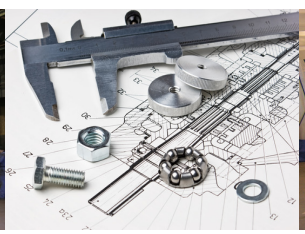
Additional Charges: Shipping to the Consignee/ Purchasers business address or primary location, is not included as part of the quotation unless noted herein. Any shipping cost quoted may vary from the actual cost at time of shipping the completed order. The Consignee / Purchaser is liable to pay any additional cost adjustments once the order is shipped or once these costs are available. Any import charges, duties, handling or taxes if applicable are an extra to this quotation and the sole responsibility of the Consignee/Purchaser.

Unloading: of all equipment is the responsibility of the consignee. A forklift, crane or boom truck is required.

This Proposal is valid for 15 Days from date of issue March 7, 2016

Roll it Booths

An Engineered Difference that's Factory Direct!



Let our 15 plus years of experience work for you!

SATAjet® 20 B

German Engineering

Spray Guns | Cup Systems | Breathing Protection | Air Filtration | Accessories

Airbrush for Painters

- Versatile in application - ensuring perfect finishes
- Special gun design with perfect ergonomics for imaginative painters
- Flexible air supply
- Large available range of round spray nozzles

SATAjet 20 B - An Unique Gun

The SATAjet 20 B has been designed for use in all areas of creative painting: For all kinds of artbrush applications including graphic design, automotive custom painting, model making, artwork and calligraphy - the results are simply outstanding.

A new way of airbrushing:

- Ergonomically shaped gun body similar to conventional guns which allows working without fatigue
- Flexible air supply - inlet connection available at the base and at the rear of the gun
- Can be used with gravity flow cup or practical plug-in cups
- Simultaneuos air and material control via the trigger for a familiar action
- Material flow control
- Low maintenance due to self-adjusting seals
- Large range of precision nozzle set-ups for ultimate detailing available

Versions

Air consumption 40 Nl/min

SATAjet 20 B	Nozzle size				
Scope of Delivery	**0.2**	**0.35**	**0.5**	**0.8**	**1.0**
Spray gun with 65 ccm PVC cup	**65078**	**65581**	**65649**	**66316**	**69229**
Spray gun with 65 ccm PVC cup, glass plug-in jar and 3 glass jars with blank lid	**86181**	**86199**	**86207**	**86215**	**86223**
Nozzle set	**60459**	**60640**	**61200**	**61341**	**61523**

SATAjet 20 B design set

90381	SATA design set with SATAjet 20 B nozzle 0.5 and spare nozzle set 0.2, air micrometer, PVC air hose 3 m, glass jar 25 ml with blank lid, cleaning and seal kit, spray gun stand	

Air hoses

54353	PVC air hose, 2 m with mini quick coupling	
32987	PVC air hose, 3 m with mini quick coupling	
134791	Braided air hose, 2.5 m with mini quick coupling	

Accessories:

Plug-in cup kit
for easy preparation of the colours and quick colour change.
25 ml glass cup (5x) with ...
... plug-in lid
Art. No. 53033
... blank lid
Art. No. 58164

SATA spray gun stand
prevents material spillage and eases filling, for gravity flow cups and plug-in cups.
Art. No. 69328

Your SATA dealer

SATA GmbH & Co. KG
Domertalstraße 20
70806 Kornwestheim
Germany
Tel. +49 7154 811-200
Fax +49 7154 811-190
E-Mail: export@sata.com
www.sata.com

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K-189696/4024-12

EXISTING AND PROPOSED BUILDING HEATERS (10S)

Existing Coldwater Creek Units 2-2016

Unit #	Information		System Type	Model Number	Size	Heating Input (MBH)
RTU 1	NEEDS FILTERS, CONTROL	Cool/Heat	TRANE	YCD300B4LAFB	25 TON	250
RTU 2	HEATING, NEEDS FILTERS, CONTROL	Cool/Heat	TRANE	YCD300B4LAFB	25 TON	250
RTU 3	HEATING, NEEDS FILTERS, CONTROL	Cool/Heat	TRANE	TCD300B40AFB	25 TON	250
RTU 4	HEATING, NEEDS FILTERS, CONTROL	Cool/Heat	TRANE	YCD300B4LAFB	25 TON	250
RTU 5	HEATING, NEEDS FILTERS, CONTROL	Cool/Heat	TRANE	YCD300B4LAFB	25 TON	250
RTU 6	AIR ONLY, CONTROL	Cool/Heat	TRANE	TCD300B4LAFB	25 TON	250
RTU 7	HEATING, NEEDS FILTERS, CONTROL	Cool/Heat	TRANE	YCD300B4LAFB	25 TON	250
RTU 8	NEEDS FILTERS, CONTROL	Cool/Heat	TRANE	YCD300B4LAFB	25 TON	250
RTU 9	AIR ONLY, CONTROL	Cool/Heat	TRANE	TCD300B4LAFB	25 TON	250
RTU 10	NEEDS IGNITOR, FILTERS, CONTROL	Cool/Heat	TRANE	YCD300B4LAFB	25 TON	250
RTU 11	NEEDS IGNITOR, FILTERS, CONTROL	Cool/Heat	TRANE	YCD300B4LAFB	25 TON	250
RTU 12	AIR ONLY, CONTROL	Cool/Heat	TRANE	TCD300B4LAFB	25 TON	250
RTU 13	HEATING, NEEDS FILTERS, CONTROL	Cool/Heat	TRANE	YCD300B4LAFB	25 TON	250
RTU 14	HEATING, NEEDS FILTERS, CONTROL	Cool/Heat	TRANE	YCD300B4LAFB	25 TON	250
RTU 15	HEATING, NEEDS FILTERS, CONTROL	Cool/Heat	TRANE	YCD300B4LAFB	25 TON	250
RTU 16	NEEDS FILTERS, CONTROL	Cool/Heat	TRANE	YCD300B4LAFB	25 TON	250
RTU 17	NEEDS FILTERS, CONTROL	Cool/Heat	TRANE	YCD300B4LAFB	25 TON	250
RTU 18	NEEDS FILTERS, CONTROL	Cool/Heat	TRANE	YCD300B4LAFB	25 TON	250
RTU 19	NEEDS FILTERS, INDUCER	Cool/Heat	TRANE	YCD120C4MOAC	10 TON	205
RTU 20	RUNNING	Cool/Heat	TRANE	YCD120C4MOAC	10 TON	205
RTU 21	HEATING, NEEDS FILTERS, CONTROL	Cool/Heat	TRANE	YCC024F1LOB	2 TON	50
RTU 22	HEATING, NEEDS FILTERS, CONTROL	Cool/Heat	TRANE	YCD120C4MOA	10 TON	205
RTU 23	HEATING, NEEDS FILTERS	Cool/Heat	TRANE	YCD120C4MOA	10 TON	205
RTU 24	NEEDS IGNITOR, FILTERS, CONTROL	Cool/Heat	TRANE	YCD036C4LOB	3 TON	80
RTU 25	HEATING, NEEDS FILTERS, CONTROL	Cool/Heat	TRANE	YCD060C4LOBE	5 TON	90
RTU 26	HEATING, NEEDS FILTERS, CONTROL	Cool/Heat	TRANE	YCD060C4LOBE	5 TON	90
RTU 27	NO POWER CONTROL	Cool/Heat	TRANE	YCC024F1LOBE	2 TON	50
RTU 28	HEATING, NEEDS FILTERS, CONTROL	Cool/Heat	TRANE	YCC024F1LOBE	2 TON	50
RTU 29	HEATING, NEEDS FILTERS, CONTROL	Cool/Heat	TRANE	YCD300B4LOFB	25 TON	250
RTU 30	LOCKED OUT, NEEDS BLOWER MOTOR	Cool/Heat	TRANE	YCD300B4LOFB	25 TON	250
RTU 31	HEATING, NEEDS FILTERS, CONTROL	Cool/Heat	TRANE	YCD300B4LOFB	25 TON	250
RTU 32	HEATING, NEEDS FILTERS, CONTROL	Cool/Heat	TRANE	YCD300B4LOFB	25 TON	250
RTU 33	HEATING, NEEDS FILTERS, CONTROL	Cool/Heat	TRANE	YCD07524LOBE	6.5 TON	150
RTU 34	HEATING, NEEDS FILTERS, CONTROL	Cool/Heat	TRANE	YCD07524LOBE	6.5 TON	150
RTU 35	NEEDS BELTS, IGNITOR, FILTERS, CONTROL	Cool/Heat	TRANE	YCDROC4MOA	10 TON	205
RTU 36	HEATING, NEEDS FILTERS, CONTROL	Cool/Heat	TRANE	YCD150CLOBB	12.5 TON	205
RTU 37	HEATING, NEEDS FILTERS, CONTROL	Cool/Heat	TRANE	YCD240B4LOFB	20 TON	250
RTU 38	HEATING	Cool/Heat	TRANE	YCC024F1LOBE	2 TON	50
RTU 39	HEATING	Cool/Heat	TRANE	YCD060C4LOBE	5 TON	130
RTU 40	HEATING	Heat only	STERLING	E1M-RT12A3JO1P61U5PB1A7E3H3L2		1,500
RTU 41	HEATING	Heat only	STERLING	E1M-RT12A3JO1P61U5PB1A7E3H3L2		1,500
RTU 42	HEATING	Heat only	STERLING	E1M-RT12A3JO1P61U5PB1A7E3H3L2		1,500
RTU 43	HEATING	Cool/Heat	CARRIER	48TJF028----5A1QA		80
RTU 44	HEATING	Heat only	STERLING	E1M-RT12A3JO1P61U5PB1A7E3H3L2		1,500
RTU 45	HEATING	Cool/Heat	TRANE	YCD181C4HACA		350
RTU 46	NEEDS INDUCED DRAFT MOTOR	Cool/Heat	TRANE	YHC092A4RHA04NG	SER# 721103223L	200
RTU 47	HEATING	Cool/Heat	TRANE	YCC024F1LOBE		50
MAU 1	HEATING	Heat only	ABSOLUTE AIR	AA6VRA		2,800
MAU 2	HEATING	Heat only	ABSOLUTE AIR	AA6VRA		2,800
SPLIT SYSTEM 1	HEAT PUMP, RUNNING	Cool/Heat	YORK	INSIDE CEILING OF CAFÉ		80

All units are heating and cooling except for the MAU units which are heating only
Units 40, 41, 42, and 44 are heating only (Sterling)

HINO/COLDWATER CREEK - NEW RTUs FOR PROCESS AREA
TRI-STATE ROOFING SHEET METAL CO.

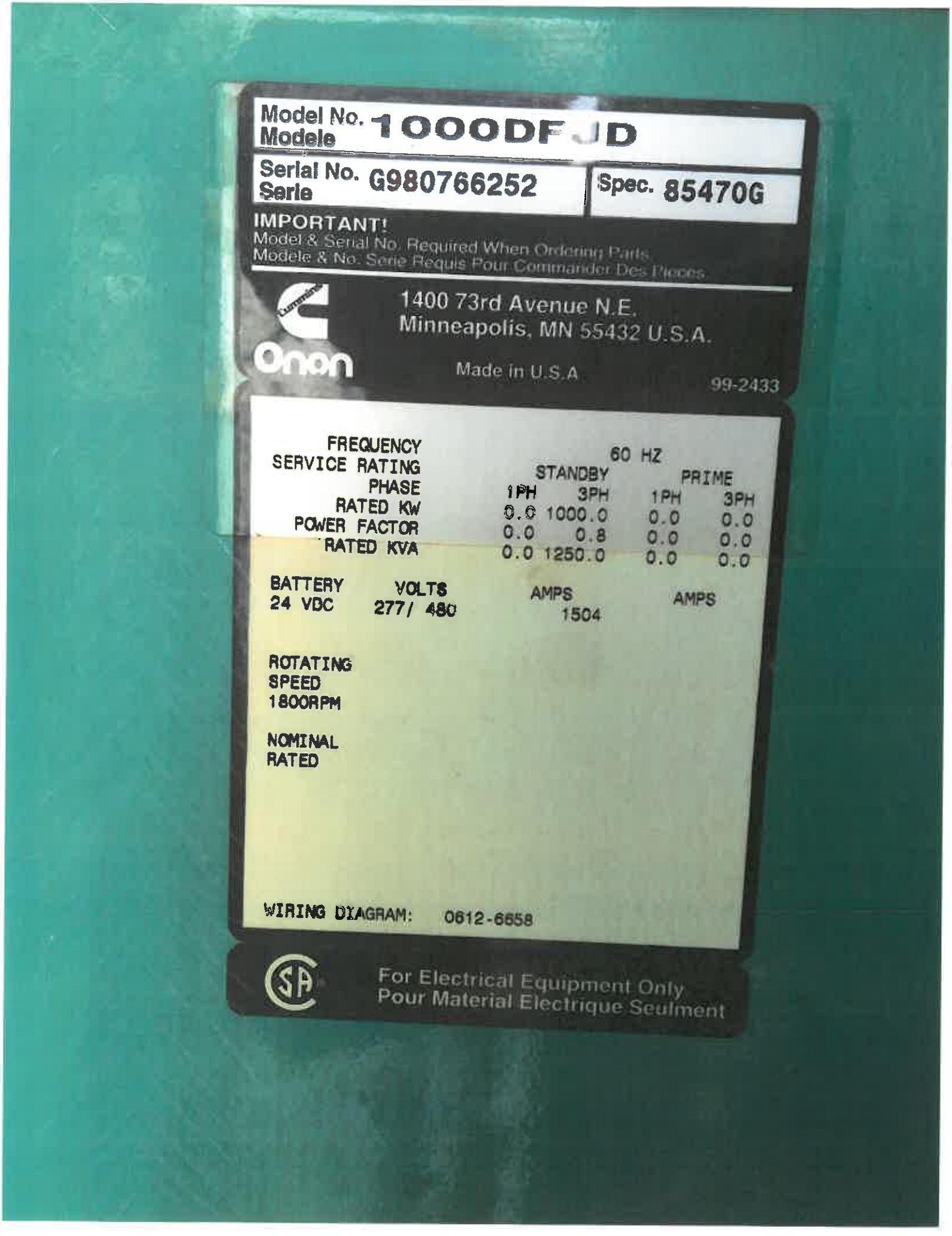
RTU	WEIGHT (LBS.)	LENGTH (IN.)	WIDTH (IN.)	HEATING INPUT (MBH)
1	2,816	141.5	86.6	310
2	2,816	141.5	86.6	310
3	2,816	141.5	86.6	310
4	2,816	141.5	86.6	310
5	2,816	141.5	86.6	310
6	2,816	141.5	86.6	310
7	2,816	141.5	86.6	310
8	2,816	141.5	86.6	310
9	2,691	141.5	86.6	310
10	2,691	141.5	86.6	310
11	2,691	141.5	86.6	310
12	1,439	88.1	59.5	224
13	2,816	141.5	86.6	310
14	2,816	141.5	86.6	310
15	2,816	141.5	86.6	310
16	1,439	88.1	59.5	224
17	2,691	141.5	86.6	310
18	2,691	141.5	86.6	310
19	2,691	141.5	86.6	310

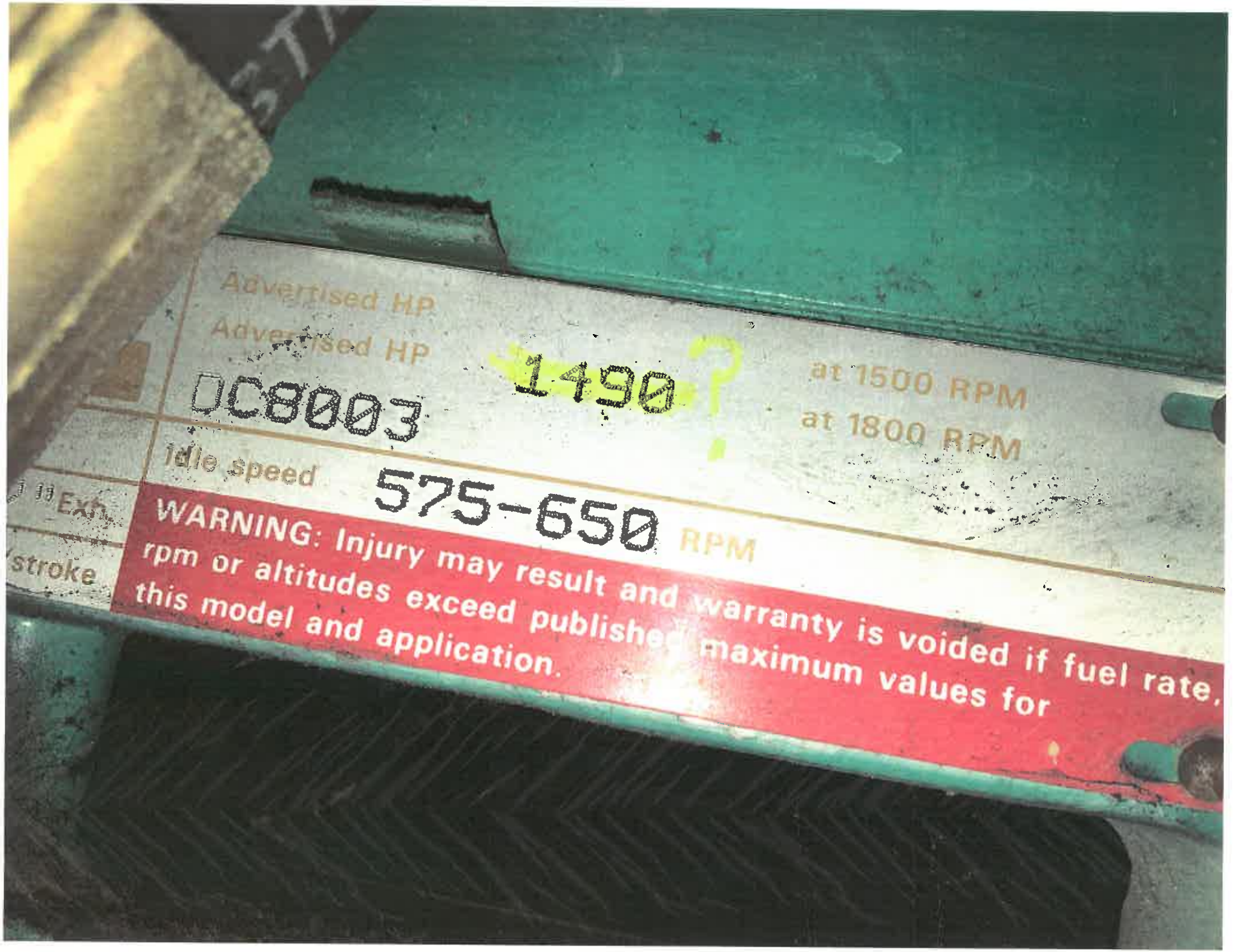
FIRE PUMP ENGINE (9S)

Diesel
8-13-16
468 HRS

Coldwater Creek®
10035592

EMERGENCY GENERATOR (17S)


Model No. 1000DFJD
Modele
Serial No. G980766252
Serie
Spec. 85470G
IMPORTANT!
Model & Serial No. Required When Ordering Parts
Modele & No. Serie Requis Pour Commander Des Pieces
Cummins
Onan
1400 73rd Avenue N.E.
Minneapolis, MN 55432 U.S.A.
Made in U.S.A
99-2433
FREQUENCY 60 HZ
SERVICE RATING STANDBY PRIME
PHASE 1PH 3PH 1PH 3PH
RATED KW 0.0 1000.0 0.0 0.0
POWER FACTOR 0.0 0.8 0.0 0.0
RATED KVA 0.0 1250.0 0.0 0.0
BATTERY VOLTS AMPS AMPS
24 VDC 277/ 480 1504
ROTATING
SPEED
1800RPM
NOMINAL
RATED
WIRING DIAGRAM: 0612-6658
For Electrical Equipment Only
Pour Material Electrique Seulment


Advertised HP
Advertised HP
C8003
1490?
at 1500 RPM
at 1800 RPM
Idle speed
575-650 RPM
WARNING: Injury may result and warranty is voided if fuel rate,
rpm or altitudes exceed published maximum values for
this model and application.

EMERGENCY GENERATOR (18S)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
2014 MODEL YEAR
CERTIFICATE OF CONFORMITY
WITH THE CLEAN AIR ACT OF 1990

OFFICE OF TRANSPORTATION AND AIR QUALITY
ANN ARBOR, MICHIGAN 48105

Certificate Issued To: Cummins Inc.
(U.S. Manufacturer or Importer)
Certificate Number: ECEXL015.AAJ-018

Effective Date: 05/20/2013
Expiration Date: 12/31/2014

Byron J. Bunker, Division Director
Compliance Division

Issue Date: 05/20/2013
Revision Date: N/A

Model Year: 2014
Manufacturer Type: Original Engine Manufacturer
Engine Family: ECEXL015.AAJ

Mobile/Stationary Indicator: Stationary
Emissions Power Category: 560<kW<=2237
Fuel Type: Diesel
After Treatment Devices: No After Treatment Devices Installed
Non-after Treatment Devices: Electronic Control

Pursuant to Section 111 and Section 213 of the Clean Air Act (42 U.S.C. sections 7411 and 7547) and 40 CFR Part 60, and subject to the terms and conditions prescribed in those provisions, this certificate of conformity is hereby issued with respect to the test engines which have been found to conform to applicable requirements and which represent the following engines, by engine family, more fully described in the documentation required by 40 CFR Part 60 and produced in the stated model year.

This certificate of conformity covers only those new compression-ignition engines which conform in all material respects to the design specifications that applied to those engines described in the documentation required by 40 CFR Part 60 and which are produced during the model year stated on this certificate of the said manufacturer, as defined in 40 CFR Part 60.

It is a term of this certificate that the manufacturer shall consent to all inspections described in 40 CFR 1068 and authorized in a warrant or court order. Failure to comply with the requirements of such a warrant or court order may lead to revocation or suspension of this certificate for reasons specified in 40 CFR Part 60. It is also a term of this certificate that this certificate may be revoked or suspended or rendered void *ab initio* for other reasons specified in 40 CFR Part 60.

This certificate does not cover engines sold, offered for sale, or introduced, or delivered for introduction into commerce in the U.S. prior to the effective date of the certificate.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

2006 Model Year Certificate of Conformity

Manufacturer:	**CUMMINS INC.**		
Engine Family:	**6CEXL015.AAB**		
Certificate Number:	**CEX-NRCI-06-02**		
Intended Service Class:	**NR 9 (>560)**		
Fuel Type:	**DIESEL**		
FELs:	NMHC+NOx: **N/A**	NOx: **N/A**	PM: **N/A**
Effective Date:	**8/22/2005**		
Date Issued:	AUG 2 2 2005		

Merrylin Zaw-Mon, Director
Certification and Compliance Division
Office of Transportation and Air Quality

Pursuant to Section 213 of the Clean Air Act (42 U.S.C. section 7547) and 40 CFR Part 89, and subject to the terms and conditions prescribed in those provisions, this certificate of conformity is hereby issued with respect to the test engines which have been found to conform to applicable requirements and which represent the following nonroad engines, by engine family, more fully described in the documentation required by 40 CFR Part 89 and produced in the stated model year.

This certificate of conformity covers only those new nonroad compression-ignition engines which conform in all material respects to the design specifications that applied to those engines described in the documentation required by 40 CFR Part 89 and which are produced during the model year stated on this certificate of the said manufacturer, as defined in 40 CFR Part 89.

It is a term of this certificate that the manufacturer shall consent to all inspections described in 40 CFR 89.129-96 and 89.506-96 and authorized in a warrant or court order. Failure to comply with the requirements of such a warrant or court order may lead to revocation or suspension of this certificate for reasons specified in 40 CFR Part 89. It is also a term of this certificate that this certificate may be revoked or suspended or rendered void ab initio for other reasons specified in 40 CFR Part 89.

This certificate does not cover nonroad engines sold, offered for sale, or introduced, or delivered for introduction, into commerce in the U.S. prior to the effective date of the certificate.

Power Generation

Exhaust Emission Data Sheet
350DFEG
60 Hz Diesel Generator Set
EPA NSPS Stationary Emergency

Engine Information:

Model:	Cummins Inc. QSX15-G9 NR 2	Bore:	5.39 in. (137 mm)
Nameplate BHP @ 1800 RPM:	755	Stroke:	6.65 in. (169 mm)
Type:	4 Cycle, In-Line, 6 Cylinder Diesel	Displacement:	912 cu. in. (14.9 liters)
Aspiration:	Turbo-charged with air-to-air charge air cooling		
Compression Ratio:	17:1		
Emission Control Device:	Turbocharged with Charge Air Cooled		

	1/4	1/2	3/4	Full	Full
PERFORMANCE DATA	**Standby**	**Standby**	**Standby**	**Standby**	**Prime**
Engine HP @ Stated Load (1800 RPM)	150	273	397	520	478
Fuel Consumption (gal/hr)	9.1	14.6	19.4	24.3	22.8
Exhaust Gas Flow (CFM)	1150	1720	2280	2610	2540
Exhaust Temperature (°F)	680	785	820	810	815
EXHAUST EMISSION DATA					
HC (Total Unburned Hydrocarbons)	0.23	0.10	0.07	0.06	0.06
NOx (Oxides of Nitrogen as NO2)	2.90	3.20	3.70	4.35	4.15
CO (Carbon Monoxide)	0.60	0.45	0.30	0.54	0.36
PM (particular Matter)	0.11	0.06	0.05	0.05	0.05
Smoke (Bierburg)	0.50	0.55	0.55	0.50	0.51

All values are Grams per HP-Hour

TEST METHODS AND CONDITIONS

Test Methods:
Steady-State emissions recorded per ISO8178-1 during operation at rated engine speed (+/-2%) and stated constant load (+/-2%) with engine temperatures, pressures and emission rated stabilized.

Fuel Specification: 40-48 Cetane Number, 0.05 Wt.% max. Sulfur; Reference ISO8178-5, 40CFR86.1313-98 Type 2-D and ASTM D975 No. 2-D.

Reference Conditions:
25 °C (77 °F) Air Inlet Temperature, 40 °C (104 °F) Fuel Inlet Temperature, 100 kPa (29.53 in Hg) Barometric Pressure; 10.7 g/kg (75 grains H_2O/lb) of dry air Humidity (required for NOx correction); Intake Restriction set to maximum allowable limit for clean filter; Exhaust Back pressure set to maximum allowable limit.

Data was taken from a single engine test according to the test methods, fuel specification and reference conditions stated above and is subjected to instrumentation and engine-to-engine variability. Tests conducted with alternate test methods, instrumentation, fuel or reference conditions can yield different results.

Data Subject to Change Without Notice.

Power Generation

2014 EPA Tier 2 Exhaust Emission Compliance Statement 350DFEG Stationary Emergency

60 Hz Diesel Generator Set

Compliance Information:

The engine used in this generator set complies with Tier 2 emissions limit of U.S. EPA New Source Performance Standards for stationary emergency engines under the provisions of 40 CFR 60 Subpart IIII when tested per ISO8178 D2.

Engine Manufacturer:	Cummins Inc
EPA Certificate Number:	ECEXL015.AAJ-018
Effective Date:	05/20/2013
Date Issued:	05/20/2013
EPA Engine Family (Cummins Emissions Family):	ECEXL015.AAJ (J103)

Engine Information:

Model:	QSX / QSX15 / QSX15-G / QSX15-G9	Bore:	5.39 in. (137 mm)
Engine Nameplate HP:	755	Stroke:	6.65 in. (169 mm)
Type:	4 Cycle, In-line, 6 Cylinder Diesel	Displacement:	912 cu. in. (15 liters)
Aspiration:	Turbocharged and CAC	Compression Ratio:	17.0:1
Emission Control Device:	Electronic Control	Exhaust Stack Diameter:	8 in.

Diesel Fuel Emission Limits

D2 Cycle Exhaust Emissions

	Grams per BHP-hr			Grams per kWm-hr		
	NOx + NMHC	CO	PM	NOx + NMHC	CO	PM
Test Results - Diesel Fuel (300-4000 ppm Sulfur)	4.3	0.4	0.10	5.7	0.6	0.13
EPA Emissions Limit	4.8	2.6	0.15	6.4	3.5	0.20
Test Results - CARB Diesel Fuel (<15 ppm Sulfur)	3.9	0.4	0.08	5.2	0.6	0.11
CARB Emissions Limit	4.8	2.6	0.15	6.4	3.5	0.20

The CARB emission values are based on CARB approved calculations for converting EPA (500 ppm) fuel to CARB (15 ppm) fuel.
Test Methods: EPA/CARB Nonroad emissions recorded per 40CFR89 (ref. ISO8178-1) and weighted at load points prescribed in Subpart E, Appendix A for Constant Speed Engines (ref. ISO8178-4, D2)
Diesel Fuel Specifications: Cetane Number: 40-48. Reference: ASTM D975 No. 2-D.
Reference Conditions: Air Inlet Temperature: 25°C (77°F), Fuel Inlet Temperature: 40°C (104°F). Barometric Pressure: 100 kPa (29.53 in Hg), Humidity: 10.7 g/kg (75 grains H2O/lb) of dry air; required for NOx correction, Restrictions: Intake Restriction set to a maximum allowable limit for clean filter; Exhaust Back Pressure set to a maximum allowable limit.

Tests conducted using alternate test methods, instrumentation, fuel or reference conditions can yield different results.
Engine operation with excessive air intake or exhaust restriction beyond published maximum limits, or with improper maintenance, may result in elevated emission levels.

Model No
Modele DFEG-5765134

Serial No
Serie G060953813 | Spec. F

IMPORTANT!
Model & Serial No. Required When Ordering Parts.
Modele & No. Serie Requis Pour Commander Des Pieces 99-2433

CUMMINS POWER GENERATION
1400 73RD AVE. N.E.
MINNEAPOLIS, MN 55432 U.S.A.

MADE IN U.S.A.

		STANDBY		PRIME	
FREQUENCY	60 HZ				
SERVICE RATING					
PHASE		1PH	3PH	1PH	3PH
RATED KW		0.0	350.0	0.0	0.0
POWER FACTOR		0.0	0.8	0.0	0.0
RATED KVA		0.0	437.5	0.0	0.0
I2 CAPABILITY	8pct				
CONNECTION	WYE				

BATTERY	VOLTS	AMPS	AMPS
24 VDC	110/ 190	1329.5	
	110/ 220	1148.2	
	115/ 200	1263	
ROTATING	115/ 230	1098.3	
SPEED	120/ 208	1214.4	
1800RPM	120/ 240	1052.5	
	127/ 220	1148.2	
NOMINAL	139/ 240	1052.5	
RATED	220/ 380	664.7	
	230/ 400	631.5	
INSUL:	240/ 416	607.2	
CLASS H	255/ 440	574.1	
AMB 40C	266/ 460	549.1	
	277/ 480	526.2	

FUEL:
Diesel

WIRING DIAGRAM

For Electrical Equipment Only
Pour Material Electrique Seulement

UL LISTED
11KL
STATIONARY ENGINE-GENERATOR ASSEMBLY

Model No.
Modele DFEG-5765

Serial No.
Serie G06095381

IMPORTANT!
Model & Serial No. Required When Ord
Modele & No. Serie Requis Pour Comm

08/16/2006 MMDDYYYY
0326-6155
0326-5482 0326-5484
0326-5488 0326-5566
0326-5579 0326-5597
0326-5653 0326-5683
0326-5722 0326-5747
0326-5788 0326-6158
0326-6159 0326-6161

Displacement 15 .
CPL 8587
Model CSX15-34
Rated Power 424
Engine No. 79195053
700-900
Family 6CEXL015.AAB
Ref No 100-3891-01
P/N 3408501
S/N 30149842
D/C 07222006
ESN 79195053
E/C N11769.04
GOV
SC
CM570