

October 29, 2015

Edward S. Andrews
WV Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304

RE: Proposed Permit Revision for Permit #R13-2006D

Mr. Andrews:

MAAX US Corp. (MAAX) owns and operates a composite bathware manufacturing facility located in Martinsburg, WV (ID # 003-00026). This facility was issued a construction permit (#R13-2006D) on January 3, 2014 and a Title V operating permit (#R30-00300026-2012) on August 3, 2012 that is scheduled to expire on July 20, 2017.

MAAX proposes to remove the Pearl acrylic bathware production operation from the facility. The current Pearl acrylic thermoforming oven will be dismantled and the special Pearl bonding resin will be discontinued. MAAX further proposes to replace the Pearl operation with a new UTILE production operation that will produce modular flat fiberglass bathware panels with a printed surface finish. This new UTILE process will consist of two conjoined production lines that will be installed in the old Pearl thermoform area. The exhaust streams from the new UTILE production line enclosures will be connected to the existing Dürr preconcentrator system, and all process emissions from the new UTILE operation will be captured and controlled. The new process lines appear to be a minor modification based on the PTE VOC.

The abovementioned changes will affect the current Rule 13 permit for the facility (permit #R13-2006D). Accordingly, I have enclosed four copies of a full R13 permit revision application to request the proposed UTILE modification that was discussed in our September 22 letter. These four copies consist of an original paper application, a paper copy, and two digital copies (PDF format) on separate DVD diskettes. A check in the amount of \$3,500 is attached to the original paper to cover the modification application fee.

This modification could be incorporated into the next Title V permit renewal application, which is not due until before January, 20, 2017. MAAX will submit a Title V renewal application in early 2016.

Please contact me at (877) 438-6229 x 8463 or our consultant, Rob Haberlein, at 410-268-7367 if you have any questions regarding this application.

Sincerely

Isabel Boatright
EHS Specialist, MAAX US Corp.



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): MAAX US Corp.		2. Federal Employer ID No. (FEIN): 753268950	
3. Name of facility (if different from above): MAAX US Corp. Martinsburg Facility		4. The applicant is the: <input type="checkbox"/> OWNER <input type="checkbox"/> OPERATOR <input checked="" type="checkbox"/> BOTH	
5A. Applicant's mailing address: 718 Mid Atlantic Parkway Martinsburg WV, 25404-3886		5B. Facility's present physical address: 718 Mid Atlantic Parkway Martinsburg WV, 25404-3886	
6. West Virginia Business Registration. Is the applicant a resident of the State of West Virginia? <input type="checkbox"/> YES <input checked="" type="checkbox"/> 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: MAAX Bath Inc.			
8. Does the applicant own, lease, have an option to buy or otherwise have control of the proposed site? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO ⇒ If YES, please explain: owner of site ⇒ 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.): Reinforced plastic composite bathware manufacturing		10. North American Industry Classification System (NAICS) code for the facility: 326191	
11A. DAQ Plant ID No. (for existing facilities only): - 003-00026		11B. List all current 45CSR13 and 45CSR30 (Title V) permit numbers associated with this process (for existing facilities only): R13-2006D R30-00300026-2012	

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

12A.		
<p>⇒ For Modifications, Administrative Updates or Temporary permits at an existing facility, please provide directions to the <i>present location</i> of the facility from the nearest state road;</p> <p>⇒ For Construction or Relocation permits, please provide directions to the <i>proposed new site location</i> from the nearest state road. Include a MAP as Attachment B.</p> <p>From I-81, take exit 16E, go to stop light make left, make immediate left onto Mid Atlantic Parkway. Plant is located ½ mile on right side of road</p>		
12.B. New site address (if applicable):	12C. Nearest city or town:	12D. County:
N/A - existing site	Martinsburg	Berkeley
12.E. UTM Northing (KM): 4376.04	12F. UTM Easting (KM): 246.41	12G. UTM Zone: 18
13. Briefly describe the proposed change(s) at the facility: Removal of the Pearl process and installation of two new UTILE production lines		
14A. Provide the date of anticipated installation or change: 01 / 18 / 2016	14B. Date of anticipated Start-Up if a permit is granted: 06 / 06 / 2016	
<p>⇒ If this is an After-The-Fact permit application, provide the date upon which the proposed change did happen: / /</p>		
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 continuous operation		
16. Is demolition or physical renovation at an existing facility involved? <input checked="" type="checkbox"/> YES <input type="checkbox"/> 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. N/A		
18. Regulatory Discussion. List all Federal and State air pollution control regulations that you believe are applicable to the proposed process (<i>if known</i>). 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 (<i>if known</i>). Provide this information as Attachment D. No changes in the current applicable requirements at the facility.		
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). \$3500 - check attached to the original application paper copy		
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**. **N/A**

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

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

<input type="checkbox"/> Bulk Liquid Transfer Operations	<input type="checkbox"/> Haul Road Emissions	<input type="checkbox"/> Quarry
<input type="checkbox"/> Chemical Processes	<input type="checkbox"/> Hot Mix Asphalt Plant	<input type="checkbox"/> Solid Materials Sizing, Handling and Storage Facilities
<input type="checkbox"/> Concrete Batch Plant	<input type="checkbox"/> Incinerator	<input type="checkbox"/> Storage Tanks
<input type="checkbox"/> Grey Iron and Steel Foundry	<input type="checkbox"/> Indirect Heat Exchanger	
<input type="checkbox"/> General Emission Unit, specify		

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

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

<input type="checkbox"/> Absorption Systems	<input type="checkbox"/> Baghouse	<input type="checkbox"/> Flare
<input type="checkbox"/> Adsorption Systems	<input type="checkbox"/> Condenser	<input type="checkbox"/> Mechanical Collector
<input type="checkbox"/> Afterburner	<input type="checkbox"/> Electrostatic Precipitator	<input type="checkbox"/> Wet Collecting System

Other Collectors, specify
existing Durr activated carbon preconcentrator with regenerative thermal oxidizer (RTO)

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: **N/A**

<input type="checkbox"/> Authority of Corporation or Other Business Entity	<input type="checkbox"/> Authority of Partnership
<input type="checkbox"/> Authority of Governmental Agency	<input type="checkbox"/> 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  (Please use blue ink) DATE: Oct 29 / 2015 (Please use blue ink)

35B. Printed name of signee: **David Van der Wee** 35C. Title: **Vice President of Operations**

35D. E-mail: **david.vanderwee@maax.com** 36E. Phone: **(877) 438-6229 x8383** 36F. FAX: **(514) 634-4310**

36A. Printed name of contact person (if different from above): **Isabel Boatright** 36B. Title: **EHS Specialist**

36C. E-mail: **Isabel.Boatright@maax.com** 36D. Phone: **(877) 438-6229 x 8463** 36E. FAX: **N/A**

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

**WEST VIRGINIA
STATE TAX DEPARTMENT
BUSINESS REGISTRATION
CERTIFICATE**

ISSUED TO:
**MAAX US CORP.
718 MID ATLANTIC PKWY
MARTINSBURG, WV 25404-3886**

BUSINESS REGISTRATION ACCOUNT NUMBER: **2216-7877**

This certificate is issued on: **07/8/2010**

*This certificate is issued by
the West Virginia State Tax Commissioner
in accordance with Chapter 11, Article 12, of the West Virginia Code*

*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.

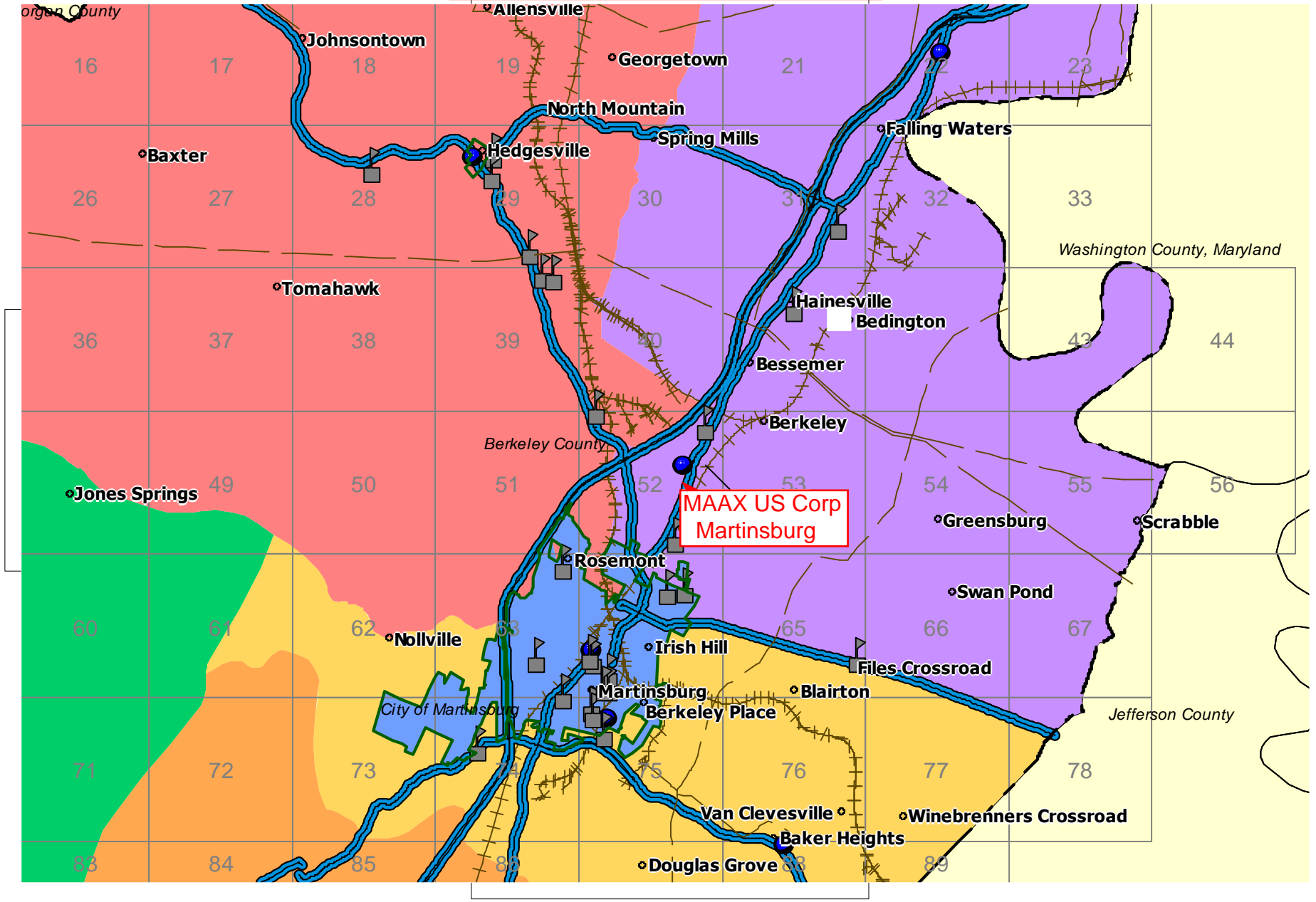
This certificate shall be permanent until cessation of the business for which the certificate of registration was granted or until it is suspended, revoked or cancelled by the Tax Commissioner.

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.

Attachment B

Area Map for MAAX US Corp Martinsburg



Attachment C - UTILE Installation and Startup Schedule

The new UTILE lines will be installed in two phases:

- Phase 1 - first UTILE line
- Phase 2 - second UTILE line

MAAX intends to complete Phase 1 and then operate the single UTILE line for a period of time to produce commercial parts and confirm acceptance of the UTILE product in the USA bathware market. If the product is successful, then MAAX will proceed with Phase 2.

Schedule (assuming a successful six-month market trial period)

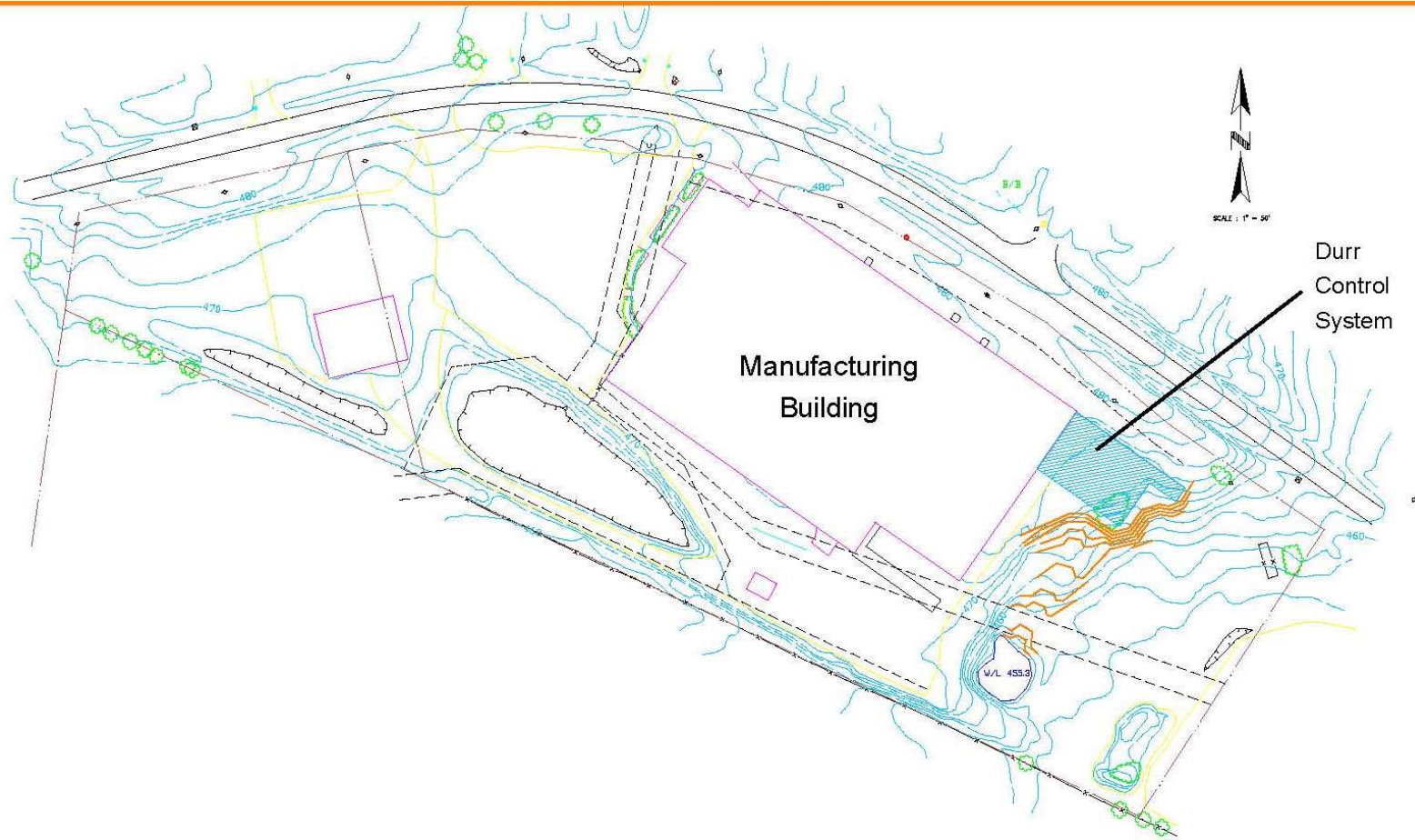
January 18, 2016 – Begin Line 1 construction

June 6, 2016 – Startup of Line 1

December 6, 2016 – Begin Line 2 construction

May 30, 2017 – Startup of Line 2

Attachment E – Plot Plan of the MAAx US Corp Martinsburg Site

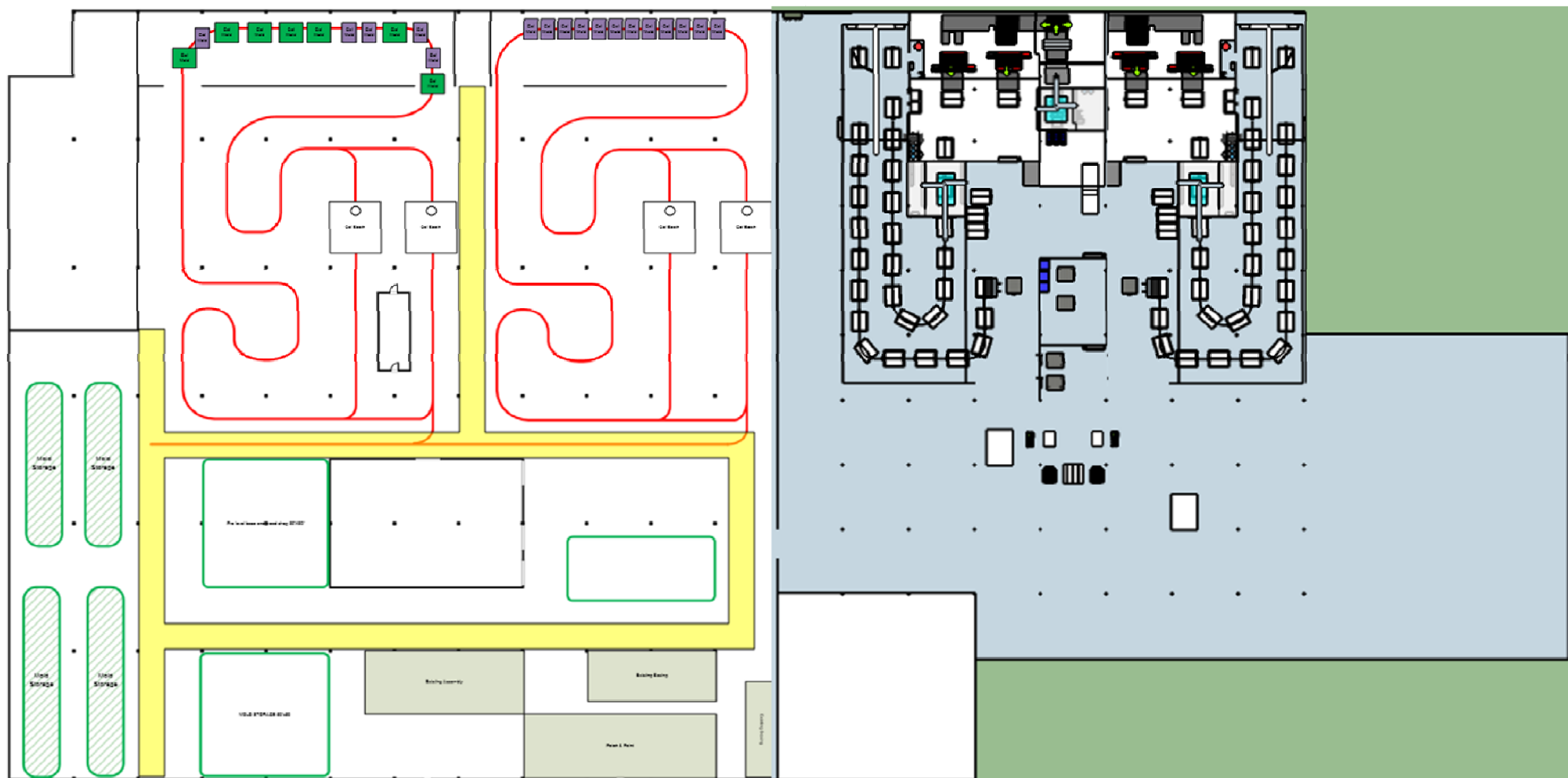


SEE the next page or a detailed plan view of the Manufacturing Building which includes the existing production lines and the new UTILE Lines

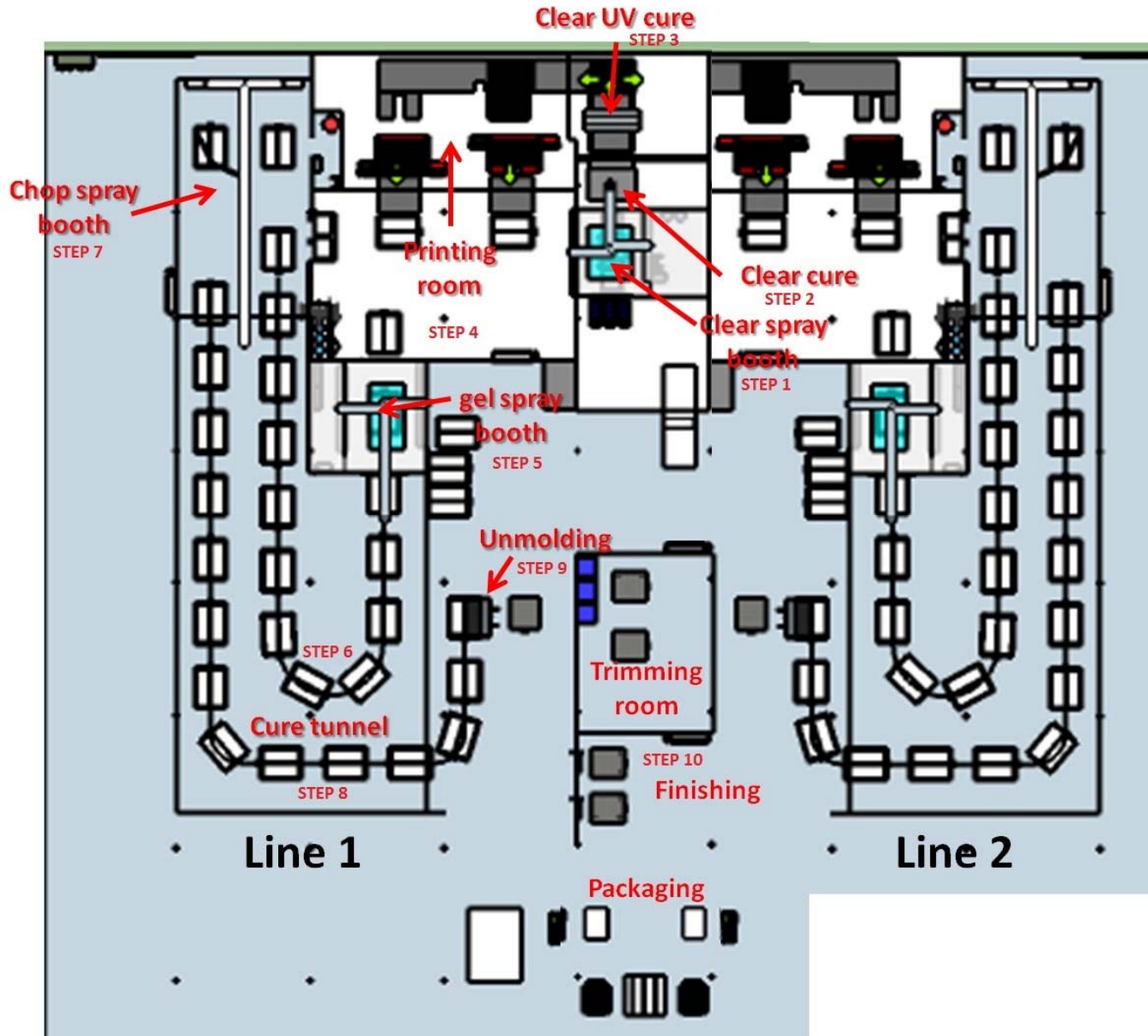
 <p>ROBERT T. ECKELS ARCHITECT 595 ROCK CLIFF DR MARTINSBURG, WV 25403 (800) 267-7685</p>	MAAX US Martinsburg		PROJECT NO.
			DRAWN BY: R. ADAMS
			SCALE: 1" = 60'
			DATE:
		BY:	SHEET NO.

Attachment E – Layout of Existing Production Lines and New Utile Lines

New UTILE Lines



Attachment F – Detailed UTILE Process Flow Diagram



Attachment G - Process Description

The UTILE process consists of the following steps (please refer to **Attachment F**):

1. **Application of Clear Gelcoat** – uses a manually operated mechanical atomizing gelcoat applicator. The clear gelcoat contains 36.5% wt styrene and 6.7% wt MMA and a very small amount of UV initiator. The emissions from the clear gelcoat enclosure are exhausted to the Dürr preconcentrator system.
2. **Clear Gelcoat Cure** – the gelcoated panels are placed in a vertical rack and the fresh gelcoat layer is allowed to rest while curing to a gelled stage. The emissions from the curing racks are drawn into the clear gelcoat enclosure and then conveyed to the Dürr preconcentrator system.
3. **Final Clear Gelcoat UV Cure** – the tacky gelled clear gelcoat layer is instantly hard-cured using high intensity UV light. The cure is instant - there are no significant emissions.
4. **Ink Printing** – a special UV-cured ink is applied to the clear gelcoat surface using two high-speed ink jet printers. The ink formulations have extremely low vapor pressure and are instantly cured by the UV light. There are no emissions from the ink.
5. **Application of Pigmented Gelcoat** – uses a manually operated mechanical gelcoat applicator. The pigmented gelcoat contains < 30% wt styrene and < 31% wt total VOC. The emissions from the pigmented gelcoat enclosure are exhausted to the Dürr preconcentrator system.
6. **Pigmented Gelcoat Cure** – the pigmented gelcoat cures as the panel molds travel through the cure tunnel to step 7. The panel molds are placed on small carts that are pulled through the tunnel by an automated mechanical chain drive conveying system. The curing emissions from the curing tunnel are exhausted to the Dürr preconcentrator system.
7. **Application of Resin and Glass Fiber and Rollout** – occurs in one of two lamination enclosures at the end of the cure tunnel. The resin and glass is applied to the cured gelcoated mold surface with a manually operated non-atomizing mechanical resin/glass applicator. The resin contains <35% wt styrene and total VOC. After application, the workers use hand roller tools to flatten and rollout the wet fibers into a solid compact laminate layer on the mold. The resin emissions from the lamination enclosures are conveyed to the Dürr preconcentrator system.

8. **Laminate Cure** – the laminate cures as the panel molds travel back through the cure tunnel to step 9. As in step 6, the panel molds are placed on small carts that are pulled through the tunnel by an automated mechanical chain drive conveying system. The curing emissions from the curing tunnel are exhausted to the Dürr preconcentrator system.
9. **Demolding** – the rough laminate panel part is mechanically separated from the flat panel mold. The panel mold is cleaned, repaired if needed, and prepared for the next mold cycle (which restarts at step 1). There is a very small amount of VOC emissions from the mold cleaning and prep process.
10. **Finishing** – the rough panel edges are cut and smoothed in a small trim booth that is shared by both lines. The finished panel is inspected and sent to packaging for shipment to the customer. The exhaust air from the trim booth is filtered with an industrial vacuum system and returned to the plant space. There are no significant PM emissions to the atmosphere.

Attachment H - MSDS Sheets

UTILE Inks – AFGA Anapurna M-G1 Black, Cyan, Yellow, Magenta (4 pages)

UTILE Clear Gelcoat – CCP ArmorClear HAP44 Marine 961CK154 (2 pages)

UTILE Pigmented Gelcoat – AOC G385LH10444 (4 pages)

UTILE Resin – AOC C490-DKA-19 (5 pages)

ANAPURNA M BLACK G1 INK

SUBID:000001007784

Version 3

Print Date 07-06-2012

Revision Date 07-05-2012

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Identification of the substance/preparation

Product name : ANAPURNA M BLACK G1 INK
 MSDS Number : 000001007784
 Use of the Substance/Preparation : Printer ink
 Product code : E7NGK
 Business group : GS

Company/Undertaking Identification

Agfa Corporation
 611 River Drive
 Center 3
 Elmwood Park, NJ 07407
 U.S.A.

Transport Emergency

Non-transportation

Call CHEMTREC : +1 800 4249300
 International : +1 703 5273887

Health Emergency Phone : +1 303 6235716
 Agfa Information Phone : +1 201 4402500

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

Printer ink, mainly consisting of:

	<u>CAS-No.</u>	<u>Concentration [%]</u>	
• Oxybis(methyl-2,1-ethanediyl) diacrylate	57472-68-1	>= 60.0	<= 80.0
• Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	75980-60-8	>= 1.0	<= 5.0
• Carbon Black (carbon)	1333-86-4	>= 1.0	<= 5.0
• Ethyl-4-dimethylaminobenzoaat	10287-53-3	>= 1.0	<= 5.0
• 4-Phenylbenzophenone	2128-93-0	>= 1.0	<= 5.0

SECTION 3. HAZARDS IDENTIFICATION

The product as a whole has not been tested. This hazard information is for the individual ingredients.

Emergency Overview

Form : Liquid.
 Colour : Black

ANAPURNA M CYAN G1 INK

SUBID:000001007782

Version 4

Print Date 07-06-2012

Revision Date 07-05-2012

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Identification of the substance/preparation

Product name : ANAPURNA M CYAN G1 INK
 MSDS Number : 000001007782
 Use of the Substance/Preparation : Printer ink
 Business group : GS

Company/Undertaking Identification

Agfa Corporation
 611 River Drive
 Center 3
 Elmwood Park, NJ 07407
 U.S.A.

Transport Emergency

Non-transportation

Call CHEMTREC : +1 800 4249300
 International : +1 703 5273887

Health Emergency Phone : +1 303 6235716
 Agfa Information Phone : +1 201 4402500

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

Printer ink, mainly consisting of:

	<u>CAS-No.</u>	<u>Concentration [%]</u>	
• Oxybis(methyl-2,1-ethanediyl) diacrylate	57472-68-1	>= 60.0	<= 80.0
• Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	75980-60-8	>= 1.0	<= 5.0
• 4-Phenylbenzophenone	2128-93-0	>= 1.0	<= 5.0
• Ethyl-4-dimethylaminobenzoaat	10287-53-3	>= 1.0	<= 5.0
• Solsperse 35000		>= 1.0	<= 5.0
• blue organic pigment	147-14-8	>= 1.0	<= 5.0

SECTION 3. HAZARDS IDENTIFICATION

The product as a whole has not been tested. This hazard information is for the individual ingredients.

Emergency Overview

Form : Liquid.
 Colour : Cyan

ANAPURNA M YELLOW G1 INK

SUBID:000001007785

Version 4

Print Date 07-06-2012

Revision Date 07-05-2012

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Identification of the substance/preparation

Product name : ANAPURNA M YELLOW G1 INK
 MSDS Number : 000001007785
 Use of the Substance/Preparation : Printer ink
 Product code : E7NFH
 Business group : GS

Company/Undertaking Identification

Agfa Corporation
 611 River Drive
 Center 3
 Elmwood Park, NJ 07407
 U.S.A.

Transport Emergency

Non-transportation

Call CHEMTREC : +1 800 4249300
 International : +1 703 5273887

Health Emergency Phone : +1 303 6235716
 Agfa Information Phone : +1 201 4402500

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

Printer ink, mainly consisting of:

	<u>CAS-No.</u>	<u>Concentration [%]</u>	
• Oxybis(methyl-2,1-ethanediyl) diacrylate	57472-68-1	>= 60.0	<= 80.0
• Propoxylated neopentyl glycol diacrylate	84170-74-1	>= 1.0	<= 5.0
• Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	75980-60-8	>= 1.0	<= 5.0
• Pigment	68511-62-6	>= 1.0	<= 5.0
• 2-Isopropyl-9H-thioxanthen-9-one	5495-84-1	>= 1.0	<= 5.0
• Ethyl-4-dimethylaminobenzoaat	10287-53-3	>= 1.0	<= 5.0
• Solsperse 35000		>= 1.0	<= 5.0
• 4-Phenylbenzophenone	2128-93-0	>= 1.0	<= 5.0

ANAPURNA M MAGENTA G1 INK

SUBID:000001007786

Version 3

Print Date 07-06-2012

Revision Date 07-05-2012

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Identification of the substance/preparation

Product name : ANAPURNA M MAGENTA G1 INK
 MSDS Number : 000001007786
 Use of the Substance/Preparation : Printer ink
 Product code : E7NEF
 Business group : GS

Company/Undertaking Identification

Agfa Corporation
 611 River Drive
 Center 3
 Elmwood Park, NJ 07407
 U.S.A.

Transport Emergency

Non-transportation

Call CHEMTREC : +1 800 4249300
 International : +1 703 5273887

Health Emergency Phone : +1 303 6235716
 Agfa Information Phone : +1 201 4402500

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

Printer ink, mainly consisting of:

	<u>CAS-No.</u>	<u>Concentration [%]</u>	
• Oxybis(methyl-2,1-ethanediyl) diacrylate	57472-68-1	>= 60.0	<= 80.0
• Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	75980-60-8	>= 1.0	<= 5.0
• 4-Phenylbenzophenone	2128-93-0	>= 1.0	<= 5.0
• GENOCURE EPD		>= 1.0	<= 5.0
• Red Pigment	1047-16-1	>= 1.0	<= 5.0
• Solsperse 35000		>= 1.0	<= 5.0

SECTION 3. HAZARDS IDENTIFICATION

The product as a whole has not been tested. This hazard information is for the individual ingredients.

Emergency Overview

Form : Liquid.
 Colour : Magenta

MATERIAL SAFETY DATA SHEET

SECTION I - IDENTIFICATION

TRADE NAME: ArmorClear
DESCRIPTION: HAP44 MARINE CLEAR
PRODUCT CODE IDENTITY: 961CK154
NPCA HMIS RATING: H 2* F 3 R 2
LAST REVISED: 05/07/2015
PRINT DATE: 06/25/2015
COMPANY NAME: POLYNT COMPOSITES USA INC.
ADDRESS: 99 E COTTAGE AVE
POLYNT COMPOSITES USA INC.
PRODUCT STEWARDSHIP
CARPENTERSVILLE IL 60110
CUSTOMER: INFORMATION TELEPHONE:
1-800-821-3590
ATTENTION:

24 HOUR RESPONSE NUMBER (CHEMTREC): 1-800-424-9300 (NORTH AMERICA)
001-703-527-3887 (INTERNATIONAL)

Polynt certifies that its products comply with all the provisions of the Toxic Substances Control Act (TSCA), unless otherwise stated by ingredient in Section II.

*** The percent by weight composition data given in Sections II and X are NOT SPECIFICATIONS, but are based on 'target' formula values for each ingredient in the product. The data are presented as ranges for low hazard ingredients and single point values for ingredients of regulatory concern. Actual batch concentrations will vary within limits consistent with separately established product specifications.***

SECTION II INGREDIENTS

1
CAS# 000136-52-7
COBALT 2-ETHYLHEXANOATE, 12% COBALT
PCT BY WT: .0420
EXPOSURE LIMIT:
ACGIH TLV/TWA: .05 MG/CU.M. AS COBALT METAL, DUST & FUME
OSHA PEL/TWA: .05 MG/CU.M. AS COBALT METAL, DUST & FUME

2
CAS# 000080-62-6
METHYL METHACRYLATE
PCT BY WT: 6.7000 VAPOR PRESSURE: 29.000 MMHG @ 68F
EXPOSURE LIMIT:
ACGIH TLV/TWA: 100 PPM (410 MG/CU.M.)
OSHA PEL/TWA: 100 PPM (410 MG/CU.M.)
LD50, Oral: 7.9 G/KG (RAT)
LD50, Dermal: 35.5 G/KG (RABBIT)
LC50, Inhalation: >12,500 PPM/0.5 Hr (RAT)

3
CAS# 000100-42-5
STYRENE MONOMER
PCT BY WT: 36.5000 VAPOR PRESSURE: 4.500 MMHG @ 68F
EXPOSURE LIMIT:
ACGIH TLV/TWA: 20 PPM (85 MG/CU.M.)
ACGIH TLV/STEL: 40 PPM (170 MG/CU.M.)
OSHA PEL/TWA: 100 PPM (8 HR TWA)
OSHA PEL/CEILING: ACCEPTABLE MAX. PEAK: 600 PPM (5 MIN IN ANY 3 HRS)
OSHA PEL/STEL: ACCEPTABLE CONCENTRATION: 200 PPM (15 MIN TWA)
LD50, Oral: 4.37 G/KG (RAT)
LD50, Dermal: >5 G/KG (RABBIT)

 * ArmorClear *
 * MATERIAL SAFETY DATA SHEET *
 * 961CK154 *

OTHER: LCLo: 5000 PPM/8H (RAT)
 OTHER (cont.): NIOSH TWA: 50 PPM (215 MG/M3)

OTHER LIMITS:

IARC - Group 2B See Section V NTP - Reasonably Anticipated
 to be a Human Carcinogen

4

CAS# 112945-52-5
 SILICA, AMORPHOUS
 EPA CASN 7631-86-9
 PCT BY WT: 1 - 5
 EXPOSURE LIMIT:

ACGIH TLV/TWA: 10 MG/M3
 OSHA PEL/TWA: 15 MG/M3-TOTAL DUST; 5 MG/M3-TOTAL RESPIRABLE DUST

 This product contains one or more reported carcinogens or suspected
 carcinogens which are noted by NTP, IARC, or OSHA-Z in the appropriate
 subsection above under OTHER LIMITS.

 This substance is classified as a hazardous air pollutant.




SECTION III PHYSICAL DATA

Boiling Range: High: -N/A F Low: 212.0 F
 Vapor Pressure: See Section II
 Theoretical Weight per Gallon, Calculated: 8.7216 LB/GL
 Theoretical Specific Gravity, Calculated: 1.048
 Theoretical VOC, Calculated: 3.825 LB/GL
 --If applicable, see Section X for further VOC information--
 Physical State: LIQUID
 Appearance: TRANSLUCENT
 Odor: MODERATE AROMATIC
 Odor Threshold: -N/A
 pH: -N/A
 Freezing Point: -N/A
 Water Solubility: INSOLUBLE
 Coefficient of Water/Oil Distribution: -N/A
 Mechanical Impact Explosion: NO KNOWN HAZARD
 Static Electricity Explosion: AVOID STATIC CHARGE
 % HAP BY WEIGHT 43.272
 % MONOMER BY WEIGHT 43.200

SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLAMMABILITY CHARACTERISTICS:

Lowest Closed Cup Flashpoint: 79.0 F
 OSHA Flammability Classification: Class IC
 DOT Flammability Classification: Flammable Liquid

<p>WHMIS (Canada)</p>  <p>B-2 D-2A D-2B</p>	<p>NFPA (USA)</p> <p>Fire: 3, Health: 2, Reactivity: 2</p>  <p>Specific hazard</p>	<p>HMIS (USA)</p> <table border="1"> <tr> <td>Health hazards</td> <td>* 2</td> </tr> <tr> <td>Flammability</td> <td>3</td> </tr> <tr> <td>Physical hazards</td> <td>2</td> </tr> <tr> <td>Personal protection</td> <td>X</td> </tr> </table>	Health hazards	* 2	Flammability	3	Physical hazards	2	Personal protection	X	<p>Protective clothing</p> 
Health hazards	* 2										
Flammability	3										
Physical hazards	2										
Personal protection	X										

Section 1. Chemical product and company identification

Trade name	G385LH10444	
Product type	Gel Coat	
Chemical family	Aromatic.	
Material uses	Used in the manufacture of thermoset plastic parts.	
Manufacturer	AOC, LLC 950 Highway 57 East Collierville, TN U.S.A. 38017 Website: www.aoc-resins.com Phone Number: (901) 854-2800 8am-5pm (Central Time) Mon-Fri	In case of emergency CHEMTREC (US): 24 hours/7 days (800) 424-9300 CANUTEC (Canada): 24 hours/7 days (613) 996-6666

Section 2. Hazards identification

OSHA status	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Routes of entry	Eye contact, Skin contact, Inhalation, Ingestion
Potential acute health effects	<p>Eyes: Severe eye irritant which may result in redness, burning, tearing and blurred vision.</p> <p>Skin: Skin irritant which may result in burning sensation. Repeated or prolonged skin contact may cause dermatitis.</p> <p>Ingestion: Ingestion may result in mouth, throat and gastrointestinal irritation, nausea, vomiting and diarrhea.</p> <p>Inhalation: Inhalation of spray mist or liquid vapors may cause upper respiratory irritation and possible central nervous system effects including headaches, nausea, vomiting, dizziness, drowsiness, loss of coordination, impaired judgement and general weakness.</p>
Potential chronic health effects	<p>CARCINOGENIC EFFECTS:</p> <p>Styrene: Classified A4 (not classifiable for human or animal) by ACGIH. Classified 2B (possible for human) by IARC. Classified as "reasonably anticipated to be a human carcinogen" by NTP. An increased incidence of lung tumors was observed in mice from a recent inhalation study. The relevance of this finding is uncertain since data from other long-term animal studies and from epidemiology studies of workers exposed to styrene do not provide a basis to conclude that styrene is carcinogenic to humans.</p> <p>Talc: Classified A2 (suspected for human) by ACGIH. Classified 1 (proven for human) by IARC. Classified "known to be human carcinogen" by NTP.</p> <p>Titanium Dioxide: Classified A4 (not classifiable for human or animal) by ACGIH. Classified 2B (possible for human) by IARC.</p> <p>Silica, Amorphous: Classified 3 (not classifiable for human) by IARC.</p>

Section 2. Hazards identification

MUTAGENIC or TERATOGENIC EFFECTS: No known effect according to our database.

Section 3. Composition/information on ingredients

Name	CAS #	% by weight
1) Styrene	100-42-5	29.9
2) Talc	14807-96-6	10 - 20
3) Titanium Dioxide	13463-67-7	5 - 10
4) Aluminum Hydroxide	21645-51-2	5 - 10
5) Silica, Amorphous	7631-86-9	1 - 5
6) 1,2,4-Trimethylbenzene	95-63-6	0.1 - 1

Section 4. First aid measures

Eye contact	Flush with a continuous flow of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Use of buffered baby shampoo will aid in removal. Seek medical attention.
Skin contact	Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. If irritation persists, seek medical attention.
Inhalation	Move the victim to a safe area as soon as possible. Allow the victim to rest in a well-ventilated area. If breathing is difficult, give oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.
Ingestion	Do not induce vomiting. Seek immediate medical attention.

Section 5. Fire-fighting measures

The product is:	Flammable liquid, Class IC.
Auto-ignition temperature	914°F(490°C) Styrene
Flash point	87.6°F (31°C) Styrene
Flammable limits	Lower: 0.9% Upper: 6.8% (Styrene)
Products of combustion	May produce carbon monoxide, carbon dioxide, and irritating or toxic vapors, gases or particulate.
Fire hazard	Flammable in the presence of open flames, sparks, or heat.
Explosion hazard	Can react with oxidizing materials. Explosive in the form of vapor when exposed to heat or flame. Material may polymerize when container is exposed to heat (fire) and polymerization will increase pressure in a closed container which may cause the container to rupture violently.
Fire-fighting media and instructions	SMALL FIRE: Use carbon dioxide, foam, dry chemical or water fog to extinguish. LARGE FIRE: Evacuate surrounding areas. Use carbon dioxide, foam, dry chemical or water fog to extinguish. Wear self-contained breathing apparatus (SCBA) and full fire-fighting protective clothing. Cool containing vessels with water spray in order to prevent pressure build-up, autoignition or explosion. Prevent run off to sewers or other water ways.

Section 6. Accidental release measures

Small spill	Absorb with an inert material and place in an appropriate waste disposal container.
Large spill	Stop leak if without risk. Eliminate all ignition sources. Contain with an inert material, recover as much as possible and place the remainder in an appropriate waste disposal container. Warn unauthorized personnel to move away. Prevent entry into sewers or confined areas.

Section 7. Handling and storage

Handling	WARNING! Use only in well-ventilated areas. Store away from direct sunlight. Avoid inhalation and contact with eyes, skin, and clothing. Wear appropriate personal protective equipment for your task. Ground and bond all containers when transferring the material. Empty containers may retain product and product vapor. Do not expose to heat, flame, sparks or other ignition sources such as cutting, welding, drilling, grinding or static electricity. Do not pressurize. Provide adequate safety showers and eyewashes in the area of use.
Storage	Keep away from heat. Keep away from sources of ignition. Keep container tightly closed. Keep in a cool, well-ventilated place. Containers should be grounded.

Section 8. Exposure controls/personal protection

Exposure limits	Styrene	<p>ACGIH TLV (United States, 3/2012). Absorbed through skin. TWA: 20 ppm 8 hours. TWA: 85 mg/m³ 8 hours. STEL: 40 ppm 15 minutes. STEL: 170 mg/m³ 15 minutes.</p> <p>OSHA PEL Z2 (United States, 11/2006). TWA: 100 ppm 8 hours. AMP: 600 ppm 5 minutes. CEIL: 200 ppm</p> <p>NIOSH REL (United States, 6/2009). TWA: 50 ppm 10 hours. Form: TWA: 215 mg/m³ 10 hours. STEL: 100 ppm 15 minutes. STEL: 425 mg/m³ 15 minutes.</p>
	Talc	<p>NIOSH REL (United States, 6/2008). TWA: 2 mg/m³ 10 hours. Form: Respirable fraction</p> <p>OSHA PEL Z3 (United States, 9/2005). : 1 f/cc 30 minutes. Form: not containing asbestos TWA: 20 mppcf 8 hours. Form: not containing asbestos</p> <p>ACGIH TLV (United States, 1/2008). TWA: 0.1 f/cc 8 hours.</p>
	Titanium Dioxide	<p>ACGIH TLV (United States, 3/2012). TWA: 10 mg/m³ 8 hours. Form:</p> <p>OSHA PEL (United States, 6/2010). TWA: 15 mg/m³ 8 hours. Form: Total dust</p> <p>OSHA PEL (United States). TWA: 2 mg/m³, (as Al) 8 hours. Form: TWA: 5 mg/m³ Form: Respirable fraction TWA: 15 mg/m³ Form: Total particulates</p> <p>NIOSH REL (United States, 6/2009). TWA: 2 mg/m³, (as Al) 10 hours.</p>
	Aluminum Hydroxide	<p>ACGIH TLV (United States, 2007). Notes: Total Respirable TWA: 10 mg/m³ Form: Aluminum metal and insoluble compounds</p> <p>NIOSH REL (United States, 6/2009). TWA: 6 mg/m³ 10 hours.</p>
	Silica, Amorphous	<p>ACGIH TLV (United States, 3/2012). TWA: 123 mg/m³ 8 hours. TWA: 25 ppm 8 hours.</p> <p>NIOSH REL (United States, 6/2009). TWA: 125 mg/m³ 10 hours. TWA: 25 ppm 10 hours.</p> <p>OSHA PEL 1989 (United States, 3/1989).</p>
	1,2,4-Trimethylbenzene	<p>ACGIH TLV (United States, 3/2012). TWA: 123 mg/m³ 8 hours. TWA: 25 ppm 8 hours.</p> <p>NIOSH REL (United States, 6/2009). TWA: 125 mg/m³ 10 hours. TWA: 25 ppm 10 hours.</p> <p>OSHA PEL 1989 (United States, 3/1989).</p>

Section 8. Exposure controls/personal protectionTWA: 125 mg/m³ 8 hours.

TWA: 25 ppm 8 hours.

Engineering controls	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits. Provide adequate safety showers and eyewashes in the area of use.
Personal protection	<p>Personal protective equipment may vary depending on the job being performed.</p> <p>Eye/face: Wear eye protection such as safety glasses with side shields, splash goggles or face shield with safety glasses.</p> <p>Skin: Avoid skin contact. Impervious gloves should be worn. Other items may include long sleeves, lab coats, or impervious jackets.</p> <p>Respiratory: Determine if airborne concentrations are below the recommended exposure limits in accordance your company's PPE program and regulatory requirements. If they are not, select a NIOSH-approved respirator that provides adequate protection from the concentration levels encountered. Air-purifying respirators are generally adequate for organic vapors. Use positive pressure, supplied-air respirators if there is potential for an uncontrolled release, if exposure levels are unknown, or under circumstances where air-purifying respirators may not provide adequate protection. Reference OSHA 29 CFR 1910.134.</p>
Personal protection in case of a large spill	Chemical resistant gloves, full protective suit, and boots. Respiratory protection in accordance with OSHA regulation 29 CFR 1910.134. A self-contained breathing apparatus should be used to avoid inhalation of the product vapors.

Section 9. Physical and chemical properties

Physical state	Liquid.
Color	White.
Odor	Aromatic.
Molecular weight (g/mol)	Not available.
Boiling point	293°F(145°C) (Styrene)
Melting point	Not available.
pH (1% soln/water)	Not applicable.
Vapor pressure	4.5 mm Hg@ 68°F (20°C) Styrene
Vapor density	3.59 Styrene (Air = 1)
Specific gravity	1.1 to 1.4 (Water = 1)
Partition coefficient: n-octanol/water	Not available.
Evaporation rate	Not available.
Odor threshold	0.14 ppm Styrene
Solubility in water	Slight.
Dispersibility properties	Not dispersed in water.

SAFETY DATA SHEET

Date of issue: 04/20/2015

Date of previous issue: New SDS

Section 1. Identification

Product name	C490-DKA-19
Product type	Polyester Resin Solution
Chemical family	Aromatic.
MSDS no.	NA-1504:469 (Version: 1.0)
Relevant identified uses of the substance or mixture and uses advised against	
Identified uses	Used in the manufacture of thermoset plastic parts.
Uses advised against	No additional information.
Supplier's details	AOC, LLC 955 Highway 57 East Collierville, TN 38017 Website: www.aoc-resins.com Phone Number: (901) 854-2800 Hours: 8AM-5pm (Central Time) Mon-Friday
Emergency telephone number (with hours of operation)	CHEMTREC (US): 24 hours/7 days (800) 424-9300 CANUTEC (Canada): 24 hours/7 days (613) 996-6666

Section 2. Hazards identification

OSHA/HCS status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture

Flammable liquid and vapor. – Category 3, H226
Acute toxicity – Inhalation – Category 4, H332
Eye irritation – Category 2, H319
Skin irritation – Category 2, H315
STOT-SE = Specific Target Organ Toxicity - Single Exposure – Category 3, H335
STOT-RE = Specific Target Organ Toxicity - Repeated Exposure – Category 1, H372

GHS label elements

Hazard pictograms



Signal word

Danger

Hazard statements

H226: Flammable liquid and vapor.
H332: Harmful if inhaled.
H319: Causes serious eye irritation.
H315: Causes skin irritation.
H335: May cause respiratory irritation.
H372: Causes damage to organs through prolonged or repeated exposure if inhaled.

Precautionary statements

General

P101: If medical advice is needed, have product container or label at hand.
P102: Keep out of reach of children.

Section 2. Hazards identification

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/material-handling equipment.
- P242: Use only non-sparking tools.
- P243: Take precautionary measures against static discharge.
- P264: Wash hands thoroughly after handling.
- P270: Do not eat, drink or smoke when using this product.
- P271: Use only outdoors or in a well-ventilated area.
- P280: Wear protective gloves/protective clothing/eye protection/face protection.
- P261: Do not breathe vapor or mist.

Response

- P370 + P378 In case of fire: Use DRY chemicals, CO₂, water spray or foam.
- P308 + P313 IF exposed or concerned: Get medical attention.
- P304 + P340 + P312: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.
- P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
- P333 + P313: If skin irritation occurs: Get medical attention/advice.
- P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P337 + P313: If eye irritation persists: Get medical attention/advice.
- P391: Collect spillage.

Storage

- P403 + P235: Store in a well-ventilated place. Keep cool.
- P233: Keep container tightly closed.
- P405: Store locked up.

Disposal

- P501: Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified

None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	CAS number	%
Styrene	100-42-5	34.4
Cobalt 2-Ethylhexanoate	136-52-7	≥0.1 - <0.3

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.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Use of buffered baby shampoo will aid in removal. If irritation persists, get medical attention.

Inhalation

Move the victim to a safe area as soon as possible. Allow the victim to rest in a well-ventilated area. If breathing is difficult, give oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

Skin contact

In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. If irritation persists, seek medical attention. Wash contaminated clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion

Section 4. First aid measures

Wash out mouth with water. Remove dentures if any. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Seek immediate medical attention.

Most important symptoms/effects, acute and delayed

Eye contact

May cause eye irritation.

Inhalation

No known significant effects or critical hazards.

Skin contact

May cause skin irritation.

Ingestion

Irritating to mouth, throat and stomach.

Over-exposure signs/symptoms

Eye contact

Adverse symptoms may include the following: pain or irritation, watering, redness.

Inhalation

Adverse symptoms may include the following: respiratory tract irritation, coughing.

Skin contact

Adverse symptoms may include the following: irritation, redness.

Ingestion

Adverse symptoms may include the following: Irritating to mouth, throat and stomach..

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician

Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Use dry chemical, CO₂, water spray (fog) or foam.

Unsuitable extinguishing media

None known.

Specific hazards arising from the chemical

No specific fire or explosion hazard.

Hazardous thermal decomposition products

Decomposition products may include the following materials: carbon dioxide, carbon monoxide, sulfur oxides halogenated compounds, metal oxide/oxides

Special protective actions for fire-fighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Do not touch or walk through spilled material. Provide adequate ventilation.

For emergency responders

Section 6. Accidental release measures

If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. See also the information in "For non-emergency personnel".

Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

Methods and materials for containment and cleaning up

Small spill

Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.

Large spill

Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures

Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Do not breathe vapor or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Segregate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. Refer to the product label and/or technical data sheet for further information.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Styrene	ACGIH TLV (United States, 3/2012). Absorbed through skin. TWA: 20 ppm 8 hours. TWA: 85 mg/m ³ 8 hours. STEL: 40 ppm 15 minutes. STEL: 170 mg/m ³ 15 minutes. OSHA PEL Z2 (United States, 11/2006). TWA: 100 ppm 8 hours. AMP: 600 ppm 5 minutes. CEIL: 200 ppm NIOSH REL (United States, 6/2009).

Section 8. Exposure controls/personal protection

Cobalt 2-Ethylhexanoate

TWA: 50 ppm 10 hours. Form:
TWA: 215 mg/m³ 10 hours.
STEL: 100 ppm 15 minutes.
STEL: 425 mg/m³ 15 minutes.
OSHA PEL (United States).
TWA: 0.1 mg/m³

Appropriate engineering controls

Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Individual protection measures

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. Appropriate techniques should be used to remove potentially contaminated clothing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

Hand protection

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.

Body protection

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.



Section 9. Physical and chemical properties

Appearance

Physical state

Liquid.

Color

Blue.

Odor

Aromatic.

Odor threshold

0.01 - 0.1 ppm (*Styrene*)

pH

Not applicable.

Melting point

-23.8°F / -30.6°C (*Styrene*)

Boiling point

293°F / 145°C (*Styrene*)

Flash point

88°F / 31°C (*Styrene*)

Evaporation rate

< 1 (Butyl acetate = 1)

Flammability (solid, gas)

Not applicable.

Lower and upper explosive (flammable) limits

Lower: 1.1% **Upper:** 6.1% (*Styrene*)

Vapor pressure

5.0 mm Hg@ 68°F / 20°C (*Styrene*)

Vapor density

3.6 (Air = 1) (*Styrene*)

Relative density

1.1 (Water = 1)

Solubility

Slight.

Partition coefficient: n-octanol/water

Not available.

Auto-ignition temperature

914°F / 490°C (*Styrene*)

Decomposition temperature

Not available.

Viscosity

Not available.

Molecular weight

10,000 to 15,000

**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
UGC	ST-1	UTILE gelcoat clear gun (common)	2016	N/A	New	RTO-C1
UGP-1	ST-1	UTILE gelcoat pigment gun (Line 1)	2016	N/A	New	RTO-C1
UR1-1	ST-1	UTILE resin gun 1 (Line 1)	2016	N/A	New	RTO-C1
UR2-1	ST-1	UTILE resin gun 2 (Line 1)	2016	N/A	New	RTO-C1
UGP-2	ST-1	UTILE gelcoat pigment gun (Line 2)	2017	N/A	New	RTO-C1
UR1-2	ST-1	UTILE resin gun 1 (Line 2)	2017	N/A	New	RTO-C1
UR2-2	ST-1	UTILE resin gun 2 (Line 2)	2017	N/A	New	RTO-C1

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 M
Air Pollution Control Device Sheet
(Other Collectors)

Control Device ID No. (must match Emission Units Table):

Equipment Information

1. Manufacturer: Dürr Model No. Custom	2. Control Device Name: RTO-C1 Type: Carbon Preconcentrator w/RTO
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. N/A	
6. Submit a schematic and diagram with dimensions and flow rates. See attached schematic	
7. Guaranteed minimum collection efficiency for each pollutant collected: 100% capture (per M-204 building enclosure) 83% minimum overall VOC control (collection x destruction)	
8. Attached efficiency curve and/or other efficiency information. N/A	
9. Design inlet volume: current 180,000 SCFM	10. Capacity: N/A
11. Indicate the liquid flow rate and describe equipment provided to measure pressure drop and flow rate, if any. N/A	
12. Attach any additional data including auxiliary equipment and operation details to thoroughly evaluate the control equipment. This is an existing control system installed in 1997	
13. Description of method of handling the collected material(s) for reuse or disposal. The VOC collected in the preconcentrator is destroyed in the RTO. Disposal is not needed.	

Gas Stream Characteristics

14. Are halogenated organics present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Are particulates present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Are metals present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
15. Inlet Emission stream parameters:	Maximum	Typical	
Pressure (mmHg):	varies	N/A	
Heat Content (BTU/scf):	varies	N/A	
Oxygen Content (%):	ambient	N/A	
Moisture Content (%):	ambient	N/A	
Relative Humidity (%):	ambient	N/A	

16. Type of pollutant(s) controlled: <input type="checkbox"/> SO _x <input checked="" type="checkbox"/> Odor Styrene <input type="checkbox"/> Particulate (type): <input checked="" type="checkbox"/> Other VOC				
17. Inlet gas velocity: varies ft/sec	18. Pollutant specific gravity: varies			
19. Gas flow into the collector: N/A ACF @ °F and PSIA	20. Gas stream temperature: ambient Inlet: °F Outlet: °F			
21. Gas flow rate: Design Maximum: N/A ACFM Average Expected: N/A ACFM	22. Particulate Grain Loading in grains/scf: negligible 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
A VOC	varies	none	varies	trace
B				
C				
D				
E				
24. Dimensions of stack: Height N/A ft. Diameter N/A ft.				
25. Supply a curve showing proposed collection efficiency versus gas volume from 25 to 130 percent of design rating of collector. N/A				

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	none	
2 – 4		
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		

<p>27. Describe any air pollution control device inlet and outlet gas conditioning processes (e.g., gas cooling, gas reheating, gas humidification): High efficiency prefilter for particulate</p>					
<p>28. Describe the collection material disposal system: Disposal of loaded filters to municipal landfill</p>					
<p>29. Have you included Other Collectores Control Device in the Emissions Points Data Summary Sheet? N/A</p>					
<p>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.</p> <table border="1"> <tr> <td> <p>MONITORING: Monthly detector tube readings at pts 1 & 2 Continuous RTO temperatures (chart)</p> </td> <td> <p>RECORDKEEPING: Maintenance and upset record Material usages and VOC emissions record</p> </td> </tr> <tr> <td> <p>REPORTING: Semiannual compliance reports Performance test reports</p> </td> <td> <p>TESTING: Method 18 styrene test - if detector tubes fail</p> </td> </tr> </table> <p>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.</p>		<p>MONITORING: Monthly detector tube readings at pts 1 & 2 Continuous RTO temperatures (chart)</p>	<p>RECORDKEEPING: Maintenance and upset record Material usages and VOC emissions record</p>	<p>REPORTING: Semiannual compliance reports Performance test reports</p>	<p>TESTING: Method 18 styrene test - if detector tubes fail</p>
<p>MONITORING: Monthly detector tube readings at pts 1 & 2 Continuous RTO temperatures (chart)</p>	<p>RECORDKEEPING: Maintenance and upset record Material usages and VOC emissions record</p>				
<p>REPORTING: Semiannual compliance reports Performance test reports</p>	<p>TESTING: Method 18 styrene test - if detector tubes fail</p>				
<p>31. Manufacturer's Guaranteed Control Efficiency for each air pollutant. 83% VOC</p>					
<p>32. Manufacturer's Guaranteed Control Efficiency for each air pollutant.</p>					
<p>33. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty. N/A - warranty no longer in effect</p>					

Attachment M - Dürr Preconcentrator Control System

Description of the Dürr Preconcentrator Control System

A schematic diagram of the Dürr preconcentrator system, which illustrates the operation of the system, is attached to this narrative description.

Process emissions from the facility operations are captured within the large Method 204-compliant building enclosure at the site and conveyed to the Dürr preconcentrator system through a network of smaller enclosures and ductwork that terminates as one large exhaust duct leading to the control system. The untreated process exhaust is first filtered in a large multi-stage dust filtration unit (not shown). The filtered air is then conveyed to four preconcentrator units. Each preconcentrator unit contains a large rotating activated charcoal media wheel that has three separate wheel sections identified as the “adsorb section,” the “cooling section,” and the “desorb section.” The styrene vapor and other organic vapors in the process exhaust are adsorbed on the charcoal media as the exhaust passes through the adsorb sections of the preconcentrator wheels. The clean exhaust air from the preconcentrator outlet is conveyed and discharged to the atmosphere through a tall system exhaust stack. A small portion of this clean exhaust air is diverted back to the cooling section of each wheel. This cooling air removes the heat from the freshly desorbed charcoal. The warm air from the cooling section is next passed through the cool side of an air-to-air heat exchanger, where heat from the RTO exhaust is recuperated as desorb heat. The now hot air is carried back to the desorb sections of each wheel, and the styrene collected on the charcoal media is desorbed to vapor and transported to a small regenerative thermal oxidizer (RTO) unit for thermal destruction. The exhaust from the RTO unit is first passed through the hot side of the heat exchanger and then discharged to the atmosphere through the system exhaust stack.

Several elements of the control system design and operation are particularly noteworthy.

- The mass flow rate and volumetric airflows at point 1 and point 2 are essentially identical. A relatively insignificant amount of styrene vapor is removed from the airflow by the activated charcoal media, but the inlet concentration of styrene vapor is only about 100 ppm, so the change is less than 0.01%, which is an immeasurable amount. The air temperature at point 2 is a few degrees higher than at 1, but again not enough of a temperature difference to change the air density value at two decimal places $M_1 \approx M_2$ and $V_1 \approx V_2$.
- The preconcentrator outlet air condition at the branch at point 3 is well-mixed, so the air properties at points 2, 3 and 4 are essentially identical and the mass flow is balanced $M_2 = M_3 + M_4$.
- Under ideal conditions, the exhaust air at point 5 contains sufficient oxygen and desorbed styrene fuel to autofire (operate without supplemental natural gas fuel) without any extra combustion air, so the mass inputs at points 9 and 10 are ideally zero. However, the

system will not operate at autofire conditions during typical operation, so some supplemental natural gas fuel will be input to the burners. This will be the only mass flow added to the overall system. However, the natural gas mass flow is insignificant and immeasurable compared to the total mass flow of the system (less than 50 cfm methane versus 180,000 cfm air or less than 0.03%). Thus, the mass flows at points 5 and 6 are essentially the same $M_5 \approx M_6$.

- The air-to-air heat exchanger is a recuperative design, so only heat is transferred across the airstreams and no mass is lost or gained $M_6 = M_7$
- The mass flow across the system stack branch at point 7 is balanced $M_8 = M_2 + M_7$.
- The mass flow at 2 can be determined by subtracting the mass at point 7 from the mass at 8 $M_8 - M_7 = M_2$. The volumetric airflow at point 2 can be computed using the air properties measured at 2.

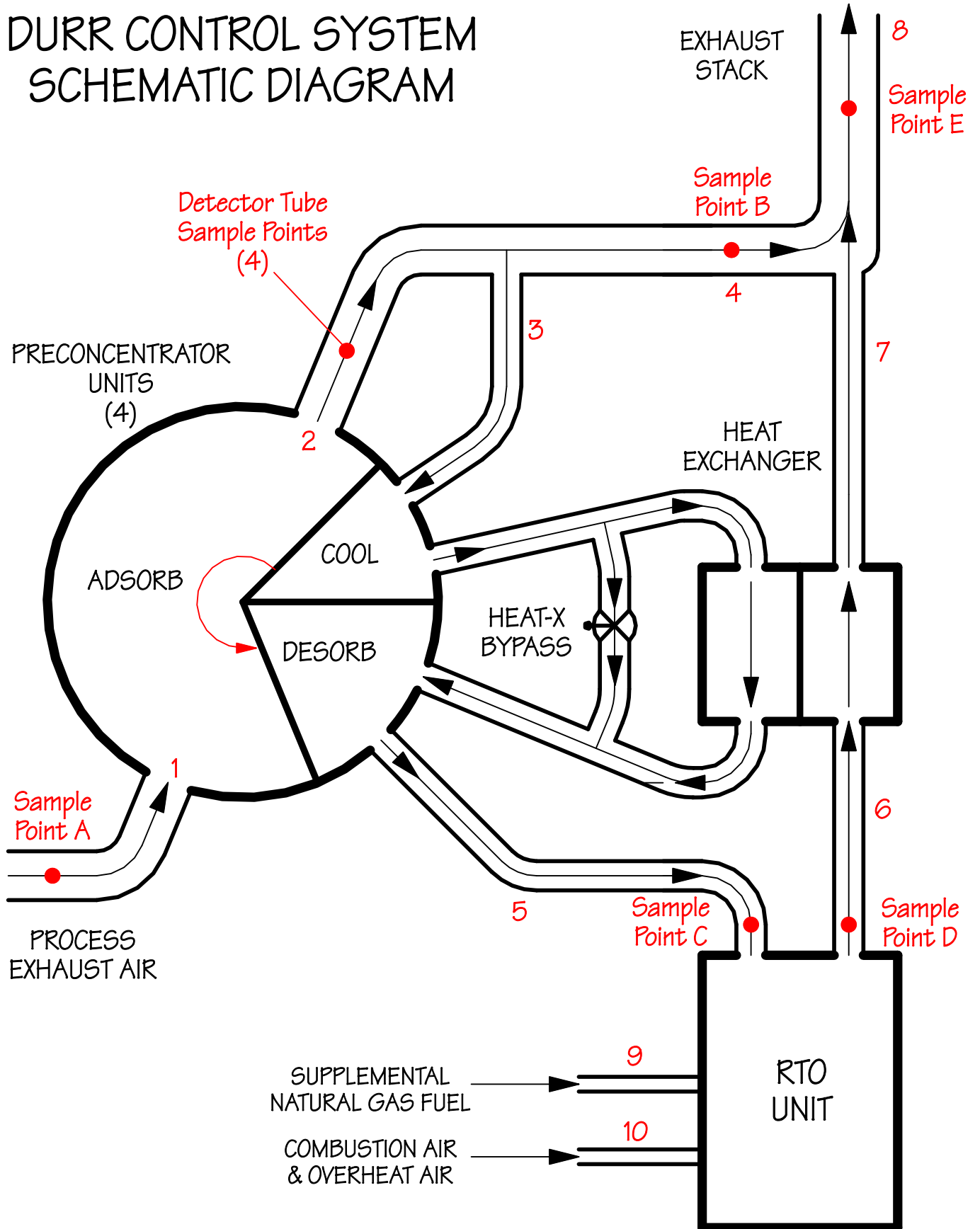
Proposed Modifications to the Dürr Preconcentrator Control System

The basic control process will be unchanged with the new UTILE lines and the Dürr system will operate as described above.

In order to handle the new ventilated enclosures on the UTILE lines, the Dürr system airflow capacity will be increased in two phases to match the installation of the first UTILE line (Phase 1) and then the final second UTILE line (Phase 2). According to Dürr engineers, the current Dürr system equipment has enough reserve capacity that Dürr can increase the controlled exhaust airflow by simple control upgrades and adjustments to various control settings. Phase 2 will be more extensive and will require the addition of a new fifth preconcentrator unit, new connecting ductwork, and larger fans. Fortunately, the original Dürr system was designed for five preconcentrator units and the existing system already has built-in pad space and duct connections for a fifth unit.

MAAX intends to complete Phase 1 and then operate the single UTILE line for a period of time to confirm acceptance of the UTILE product in the USA bathware market. If the product is successful, then MAAX will proceed with Phase 2.

DURR CONTROL SYSTEM SCHEMATIC DIAGRAM



Attachment N – Supporting UTILE PTE Emissions Calculations

MAAX Martinsburg UTILE PTE calculation

Input values are shown in bold blue text

last revised

September 22, 2015

Durr Control Efficiency (% control) 83.0%

Annual PTE Emissions			
	Styrene	MMA	Total VOC
	(tpy)		
uncontrolled	190.35	15.96	213.30
controlled	32.36	2.71	36.26

Material Name	Annual Material Usages (lb/yr)	Material Class	Application Process	Average VOC/HAP Contents				UEF Emission Factors			Emissions		
				Styrene	MMA	Other VOC	Total VOC	Styrene	MMA	Other VOC	Styrene	MMA	Other VOC
				(% by weight)				(% VOC by weight)			(lb/yr)		
RESINS													
UTILE resin	2,743,800	noncorros	NARA	34.4%	0%	0%	34.4%	10.90%	75%	100%	102,914	0	0
UTILE pigmented gelcoat	1,213,400	white	AGA	29.9%	0%	1%	30.9%	44.51%	75%	100%	161,482	0	12,134
UTILE clear gelcoat	635,100	clear	AGA	36.5%	6.7%	0%	43.2%	50.18%	75%	100%	116,312	31,914	0
	4,592,300												
UTILE catalyst	91,846	catalyst				2%				100%			1,837

380,709 31,914 13,971

Attachment O - Monitoring/Recordkeeping/Reporting/Testing Plans

The UTILE lines will become part of the existing composite operation at the facility and will utilize the existing Dürr control system, so the new lines will NOT require any new compliance records or reports. The existing recordkeeping and reporting will be expanded to include the UTILE usages and emissions. The existing Dürr system monitoring and testing will cover the new UTILE operation.

Specifically:

Monitoring

The existing monthly styrene detector monitoring and Dürr system inspections and maintenance will be continued unchanged. The existing RTO temperature monitoring will also be continued unchanged.

Recordkeeping

The existing monthly material usage and styrene/VOC emission record and calculations will be expanded to include the UTILE materials and emissions. The same UEF emissions factors will be used to calculate emissions. The same Dürr system maintenance and upset log will be continued unchanged.

Reporting

There are no new compliance requirements associated with the UTILE lines. Therefore, the existing compliance reports will remain fundamentally the same in format and content. The existing compliance reports will be expanded to add the UTILE materials and emissions to the facility totals.

Testing

The current Dürr system performance test methodologies and protocols will also remain unchanged. At the direction of DEP, a comprehensive Method 25A and Method 18 test may be required upon the completion of the Phase 2 modifications to the Dürr system to assess the impact of the changes to the system.