

Fact Sheet



For Final Minor Modification Permitting Action Under 45CSR30 and Title V of the Clean Air Act

This Fact Sheet serves to address the changes specific to this Minor Modification and shall be considered a supplement to the Fact Sheet corresponding with the Title V operating permit issued on November 7, 2017.

Permit Number: **R30-09500001-2017**
Application Received: **November 3, 2017 / December 27, 2017 / March 30, 2018**
Plant Identification Number: **03-54-09500001**
Permittee: **MPM Silicones, LLC**
Facility Name: **Sistersville**
Mailing Address: **10851 Energy Highway, Friendly, WV 26146-9720**

Permit Action Number: *MM01 / MM02 / MM03*

Revised: *January 29, 2019*

Physical Location: Friendly, Tyler County, West Virginia
UTM Coordinates: 492 km Easting • 4370.5 km Northing • Zone 17
Directions: WV State Route 2 approximately six miles south of Sistersville.

Facility Description

MPM Silicones, LLC, is located approximately six miles south of Sistersville, WV on State Route 2. The Sistersville Plant is located in a rural setting and is situated on approximately 1300 acres of land. The operating areas are situated centrally and encompass approximately 50 acres. The Sistersville Plant is engaged in specialty chemical manufacturing (SIC 2869) and manufactures a broad range of silicone and silane products, plus organic chemical intermediates related to the silanes and silicones products. The site operates 24 hours a day and consists of a number of continuous and batch processes.

This minor modification includes changes covered by permits R13-2338J (MM01), R13-2338K (MM02) and R13-2338L (MM03):

- MM01 - construction of a new production unit for the manufacturing of isocyanate product Silquent A-Link™ 35 silane (Emission Group 433 - CICU2);
- MM02 - construction of a new production process for the manufacturing of a silicate based solid product (Emission Group 136 – SR-1000);

- MM03 - assembly of an alternative production process using existing equipment for manufacturing of an existing product Y-9620 (Emission Group 409 – K-36).

Emissions Summary

There are no PTE changes associated with these minor modifications.

Title V Program Applicability Basis

With the proposed changes associated with this modification, this facility maintains the potential to emit 146.01 TPY of NO_x, 633.20 TPY of VOC, 69.80 TPY of ethyl chloride, 31.50 TPY of hydrogen chloride, 55.50 TPY of methanol, 48.30 TPY of propionaldehyde, 168.10 TPY of toluene, and 400.42 TPY of aggregate HAPs. Due to this facility's potential to emit over 100 tons per year of criteria pollutant, over 10 tons per year of a single HAP, and over 25 tons per year of aggregate HAPs, MPM Silicones, LLC is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45CSR30.

Legal and Factual Basis for Permit Conditions

The State and Federally-enforceable conditions of the Title V Operating Permits are based upon the requirements of the State of West Virginia Operating Permit Rule 45CSR30 for the purposes of Title V of the Federal Clean Air Act and the underlying applicable requirements in other state and federal rules.

The modification to this facility has been found to be subject to the following applicable rules:

Federal and State:	45CSR7	To Prevent and Control Particulate Air Pollution from Manufacturing Process Operations.
	45CSR13	NSR permits.
	45CSR30	Operating permit requirement.
	45CSR34	Emission Standards for Hazardous Air Pollutants Pursuant to 40 C.F.R. Part 63
	40 C.F.R. Part 63, Subpart FFFF	National Emission Standards for Hazardous Air Pollutants: Misc. Organic Chemical Manufacturing (MON)
State Only:	None	

Each State and Federally-enforceable condition of the Title V Operating Permit references the specific relevant requirements of 45CSR30 or the applicable requirement upon which it is based. Any condition of the Title V permit that is enforceable by the State but is not Federally-enforceable is identified in the Title V permit as such.

The Secretary's authority to require standards under 40 C.F.R. Part 60 (NSPS), 40 C.F.R. Part 61 (NESHAPs), and 40 C.F.R. Part 63 (NESHAPs MACT) is provided in West Virginia Code §§ 22-5-1 *et seq.*, 45CSR16, 45CSR34 and 45CSR30.

Active Permits/Consent Orders

The following Permits / Consent Orders are affected by this modification:

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit (<i>if any</i>)
R13-2338L	06/08/2018	

Conditions from this facility's Rule 13 permit(s) governing construction-related specifications and timing requirements will not be included in the Title V Operating Permit but will remain independently enforceable under the applicable Rule 13 permit(s). All other conditions from this facility's Rule 13 permit(s) governing the source's operation and compliance have been incorporated into this Title V permit in accordance with the "General Requirement Comparison Table," which may be downloaded from DAQ's website.

Determinations and Justifications

- 1) MM01 is based on permit R13-2338J issued for after-the-fact construction (in 2017) of a new production unit for the manufacturing of isocyanate product Silquent A-Link™ 35 silane. Emission Group 433 - CICU2 was added to the Equipment Table 1.1, Water Scrubbers S-210 and S-241 were added to Attachment A of the permit (Parametric Monitoring), and Attachment A footnote 8 was added for the Scrubbers S-210 and S-241. The unit produces methanol (VOC/HAP) as a by-product, and therefore is subject to 40 C.F.R. 63 Subpart FFFF (MON MACT). This permit already specifies MON requirements in conditions 4.1.20 through 4.1.26 (parts of the units are subject to to the LDAR requirements in 4.1.24; heat exchanger H-1620 is subject to heat exchange system standards in requirement 4.1.26; and emission point 4008 is subject to the Group 2 continuous process vent standards in requirement 4.1.20). There was no increase in emissions beyond the current emission limits in condition 4.1.1, therefore the company will continue to demonstrate compliance with these emission limits via conditions 4.1.7 (emission modeling and emission calculations) and 4.4.4 (rolling 12-month emissions records).
- 2) MM02 is based on permit R13-2338K issued for construction of a new production process for the manufacturing of a silicate based solid product (Emission Group 136 – SR-1000 was added to the Equipment Table 1.1). Toluene (VOC/HAP) emissions from the new process (SR-1000) are estimated at 0.34 lb/hr and 1.49 ton/yr for uncontrolled emissions, and PM emissions are calculated at 0.02 lbs/hr and 0.05 TPY, but there is no increase of emission limits nor increase in PTE for VOC / THAPs and PM associated with this modification, therefore the limits in 4.1.1 remain the same. MPM Silicones will continue to demonstrate compliance with these emission limits via conditions 4.1.7 (emission modeling and emission calculations), 4.4.3 and 4.4.4 (rolling 12-month emissions records).

The unit produces toluene as a byproduct and is therefore subject to 40 C.F.R. 63 Subpart FFFF (MON MACT). From a MON perspective, the emission units are part of the miscellaneous organic chemical manufacturing affected source which is defined in 40 C.F.R. §63.2440(b) as the facility wide collection of MCPU and heat exchange systems, wastewater, and waste management units that are associated with manufacturing materials described in 40 C.F.R. §63.2435(b)(1). All raw materials are fed from drums and all products are stored in drums, therefore there are no storage tanks associated with the SR-1000 unit. Tank T-2125-S is considered a process tank, as it is a continuous flow-through. The permit already specifies MON requirements, as noted below:

LDAR - Parts of the unit are subject to LDAR requirements under the MON MACT. The majority of the process runs under negative pressure. Therefore, LDAR does not apply to all

equipment, but will apply to the toluene receiver, pump and associated valves. Compliance with this requirement is covered by existing condition 4.1.24.

Process Vent - The continuous process vent from SR-1000 was evaluated during the pre-construction permitting process to see if it could be excluded from the definition of continuous process vent by containing less than 50 ppmw HAP. The vent contains > 50 ppmw HAP and therefore is not exempt. The TRE was calculated for the SR-1000 vent and determined to be a Group 2 vent, not requiring controls. MON MACT requirements are included in existing condition 4.1.20

Also, Filters F-995-S and F-996-S were added to the existing condition 4.1.8 which limits opacity under 45CSR§7-3.1.

- 3) MM03 is based on permit R13-2338L issued to cover the assembly of an alternative production process using existing equipment for the manufacturing of an existing product Y-9620 (Emission Group 409 – K-36 system and associated scrubbers C-448 and S-75 were already included with the Equipment Table 1.1). There was no increase of emissions limits nor new pollutants added as a result of this modification. Materials are charged to K-36 from drums, intermediate bulk containers, portable tanks, bulk trailers, or pipeline from other areas of the plant. Products are packaged in similar size containers, either for use within the plant, or sent to the on-site warehouse for shipment and commercial sale.

The process change triggered a substantive requirement under the Miscellaneous Organic NESHAP, 40 C.F.R. 63 Subpart FFFF. The permit was modified to add condition 7.1.3 to reference the scrubber C-448 (based on R13-2338 condition 4.1.22) to the existing MON MACT Group 1 hydrogen halide and halogen HAP process vent standards (condition 7.1.5, based on the R13-2338 condition 4.1.23) and to the Attachment A (Footnote 7 has been modified to only apply when controlling MON Group 1 process vents). Both scrubbers C-448 and S-75 were already included in the existing applicable condition 7.1.1 which limits opacity under 45CSR§7-3.1 and HCl concentration under 45CSR§7-4.2 (reference to the R13-2338 condition 4.1.8 was added). Opacity monitoring for Emission Group 409 was already included in the existing condition 7.2.2 (reference to the R13-2338 condition 4.2.3 was added). In addition, the Emission Group 409 was added to the existing MON compliance demonstration requirement 7.2.3 (based on Attachment A) and the description “C-65” was added to K-18 Scrubber in this requirement for clarity. Also, references to the permit R13-2338 were added to requirements 7.1.1, 7.1.2 and 7.4.1 through 7.4.4 for emission points 4002 and 4004 covered by this R13 permit.

- 4) Emission Units Table 1.1 - Tank T-365 (associated with an Emission Group 405) was removed from the Emission Groups 409 (K-36) and 412 because it was listed there due to a typo in previous permit applications.

Non-Applicability Determinations

The following requirements have been determined not to be applicable to the subject facility due to the following:

None.

Request for Variances or Alternatives

None.

Insignificant Activities

Insignificant emission unit(s) and activities are identified in the Title V application.

Comment Period

Beginning Date: N/A

Ending Date: N/A

Point of Contact

All written comments should be addressed to the following individual and office:

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Division of Air Quality
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Procedure for Requesting Public Hearing

During the public comment period, any interested person may submit written comments on the draft permit and may request a public hearing, if no public hearing has already been scheduled. A request for public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. The Secretary shall grant such a request for a hearing if he/she concludes that a public hearing is appropriate. Any public hearing shall be held in the general area in which the facility is located.

Response to Comments (Statement of Basis)

Not applicable.