

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 January 9, 2018.

Permit Number: **R30-03900003-2018**

Applications Received: **April 26, 2019 (MM04) and July 11, 2019 (MM05)**

Plant Identification Number: **03-54-03900003**

Permittee: **Union Carbide Corporation**

Facility Name: **South Charleston Plant**

Mailing Address: **P.O. Box 8361 South Charleston WV 25303**

Permit Action Number: *MM04 and MM05* Revised: *January 6, 2020*

Physical Location: South Charleston, Kanawha County, West Virginia
UTM Coordinates: 440.026 km Easting • 4,246.927 km Northing • Zone 17
Directions: I-64 West and take the Montrose Exit. Come down Montrose Avenue towards the river and proceed straight through the traffic light across MacCorkle Avenue directly into the South Charleston facility.

Facility Description

Dow's Union Carbide facility produces a variety of specialty chemicals under SIC #2869. Their business units are grouped into the following classes:

<u>Process</u>	<u>End Use</u>
Specialty Surfactants	TRITON™ - Hard Surface Metal Cleaners, Emulsion Polymerization, Paints, and Coatings, Rinse Aids, Textile Processing, Degreasers, Industrial Laundry Applications, Car Wash Applications and Personal Care Applications
Oxide Adducts	The Oxide Adducts unit produces various Polyether Polyols used in surfactants, brake fluids, hydraulic and metal working fluids.

Chemical Mixing	Miscellaneous organic chemicals (e.g. mixing and blending of organic chemical raw materials with other substances)
Energy Systems & Pipeline/Environmental Operations	Site Utilities – e.g. steam, plant air/nitrogen, etc. Operations include water treatment plant, waste water flume/sump system, and ethylene oxide distribution.
Remediation Operations	Soil and groundwater corrective action
Infrastructure Operations	Maintenance Operations and Bulk Shipping/Receiving of raw materials and products

Emissions Summary

There are no changes in permitted emissions 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 over 100 tons per year of VOCs, over 100 tons per year of NO_x, over 100 tons per year of CO and over 25 tons per year of aggregate HAPs. Therefore, Union Carbide Corporation, South Charleston Facility, 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:	45CSR13 45CSR30 45CSR34	Preconstruction permits for minor sources. Operating permit requirement. Emission Standards for Hazardous Air Pollutants for Source Categories Pursuant to 40 CFR, Part 63.
	40CFR63, Subpart GGGGG	National Emission Standards for Hazardous Air Pollutants: Site Remediation

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>
R13-2840C	06-11-2019	
R13-2840D	09-10-2019	

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

Minor Modification MM04 makes the following changes regarding R13-2840C:

Air emissions from the Chlorobenzene Area are below stationary source thresholds, making the current treatment operation [soil vapor extraction (SVE)] unnecessary and costly.

Permit R13-2840B was changed to allow the SVE system to vent to the air/atmosphere instead of to the current control device(s): a regenerative thermal oxidizer (RTO; Eq. ID. A42INC) which treats pollutant vapors by burning them followed by a packed bed caustic scrubber (A24PBS).

The alternative operating scenario (to not use control equipment) did not result in an increase in the emissions of regulated air pollutants because the potential-to-emit (PTE) was originally significantly overestimated by using concentrations of contaminants in the soil and groundwater.

The new PTE is based on maximum concentrations of contaminants collected in the vapor phase during the SVE system's operation.

Changes to MM04 include:

- 1) An additional operating scenario with a new Emission Point ID (SVE2) has been added to Emission Unit ID CLBVE in the Emission Units Table. The emission point SVE2 has no controls and vents to atmosphere. Although the R13-2080C Permit shows only one emission point (SVE2) without an option for controls, Condition 10.1.2 (see below) requires controls when the total volatile organic hazardous air pollutant (VOHAP) concentration is above 10 parts per million by weight (ppmw). Because of this reason, the CLBVE operating scenario with emissions being controlled and venting through SVE1 was left in the Emission Units Table.
- 2) The requirement in Condition 11.1.1 to route the Chlorobenzene Area Vapor Extractive System (CLBVE) to the Thermal Oxidizer (A42INC) has been removed.
- 3) Condition 11.1.17 has been added to include the requirements of Condition 4.1.11 of R13-2840D which states that the concentration of volatile organic hazardous air pollutant (VOHAP) be less than 10 parts per million when vented through emission point SVE2.
- 4) Condition 10.1.2 has been revised to allow an alternative to using a control device for total volatile organic hazardous air pollutants (VOHAP) so long as the concentration is less than 10 parts per million by weight (ppmw).

Minor Modification MM05 makes the following changes regarding R13-2840D:

Union Carbide Corporation (UCC) received concurrence from the WV DAQ Enforcement Group that stack testing is no longer necessary for the vapor extraction system – chlorobenzene area (SVE1). This is due to multiple reasons: 1) Prior to the construction permit R13-2840 being issued, it was believed that this remediation system was exempt from the Site Remediation MACT, 40 C.F.R. 63, Subpart GGGGG. This Subpart was later determined to be applicable. Within the latest Title V renewal for the facility in 2018, the Site Remediation MACT requirements were included. This MACT proves to be the overarching regulation to establish work practices, monitoring, and testing (where required). Being subject to these requirements releases the burden of annual stack testing, by these alternate measures. 2) UCC showed that all 12 historical stack test results indicate compliance margins are well within the emissions limits established by the R13 permit. All of these tests indicate greater than 97% margin of compliance and greater than 99.9% control.

Secondly, UCC has recently received approval of permit R13-2840C, which allows the venting of the Chlorobenzene remediation system directly to the atmosphere, since it no longer qualified as a stationary source, but remains subject to the Site Remediation MACT.

Changes to MM05 include:

- 1) Removal of the testing requirements of SVE1 from Condition 11.2.1. This Condition has been changed to “Reserved.”
- 2) Removal of the recordkeeping requirements of the testing results of previous Condition 11.2.1 from Condition 11.3.4.3. This Condition has been changed to “Reserved”.

Additional changes to the Title V Permit are as follows:

- 1) The 45CSR 13 citation has been corrected from “45CSR§13-5.11” to “45CSR§13-5.10” in Conditions 4.3.1, 5.1.4, 6.1.3, and 11.1.8.
- 2) In Section 1.2, “R13-2840B” has been updated to “R13-2840D”.
- 3) “MM03” has been updated to “MM04 and MM05” in the Permit header.
- 4) The Table of Contents has been renumbered accordingly.
- 5) On June 11, 2013, R13-3025 was issued. Condition 4.2.1 required VOC testing within 180 days of the start up of the Vapor Extractive System. Condition 4.3.4.3 required a copy of the testing results from Condition 4.2.1. Before the R30-03900003-2018 renewal, the corresponding Title V requirement 11.3.6.3 incorrectly referenced 11.2.4, which were Method 22 visible emission observations requirements from Condition 4.2.2 of the R13-3025 Permit. After renewal, the R30-03900003-2018 Condition 11.3.6.3 incorrectly referenced Condition 11.2.1, which is a VOC test required by R13-2840. As the R13-3025 VOC test has been performed, and not included in the Title V Permit, Condition 11.3.6.3 has been changed to “Reserved”.

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:

Mike Egnor
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304
Phone: 304/926-0499 ext. 1208 • Fax: 304/926-0478
michael.egnor@wv.gov

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)

N/A