

# 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: **March 19, 2018 (MM01) and June 13, 2018 (MM02)**  
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: *MM01 and MM02* Revised: *October 22, 2018*

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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.

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### 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.

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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<sub>x</sub>, 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
State Only:	45CSR27	To Prevent and Control the Emissions of Toxic Air Pollutants

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> )
CO-R27-97-17-A(94-21)	04-25-1997	
R13-3308A	05-17-2018	

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

Minor Modification MM01 makes the following changes regarding CO-R27-97-17-A(94-21):

Previous Condition 8.2.7 required the Permittee to calculate benzene and formaldehyde emissions and submit a certification to the WVDAQ stating whether Regulation 27 BAT requirements were met. The facility already calculates these emissions through the Annual Emissions Inventory. This Condition has been changed to allow the Permittee to submit the certification through the Annual Emissions Inventory, and if necessary, notify the WVDAQ if the Regulation 27 threshold amounts for TAPs were not met.

Minor Modification MM02 makes the following changes regarding R13-3308A:

On May 17, 2018, Union Carbide Corporation (UCC) was issued Permit Number R13-3308A to add an alternative operating scenario to the permit that allows for use of a granular activated carbon (GAC) bed to control the process vapor stream during upset conditions for safety purposes. Specifically, if there is an upset condition in the process vapor stream that results in a benzene concentration greater than 25% of the LEL, the water treatment system will shut down and the inlet isolation valve for the catalytic oxidizer will close, thus isolating the catalytic oxidizer from the upstream process vapor stream. The remaining process vapor stream will then be sent to the GAC bed instead of the catalytic oxidizer for equivalent control (95%).

R13-3308A was modified to include this scenario and will use the procedures under 40 CFR 63, Subpart GGGGG as the requirements for the GAC (non-regenerative carbon adsorption systems) and includes a design evaluation, organic concentration monitoring, and work practice standards.

- 1) The Granular Activated Carbon (GAC) process was added to the Section 1.1 Emission Units Table and to the Table of Contents.
- 2) The Active Permits in Section 1.2 has been updated.
- 3) Condition 6.1.1.c has been revised to add the GAC bed treatment system to the Groundwater Containment System. 40CFR63 Subpart GGGGG requires that the GAC be designed to operate with no detectable organic emissions using procedures in 40 C.F.R. §63.694(k) and monitoring as specified in 40 C.F.R. §63.7928(b)(1). Condition 6.1.1.j has been revised to include monitoring of organic compounds in the exhaust vent stream of the GAC.
- 4) Condition 6.1.2 has been revised to add the GAC bed treatment system to the Groundwater Containment System. Condition 6.1.2(i)(v) has been added to require the Permittee to replace the carbon in the GAC control device when the monitoring device indicates breakthrough has occurred. Condition 6.1.2(j) has been revised to include the time to replace the carbon in the GAC as part of the 240 hours per year.

- 5) Condition 6.2.8 has been added to require an initial inspection of the MIGCS. After the initial inspection, the Permittee shall monitor once per year the closed-vent connections and components. If defects are detected, the Permittee shall repair the defect within a timely manner and maintain records of inspections and repairs.
- 6) Condition 6.2.9 has been added to require the Permittee to monitor the concentration of organic compounds in the exhaust vent system.
- 7) Condition 6.2.10 has been added to require the Permittee to demonstrate continuous compliance with the spent carbon replacement and disposal work practice standards for nonregenerable carbon adsorption systems. This includes monitoring the concentration level of the organic compounds in the exhaust vent, following the disposal requirements for spent carbon, and keeping records to document compliance with the work practice standards.
- 8) Condition 6.3.3 has been added to require the Permittee to conduct a design evaluation which addresses the vent steam composition, concentrations, flow rates, relative humidity, and temperature, as well as the operation of the control device.
- 9) Condition 6.4.3 has been revised to include recordkeeping requirements for performance evaluations under Condition 6.3.3.
- 10) Condition 6.4.4 has been revised to include GAC under the semiannual recordkeeping requirements.
- 11) Condition 10.1.24 has been added to require the Permittee to meet each emission limitation, work practice standard, and operation and maintenance requirement of 40CFR63, Subpart GGGGG that applies upon initial startup.
- 12) Condition 10.5.10 has been added to require the Permittee to meet the notification requirements of 40 C.F.R. §63.7950 and in 40 C.F.R. part 63, subpart A.

### **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 57<sup>th</sup> 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)**

In response to comments received by Jay Fedczak, Sr. EH& S Environmental Specialist from Dow received on September 4, 2018, the following changes have been made:

The citation in Condition 8.2.7 has been revised to cite Conditions I.1 and I.4 instead of I.5. The citation for Condition 8.2.8 already existed in the Permit without a Condition reference. This has been corrected in the Permit. Condition 10.1.24 has been revised to cite the “affected source” instead of the “Permittee”.