

# Fact Sheet



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

This Fact Sheet serves to address the changes specific to this Significant Modification, and shall be considered a supplement to the original Fact Sheet corresponding with the issuance of the initial Title V operating permit issued on December 28, 2006.

Permit Number: R30-03900003-2006(SM02)  
Application Received: 10/08/2008  
Plant Identification Number: 039-00003  
Permittee: Union Carbide Corporation  
Facility Name: South Charleston Facility  
Mailing Address: PO Box 8361  
South Charleston, WV 25303

*Permit Action Number: SM02 Revised: June 16, 2009*

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Physical Location: South Charleston, Kanawha County, West Virginia  
UTM Coordinates: 439.67 km Easting • 4,246.72 km Northing • Zone 17  
Directions: I-64 West and take the Montrose Exit. Come down the road towards the river and proceed straight through the traffic light across MacCorkle Avenue directly into the South Charleston Plant.

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### **Description of Modification**

Union Carbide Corporation (UCC), a Subsidiary of the Dow Chemical Company, South Charleston Facility has demonstrated compliance with 40 C.F.R. 63, Subpart FFFF (MON) via submitting an October 6, 2008 notification of compliance (NOC) status report. The proposed significant modification incorporates these new applicable requirements as well as a means of demonstrating continuous compliance. The Federal maximum achievable control technology (MACT) standard affects the following process units within the plant: Triton Surfactants, Gum Base (previously known as Polyvinyl Acetate), and Chemical Mixing. The specific sections that were modified to include MON requirements include, section 5.0 - Triton Surfactants, section 10.0 - Gum Base Unit, and section 12.0 for the Chemical Mixing Unit.

In addition, modifications to this permit involve the removal of two production units, which ceased operation within the UCC South Charleston facility. The Alkylalkanol Amines (AAA) Plant (Regulation 13 Permit # R13-1470B) ceased operation on March 27, 2008, and has been demolished. The Vinyl Methyl Ether (VME) Plant ceased operation on February 4, 2009 and is currently being decommissioned. It was noted that the VME plant predated WV's minor source NSR program so there were no related Regulation 13 permit(s). As a result of these shutdowns the conditions of sections 6.0 and 11.0 were removed from the proposed modification. Additionally, slight changes were made to section 8.0 and 9.0 to remove all references to these individual production plants. Likewise, Title V Attachment C was also modified to remove all VOC emission limits associated with the VME and AAA plants. UCC submitted a shutdown notification letter dated April 1, 2009 to the WV DAQ. DAQ responded with an April 7, 2009 letter, which acknowledged the related R13-1470B minor source NSR permit as inactive. The Title V permit issuance was slightly delayed as a result of waiting for the VME shutdown procedures to be finalized.

### **Emissions Summary**

There was no emission increases associated with the changes encompassed by this modification. All emission abatement equipment necessary to comply with the control requirements of Subpart FFFF were already utilized by the company prior to MON compliance.

### **Title V Program Applicability Basis**

Due to this facility's 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 SO<sub>2</sub>, over 10 tons per year of a single HAP, and over 25 tons per year of aggregate HAPs, the permittee 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 facility modifications have been found to be subject to the following rules and regulations:

Federal and State:

45CSR30	Operating permit requirement.
45CSR34	Incorporation of MACT pursuant to 40CFR63
40 C.F.R. Part 63	Subpart FFFF- National Emission Standard for Misc. Organic Chemical Production and Processes (MON)

Each State and Federally-enforceable condition of the draft Title V Operating Permit references the specific relevant requirements of 45CSR30 or the applicable requirement upon which it is based. Any condition of the draft Title V permit that is enforceable by the State but is not Federally-enforceable is identified in the draft 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, 45CSR15, 45CSR34 and 45CSR30.

**Active Permits/Consent Orders**

There were no permit or consent order changes incorporated by this modification. The permits as listed in the initial Title V are as follows:

<b>Permit or Consent Order Number</b>	<b>Date of Issuance</b>	<b>Permit Description, Determinations or Amendments That Affect the Permit (if any)</b>
R13-2033B	04-08-2003	Steam Generating Boiler No. 26 (353 MM Btu/hr NG Fired )
R13-2141C	04-19-2004	Steam Generating Boiler No. 27 (353 MM Btu/hr NG Fired ) This boiler also burns process waste gas from Bayer’s PO Carbon Regenerations in addition to a number of UCC gas vents
R13-2414A	04-03-2003	4 Auxiliary Air Compressors for backup plant air supply
R13-1517B	06-30-2006	TRITON Surfactants Unit, Process Area No. 1000. Superseded Reg. 21 and 27 consent order limitations applicable to this process area
R13-2568	04-19-2004	Coal Fired Boiler. Boiler No. 25 (323 MM Btu/hr)
CO-R27-97-17-A(94-21)	04-25-1997	Toxic Air Pollutant Consent Agreement to operate using “BAT” control techniques for Ethylene Oxide and Propylene Oxide. Formaldehyde, Benzene, and Ethylene Dichloride are limited to below applicability thresholds.
CO-R21-98-22	06-18-1998	Original Consent Order Agreement was signed by UCC on June 6, 1998 with established “RACM” control requirements for existing sources > 6 lb/hr VOC and establishes the need to conduct RACT analysis for future sources meeting these requirements. This Consent Order was amended by UCC letter dated October 10, 2006 from J. L. Blatt, UCC Responsible Care Leader to John A Benedict, Director of WVDAQ, to reflex process changes since 1998.
CO-R1-C-2005-15	03-30-2005	Non-EGU 2008 Ozone Season allowances for Boilers 25, 26, and 27
CO-R40-C-2006-29	10-3-2006	Non-EGU Ozone Season allowances for Boilers 25, 26, and 27 – CAIR 2009-2014.

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 B" which may be downloaded from DAQ's website.

**Determinations**

UCC’s facility was found to have the following equipment subject to MACT subpart FFFF.

<b>Affected Source ID</b>	<b>Source Description</b>	<b>Emission Point ID</b>	<b>Group Status 1 or 2</b>	<b>Control Device</b>
<b>Chemical Mixing Plant</b>				
9000	Tank 9000 located at NCDT	9000E	Group 2 Storage Tank	NA
L050TT	In Unit Tank Truck Rack	TT050L	Group 2 Transfer Rack	NA
L050RC	In Unit Rail Car Rack	RC050L	Group 2 Transfer Rack	NA
Mix-1	Tank/Lines to Sewer	NA	Group 2 Process Wastewater	NA

Mix-2	Pots/Lines to Sewer	NA	Group 2 Process Wastewater	NA
Mix -3	Misc. Lines to Sewer	NA	Group 2 Process Wastewater	NA
<b>Gum Base Plant (aka. PVA)</b>				
T-3014	Tank 3014	3014 or E25 or E27 or E533	Group 2 Storage Tank	NA
T-3080	Tank 3080	3080 or E25 or E27	Group 1 Surge Control Vessel	process vent header to B25 or B27
T-9011	Tank 9011 at NCDT	9011	Group 1 Storage Vessel	Internal Floating Roof
C-501	Vessel C501	E25 or E27	Group 1 Continuous Process Vent	process vent header to B25 or B27
C-650R	Vessel 650R	E25 or E27	Group 1 Continuous Process Vent	process vent header to B25 or B27
Y-520	Vessel Y520	E25 or E27	Group 1 Continuous Process Vent	process vent header to B25 or B27
Y-525	Vessel Y-525	E25 or E27	Group 1 Continuous Process Vent	process vent header to B25 or B27
L-221	Tank Truck Loading Rack	E25 or E27	Group 2 Transfer Rack	NA
<b>Triton Specialty Surfactants Unit</b>				
GR-7M Decant	Wastewater stream TR-020 (8621WW)	NA	Group 1 Wastewater	Off-site disposal
8101	Surfactant Recovery Column	E-1081-2	Group 2 continuous process vent	NA
8310	Tank 8310	E-1081-3	Group 2 Storage Tank	C8110 (not required by MON)
8320	Tank 8320	T8320	Group 2 Storage Tank	NA
8321	Tank 8321	T8321	Group 2 Storage Tank	NA
8322	Tank 8322	T-8722	Group 2 Storage Tank	NA
8323	Tank 8323	T-8723	Group 2 Storage Tank	NA
8324	Tank 8324	T-8724	Group 2 Storage Tank	NA
8331	Tank 8331	T8331	Group 2 Storage Tank	NA
8334	Tank 8334	T8334	Group 2 Storage Tank	NA
8343	Tank 8343	T8343	Group 2 Storage Tank	NA
8344	Tank 8344	T8344	Group 2 Storage Tank	NA
8345	Tank 8345	T8345	Group 2 Storage Tank	NA

8346	Tank 8346	T8346	Group 2 Storage Tank	NA
8351	Tank 8351	T8351	Group 2 Storage Tank	NA
8353	Tank 8353	E-1081-3	Group 2 Storage Tank	C8130 (not required by MON)
8355	Tank 8355	T8355	Group 2 Storage Tank	NA
8356	Tank 8356	T8356	Group 2 Storage Tank	NA
8360	Tank 8360	T8360	Group 2 Storage Tank	NA
8361	Tank 8361	T8361	Group 2 Storage Tank	NA
8362	Tank 8362	T8362	Group 2 Storage Tank	NA
8363	Tank 8363	E-1081-3	Group 2 Storage Tank	C8130 (not required by MON)
8364	Tank 8364	T8364	Group 2 Storage Tank	NA
8365	Tank 8365	T8365	Group 2 Storage Tank	NA
8366	Tank 8366	T8366	Group 2 Storage Tank	NA
8373	Tank 8373	T8373	Group 2 Storage Tank	NA
8375	Tank 8375	T8375	Group 2 Storage Tank	NA
8376	Tank 8376	T8376	Group 2 Storage Tank	NA
8380	Tank 8380	T8380	Group 2 Storage Tank	NA
8381	Tank 8381	T8381	Group 2 Storage Tank	NA
8382	Tank 8382	T8382	Group 2 Storage Tank	NA
8383	Tank 8383	T8383	Group 2 Storage Tank	NA
8390	Tank 8390	T8390	Group 2 Storage Tank	NA
8391	Tank 8391	T8391	Group 2 Storage Tank	NA
8392	Tank 8392	T8392	Group 2 Storage Tank	NA
8393	Tank 8393	T8393	Group 2 Storage Tank	NA
8420	Tank 8420	T8420	Group 2 Storage Tank	NA
8517	Tank 8517	T-8517	Group 2 Storage Tank	NA
8817	Tank 8817	T-8817	Group 2 Storage Tank	NA
L-1001	Distribution Tank Truck Loading Rack	L-1001	Group 2 Transfer Rack	NA

L-1003	River (North) Tank Truck Loading Rack	L-1003	Group 2 Transfer Rack	NA
L-1004	Spot 17 Tank Truck Loading Rack	L-1004	Group 2 Transfer Rack	NA
L-1005	Transload Spot Rail Car Loading Rack	L-1005	Group 2 Transfer Rack	NA
TR-001	Waste Water Stream 8101WW		Group 2 Waste Water	
TR-002	Waste Water Stream 8130WW		Group 2 Waste Water	
TR-003	Waste Water Stream 8110WW		Group 2 Waste Water	
TR-004.2	Waste Water Stream 8415WW		Group 2 Waste Water	
TR-004.3	Waste Water Stream 8515WW		Group 2 Waste Water	

The table above summarizes all “Group 1” and “Group 2” sources as defined by the MON. The Title V permit incorporates all emission reduction requirements for each affected “Group 1” source. The “Group 2” sources do not have control or reduction requirements, but do have general recordkeeping and reporting associated with their operation.

UCC identified within their NOC report a series of overlapping MACT and RCRA standards. As a result the company has elected to comply with each standard individually instead of trying to streamline the requirements with the most stringent conditions of each Regulation. The following is a summary of UCC’s compliance plan pertaining to overlapping standards:

The permittee shall comply with the applicable requirement sections of §63.2535 for compliance when portions of the plant are subject to multiple subparts. In order to clarify compliance with overlapping provision the permittee has elected within the facility’s NOC report to comply with both MON, 40 C.F.R. 63, Subpart FFFF and continue to comply with the recordkeeping and reporting requirements of 40 C.F.R. 264 and 265.

**[45CSR34, 40 C.F.R. §63.2535(b)(2); 40 C.F.R. 264 & 265]**

The permittee shall comply with the applicable sections of the requirements for compliance when portions of the plant are subject to multiple subparts, as specified in §63.2535. The permittee has elected within their NOC report to not determine the more stringent requirements and will comply with both the provisions of 40 C.F.R. 260 through 272 and the MON.

**[45CSR34, 40 C.F.R. §63.2535(g)]**

Since these conditions involved more than just Clean Air Act Requirements they were removed from the original predraft permit and included within the factsheet for clarification purposes at the Company’s request.

**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: April 28, 2009

Ending Date: May 28, 2009

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

Jesse Hanshaw, P.E.  
Title V Permit Writer  
West Virginia Department of Environmental Protection  
Division of Air Quality  
601 57<sup>th</sup> Street S.E.  
Charleston, WV 25304

### **Response to Comments**

Union Carbide Corp. (UCC) a subsidiary of the Dow Chemical Company submitted comment on May 18, 2009. The comments were determined to represent minor changes within the draft permit and were incorporated as requested. As a result, the following changes were incorporated by the final permit:

- Under 5.1.13, two Group II Storage Vessels were added, T8322 and T8392, to the list of affected sources
- Under 8.2.8, in order to streamline compliance with 45CSR27 for process wastewater, 40 C.F.R. 63, Subpart FFFF wastewater provisions were added as a compliance option in accordance with 63.2485.
- A number of minor changes / typographical errors, six in all, were also listed by UCC. These minor changes can be found in 5.4.9, 5.1.12, 5.4.10, 9.1.2, Attachment D and 10.1.11. of the final permit permit.

Additionally, UCC also corrected an error that was noticed within the Factsheet. The listing of 5 Group II wastewater streams located within the Triton Surfactants Unit were not originally included within the summary table located within the determinations section above. The table was updated accordingly and the source of the error identified. It seems that these sources were not listed within the affected equipment summary of the NOC report, but were included within the wastewater section of the NOC.

### **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.

### **Point of Contact**

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