

Fact Sheet



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

Permit Number: **R30-03900005-2023 (2 of 2)**

Application Received: **November 30, 2021**

Plant Identification Number: **039-00005**

Permittee: **Union Carbide Corporation**

Facility Name: **Institute Facility**

Business Unit: **Logistics (Group 2 of 2)**

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

Physical Location:	Institute, Kanawha County, West Virginia
UTM Coordinates:	432.189 km Easting • 4,248.754 km Northing • Zone 17
Directions:	From I-64, take the Institute exit, turn right onto State Route 25. Plant entrance is located about 1/4 mile west on Route 25.

Facility Description

Logistics (Group 2 of 2) is Union Carbide Corporation's (UCC) distribution system for ethylene oxide (EtO). At the ethylene oxide distribution operation, rail cars of ethylene oxide are unloaded into storage tanks. The storage tanks are two double-walled earthen covered pressurized tanks. From the tanks, ethylene oxide is distributed to consumers at Institute facilities and at South Charleston facilities by distribution systems. The ethylene oxide distribution facility uses a flare to control ethylene oxide emissions.

Emissions Summary

UCC Institute Facility's Emissions Summary ¹ [Tons per Year]		
Regulated Pollutants	Facility-Wide Potential Emissions	2022 Facility-Wide Actual Emissions
Carbon Monoxide (CO)	10.66	5.79
Nitrogen Oxides (NO _x)	40.10	5.37
Particulate Matter (PM _{2.5})	6.27	0.64
Particulate Matter (PM ₁₀)	6.27	0.64
Total Particulate Matter (TSP)	6.27	0.64
Sulfur Dioxide (SO ₂)	1.21	<0.01
Volatile Organic Compounds (VOC)	22.33	7.01

PM₁₀ is a component of TSP.

Hazardous Air Pollutants	Facility-Wide Potential Emissions	2022 Facility-Wide Actual Emissions
Ethylene Oxide	0.95	0.35
Ethylene Glycol	<1	0.12
Total HAPs	2.95	0.47

Some of the above HAPs may be counted as PM or VOCs.

¹Includes emissions from the Catalyst Plant (Group 1 of 2) and Logistics (Group 2 of 2)

Title V Program Applicability Basis

UCC is subject to the requirements of 40 C.F.R. 63, Subpart PPP (Polyether Polyols MACT) and 40 C.F.R. 63, Subpart DDDDD (Boiler MACT), therefore, UCC is required to have a Title V permit for their Institute Facility.

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.

This facility has been found to be subject to the following applicable rules:

Federal and State:	45CSR6	Open burning prohibited.
	45CSR11	Standby plans for emergency episodes.
	WV Code § 22-5-4 (a) (14)	The Secretary can request any pertinent information such as annual emission inventory reporting.
	45CSR30	Operating permit requirement.
	45CSR34	Emission Standards for Hazardous Air Pollutants.

	40 C.F.R. Part 61	Asbestos inspection and removal
	40 C.F.R. Part 63 Subpart PPP	Polyether Polyols MACT
	40 C.F.R. Part 82, Subpart F	Ozone depleting substances
	40 C.F.R. Part 63, Subpart H	HON Equipment Leaks
State Only:	45CSR4	No objectionable odors.
	45CSR§21-37 and 40	Control of VOC Emissions
	45CSR27	Best Available Technology (BAT) for HAPs

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

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit (<i>if any</i>)
CO-R21-97-41	October 20, 1997	Note: as amended by June 14, 2006 letter from J.L. Blatt
CO-R27-2023-06	May 25, 2023	

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

Changes Included in the Draft Permit

Union Carbide Corporation has transferred ownership and control of several facilities. Previously, the Logistics Business Unit was named Group (3 of 8) and contained EO distribution and barge operations. The barge operations processes were removed from the Group (3 of 8) permit and moved to a new permit named Group (3A of 8) and ownership was transferred to Altivia Services, LLC. The permit number for EO distribution was changed from Group (3 of 8) to Group (2 of 2) in this Title V renewal since Union Carbide Corporation now only has two business units at its Institute Facility.

Requirements of 40 C.F.R. §63.11(b) have been listed in Section 4.1.1.1.a. of the permit. These requirements were only included by reference in the previous permit.

Changes Included in the Proposed Permit

- The permit number was changed from R30-03900005-2022 (Group 2 of 2) to R30-03900005-2023 (Group 2 of 2) since the permit was not issued in 2022.
- 45CSR30 was revised, effective March 31, 2023. As a result, the following changes were made to the Title V permit boilerplate in Sections 2.0 and 3.0.
 - In Section 2.1.3 the word “such” was deleted and reference to 45CSR§30-2.12 was revised to 45CSR§30-2.39.
 - Section 2.17 was changed to Reserved. This is in accordance with the 45CSR30 rule revisions in which 45CSR§30-5.7 was changed to Reserved.
 - Section 3.5.4 was revised to ‘**Fees**. The permittee shall pay fees on an annual basis in accordance with 45CSR§30-8.’
 - Section 3.5.7 was changed to Reserved in accordance with revised Section 2.17 and the revised 45CSR§30-5.7.
 - Section 3.5.8.a.1 was changed to Reserved in accordance with the revised 45CSR§30-5.7.
 - In Section 3.5.8.a.2, the word telefax was changed to email.
- Revisions based on the revised Rule 27 Consent Order CO-R27-2023-06

On January 18, 2023, WVDAQ and Union Carbide Corporation entered into a collaborative agreement to incorporate additional and more stringent ethylene oxide emission limitations and monitoring requirements. The terms and conditions of the collaborative agreement represent unique site-specific state-only enforceable commitments, not otherwise addressed by current law or regulation, designed by the parties to specifically respond to local community comments about this Facility.

The collaborative agreement included a requirement that consent order CO-R27-99-14-A(92) be updated. The result of this update is consent order CO-R27-2023-06 signed May 25, 2023, which resulted in decreases to the facility’s potential ethylene oxide emissions and the following changes to the Title V permit.

- Reference to CO-R27-99-14-A(92) was replaced with CO-R27-2023-06 in section 4.1.3
- The emission limits table and references in Section 4.1.6 were updated to reflect the changes approved under CO-R27-2023-06.
- Section 4.1.10 was inserted as part of CO-R27-2023-06.
- Section 4.4.6. was inserted as part of CO-R27-2023-06.
- Footnote number 2 was added to Attachment A to streamline the less stringent annual ethylene oxide emission limit from CO-R21-97-41 with the more stringent annual ethylene oxide emission limit from CO-R27-2023-06.

Non-Applicability Determinations

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

40 C.F.R. 64 - Compliance Assurance Monitoring (CAM)

There has not been the addition of any pollutant-specific emission units that have potential pre-control device emissions of a regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source.

Request for Variances or Alternatives

None.

Insignificant Activities

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

Draft Comment Period (Public)

Beginning Date: October 15, 2022

Ending Date: January 20, 2023

Proposed Comment Period (EPA)

Beginning Date: July 14, 2023

Ending Date: August 28, 2023

Point of Contact

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

Jonathan Carney
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304
304/926-0499 ext. 41247
Jonathan.W.Carney@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.

A public hearing was held on January 10, 2023. The public comment period ended on January 20, 2023. Additional requests for a public hearing will not be granted during the proposed comment period.

Response to Comments (Statement of Basis)

Public notice for the Draft Title V Permit was published in *The Charleston Gazette-Mail* on Saturday, October 15, 2022. During the public comment period, several requests for a public hearing were received and the Director agreed to hold a public hearing. Notice of the in-person public meeting and virtual public hearing was published in *The Charleston Gazette-Mail* on December 9, 2022. The in-person public meeting was held on January 9, 2023. The virtual public hearing was held on January 10, 2023.

The West Virginia Division of Air Quality received written comments during the public comment period (October 15, 2022 to January 20, 2023) and oral comments during the January 10, 2023 public hearing. Pursuant to §45-30-6.8.e, all comments received during the public comment period and during the public hearing have been reviewed and are addressed in the Response to Public Comments for R30-03900005-2023 (Group 2 of 2) dated July 14, 2023.

Changes incorporated into the Proposed Title V permit are specified in the Determinations and Justifications Section of this Title V Fact Sheet.