

*West Virginia Department of Environmental Protection
Division of Air Quality*

Fact Sheet



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

(Group 8/8)

(Phosgene, MIC, Sevin)

Permit Number: **R30-03900007-2005**

Plant Identification Number: **03900007**

Permittee: **Bayer CropScience, LP**

Facility Name: **Institute Site**

Mailing Address: **P.O. Box 1005**

Institute, WV 25112

Permit Action Number: *MM01* Revised: *Draft*

Physical Location:	Institute, Kanawha County, West Virginia
UTM Coordinates:	432.0 km Easting • 4,248.3 km Northing • Zone 17
Directions:	The facility is located west of Institute, WV, adjacent to State Route 25 and West Virginia State University.

Facility Description

Bayer CropScience, an agricultural chemical based company, operates a multi-product, multi-process chemical plant. The Plant has five basic manufacturing units along with several other production facilities primarily responsible for producing raw materials used in the manufacture of agricultural chemicals. The principal products produced at the Institute site are SEVIN brand carbaryl, TEMIK brand aldicarb, LARVIN brand thiodicarb, methomyl, RHODIMET AT-88, oxamyl, BPMC, Carbofuran, and Carbosulfan. SIC Codes: 2879; 2869

Emissions Summary

There will be a 0.295 lbs/hr and 268 lbs/year reduction in MIC emissions as a result of the proposed Minor Modification.

Title V Program Applicability Basis

This facility will still maintain the potential to emit over 10 tons per year of a single HAP, and over 25 tons per year of aggregate HAPs. Due to this facility's potential to emit over 10 tons per year of a single HAP and over 25 tons per year of aggregate HAPs, Bayer CropScience 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.

This modification has changes that are affected by the following applicable rules:

Federal and State:	45CSR13	New Source Review
	45CSR30	Requirements for Operating Permits
State Only:	None	

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, 45CSR34 and 45CSR30.

Active Permits/Consent Orders

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit (if any)
R13-223	5/28/1976	
R13-226	5/21/1976	
R13-1300A	8/11/2010	
R13-1590	5/14/1993	
CO-11-88-10*	12/16/1988	
CO-27-92-12	4/30/1992	
CO-21-97-4	2/19/1997	

* - This Consent Order does not have a formal Consent Order Number. It is a Rule 11 Consent Order, signed in 1988, and found on page 10 of the Consent Order list.

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 and Justifications

The following changes have been made as a result of this modification.

MIC

1. 45CSR13 *Permits For Construction, Modification, Relocation and Operation of Stationary Sources*

Storage of Methyl Isocyanate (MIC) at the Bayer CropScience Institute Facility currently consists of three 15,000 above ground storage tanks (T-4871, T-4872, and T-4873), one 30,000 above ground emergency dump tank (T-4874), and one 30,000 gallon below ground tank (T-4853).

This modification covers the construction and operation of two new MIC storage tanks. The new MIC Storage Tanks C-800 and C-810 are composed of an outer carbon steel jacket of 3/8" thickness and an inner composition of 1-1/8" carbon steel with Internal Hastelloy C Cladding. The tanks will be enclosed in an approximately 30 by 40 foot concrete blast resistant vault. MIC analyzers will be continuously used inside the vault above ground. If above ground MIC emissions greater than 10 parts per million are detected inside the vault, alarms will be set off for corrective action. If emissions greater than 30 parts per million are detected inside the vault, the vault will seal automatically, and if warranted, water sprays will cool and absorb the MIC, and vapors will be routed to an emergency carbon bed system.

As a result of this minor modification, the four above ground tanks will no longer be used to store MIC. Instead, an 8,500 gallon Product Storage Tank (C-800) and an 8,500 gallon Off Spec Storage Tank (C-810) will be used to store MIC. Tank T-4853 will be converted into an emergency dump tank for the new tanks. The MIC vapor generated will still go to the Flare (242A), which destroys 99.6% of MIC. The facility has voluntarily accepted a maximum storage capacity of 50,000 lbs of MIC. Because of the smaller volume and number of MIC storage tanks, and because of the smaller total storage of MIC onsite, there will be an overall reduction of 0.295 lbs/hr and 268 lbs/year of MIC emissions from the Flare (242A).

Condition 5.1.19 reduces the permitted MIC emissions from the MIC Area to 0.12 lbs/hr and 293 pounds per year from 0.41 lbs/hr and 561 lbs/yr. Condition 5.1.20 specifically prohibits the Permittee from using Tanks T-4871, T-4872, T-4873, T-4874, T-4851, and T-4852 to store MIC. Condition 5.1.21 gives specific MIC emission limitations for the C-800 MIC Product Tank, the C-810 Off-Spec Tank, and the Emergency Dump Tank T-4853. Condition 5.1.22 requires the vault storage building be closed to atmosphere if the concentration of MIC in the building is above 30 parts per million. If a significant concentration of MIC builds up inside the building, a deluge system of water sprays and blowers to Carbon Beds (242H and 242I) shall be employed. Condition 5.1.23 shows compliance with the reduced emission limitations of Condition 5.1.19 by limiting the amount of MIC stored in the MIC Area to no more than 50,000 lbs. Additionally, the liquid phase MIC is required to be stored at an average of less than 23 degrees F and no more than 32 degrees F. Also, no more than 1.5 standard cubic feet per minute of Nitrogen shall be used for emergency relief valve sweeps, and no more than 3.0 standard cubic feet per hour of Nitrogen shall be used for each of the capillaries for instrument blowback for the MIC storage tanks C-800 and C-810. By reducing the temperature of MIC, there will be less vapor going to the gas phase to the Flare 242A. By reducing the nitrogen sweeps, there will also be less vapor going to the gas phase to the Flare 242A. Condition 5.1.24 limits the size of the orifices going to the nitrogen sweeps, which will keep the nitrogen flow rate to those specified in Condition 5.1.23. Condition 5.2.7 requires continuous monitoring of the concentration of MIC in the vault storage area, sensitive to at least 10 parts per million of MIC. Condition 5.2.8 requires continuous monitoring of the liquid temperature and amount of MIC stored in the MIC storage tanks in the MIC Area. Condition 5.4.9 requires the Permittee to keep records of the times and duration that the emergency carbon bed system is utilized. Condition 5.4.10 requires the permittee to keep records of the monitoring parameters of Condition 5.2.8. Condition 5.4.11 requires the Permittee to keep records of the schematics of the orifices used to maintain the proper nitrogen flow. It also requires the Permittee to keep records of any replacements made to the orifices.

Condition 5.4.12 requires the Permittee to keep records any time that the emergency MIC dump tank T-4853 is used.

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

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

N/A

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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Response to Comments (Statement of Basis)

N/A