

West Virginia Department of Environmental Protection  
Division of Air Quality



# Title V Operating Permit Revision

Earl Ray Tomblin  
Governor

Randy C. Huffman  
Cabinet Secretary

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

**Permit Action Number:** MM02      **SIC:** 2869, 2843, 2899  
**Name of Permittee:** CYTEC Industries Inc.  
**Facility Name/Location:** Willow Island Plant  
**County:** Pleasants County  
**Facility Address:** #1 Heilman Avenue, Willow Island, WV 26134-9801

**Description of Permit Revision:** Modification for the addition of bulk bag unloading systems WH-4BB1 and WH-4BB2 and their integrated dust collection systems WH-4DC1 and WH-4DC2.

**Initial Title V Permit Information:**

**Permit Number:** R30-07300003-2012(Part 1 of 3)  
**Effective Date:** April 17, 2012  
**Expiration Date:** April 3, 2017

**Directions To Facility:** Facility is located on State Route 2, two miles south of Belmont, Pleasants County, WV.

---

THIS PERMIT REVISION IS ISSUED IN ACCORDANCE WITH THE WEST VIRGINIA AIR POLLUTION CONTROL ACT (W.VA. CODE §§ 22-5-1 ET SEQ.) AND 45CSR30 - "REQUIREMENTS FOR OPERATING PERMITS." THE PERMITTEE IDENTIFIED AT THE FACILITY ABOVE IS AUTHORIZED TO OPERATE THE STATIONARY SOURCES OF AIR POLLUTANTS IDENTIFIED HEREIN IN ACCORDANCE WITH ALL TERMS AND CONDITIONS OF THIS PERMIT.

A blue ink signature of William F. Durham, written over a horizontal line.

William F. Durham  
Director

July 6, 2015  
Date Issued

Emission Point ID	Control Device	Emission Unit ID	Emission Unit Description	Design Capacity	Year Installed
04DE	Seal Pot 3-4T2	2-3K2, 3-2CD2, 3-2CD3	Reactor and Condensers	8,100 gallons	1998
		2-2K2, 3-2CD2, 3-2CD3	Reactor and Condensers	8,100 gallons	1998
	Caustic Scrubber 3-4SC1	2-4T3	Drum Dryer/Feed Hold Tank	9,135 gallons	1998
		3-2VP1	Vacuum Pump System	5 mmHg	1998
	Water Scrubber 3-4SC2	1-2T4	Alcohol Receiver	3,918 gallons	1998
		2-4K1, 3-4CD1,	Prep Kettle and Condenser	16,460 gallons	1998
		3-4T1	Decanter	590 gallons	1998
		3-4VJ1, 3-4VJ2, 3- 4VJ3	Vacuum Jets	5 mmHg	2010
		3-2T1	Decanter	520 gallons	1976
		3-2VJ1, 3-2VJ2, 3-2VJ3, RF-2CD2, RF-2CD3, RF- 2CD4	Vacuum Jets and Condensers	5 mmHg	1976
		1-2T1	Alcohol Receiver	2,070 gallons	1976
		3-4T3	Scrubber Liquor Recirculation Tank	930 gallons	1998
	WH-4T1	Drumming Tank	13,515 gallons	1998	
	1-4T1	Alcohol Receiver	2,000 gallons	1998	
	1-2T2	Hot Well	178 gallons	1976	
	1-4T3	Hot Well	187 gallons	2010	
	2-2K1, 3-2CD1	Esterification Reactor and Condenser	12,000 gallons	1976	
2-3K1, 3-3CD1	Sulfonation Reactor and Condenser	12,000 gallons	1976		
08CE	None	1-2ST1	Hold Tank	1,145 gallons	1976
03BE	Dust Collector 3-3DC1	3-3BS1	MBS Silo	100,000 lbs	2004
04AE	Dust Collector 3-4DC1	3-4BS1	Sodium Sulfite Silo	100,000 lbs	2004
<a href="#">05BE</a>	<a href="#">Dust Collectors WH-4DC1 WH-4DC2</a>	<a href="#">WH-4BB1, WH- 4BB2</a>	<a href="#">Bulk Bag Unloaders</a>	<a href="#">30,000 lb/hr</a>	<a href="#">2015</a>
05AE	Dust Collector 3-4DC2	3-4BS2	MBS Silo	100,000 lbs	1998

Emission Point ID	Control Device	Emission Unit ID	Emission Unit Description	Design Capacity	Year Installed
010E-2	None	S-6T2 Compartment B	Armeen Storage Tank	13,200 gallons	1998
010E-3	None	S-6T2 Compartment C	Armeen Storage Tank	6,820 gallons	1998
008E	None	S-7T2	OT-75 Storage Tank	27,535 gallons	1998
026E	None	W-T5	Effluent Equalization Hold Tank	27,535 gallons	1998
A28E	None	N-1T1 Compartment A	DSS 70% in 23A Storage Tank	7,350 gallons	2007
B28E	None	N-1T1 Compartment B	DSS 70% in 23A Storage Tank	7,750 gallons	2007
C28E	None	N-1T1 Compartment C	DSS 70% in 23A Storage Tank	7,750 gallons	2007
D28E	None	N-1T1 Compartment D	DSS 70% in 23A Storage Tank	7,850 gallons	2007

## 1.2. Active R13, R14, and R19 Permits

The underlying authority for any conditions from R13, R14, and/or R19 permits contained in this operating permit is cited using the original permit number (e.g. R13-1234). The current applicable version of such permit(s) is listed below.

Permit Number	Date of Issuance
R13-2120HI	June 27, 2012-April 7, 2015

- 3.1.8. Risk Management Plan. Risk Management Plan. Should this stationary source, as defined in 40 C.F.R. § 68.3, become subject to Part 68, then the owner or operator shall submit a risk management plan (RMP) by the date specified in 40 C.F.R. § 68.10 and shall certify compliance with the requirements of Part 68 as part of the annual compliance certification as required by 40 C.F.R. Part 70 or 71. [40 C.F.R. 68]

~~Risk Management Plan. This stationary source, as defined in 40 C.F.R. § 68.3, is subject to Part 68. This stationary source shall submit a risk management plan (RMP) by the date specified in 40 C.F.R. Part 68.10. This stationary source shall certify compliance with the requirements of Part 68 as part of the annual compliance certification as required by 40 C.F.R. Part 70 or 71. [40 C.F.R. 68]~~

### 3.2. Monitoring Requirements

- 3.2.1. None.

### 3.3. Testing Requirements

- 3.3.1. **Stack testing.** As per provisions set forth in this permit or as otherwise required by the Secretary, in accordance with the West Virginia Code, underlying regulations, permits and orders, the permittee shall conduct test(s) to determine compliance with the emission limitations set forth in this permit and/or established or set forth in underlying documents. The Secretary, or his duly authorized representative, may at his option witness or conduct such test(s). Should the Secretary exercise his option to conduct such test(s), the operator shall provide all necessary sampling connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment and the required safety equipment, such as scaffolding, railings and ladders, to comply with generally accepted good safety practices. Such tests shall be conducted in accordance with the methods and procedures set forth in this permit or as otherwise approved or specified by the Secretary in accordance with the following:
- a. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with 40 C.F.R. Parts 60, 61, and 63, if applicable, in accordance with the Secretary's delegated authority and any established equivalency determination methods which are applicable.
  - b. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with applicable requirements which do not involve federal delegation. In specifying or approving such alternative testing to the test methods, the Secretary, to the extent possible, shall utilize the same equivalency criteria as would be used in approving such changes under Section 3.3.1.a. of this permit.
  - c. All periodic tests to determine mass emission limits from or air pollutant concentrations in discharge stacks and such other tests as specified in this permit shall be conducted in accordance with an approved test protocol. Unless previously approved, such protocols shall be submitted to the Secretary in writing at least thirty (30) days prior to any testing and shall contain the information set forth by the Secretary. In addition, the permittee shall notify the Secretary at least fifteen (15) days prior to any testing so the Secretary may have the opportunity to observe such tests. This notification shall include the actual date

- f. 40 C.F.R. 60, Subpart III – “Standards of Performance for Volatile Organic Compound (VOC) Emissions from the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes.” The Surfactants manufacturing unit does not produce any of the chemicals listed in 40 C.F.R. §60.617 as a product, co-product, by-product, or intermediate.
- g. 40 C.F.R. 60, Subpart NNN – “Standards of Performance for Volatile Organic Compound (VOC) Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations.” The Surfactants manufacturing unit does not produce any of the chemicals listed in 40 C.F.R. §60.667 as a product, co-product, by-product, or intermediate.
- h. 40 C.F.R. 60, Subpart RRR - “Standards of Performance for Volatile Organic Compound (VOC) Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes.” The Surfactants manufacturing unit does not produce any of the chemicals listed in 40 C.F.R. §60.707 as a product, co-product, by-product, or intermediate.
- i. 40 C.F.R. 61, Subpart V – “National Emission Standards for Equipment Leaks (Fugitive Emissions Sources).” Applies to sources in VHAP service as defined in 40 C.F.R. §61.241. VHAP service involves chemicals that are not used in a manner that qualifies them under the rule in the Surfactants manufacturing unit.
- j. 40 C.F.R. 63, Subparts F, ~~and G, and H~~ – “National Emission standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry (HON).” 40 C.F.R. 63, Subparts F, ~~and G, and H~~ do not apply to manufacturing process units that do not meet the criteria in 40 C.F.R. §§63.100(b)(1), (b)(2), and (b)(3).
- k. 40 C.F.R. 63, Subpart DD – “National Emission Standards for Hazardous Air Pollutants From Off-Site Waste and Recovery Operations.” The Surfactants manufacturing unit does not receive off-site materials as specified in paragraph 40 C.F.R. §63.680(b) and the operations are not one of the waste management operations or recovery operations as specified in 40 C.F.R. §§63.680(a)(2)(i) through (a)(2)(vi).
- l. 40 C.F.R. 63, Subpart JJJ – “National Emission Standards for Hazardous Air Pollutant Emissions: Group IV Polymers and Resins.” The Surfactants manufacturing unit does not produce the materials listed in 40 C.F.R. §63.1310.
- m. 40 C.F.R. 63, Subpart PPPP – “National Emission standards for Hazardous Air Pollutants: Surface Coating of Plastic Parts and Products.” The Surfactants manufacturing unit does not produce an intermediate or final product that meets the definition of “surface coated” plastic part.
- n. 40 C.F.R. 63, Subpart WWWW – “National Emission Standards for Hazardous Air Pollutants: Reinforced Plastic Composites Production.” The Surfactants manufacturing unit does not engage in reinforced plastics composites production as defined in 40 C.F.R. §63.5785 and does not manufacture composite material as defined in 40 C.F.R. §63.5935.
- o. 40 C.F.R. 63, Subpart DDDDD – “National Emissions Standards for Hazardous Air Pollutants: Industrial/Commercial/Institutional Boilers and Process Heaters.” The Surfactants manufacturing unit does not own or operate an industrial, commercial, or institutional boiler or process heater as defined in 40 C.F.R. §63.7575.

**4.0 Surfactants (Emission Points: 04BE, 04CE, 04DE, 08CE, 03BE, 04AE, 05BE, 05AE, 08BE, 07BE, TS-1E, TS-2E, TS-3E, TS-4E, TS-5E, RS-1E, RS-2E, RS-3E, 021E, 019E, 015E, 013E, 011E, 009E, 0A7E, 0B7E, 0C7E, 0D7E, 005E, 003E, 022E, 020E, 016E, 014E, 012E, 010E-1, 010E-2, 010E-3, 008E, 026E, A28E, B28E, C28E, and D28E)**

**4.1. Limitations and Standards**

4.1.1. Emissions generated from the Surfactants Manufacturing Unit<sup>1</sup> shall be limited as follows:

Pollutant	Hourly Emissions <sup>2</sup> (lb/hr)	Annual Emissions (TPY)
Particulate Matter	15.7	0.9
Sulfur Dioxide	0.7	0.24
Volatile Organic Compounds	92.09	26.9

<sup>1</sup> Emissions from the Surfactants Manufacturing Unit shall be limited to the equipment and associated emission points listed in Section I.1.

<sup>2</sup> Includes short duration peak emissions for “worst-case” batch activities and does not represent a continuous emission rate. Therefore, annual emissions are not based on the hourly rate taken 8,760 hours per year.

**[45CSR13, R13-2120, 4.1.1]**

4.1.2. No person shall cause, suffer, allow or permit emission of smoke and/or particulate matter into the open air from any process source operation which is greater than twenty (20) percent opacity, except for smoke and/or particulate matter emitted from any process source operation which is less than forty (40) percent opacity for any period or periods aggregating no more than five (5) minutes in any sixty (60) minute period. (04CE, 05BE and 07BE) [45CSR§§7-3.1 and 3.2; 45CSR13, R13-2120, 4.1.2]

4.1.3. No person shall cause, suffer, allow or permit particulate matter to be vented into the open air from any type source operation or duplicate source operation, or from all air pollution control equipment installed on any type source operation or duplicate source operation in excess of the quantity specified under the appropriate source operation type in Table 45-7A of 45CSR7.

Emission Point ID No.	45CSR7 Maximum Allowable Particulate Emission Limit lb/hr
04CE	5
05BE	22
07BE	0.90

**[45CSR§7-4.1; 45CSR13, R13-2120, 4.1.3]**

4.1.4. Emissions vented through Emission Point ID 04DE shall be routed to and controlled by devices 3-4T2, 3-4SC1, 3-4SC2 prior to emission to the atmosphere. [45CSR13, R13-2120, 4.1.4]

4.1.5. The Seal Pot, designated as Control Device 3-4T2, shall be designed and operated to achieve a minimum control efficiency of 50% for volatile organic compounds. [45CSR13, R13-2120, 4.1.5]

- 4.1.16. **Operation and Maintenance of Air Pollution Control Equipment.** The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary. [45CSR13, R13-2120, 4.1.16]
- 4.1.17. No person shall cause, suffer, allow or permit any manufacturing process or storage structure generating fugitive particulate matter to operate that is not equipped with a system, which may include, but not be limited to, process equipment design, control equipment design or operation and maintenance procedures, to minimize the emissions of fugitive particulate matter. To minimize means such system shall be installed, maintained and operated to ensure the lowest fugitive particulate matter emissions reasonably achievable. [45CSR§7-5.1]
- 4.1.18. The owner or operator of a plant shall maintain particulate matter control of the plant premises, and plant owned, leased or controlled access roads, by paving, application of asphalt, chemical dust suppressants or other suitable dust control measures. Good operating practices shall be implemented and when necessary particulate matter suppressants shall be applied in relation to stockpiling and general material handling to minimize particulate matter generation and atmospheric entrainment. [45CSR§7-5.2]
- 4.1.19. The Surfactants Manufacturing Unit has been determined to be subject to the following operating requirements of 40 C.F.R. 63, Subpart FFFF - "National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing" (MON MACT):
- 4.1.19.1. The permittee shall comply with each applicable requirement of 40 C.F.R. §63.2480 and Table 6 to 40 C.F.R. 63 Subpart FFFF, and either 40 C.F.R. 63 Subpart H, 40 C.F.R. 63 Subpart UU or 40 C.F.R.65 Subpart F for the applicable Surfactants equipment components that are in organic HAP service. [45CSR34, 40 C.F.R. §63.2480; Table 6 to 40 C.F.R. 63 Subpart FFFF]
- 4.1.19.2. The permittee shall comply with the applicable requirements of 40 C.F.R. §§63.104, 63.2490 and Table 10 to 40 C.F.R. 63 Subpart FFFF for the applicable Surfactants cooling/heat exchange systems. [45CSR34, 40 C.F.R. §63.2490; Table 10 to 40 C.F.R. 63 Subpart FFFF] [System IDs – 92-3-2CD1, 92-2-2K1, 92-2-4K1, and 92-3-4CD1]

## 4.2. Monitoring Requirements

- 4.2.1. For the purpose of determining compliance with the opacity limits in Condition 4.1.2 for emission points 04CE, 05BE and 07BE and Condition 4.1.13 for emission points 03BE, 04AE, and 05AE, the permittee shall conduct visible emission checks or opacity monitoring and recordkeeping for the emission point and equipment subject to any opacity limit. Monitoring shall be conducted initially at least once per month with a maximum of forty-five (45) days between consecutive readings. After three consecutive monthly readings in which no visible emissions are observed from any of the subject emission points, those emission points will be allowed to conduct visible emission checks or opacity monitoring once per calendar quarter. If visible emissions or opacity are observed during a quarterly monitoring from an emission point(s), then that emission point(s) with observed emissions or opacity shall be required to revert to monthly monitoring. Any emission point that has reverted to monthly monitoring shall be allowed to again