

**NORTH CAROLINA DIVISION OF  
AIR QUALITY**

**Air Permit Review**

**Permit Issue Date: PROPOSED**  
**CDS ID No. 3714700021**

**Region:** Washington Regional Office  
**County:** Pitt  
**NC Facility ID:** 7400021  
**Inspector's Name:** Arni Hopkins  
**Date of Last Inspection:** 05/24/2006  
**Compliance Code:** B/In Violation W/regard To Em & Compl

<p align="center"><b>Facility Data</b></p> <p><b>Applicant (Facility's Name):</b> DSM Pharmaceuticals, Inc.</p> <p><b>Facility Address:</b> DSM Pharmaceuticals, Inc. 5900 NW Greenville Boulevard Greenville, NC 27835</p> <p><b>SIC:</b> 2833 / Medicinals And Botanicals <b>NAICS:</b> 325412 / Pharmaceutical Preparation Manufacturing</p> <p><b>Facility Classification: Before:</b> Title V <b>After:</b> Title V <b>Fee Classification: Before:</b> Title V <b>After:</b> Title V</p>			<p align="center"><b>Permit Applicability (this application only)</b></p> <p><b>SIP:</b> <b>NSPS:</b> <b>NESHAP:</b> <b>PSD:</b> <b>PSD Avoidance:</b> <b>NC Toxics:</b> <b>112(r):</b> <b>Other:</b> Second part of a 501(c)(2) application and numerous changes to the equipment listings</p>			
<p align="center"><b>Contact Data</b></p> <table border="1"> <tr> <td> <p align="center"><b>Facility Contact</b></p> <p>Wayne Powell Environmental Manager (252) 707-2310 P O Box 1887 Greenville NC, 27835+1887</p> </td> <td> <p align="center"><b>Authorized Contact</b></p> <p>Dr. Hans Engels Chief Operating Officer (252) 707-7635 P.O. Box 1887 Greenville, NC 27835</p> </td> <td> <p align="center"><b>Technical Contact</b></p> <p>Wayne Powell Environmental Manager (252) 707-2310 P O Box 1887 Greenville NC, 27835+1887</p> </td> </tr> </table>			<p align="center"><b>Facility Contact</b></p> <p>Wayne Powell Environmental Manager (252) 707-2310 P O Box 1887 Greenville NC, 27835+1887</p>	<p align="center"><b>Authorized Contact</b></p> <p>Dr. Hans Engels Chief Operating Officer (252) 707-7635 P.O. Box 1887 Greenville, NC 27835</p>	<p align="center"><b>Technical Contact</b></p> <p>Wayne Powell Environmental Manager (252) 707-2310 P O Box 1887 Greenville NC, 27835+1887</p>	<p align="center"><b>Application Data</b></p> <p><b>Application Number:</b> 7400021.06A <b>Date Received:</b> 05/31/2006 <b>Application Type:</b> Modification <b>Application Schedule:</b> TV-Significant <b>Existing Permit Data</b> <b>Existing Permit Number:</b> 05754/T79 <b>Existing Permit Issue Date:</b> 04/27/2006 <b>Existing Permit Expiration Date:</b> 11/30/2008</p>
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<p><b>Review Engineer:</b> Michael Brandon. P.E.</p> <p><b>Review Engineer's Signature:</b> _____ <b>Date:</b> 6/6/6</p>		<p align="center"><b>Comments / Recommendations:</b></p> <p><b>Issue</b> 05754/T80 <b>Permit Issue Date:</b> PROPOSED <b>Permit Expiration Date:</b> 11/30/08</p>				

**1. Purpose of Application:**

The applicant was permitted to install a fluid bed coater (Glatt Dryer; ID No. E128968) in permit revision T77, which was issued on June 18, 2004. This application is for the public notice of that significant modification and issuance of the Title V permit and permit shield for this source. Monitoring, recordkeeping, and reporting are presently contained within PART 1 of the permit.

In addition to the above, new facility wide TAP modeling emission rates were appended to the permit. This submittal was part of application 7400021.05C for permit revision T79. The revised TAP table was not included in permit revision T79. Application 7400021.05B for last MACT TAP assessment was merged with this application even though there are no MACT that apply to this facility because of a MACT avoidance condition and source removal. This submittal included the request to remove a number of sources at this facility because they are no longer on site (includes all sources in buildings Nos. 2, 3, 5, 9, 10, 22, 28, the Chemical Development Laboratory, the Chemical Manufacturing Division (DPC) tank farm, all hazardous waste facility sources), make additions to the insignificant activities list and moved sources from significant to insignificant source lists (see attached lists).

Changes to the Title V permit are as follows:

PAGE	CONDITION	CHANGE
NA	Insignificant Activities List	<p><b>Building No. 1</b>  Packaging line 7 was redesignated to Line 5 with fabric filter (ID No. 46447).  The following sources were added:  <i>OT</i>  fabric filter (ID No. 128981) on room M2-244  fabric filter (ID No. 66955) on packaging line 5  fabric filter (ID No. 65037) on packaging line 21  fabric filter (ID No. 65038) on packaging line 22  fabric filter (ID No. 65039) on packaging line 23  fabric filter (ID No. 67372) on packaging line 25  fabric filter (ID No. 67373) on packaging line 27  fabric filter (ID No. 67374) on packaging line 26  fabric filter (ID No. 47846) on packaging line 10  fabric filter (ID No. 60009) on room M2-84  fabric filter (ID No. 61188) on SSPD 1-28-11  fabric filter (ID No. 61189) on SSPD 1-28-13  fabric filter (ID No. 61190) on SSPD 1-28-13  fabric filter (ID No. 61191) on SSPD 1-28-14  fabric filter (ID No. 61193) on SSPD 1-28-46  fabric filter (ID No. 61194) on SSPD 1-28-20  fabric filter (ID No. 61195) on SSPD 1-28-29  fabric filter (ID No. 61197) on SSPD 1-28-45  fabric filter (ID No. 63472) on Building 1; 1-28-58  fabric filter (ID No. 63473) on Building 1; 1-28-53  fabric filter (ID No. 124919) on Building 1; 1-28-36A  fabric filter (ID No. 129375) on Building 1; Room 12830</p> <p><i>R&amp;D</i>  fabric filter (ID No. 51771) installed on CC 70200-PRDL  fabric filter (ID No. 57924) installed on QA Drug sampling area</p> <p><b>Building 3 CDL</b>  Fabric filter (400 square feet of filter area; ID No. 43587) installed on the grinding and screening room exhausts was removed because the applicant has stated that it has been removed from the site.</p> <p>Mixer (ID No. ES-MX124252) in room <b>M2-85</b> was added.</p> <p><b>Building Number 5 - Digitalis</b>  fabric filter (ID No. 61442) installed on a leaf bin and hammer mill and simple cyclone (30 inches in diameter; ID No.6788) installed on the leaf bin were removed because the applicant has stated that they have been removed from the site.</p> <p><b>Building Number 7</b>  fabric filter (ID No. 69335) on house vacuum system</p> <p><b>Building Number 8</b></p> <p><i>Room P-82</i>  Room P-82 (ID No. 109084) and H-T snrav drver solvent recovery (ID No.</p>

PAGE	CONDITION	CHANGE
		<p>109085) was removed because the applicant has stated that the room has been dismantled.</p> <p><i>Development</i>  Fabric filter (ID No. 61945) on Room P-35 was added to the permit.</p> <p><i>Pilot Plant</i>  Fabric filter (ID No. 125582) on pilot plant vacuum cleaner dust collector was added to the permit.  Fabric filter (ID No. 125583) on pilot plant vacuum cleaner dust collector was added to the permit.</p> <p><b>Building Number 34</b>  <i>Grinding, Screening and Blending (GSB) facility</i>  The following sources and control devices were removed because the applicant has stated that they have been removed from the site: a HEPA filter bank installed on a Torit-type cartridge filter (3,616 square feet of filter area, ID No. 69130) installed on Room Nos. 305, 211, and 119, a HEPA filter bank (ID No. 69135) installed on a Torit-type cartridge filter (3,616 square feet of filter area, ID No. 69131) installed on Room Nos. 306, 212, and 120, and a HEPA filter bank (ID No. 69136) installed on a Torit-type cartridge filter (3,616 square feet of filter area, ID No. 69132) installed on Room No. 108.</p> <p><b>Miscellaneous</b>  The venturi scrubber (ID No. HS-17) on drum heater (ID No. X-22010) were removed because the applicant has stated that they have been removed from the site.</p>
3-10	Equipment list	<p>The notation that a complete Title V permit application is due within one year of commencing operation of the Glatt dryer and scrubber was removed.</p> <p>T-103 Ethyl Acetate Storage tank (ID No. 69023) has changed duty and location. It is now O&amp;T alcohol tank (ID NO. 67660) at Building No. 1.</p> <p>Four peracetic acid (La Calhene) QA sterilization chambers from Building No. 2 and one from Building 16 were relocated to Building 8A.</p> <p>The dust collection system for Room P-82 (H-T spray dryer solvent recovery, 109084/109085) was removed from service.</p> <p>Many sources and control equipment were removed as delineated in the attached Table 2. The permit was updated to reflect applicable regulations for the remaining equipment. (Old section 2.1 G and old Section 2.1 D. were removed in conjunction with these changes, and 2.2 A. was modified.)</p> <p>Many sources and control equipment moved from the significant activity list to the insignificant activities list as delineated in the attached Table 1. (Section 2.1 F. was modified to reflect the removal of these sources to the insignificant activity list. Section 2.2 C. was removed reflect the removal of these sources to the insignificant activity list. Section 2.2 D. was recodified to 2.2 C and modified to reflect the removal of these sources to the insignificant activity list.)</p>
NA	NA	<p>Old Section 2.1 E. and all notations for Kb affected storage tanks were removed because of the new size/vapor pressure cut off for the revised Kb</p>

PAGE	CONDITION	CHANGE
		rule, or because the tanks no longer exist.
26-28	Section 2.1 E.	The notation that a complete Title V permit application is due within one year of commencing operation of the Glatt dryer and scrubber was removed. (Old Section 2.1 G.) Section 2.1 E.2.c opacity monitoring frequency was changed from weekly to monthly because the scrubber is used for VOC rather than particulate control and uncontrolled particulate emission are not significant. The condition was also updated to remove the provision to establish normal opacity.
30	Section 2.2 F.2.	All MACT provisions (2.2 G.1-19.) were removed because the facility no longer operates any affected facility and there exists a MACT avoidance condition (Old 2.2 G.20.).
47-53	General Conditions	These PART I general conditions were updated.
54-58	PART II Construction Permit	Reference to the Glatt dryer and scrubber were removed. All constructed sources were removed.
NA	Attachment II	The last MACT TAP modeling emission rates were updated to reflect the present facility and current modeling.

**2. Application Chronology:**

The application chronology is detailed on the attached IBEAM Report.

**3. New Equipment/Change in Emission and Regulatory Review**

**a. New fluid bed coater (Glatt Dryer; ID No. E128968) with scrubber (ID No. E128974)**

This coater is located in existing building No. 1. The charge to the fluid bed coater is about 882 pounds per batch. Binder solution is added over a five-hour period at a rate of about 244 pounds per hour thus making the hourly process weight rate 1,126 pounds per hour (0.563 tons per hour). The binder solution contains an aqueous or organic solvent. The organic solvent consists of about five percent by weight methanol, five percent by weight isopropanol, and 90 percent by weight ethanol.

Glatt (the manufacturer) estimates particulate emissions to be on the order of about 5.87 pounds per hour for a batch charge of 882 pounds. A scrubber consisting of a spray (quench) chamber followed by two sieve trays and a demister control particulate and volatile organic compound emissions. Design specifications require 90 percent control efficiency for particulate matter in the 1 to 10 micron range. Maximum uncontrolled particulate emissions would be about 26 tons per year and maximum controlled particulate emissions would be 2.6 tons per year. Potential particulate emissions based on the allowable process weight rate would be 2.79 pounds per hour or 12.2 tons per year. Therefore, no PSD avoidance condition was required for a more stringent emissions limit, and the minimum particulate control efficiency must be about 53 percent to comply with the process weight rate emissions standard. The scrubber is required to maintain a five gallon per minute flow rate to the quench chamber spray under both aqueous and organic solvent binders systems and a minimum of 15 gallons per minute to the sieve plates for particulate control.

During the use of organic binder solvents, maximum uncontrolled volatile emissions are 1,220 pounds per batch and about 1,460 batches per year (assumes one hour load and unload between batches) or 891 tons per year of VOC. The scrubber design specifications are 85 percent VOC removal provided the flow rate to the sieve plates is a minimum of 69 gallons per minute and that none of the scrubber water is recycled (i.e., once through scrubber). This would result in a maximum controlled VOC emission rate of about 134 tons per year. Therefore, a PSD avoidance condition was required to maintain VOC emissions from this facility below the PSD significant level of 40 tons per year. This would equal about 435 batches per year based on the worst-case scenario. Since about five percent by weight of the solvent emissions is HAP, it is conceivable that the present HAP avoidance condition will be met, as this maximum contribution of HAP would only be two tons per year.

John C. Lewis, licensed engineer in the State of North Carolina, certified that the proposed control equipment would achieve the desired emissions rates as presented above.

The applicable regulations are:

2D .0515 - Particulates from Miscellaneous Industrial Processes

2D .0521 - Control of Visible Emissions

2D .0958 - Work Practices for Sources of Volatile Organic Compounds

2Q .0317 - PSD Avoidance Condition

2D .0515

This standard limits particulate emissions based on process weight throughput. The estimated hourly throughput for this emission source is 0.563 tons per hour. The regulation yields an allowable emission rate of 2.79 pounds per hour. Since the estimate emission rate is about 0.6 pounds per hour, compliance is indicated.

2D .0521

This standard limits visible emissions from this emission source to 20 percent opacity or less. Proper use and maintenance of the scrubber will ensure low visible emissions. Compliance is anticipated.

2D .0958

This regulation does not directly affect this emission source. However, other support activities for this operation will be able to reduce VOC emissions by implementing the prescribed work practices.

2Q .0317

The required PSD Avoidance condition will require monitoring of three operating parameters. These parameters include:

- i. the times and dates when binder solution using organic solvent is being used and the total batch amount in pounds,
- ii. the minimum flow rate of 69 gallons per minute to the scrubber sieve plates, and
- iii. that the scrubber water is not recycled via physical verification that the recycle pump is shut off, or physical verification that the recycle line to the scrubber spray nozzle and sieve tray supply line is closed.

**4. Facility Compliance Status:**

The facility is presently under an SOC for a different production area of the facility.

**5. Last MACT Facility Wide TAP Assessment:**

Facility wide TAPs were evaluated in a submittal received December 28, 2005. This submittal was reviewed and approved by the AQAB in a memorandum dated January 10, 2006. The emissions rates were modeled on a building area basis and were maximized to show compliance with AAL's. The emissions rates do not reflect actual equipment operation and were developed to accommodate future operations as long as the emissions remained within the permitted allowable emission rates at that building area.

**6. Facility Emissions Review:**

Potential emission increases due to the proposed modification is limited to less than 40 tons per year of VOC and 12 tons per year of PM/PM-10

**7. Public Notice/EPA and Affected State Review**

The Title V permit is subject to a 30-day public comment period and a concurrent 45-day EPA review period for the Glatt Dryer addition. A notice of intent to issue the Title V permit will be published in a local newspaper and provide for an opportunity to comment on the renewal and request a public hearing.

**8. Conclusions, Comments, and Recommendations:**

The RCO/WARO recommend issuance of permit revision 5754T80.

<b>Table 1 - Emission Sources and Control Equipment that were determined to be insignificant.</b>			
<b>Emission Source ID No.</b>	<b>Emission Source Description</b>	<b>Control Device ID No.</b>	<b>Control Device Description</b>
<b>Building Number 1</b>			
<b>Sterile Products Department (SPD)</b>			
	room fugitive emissions	63298	fabric filter (486 square feet of filter area)
	misc. manufacturing operations	66228	fabric filter (486 square feet of filter area)
<b>Solid Dose Formation</b>			
45091, 08141, 08142, 00961, and 0960 2-84 M2-86	five mixers  room exhaust of (with HEPA filter) room exhaust	111072	fabric filter (3,616 square feet of filter area)
	Drug Room M2-79 mixing system	67541	fabric filter (486 square feet of filter area)
	active ingredient solution tank loading area exhaust Film Coating Room D-Room, M2-81B	69650	fabric filter (486 square feet of filter area)
26-011, 14-004, 14-006, 16-026 and 16-027	solution tank, granulation mixer, comill, and two tray dryers (Room M2-83)	111278	fabric filter (640 square feet of filter area)
67807, 60656, and 49553	blending/sifting facility consisting of: blender, quadro mill, and Finex sifter	69798	Torit-type cartridge filter (904 square feet of filter area)
65613, 90914, 111578, 111579, and 111580	blending/sifting facility consisting of: blender, Finex sifter, and three sifters	69797	Torit-type cartridge filter (904 square feet of filter area)
80509 and 80510	two solution tanks	80511	fabric filter (650 square feet of filter area)
<b>Small Scale Production</b>			
32, 33, 34, 36, 37, 38, and U, V, and W	compression area, capsule filling, large two step granulation, toxic compression, regular filling, toxic filling, and Servac Room		seven fabric filters (648 square feet of filter area each) installed one on each emission source
35	conventional granulation		cartridge filter (904 square feet of filter area)
4114, 83362, 01089, 03906, 46558, 07485, 41494, 106471, and 111014	Mepron production room consisting of: tablet press operation, coating pan operation, Gemco blender, Double Cone blender, portable sifter, Fitzmill U, Fitzmill D, microwave dryer, and liquid ring vacuum pump installed on microwave dryer	111014	Torit pulse jet fabric filter (904 square feet filter surface area)

<b>Table 1 - Emission Sources and Control Equipment that were determined to be insignificant.</b>			
<b>Emission Source ID No.</b>	<b>Emission Source Description</b>	<b>Control Device ID No.</b>	<b>Control Device Description</b>
12836	toxic granulation room exhaust (small scale production area)	61196	cartridge filter
<b>Ointments, Creams, and Liquids Formulation Division</b>			
	Room M2-178, tri-blender hopper	65127	fabric filter (486 square feet of filter area)
	Polysporin Production dust collection system for Rooms M1-3, M-180, and M0181	123256	fabric filter (486 square feet of filter area)
	tri-blender/hopper in Room No. M2-174	69247	fabric filter (486 square feet of filter area)
	triblender/hopper in Room M2-172D	106259	cartridge filter (486 square feet of filter area)
	dust collection system for Rooms M2-172A, M2-172B and M2-172C	45177	fabric filter (904 square feet of filter area)
<b>Drug Stock Department</b>			
M1-24, M1-26, R1-10A	three ventilator hoods	61026, 61027, 61028, and 61029	four fabric filters (650 square feet of filter area each) installed one on each emission source
R1-2 49559	fugitive emissions, Russel Sieve		
R1-9 and 08437	ventilator and large sifter	60220	fabric filter (970 square feet of filter area)
49551 08885	room air from Room Nos. R1-3 (Russel Sieve) and R1-8 (Sifter)	125641 and 743	two fabric filters (905 and 650 square feet of filter area respectively) installed one on each emission source
47604	exhaust from Room Nos. R1-15 and R1-16 (Sifter)	66948	fabric filter (2,712 square feet of filter area)
47603, 00747	exhaust from Room Nos. R1-11 (sifters) and R1-12	66951	fabric filter (2,712 square feet of filter area)
	room exhaust from Weighing Room No. M2-13	65201	fabric filter (648 square feet of filter area)
<b>Pharmaceutical Process Technology Support Department</b>			
206-13, 206-1, and 206-8, 206-15	solution tank (60 gallons capacity) granulation mixer, and two comills	111317	Torit-type cartridge filter (1,356 square feet of filter area)
69753 and 69696	tri-blender (211-5) and 300 gallons capacity process tank	111316	Torit-type cartridge filter (904 square feet of filter area)
<b>Building Number 4, Power Plant</b>			
69775	soda ash slurry tank	69780	fabric filter (159 square feet of fabric filter surface area)
5617 Kb	fixed roof No. 2 fuel oil storage tank (20,000 gallons capacity)	NA	NA
<b>Building Number 7, Ointments, Creams, and Liquids Formulation Division</b>			
	central vacuum system		tubular filter (102 square feet of filter area)
	tri-blend hopper	68861	fabric filter (486 square feet of filter area)

<b>Table 1 - Emission Sources and Control Equipment that were determined to be insignificant.</b>			
<b>Emission Source ID No.</b>	<b>Emission Source Description</b>	<b>Control Device ID No.</b>	<b>Control Device Description</b>
<b>Building Number 8 - Analytical Development Laboratory and Pharmaceutical Research and Development Laboratory</b>			
	fluid bed dryer in Room P-59	61959	fabric filter (CD-8-25, 2336 square feet of filter area)
61924	fluid bed dryer in Room P-17	61960	fabric filter (648 square feet of filter area)
	fluid bed dryer in Room P-49	57681	fabric filter (Torit DE-8-24, 2436 square feet of filter area)
	air exhausts from rooms with HEPA filters: P-17 (fluid bed dryer, 61924 and granulator, 8143) P-18 (weight room) P-19 (general manufacturing granulator/dryer) P-20 (general manufacturing) P-21 (general manufacturing) P-30 (general manufacturing, tray dryer) P-31 (general manufacturing) P-32 (general manufacturing) P-34 (general manufacturing) P-35 (general manufacturing) P-46 (general manufacturing) P-49 (general manufacturing granulator/dryer 30, 57680) P-59 (general manufacturing granulator/dryer 5) P-60 (prep room for solutions) Tote Blending/Drum Dumper (92641/ 109434) P-61 (weight room) P-51 (general manufacturing) P-62 (tray dryer 61927) P-81 (tray dryer 61932) P-53 (general manufacturing) P-85 (weight room) P-86 (general manufacturing) dust collection system for Room P-82 (H-T spray dryer solvent recovery, 109084/109085)	61936 61937 61938 61939 61958 61940 61941 61942 61935 61943 61944 61946  61947 61948 61949 61950 61951 61952 61953 61954 61956 61957 61955	twenty two bagfilters (486 square feet of filter area each) installed one each on the air exhausts from each room
<b>Dyneema Americas Plant-Polyethylene Fiber Production Line No. 1</b>			
T1101	polyethylene storage silo (located outside of building)	S1110	fabric filter (194 square feet of filter area)
V1112 NSPS HHH PSD AVOIDANCE	polyethylene feed hopper	S1112	dust collector (29 square feet of filter area)
V1113 NSPS HHH PSD AVOIDANCE	polyethylene dosing operations	S1113	dust collector (29 square feet of filter area)
<b>Dyneema Americas Plant-Polyethylene Fiber Production Line No. 2</b>			
T2101	polyethylene storage silo (located outside of building)	S2110	fabric filter (194 square feet of filter area)
V2112 NSPS HHH PSD AVOIDANCE	polyethylene feed hopper	S2112	dust collector (29 square feet of filter area)

<b>Table 1 - Emission Sources and Control Equipment that were determined to be insignificant.</b>			
<b>Emission Source ID No.</b>	<b>Emission Source Description</b>	<b>Control Device ID No.</b>	<b>Control Device Description</b>
V2113 NSPS HHH PSD AVOIDANCE	polyethylene dosing operations	S2113	dust collector (29 square feet of filter area)
<b>Dyneema Americas Plant-Polyethylene Fiber Production Line No. 3</b>			
T3101*	polyethylene storage silo (located outside of building)	S3110*	fabric filter (194 square feet of filter area)
V3112* NSPS HHH PSD AVOIDANCE	polyethylene feed hopper	S3112*	dust collector (29 square feet of filter area)
V3113* NSPS HHH PSD AVOIDANCE	polyethylene dosing operations	S3113*	dust collector (29 square feet of filter area)
<b>Dyneema Americas Plant-Polyethylene Fiber Production Line No. 4</b>			
T4101**	polyethylene storage silo (located outside of building)	S4110**	fabric filter (194 square feet of filter area)
V4112** NSPS HHH PSD AVOIDANCE	polyethylene feed hopper	S4112**	dust collector (29 square feet of filter area)
V4113** NSPS HHH PSD AVOIDANCE	polyethylene dosing operations	S4113**	dust collector (29 square feet of filter area)
<b>Dyneema Americas Plant-Polyethylene Fiber Production Line No. 5-1</b>			
T5101-1**	polyethylene storage silo (located outside of building)	S5110-1**	fabric filter (194 square feet of filter area)
V5112-1** NSPS HHH PSD AVOIDANCE	polyethylene feed hopper	S5112-1**	dust collector (29 square feet of filter area)
V5113-1** NSPS HHH PSD AVOIDANCE	polyethylene dosing operations	S5113-1**	dust collector (29 square feet of filter area)
<b>Dyneema Americas Plant-Polyethylene Fiber Production Line No. 5-2</b>			
T5101-2**	polyethylene storage silo (located outside of building)	S5110-2**	fabric filter (194 square feet of filter area)
V5112-2** NSPS HHH PSD AVOIDANCE	polyethylene feed hopper	S5112-2**	dust collector (29 square feet of filter area)
V5113-2** NSPS HHH PSD AVOIDANCE	polyethylene dosing operations	S5113-2**	dust collector (29 square feet of filter area)
<b>Building Number 16, Sterile Products Facility</b>			
	Cytotoxic Rooms Nos. 4F109 and 4F111 air cleaning systems	96587	fabric filter (904 square feet of filter area)
	Compounding Room Air Cleaning system for Room Nos. 4F014, 4F015, 4F117, 4F118, 4F119, 4F126, 4F127, and 4F131	96588	fabric filter (3,616 square feet of filter area)
	quality assurance sampling room air cleaning system for Room Nos. 1F420 and 1F419	96586	fabric filter (904 square feet of filter area)
<b>Cogeneration Facility</b>			
CG-1, CG-2, and CG-3	three fixed roof No. 2 fuel oil storage tanks (20,000 gallons capacity and two 120,000 gallons capacity each) equipped with conservation vents	NA	NA

<b>Table 2 - Emission Sources and Control Equipment that are deleted with this permit revision</b>			
<b>Emission Source ID No.</b>	<b>Emission Source Description</b>	<b>Control Device ID No.</b>	<b>Control Device Description</b>
<b>Building Number 3</b>			
Chemical Manufacturing Division, Module 1			
7073, 62590, and 44844C	Four Vessels (3rd Floor):300 gallon Receiver, 300 gallon Mixing Tank, and 20 gallon Reactor	NA	NA
1266	200 gallon Reactor		Condenser
44786, 44788, 44787	Three Extraction Tanks, 200 gallons each T-6, T-9, and T-10	NA	NA
69268, T-4, T-12, 69263, 69266, 69267, 69265	Reactor R-4, 30 gallon (Mivacurium) Receiver T-4 Catch Pot T-12 Vacuum Pump VP-2 (Mivacurium) Reactor R-3, 50 gallon, with Condenser C-3 (Mivacurium) Reactor R-2, 50 gallon, with Condenser C-2 (Mivacurium) Reactor R-1, 100 gallon, with Condenser C-1 (Mivacurium)	69254  69262, 69261, and 69260	Venturi Scrubber (30 gpm caustic injection for control of acid gases, bromine, etc.) installed on R-4, T-4, T-12, VP-2, and three Condensers C-3, C-2, and C-1
69264	Vacuum Pump VP-1 (Mivacurium)		Condenser
123252	Reactor R-100, 100 gallon	NA	NA
60972	Pulse Sieve Columns M1-2, 3	NA	NA
69256	One Glitch/Karr Extraction Column EC-1 (Mivacurium)	NA	NA
111589, 111860	Two Vacuum Pumps installed on ovens		Condensers
69259, 44880, 111148, and 111149	Four vacuum shelf ovens 1, 2, 3, and 4	111147 and 44881	Torit cartridge filter (2,032 square feet of filter area) installed on external condenser
111367	Drying ovens catch tank	NA	NA
44842, 69269, 60972, 69272, 69271, 69273	Storage Tank T-105,5000 gallon Head Tank T-5, 30 gallon (Mivacurium) Toluene Storage Tank T8. Portable 100 gallon tank, T-7 (Mivacurium) Tank T-6, 20 gallon (Mivacurium) Tank T-11, 30 gallon (Mivacurium)	NA	NA
	Luwa Skid	44844-1	E5 Overhead Condenser

<b>Table 2 - Emission Sources and Control Equipment that are deleted with this permit revision</b>			
<b>Emission Source ID No.</b>	<b>Emission Source Description</b>	<b>Control Device ID No.</b>	<b>Control Device Description</b>
69604, 69257, 57344, 63375, 62319, 64060, 124314, 44789, 69253	Tank T-15, 100 gallon Neusche Filter Sparkler Filter #7 Receiver, 100 gallon Receiver, 100 gallon 50 gallon tank 50 gallon kettle Receiver, 100 gallon Niagara filter press	NA	NA
124326	Steam Ejector	NA	NA
<b>Chemical Manufacturing Division, Module 2</b>			
68426,  473, 123639, 62915, 5730	Head Tank T-231B, 200 gallon (bromine)  Reactor R-232, 1000 gallon, Reactor R-233, 1000 gallon, Reactor R-234, 2000 gallon, Reactor R-231, 1000 gallon	124321,  4730Z, 9516Z, 62933Z, 5730Z	Venturi and Packed Tower Scrubber S-131 (110 gpm caustic injection to venturi, 8 gpm caustic injection to packed tower, for control of acid gases, bromine, etc.) installed on T-231B and four condensers: Condenser E-232 Condenser Condenser 62933Z Condenser E-321
67570, 67572, and 111432	Head Tank H-232, 300 gallon Head Tank H-231, 300 gallon Head Tank T-320 (ethylene glycol expansion tank)	NA	NA
1290, 1291,  9198, 9199	Receiver T-223 (R-231 East Receiver) Receiver T-224 (R-231 West Receiver) Receiver T-225 (X-225 Receiver Cooling Jacket 91982) Receiver T-226 (R-232 West Receiver)	NA	NA
68553, 111409, 111691, 111411	Centrifuge C-221 Centrifuge C-222 Catch Pot T-221 Catch Pot T-222	NA	NA
41049, 7183, 7184, 7177	Tank T-212, 2000 gallon Tank T-213, 2000 gallon Tank T-214, 500 gallon Tank T-215, 750 gallon	NA	NA
1378	Filter Press F211	NA	NA
111412, 111414	Pan Dryer and Cobra Vacuum Pump	111415	condenser E-212

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<b>Emission Source ID No.</b>	<b>Emission Source Description</b>	<b>Control Device ID No.</b>	<b>Control Device Description</b>
111416	condensate receiver T-216 for condenser E-212		
106063, 106062, 106061	Ejector (R-232, 233) Ejector (R-231) Ejector (Dryer)	NA	NA
<b>Chemical Manufacturing Division, Module 3</b>			
7004, 68383, 7005, 28065	Reactor R-331, 1000 gallon with Condenser E-331 Reactor R-332, 1000 gallon with Condenser E-332 Reactor R-333, 1000 gallon with Condenser E-333 R-334 (TMBA Tank), 500 gallon with Condenser E-334	7091, 7004Z, 7908Z, 7005Z, 28065Z	Venturi Scrubber S-321, ID No. 7091 (22 gpm caustic injection, for control of acid gases, bromine, etc.) installed on four condensers: Condenser E-331 (150/150sf) Condenser E-332 Condenser E-333 (150/150sf) Condenser E-334 (100/100sf)
7855, 7856, 62675, 7087	Receiver T-325 Receiver T-326 Receiver T-324 Receiver T-323	NA	NA
127454,, 123990, 111693	Centrifuge C-321 Catch Pot T-321 Wash Tank T-322	NA	NA
123683	Dryer Blender D-312 (107sf)	NA	NA
7158 7159 61295 7160	Tank T-312, 2000 gallon (south storage tank) Tank T-313, 2000 gallon (north storage tank) Tank T-314, 2000 gallon Tank T-317, 500 gallon	NA	NA
1344	Filter Press F-311	NA	NA
124326, 124327	Ejector 3-1 Ejector #2	NA	NA

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<b>Emission Source ID No.</b>	<b>Emission Source Description</b>	<b>Control Device ID No.</b>	<b>Control Device Description</b>
Chemical Manufacturing Division, Module 5A			
1218, 1219, 1220	Reactor R-4, 500 gallon with Condenser 1253 Reactor R-5, 500 gallon with Condenser 7020 Reactor R-6, 500 gallon with Condenser 7123	43534,  OR 69310,  OR 123480,  1253, 7020, and 7123	Dual Venturi Scrubber S-521, (20 gpm caustic solution injection to each venturi, for control of acid gases, bromine, etc.) OR Venturi Wet Scrubber T-370, (> 1 gpm 20 % Caustic injection, for control of acid gases, bromine, etc.) OR Venturi Scrubber and Packed Tower Scrubber S-524 (98 gpm caustic injection to venturi and 8 gpm caustic injection to packed tower, for control of acid gases, bromine, etc., controlling either Module 5A sources or Module 5B sources, but not both simultaneously) installed on three condensers
69315, 60357	Head Tank Head Tank T-535, 300 gallon	NA	NA
7099, 7100	Receiver, 100 gallon Receiver, 300 gallon	NA	NA
1304, 69311, 125703	Centrifuge 5A Wash Tank T-528, 250 gallons Catch Pot	NA	NA
1356	Dryer Blender, 107 cf	NA	NA
1364, 1365, 45737, 47646, 7173	Tank ST-4, 750 gallon Tank TK-3, 300 gallon Tank 5A, 2000 gallon Tank TK-2, 1000 gallon Tank TK-1, 500 gallon	NA	NA
1357	Filter Press	NA	NA
106060, 106056	Ejector 5-1 Ejector 5-2	NA	NA

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<b>Emission Source ID No.</b>	<b>Emission Source Description</b>	<b>Control Device ID No.</b>	<b>Control Device Description</b>
Chemical Manufacturing Division, Module 5B			
1223, 1221, 1222, 123466	Reactor R-16, 500 gallon with Condenser 1252 Reactor R-534, 500 gallon with Condenser 7121 Reactor R-535, 500 gallon with Condenser 123463 Head Tank T-532, 50 gallon (Bromine)	123480,	Venturi Scrubber and Packed Tower Scrubber S-524 (98 gpm caustic injection to venturi and 8 gpm caustic injection to packed tower, for control of acid gases, bromine, etc., controlling either Module 5A sources or Module 5B sources, but not both simultaneously) installed on T-532 and the three reactor condensers
123483, 61294, 43507	Tank T-536, 150 gallon Tank T-531, 250 gallon Tank, 500 gallon	NA	NA
7092, 7093	Receiver T-526B, 300 gallon Receiver T-526A, 100 gallon	NA	NA
123473	Extraction Tank R-511, 1000 gallon	123470	Condenser 1221-A
69312, 45235, 124103	Wash Tank T-527, 250 gallon Centrifuge 5B Catch Pot	NA	NA
68394	Dryer Blender, 107 cf	NA	NA
43822, 1362, 47647, 7172	Tank ST-4, 2000 gallon Tank ST-5, 750 gallon Tank TK-7, 1000 gallon Tank TK-8, 500 gallon	NA	NA
106058, 106057, 106064	Ejector 5-3 Ejector 5-4 Ejector 5-5	NA	NA

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<b>Emission Source ID No.</b>	<b>Emission Source Description</b>	<b>Control Device ID No.</b>	<b>Control Device Description</b>
Chemical Manufacturing Division, Module 6			
7605, 7765, 1318, 1329, 43505, 43506, 61291	Reactor R-31, 100 gallon with Condenser CO-31 Reactor R-37, 100 gallon with Condenser CO-37 Reactor R-36, 100 gallon with Condenser CO-36 Reactor R-20, 200 gallon with Condenser CO-20 Decomposition Tank T-7 (outside) Decomposition Tank T-6 (outside) Decontamination Heat Exchanger E-5	69310, 125594,  125595,  125608,  27069	Venturi Wet Scrubber T-370, (> 1gpm 20 % Caustic injection, for control of acid gases, bromine, etc.) installed on T-6, T-7, and the four condensers
123969	Reactor R-21, 200 gallon	125597 125596	Condenser CO-21A Condenser CO-21B
43366	NBL Reactor R-621, 100 gallon	NA	NA
1321	Reactor R-24, 200 gallon	125601	Condenser CO-24
1320	Reactor R-25, 200 gallon	125598	Condenser CO-25
69906, 69314, 69905, 41267, 69313	Head Tank T-631, 25 gallon Head Tank T-37 Head Tank 50 gallon Head Tank 50 gallon Head Tank	NA	NA
7652, 7116	Receiver V-31B, 50 gallon Receiver V-31A, 50 gallon	NA	Condenser CO-31B (TCE Cooled)
7105, 7106, 7110, 7111	Receiver V-20A, 50 gallon Receiver V-20B, 50 gallon Receiver V-21B, 50 gallon Receiver V-21A, 50 gallon	NA	NA
7013	Extraction Tank 200 gallon	125600	Condenser CO-38
43780, 43781, 43782, 43395	Extraction Tank T-13, 200 gallon Extraction Tank T-14, 300 gallon Extraction Tank T-15, 500 gallon Extraction Tank T-16, 750 gallon	NA	NA
43369, 7209	Tank T-39, 100 gallon Tank T-40, 100 gallon	125599	Condenser CO-39
62556, 7017	Solvent Chiller Tank TK-1, 100 gallon 100 gallon portable tank, 69309 Tank T-12	NA	NA
43370, 43390, 1391, 69062, 43355, 43391	Centrifuge C-631 Catch Pot Centrifuge C-612 (portable) Catch Pot Centrifuge C-611 Catch Pot	NA	NA

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<b>Emission Source ID No.</b>	<b>Emission Source Description</b>	<b>Control Device ID No.</b>	<b>Control Device Description</b>
1407, 27959	Niagra Filter F-13 Niagra Filter F-14	NA	NA
43354	Dryer Blender DB-611	NA	NA
106054, 106053, 106052, 106051, 106050, 106048, 106049	EJV 6-1 EJV 6-2 EJV 6-3 EJV 6-4 EJV 6-5 EJV 6-6 EJV 6-7	NA	NA
47609	Portable sparkler filter	NA	NA
<b>Chemical Development Pilot Plant, Module 7</b>			
51784, 51785, 883, 27898, 27890, 27902, 27905, 125713, 27899, 279000, 27903, 126312	100 gallon Reactor R-1 with Condenser CO-721 50 gallon Reactor R-2 with Condenser 10 gallon Portable Reactor R-30 30 gallon Reactor R-40 with Condenser CO-40 30 gallon Reactor R-41 with Condensers CO-41-D and CO-41-R 100 gallon Reactor R-42 with Condenser CO-42 100 gallon Reactor R-43 with Condenser CO-43 200 gallon Reactor R-44 with Condenser CO-44 20 gallon Receiver T-40 with Condenser CO-20 20 gallon Receiver T-41 with Condensers CO-41-D and CO-41-R 30 gallon Receiver T-42 with Condenser CO-42 100 gallon Receiver T-44 with Condenser CO-44	41703,  128066,  124162, 128064, 128065, 124163, 124164, 125711, 124156	Venturi Scrubber (22 gallons per minute caustic injection rate, backup for scrubber 10911, for control of acid gases, bromine, etc.) installed on R-30 and the nine condensers: Condenser CO-721 Condenser Condenser CO-40 Condenser CO-41-D Condenser CO-41-R Condenser CO-42 Condenser CO-43 Condenser CO-44 Condenser CO-20

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<b>Emission Source ID No.</b>	<b>Emission Source Description</b>	<b>Control Device ID No.</b>	<b>Control Device Description</b>
54133, 68534, 126415, 883, 56958, 47617, 8992, 123717, Loc124155, 126414, 7604, 91458, 41552, 41553, 124161, 27904, 20001, 7189	10 gallon Reactor R-3 with Condenser 126567 200 gallon Reactor R-20 with Condenser CO-20 300 gallon Reactor R-21 with Condenser CO-21 10 gallon Portable Reactor R-30 50 gallon Reactor R-36 with Condenser CO-36 30 gallon Reactor R-37 with Condenser CO-37 50 gallon Reactor R-38 with Condenser 8891 100 gallon Reactor R-39 with Condenser CO-39 20 gallon receiver T-20 with Condenser CO-20 100 gallon Receiver T-21 with Condenser CO-21 20 gallon Receiver T-36 with Condenser CO-36 20 gallon Receiver T-37 with Condenser CO-37 Receiver for R-38 with Condenser 8891 Receiver for R-38 with Condenser 8891 50 gallon Receiver T-39 with Condenser CO-39 50 gallon Receiver T-43 with Condenser CO-43 200 gallon storage Tank T-50 100 gallon storage Tank T-51	10911  126567 124156 126413 126568 27199 8891 Loc3124160 124164	Venturi Scrubber (22 gallons per minute caustic injection rate, backup for scrubber 41703, for control of acid gases, bromine, etc.) installed on R-30, T-50, T-51, and eight condensers: Condenser CO-20 Condenser CO-21 Condenser CO-36 Condenser CO-37 Condenser CO-39 Condenser CO-43
124805, 124804, 41347, 7015, 124159, 124599, 124991, 124992, 60-01	Portable Tanks: 100 gallon T-1 100 gallon T-2 30 gallon T-3 30 gallon T-4 10 gallon T-5 16 gallon T-6 5 gallon T-7 10 gallon T-8 15 gallon T-60-01	NA	NA
109337	Dryer/Blender DB-721 dryer/blender, DB-1 (15cf ) Rosemund Dryer		two condensers RFC-1 (used during vacuum operation ) and RFC-2 (used during all other operations)
	Hot Well, CDL-HW Pan Dryer in Project Storage	NA	NA

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<b>Emission Source ID No.</b>	<b>Emission Source Description</b>	<b>Control Device ID No.</b>	<b>Control Device Description</b>
124809, 41704	Centrifuge C-1 Centrifuge C-43	NA	NA
	trunk exhaust lines on second floor toxic area		Two carbon filters
	toxic module grinding and screening room exhausts with HEPA filter	43586	carbon filter installed on fabric filter (400 square feet of filter area)
<b>Building 3, Columns</b>			
61862H, 111783, 111782, 61862-G, 61289, 61862I, 61862F, 111786	AA Column consisting of: Tank T-2, 500 gallon Tank T-6, 3000 gallon Tank T-5, 1500 gallon Tank T-1, Reboiler, 1000 gallon Forecut Tank, 5000 gallon Tank T-3, 500 gallon C-1 Batch Still Column E-5 Heat Exchanger	111784, 111785, 61862B, 61862A	Condenser E3 Condenser E4 Condenser E-1 Falling Film Condenser
69046, 609311, 60931A, 124333, 124332, 60931G	THF Column consisting of: Tank V-2, 300 gallon Tank V-3, 500 gallon Reboiler, 1000 gallon Molecular Sieves C-100B Molecular Sieves C-100A V1 THF Column	60931D	E2 Distillation Condenser
43486, 43485, 43484, 124111, 43499	ACYB Column consisting of: Tank T-3, Hotwell Tank Tank T-2, 100 gallon Tank T-1, 300 gallon Reboiler V-1, 1000 gallon E-2 Product Cooler	43500	E-3 Receiver vent condenser
<b>Building Number 5, Digitalis</b>			
43684, 160, 7223	alcohol stripper column (7234, chloroform extraction), 200 gallon reactor (chloroform still),  chloroform storage tank  receiver to chloroform still	7234-A and 69867, 160-A and 69867, 69867,  69867	condenser and chloroform carbon adsorber, condenser and chloroform carbon adsorber, condenser and chloroform carbon adsorber, condenser and chloroform carbon adsorber
	finishing room fugitives with HEPA filter (66956)	66954, 66955	dust collector pickups and fan, fabric filter (904 square feet of filter area)

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<b>Emission Source ID No.</b>	<b>Emission Source Description</b>	<b>Control Device ID No.</b>	<b>Control Device Description</b>
220, 213, 125, 7208, 69819, 7223, 7245	three chloroform extraction columns numbers 1, 2, and 3, alcohol recovery tank, vacuum pump for chloroform still, phase tank, chloroform head tank, recovery tank from extraction tank overflow	69867	chloroform carbon adsorber
159, <b>MACT Subpart I</b> 148, <b>MACT Subpart I</b> 47879 <b>MACT Subpart I</b>	200 gallon still,  200 gallon still,  methylene chloride still (200 gallon)	7232 and 69668, 7231 and 69668 7244 and 69668	condenser and methylene chloride carbon adsorber, condenser and methylene chloride carbon adsorber, condenser and methylene chloride carbon adsorber
69820,  7247, 7218, 7248, 7233, 7227, 7246, 07221, 07223 and 07210, 7264, 7262 All <b>MACT Subpart I</b>	vacuum pump for methylene chloride stills, super cell head tank, methylene chloride wash tank, D3 head tank, receiver to D3 head tank, receiver to D3 head tank, D2 head tank, three fraction tanks,  syrup mix tank, saturated methylene chloride storage tank (1000 gallon), two syrup storage tanks, two receivers to methylene chloride still, column top exhaust system for extraction columns 1 and 2, methylene chloride storage tank	69668	methylene chloride carbon adsorber
<b>Building Number 9, Chemical Manufacturing Division (DPC)</b>			
<b>DPC North</b>			
60680, 60681, 60682, 60683, 60674	Reactor R172, 1000 gallon Reactor R272, 1000 gallon Reactor R372, 1000 gallon Reactor R472, 1000 gallon Reactor R572, 1000 gallon	60723, 69224, 60725, 60726, 60727	Condenser CO-172 (100sf), Condenser CO-272 (100sf), Condenser CO-372 (100sf), Condenser CO-472 (100sf), Condenser CO-572 (100sf)

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<b>Emission Source ID No.</b>	<b>Emission Source Description</b>	<b>Control Device ID No.</b>	<b>Control Device Description</b>
60691, 60692, 60693, 60694, 60696, 60695, 60698, 60697, 60740	Receiver T172A, 300 gallon Receiver T172B, 300 gallon Receiver T272A, 300 gallon Receiver T272B, 300 gallon Receiver T372B, 300 gallon Receiver T372A, 300 gallon Receiver T472B, 300 gallon Receiver T472A, 300 gallon Receiver T572A, 300 gallon	NA	NA
62896, 62917, 62321, 62916, 62898, 62322	Caustic Head Tank Head Tank, 200 gallon Head Tank, 100 gallon Head Tank, 200 gallon Caustic Head Tank Head Tank, 100 gallon	NA	NA
60686, 60687, 60745, 60746, 60689, 60370, 60690	Storage Tank T171A, 2000 gallon Storage Tank T271A, 2000 gallon Storage Tank T171F, 500 gallon Storage Tank T271F, 500 gallon Storage Tank T471, 1000 gallon Storage Tank T471A, 300 gallon Storage Tank T471B, 1000 gallon	NA	NA
60709, 60710, 60742, 60743, 60751, 60752	Centrifuge C171 Centrifuge C271 Solvent Hold Tank T171C, 500 gallon Solvent Hold Tank T-271C, 500 gallon Catch Pot T171B Catch Pot T271B	NA	NA
60675	Dryer Blender 171, 100cf	NA	NA
60739	Filter Press FP-171	NA	NA
<b>DPC South</b>			
62928, 62914, 123913, 62927	Reactor R1, 1000 gallon Reactor R2, 2000 gallon Reactor R3, 2000 gallon Reactor R4, 1000 gallon	62901, 62902, 62903, 62904	Condenser (100sf), Condenser (150sf), Condenser (150sf), Condenser (100sf)
62921, 62922, 62929, 62930, 62931, 62932, 62923, 62924	Receiver R1A, 300 gallon Receiver R1B, 300 gallon Receiver R2A, 300 gallon Receiver R2B, 300 gallon Receiver R3A, 300 gallon Receiver R3B, 300 gallon Receiver R4A, 300 gallon Receiver R4B, 300 gallon	NA	NA
62926, 62918, 62919, 62920	Head Tank 100 gallon tank Head Tank 300 gallon tank Head Tank 300 gallon tank Head Tank 100 gallon tank	NA	NA

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<b>Emission Source ID No.</b>	<b>Emission Source Description</b>	<b>Control Device ID No.</b>	<b>Control Device Description</b>
60676, 60677	Dryer Blender 271 (107cf) Dryer Blender 371 (107cf)	NA	NA
67558	Filter Press	NA	NA
62907, 62908, 62925, 62913, 62936, 62937, 62938, 62939, 62934, 62935	Centrifuge C1 Centrifuge C2 Storage Tank 2000 gallon Storage Tank 2000 gallon Wash Tank C1 500 gallon Wash Tank C2 500 gallon Solvent Hold Tank 560 gallon Solvent Hold Tank 560 gallon 75 gallon Catch Pot 75 gallon Catch Pot	NA	NA
<b>DPC 500 Gallon Area/West</b>			
60679	Reactor R872, 500 gallon	60708,  63485, 60729	venturi and packed tower scrubber (98 gallon per minute caustic solution injection and an eight gallon per minute packed tower scrubber, for control of acid gases, bromine, etc.), 50 gallon scrubber pot installed on Condenser CO-872 (25sf)
123691	Reactor R972, 500 gallon	123878	Condenser CO-972
606702, 60684, 60685	Receiver T872C 200 gallon, Receiver T872F 200 gallon, Receiver T972A 200 gallon	NA	NA
60701	T872A, 50 gallon Bromine head tank	60708,  63485	venturi and packed tower scrubber (98 gallon per minute caustic solution injection and an eight gallon per minute packed tower scrubber, for control of acid gases, bromine, etc.), 50 gallon scrubber pot
123690, 60750	Toluene Head Tank, 300 gallon T-Butyl Head Tank, 200 gallon	NA	NA

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<b>Emission Source ID No.</b>	<b>Emission Source Description</b>	<b>Control Device ID No.</b>	<b>Control Device Description</b>
60699	Storage Tank T371A, 1000 gallon	60708,  63485	venturi and packed tower scrubber (98 gallon per minute caustic solution injection and an eight gallon per minute packed tower scrubber, for control of acid gases, bromine, etc.), 50 gallon scrubber pot installed on Condenser CO-371
60688, 60700	Storage Tank T971A, 1000 gallon Storage Tank T371C, 1000 gallon	NA	NA
60711, 60748, 60753	Centrifuge C371, Tank T371D, 150 gallon Catch Pot T371B	NA	NA
<b>DPC General</b>			
60756, 60757, 60758, 60759,  60760, 60761, 60763, 60762, 62909, 62910, 62911, 62912	Ejector EJV 173 Ejector EJV 273 Ejector EJV 373 Ejector EJV 473 Ejector EJV 572 Ejector EJV 573 Ejector EJV 673 Ejector EJV 873, Ejector EJV 773 Ejectors R1 through R4	NA	NA
<b>Building Number 10, Hydrogenation Facility</b>			
62365	50 gallon reactor		Condenser
<b>Building Number 22, Chemical Manufacturing Division (CMD)</b>			
<b>CMD North</b>			
68409,68410, 68411, 68412, 68414, 68413, 68416, 68415, 68417, 68418	ten receivers (300 gallon capacity each) T-172A, T-172B, T-272A, T-272B, T-372A, T-372B, T-472A, T-472B, T-572A, T-572B	NA	NA
68431, 68427, 68428, 68432	four head tanks:100 gallon, 200 gallon, 200 gallon,100 gallon	NA	NA
68382, 68389, 68384, 68385, and 68386	five reactors (1,000 gallon capacity each)  R-172, R-272, R-372, R-472, and R-572	68372  68268, 68269, 68270, 68271 and, 68272	packed tower scrubber T-370 (50 gallons per minute liquid injection rate, for control of acid gases, bromine, etc.) installed on five condensers (100/100 sf each) installed one on each emission source

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<b>Emission Source ID No.</b>	<b>Emission Source Description</b>	<b>Control Device ID No.</b>	<b>Control Device Description</b>
68397, 68398, 68403, 68327, 68402	storage tank T171A (2000 gallon), storage tank T271A (2000 gallon), storage tank T471 (1000 gallon), storage tank T471A (1000 gallon), storage tank T471B (1000 gallon)	NA	NA
68352, 68353, 68319, 68320, 68313, 68314, 68323, 68324	Centrifuge C171, Centrifuge C271, T-271C, 500 gallon solvent hold tank T-171C, 500 gallon solvent hold tank T-171B Catch Pot, 75 gallon T-271B, Catch Pot, 75 gallon T-171F, wash hold tank, 500 gallon T-271F, wash hold tank, 500 gallon	NA	NA
111612 and 111616 111611 and 111456 124888 and 124891	Pan dryer 471 and Vacuum pump(VP-461) or ejector Pan dryer 571 and Vacuum pump (VP-561) or ejector Pan dryer 671 and Vacuum pump (VP-671) or ejector	111618 and 111617 111453 and 111455 E-671 and T-671C	condenser (29.7sf) and solvent tank , 83 gallon condenser (29.7sf) and solvent tank , 83 gallon condenser E-671 and solvent tank T-671C
68333	Filter Press	NA	NA
111613	Schenk Filter	NA	NA
<b>CMD South</b>			
68388, 68391, 80681	Reactor R1, 1000 gallon Reactor R3, 2000 gallon Reactor R4, 1000 gallon	68275, 124351, 68276	Condenser (100/100sf) Condenser (150/150sf) Condenser (100/100sf)
68390,  68422,  68405, and 68406, 68420	Reactor R2, 2000 gallon with CD-1A or CD-1B  Receiver R1B, 300 gallon with CD-1B scrubber Receiver R2A and Receiver R2B with CD-1B condenser and scrubber Head Tank (300 gallon) with CD-1B scrubber	CD-1B 68277 or CD-1B	Scrubber CD-1B installed on: Condenser CD-1A (150/150sf) or Condenser CD-1B (28 sf)

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68421, 68407, 68408, 68423, 68424	Receiver R1A, 300 gallon Receiver R3A, 500 gallon Receiver R3B, 500 gallon Receiver R4A, 300 gallon Receiver R4B, 300 gallon	NA	NA
68429, 68419, 68430	Head Tank 100 gallon Head Tank 300 gallon Head Tank 100 gallon	NA	NA
68249, 68250, 68325, 68400, 68326, 68401, 68321, 68322, 68317, 68318	Centrifuge C1, Centrifuge C2, 500 gallon wash hold tank, 2000 gallon storage tank, 500 gallon wash hold tank, 2000 gallon storage tank, Solvent Tank, 560 gallon Solvent Tank, 560 gallon Catch Pot CP1, 75 gallon Catch Pot CP2, 75 gallon Catch Pot (Auxiliary)	NA	NA
68395 and 111457 68396 and 111040	Dryer/blender DB-271,107 sf and vacuum pump or ejector Dryer/blender DB-371,107 sf and vacuum pump or ejector	111452, 111036	Condenser Condenser
68334	Filter Press	NA	NA
<b>CMD 500 Gallon Area/West</b>			
68392, 68393, 124880, 68425, 124234, 68387	Reactor R872, 500 gallon with Condenser 124864, Reactor R972, 500 gallon with Condenser 68274, Receiver T872C, 300 gallon, Receiver R872F 200 gallon, Head Tank 872A (Bromine), 100 gallon extraction tank, T371A, 1000 gallon with Condenser 124865	68372  124864, 68274, 124865	Packed tower scrubber T-370 (50 gpm liquid injection rate, for control of acid gases, bromine, etc.) installed on T872C, R872F, 872A, and three condensers  (100/100sf)
124880	Receiver 872C (300 gallon)	NA	NA
124870, 124872, 124875, 124869	Head Tank 872B, 400 gallon Head Tank 872E, 600 gallon Head Tank 371D, 300 gallon knock out pot, T872D, 50 gallon	NA	NA
68354, 68355, 125158, 124885, 124877, 68399	Centrifuge C371, ID No. Centrifuge C471, ID No. Catch Pot 371B, 75 gallon Catch Pot 471D, 75 gallon T371C, 300 gallon storage tank T971A, 2000 gallon storage tank (outside)	NA	NA
124887	Schenk Filter F-211	NA	NA

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<b>Emission Source ID No.</b>	<b>Emission Source Description</b>	<b>Control Device ID No.</b>	<b>Control Device Description</b>
124881	Vacuum Pump VP-973 can be used to provide vacuum to various pieces of process equipment		condenser E-973
<b>CMD General</b>			
68347 68340 68341 68342 68339 60760 68345 68346 68348 68350 68351 68349	Ejector E-873 EJV-273 EJV-373 EJV-473 EJV-173 EJV-573 EJV-673 EJV-773 Ejector R1 Ejector R2 Ejector R3 Ejector R4	NA	NA
<b>CMD22 HW</b>			
124881, 111457, 111616, 124888	hotwell system four Vacuum Pumps	NA NA	NA NA
	Portable Charging Box		panel filter
<b>Building Number 28, Hydrogenation Facility</b>			
124228, 124569, 124237, 124233, 124224, 111408	R-10, 2000 gallon hydrogenator with Condenser E-28013 R-25, 1000 gallon reactor with Condenser E-28125 R-50, 2000 gallon reactor with Condenser E-28130 Head/Charge Tank T-31, 300 gallon tank (V-28031) and Head/Charge Tank T-28, 300 gallon tank (V-28000) with Condenser E-28156 Filter Dryer, FD-41 with condenser 124427	124240,  124230, 124481, 124589, 125167, 124427	Venturi scrubber (110 gallons per minute caustic injection rate) installed on a packed tower scrubber (8 gallons per minute caustic injection rate) installed on four condensers: Condenser E-28013 (300sf), Condenser E-28125 (300sf), Condenser E-28130 (150sf), Condenser E-28156 (200sf), vacuum condenser
124235, 124236, 125166	V-40, 500 gallon receiver V-41, 500 gallon receiver V-42, 500 gallon receiver	NA	NA
27201	Mix Tank, T-42, 300 gallon	NA	NA
124232	Schenk Filter, FB-20	NA	NA
65826	storage tank T-37, 2000 gallon tank	NA	NA

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<b>Emission Source ID No.</b>	<b>Emission Source Description</b>	<b>Control Device ID No.</b>	<b>Control Device Description</b>
64231	storage tank T-39, 2000 gallon tank	123905	Condenser (E-28149) (150/150sf)
<b>MACT Subpart I</b>  124575 <b>MACT Subpart I</b>	reactor condensers, head tank T-31, and waste methylene chloride truck loading station with Condenser E-28156 Vacuum Pump Condenser E-28133 with Condenser E-28165	125167  125464	Condenser E-28156 (200sf) used whenever the process equipment is in methylene chloride service Condenser E-28165 (50sf) used whenever vacuum is maintained on any of the equipment in methylene chloride service
124429, 124575	Vacuum pump, Vacuum pump	124427, 124574	Condenser E-28071 (7sf), Condenser E-28133 (14sf)
<b>Environmental Service Complex</b>			
<b>MACT Subpart EEE</b>	natural gas-fired, 500 pounds per hour capacity, byproduct gaseous/liquid/semi-liquid hazardous waste, single chamber (NAO) incinerator (6.0 million Btu per hour minimum heat input primary burner)	NA	NA
<b>MACT EEE</b>	natural gas-fired, 300 pounds per hour capacity, byproduct gaseous/liquid/semi-liquid hazardous waste, single chamber (Precco) incinerator (5.6 million Btu per hour minimum heat input primary burner)	NA	NA
60624 <b>MACT EEE</b>	natural gas-fired, 1,193 pounds per hour maximum capacity, byproduct gaseous/liquid/semi-liquid hazardous waste, single chamber (McGill No. 1) incinerator (14.0 million Btu per hour minimum heat primary burner)	NA	NA

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<b>Emission Source ID No.</b>	<b>Emission Source Description</b>	<b>Control Device ID No.</b>	<b>Control Device Description</b>
MACT EEE	natural gas fired, 1,131 pounds per hour maximum capacity, byproduct gaseous/liquid/semi-liquid hazardous waste, single chamber (McGill No. 2) incinerator (8.0 million Btu per hour minimum heat input primary burner)	M62-3, M62-2, M62-1	wet electrostatic precipitator; 768 square feet of collection plate area on: packed tower scrubber (65 gallons per minute dilute caustic injection on: quench chamber and venturi scrubber; 60 gallons per minute dilute caustic injection
60949	wastewater DMSO evaporator	NA	NA
68909, 123943 NSPS Kb, 123944 NSPS Kb, 63620NSPS Kb, 123942, 106002, 68225, 68904, 68902, 68905, 68903, 68906, 68908, 68907, 111361NSPS Kb	16 liquid hazardous waste tanks: T-04 (8000 gallon), T-06 (19,800 gallon), T-07 (19,800 gallon), T-08 (15,000 gallon), T-09 (7000 gallon), T-10 (6500 gallon), T-12 (10,000 gallon), T-13 (10,000 gallon), T-14 (10,000 gallon), T-15 (10,000 gallon), T-16 (10,000 gallon), T-17 (10,000 gallon), T-18 (10,000 gallon), T-19 (10,000 gallon), T-20 (12,000 gallon)	NA	NA
<b>B19 Recovery Columns</b>			
C1101	Distillation column for T1103, T1104, T1105	E1100	Condenser

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68901 67626 67640 67628 67641  67619 67643 67624 67655 67659 67656  67620 67658  67638  67621 67625 67654	pyridine recovery unit consisting of: T-8 Distillate storage (10,000 gallon) E-4 reboiler T-3 Evaporator knock out drum C-6 High boiler condenser (NIU) T-4, AB, 2-sided tank (product recovery) C-1 Steam stripping column T-6 Hi-boiler purge tank - (50 gal) E-2 Stripping column condenser T-7B Feed tank (12,500 gallon) T-9 Weak caustic storage (5800 gallon) T-12 Wastewater storage (11,200 gallon) C-2 Extraction column T-11 A&B Pyridine storage (11,200 gallon) T1 Azeotropic surge tank (off C1, 125 gallon) C-3 Final drying column E-3 Product column condenser T-7A Feed tank (12,500 gallon) Tank A (50 gal)	67642	packed tower type wet scrubber (GG-6532, 7.57 gallons per minute liquid injection - 30 percent Acetic Acid)
69011  69024 69515 69021 69516 69019 69514 69017 69022 69027 69518 69025 69026 69517  69020	zidovudine recovery unit: T7C Pyridine mother liquor storage (24,000 gallon) J101 Vacuum pump (NIU) ZIDD Ethylacetate T-102 Decanter (NIU) T-51 Tank E101 Condenser (for C2) (NIU) T-52 Tank E-103 Vent condenser (NIU) T-50 ZIDL storage E-105 Feed preheater T-104 Knock out pot (NIU) C-101 Extraction column T-53B Raffinate waste (1500 gallon) T-101 Extraction surge tank C-102 Stripping column T-53A Raffinate waste (1500 gallon) E-102 Reboiler (NIU) Tank A (50 gal)	NA	NA

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T43966 T1103 T1104 T1105 T1107A T1107B T1108A T1108B T1106 T1110A T1110B T1109	Acetic Anhydride recovery tank Acetic Anhydride surge tank Toluene receiver Toluene receiver Toluene recovery tank (2000 gallon) Toluene recovery tank (2000 gallon) Toluene recovery tank (2000 gallon) Toluene recovery tank (2000 gallon) Acetic acid tank Tank - 15,000 gallon mother liquid Tank - 15,000 gallon mother liquid Tank - 15,000 gallon mother liquid	NA	NA
<b>Chemical Development Laboratory (CDL) Research Complex</b>			
CDLRC	CDL Research Complex	CDLRC-1	packed tower type scrubber (150 gallon per minute of 20% NaOH solution minimum injection rate) installed on natural gas-fired thermal oxidizer (20 million Btu per hour minimum heat input rate)
<b>Chemical Manufacturing Division (DPC) Tank Farm</b>			
09636	7800 gallon horizontal tank - Pyridine	NA	NA
09635	5300 gallon horizontal tank - MeCl <sub>2</sub>	NA	NA
07434	6600 gallon horizontal tank - Formamide	NA	NA
09638	12,000 gallon horizontal tank - Ethyl Acetate	NA	NA
	3800 gallon horizontal tank - Sulfuric Acid	NA	NA
	6000 gallon vertical tank - Dimethyl Sulfurxide	NA	NA
28002	vertical tank - Acetic Anhydride	NA	NA
28001	vertical tank - Acetic Anhydride	NA	NA
68914	10,000 gallon vertical tank - Dimethyl Formamide	NA	NA
44842	5000 gallon tank - Forecut waste	NA	NA

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43968 NSPS Kb	22,000 gallon tank - Acetic anhydride	NA	NA
07435	8800 gallon tank - Denatured Alcohol	NA	NA
10924	8800 gallon tank - Denatured Alcohol	NA	NA
2040-D	4000 gallon tank - Tri-methoprim waste	NA	NA
47854	7500 gallon tank - Methyl Alcohol	NA	NA
47858	7500 gallon tank - Sodium Methylate	NA	NA
A	5000 gallon tank - Chloroform	NA	NA
C	10,000 gallon tank - N,N Dimethyl formamide	NA	NA
D	5000 gallon tank - Ethyl Acetate	NA	NA
T-124	6400 gallon tank - Acetic Acid	NA	NA
07436	6100 gallon horizontal tank - Acetone/Toluene	NA	NA
10131	10,472 gallon horizontal tank - Acetone	NA	NA
09325	10,000 gallon horizontal tank - Acetone	NA	NA
B	9000 gallon vertical tank - SD3 Alcohol	NA	NA
07435	8800 gallon vertical tank - SD3A DPC	NA	NA
07438	8800 gallon vertical tank - SD3A alcohol	NA	NA
07433	4000 gallon horizontal tank-chloroform	NA	NA
07432	4000 gallon horizontal tank-chloroform	NA	NA
08895	8000 gallon vertical tank - Methanol	NA	NA
61864	10,000 gallon vertical tank - Acetic Anhydride	NA	NA
61865	15,000 gallon vertical tank - Toluene	NA	NA
61863	2000 gallon vertical tank - Acetic Anydride	NA	NA
43966 NSPS Kb	24,000 gallon horizontal tank - Acetic Anhydride	NA	NA
43967 NSPS	20,600 gallon horizontal tank - Mother Liquor (ZIDF M.L.)	NA	NA

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<b>Wastewater Treatment Facility</b>			
		CC-1 on WW-BSN	carbon canister (1800 pounds of carbon, not required for operation)
		CC-2 on WW-ST	carbon canister (1800 pounds of carbon)
T-125	spent caustic solution storage tank (10,000 gallon)	NA	NA