

Fact Sheet



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

Permit Number: **R30-10700001-2021 (5 of 14)**
Application Received: **June 23, 2021**
Plant Identification Number: **03-054-107-00001**
Permittee: **DuPont Specialty Products USA, LLC**
Facility Name: **Nylon Resins Production (Part 5 of 14)**
Mailing Address: **P. O. Box 2800, Washington, WV 26181**

Physical Location: Washington, Wood County, West Virginia
UTM Coordinates: 422.27 km Easting • 4,346.57 km Northing • Zone 17
Directions: From I-77 take the Route 50 bypass around Parkersburg towards Ohio. At the last exit prior to the bridge exit from the route 50 Bypass on to DuPont Road. At the light turn left on DuPont road. Approximately ½ mile from the turn you will see the Site on your right and be approaching the exit from the road for the main gate to the facility.

Facility Description

Raw materials (organic acids and base) are transported to the site by railcars or trucks. The organic acids are powders that are pneumatically conveyed into storage hoppers or handled in bags. A liquid organic base is mixed with water in the railcar or truck, and then pumped into a storage tank. The organic acids and base are mixed with water in an atmospheric vessel to create the raw material (salt) for the polymer. The salt is held in tanks until pumped to the polymerization process.

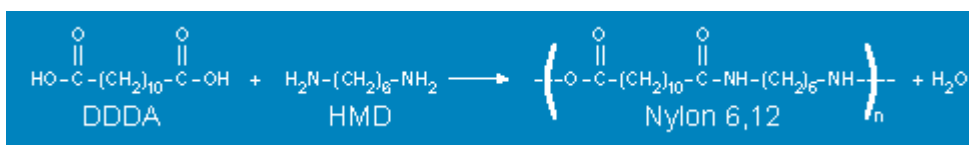
The salt can be pumped to an evaporator vessel for concentration using indirect steam heating, directly to an autoclave polymerization vessel, or it can be pumped to a continuous process system. A physical process of concentration of the water-based salt solution is what occurs in the evaporator before being sent to the autoclave. Nylon polymer is produced in the autoclave or in the continuous MPW1 process through application of heat and pressure. Water of dilution is driven off, as is water of reaction, creating nylon from a condensation reaction. The vapor emissions are directed to a scrubber. When enough water has been driven off, the desired viscosity has been reached.

Nitrogen is used to pressure up the autoclave to allow the polymer to exit the bottom of the vessel through a valve and die assembly. The desired viscosity resin is pumped directly from the continuous system to a die assembly. Strands or ribbons of molten polymer are water quenched and cut by a pelletizer or dicer into small pellets, which are then screened and conveyed into a blender/dryer vessel. Residual moisture is removed in the dryer, and the pellets are pneumatically conveyed to a screener to remove longs and fines and then to a bin. The pellets are then packaged into bags or boxes and shipped to the warehouse or directly to customers.

Typically, the batch autoclaves produce 6,12 nylon in accordance with the following polyamide chemistry:

Nylon 6,12

Nylons are the polyamide products from the polycondensation of diamines with dicarboxylic acids. Dodecanedioic Acid (DDDA) is used as the diacid monomer in Nylon 6,12 adhesives, resins and filaments.



The continuous process employed by the MPW1 process area utilizes a plug flow reactor, which produces nylon 6,6 as its primarily product.

SIC Codes: 2819, 2821, 2824.

Emissions Summary

Plantwide Emissions Summary [Tons per Year]		
Regulated Pollutants	Potential Emissions Part 5 of 14	2020 Facility-Wide Actual Emissions
Carbon Monoxide (CO)	6.14	10.01
Nitrogen Oxides (NO _x)	82.76	39.54
Particulate Matter (PM _{2.5})	102.74	3.77
Particulate Matter (PM ₁₀)	104.31	4.66
Total Particulate Matter (TSP)	141.35	35.77
Sulfur Dioxide (SO ₂)	0.38	0.66
Volatile Organic Compounds (VOC)	4.05	53.99

PM₁₀ is a component of TSP.

Hazardous Air Pollutants	Potential Emissions Part 5 of 14	2020 Facility-Wide Actual Emissions
BiPhenyl (fugitives)	0.4	0.19
Ethylene Glycol (fugitives)	0.8	0.05
Glycol ethers (fugitives)	1	0.35

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

Title V Program Applicability Basis

Due to potential to emit over 100 tons per year of criteria pollutants, over 10 tons per year of an individual HAP, and over 25 tons per year of aggregate HAPs, DuPont Specialty Products USA, LLC 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 facility has been found to be subject to the following applicable rules:

Federal and State:	45CSR2	To Prevent and Control Particulate Air Pollution from Combustion of Fuel in Indirect Heat Exchangers
	45CSR6	Open burning prohibited
	45CSR7	Control of Particulate Matter from Manufacturing Processes
	45CSR10	To Prevent and Control Air Pollutant from the Emissions of Sulfur Oxides
	45CSR11	Standby plans for emergency episodes.
	45CSR13	Permits for construction/modification
	45CSR16	Standards of Performance For New Stationary Sources
	WV Code § 22-5-4 (a) (14)(15)	The Secretary can request any pertinent information such as annual emission inventory reporting.
	45CSR30	Operating permit requirement.
	45CSR34	Emission Standards for HAPs
	40CFR60 Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units
	40CFR61	Asbestos inspection and removal
	40CFR63 Subpart DDDDD	NESHAP for Major Sources: Industrial, Commercial and Institutional Boilers and Process Heaters
	40CFR68	Chemical Accident Prevention Provisions
	40CFR82 Subpart F	Ozone depleting substances
State Only:	45CSR4	No objectionable odors.
	45CSR21	Control of VOCs

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 40CFR Part 60 (NSPS), 40CFR Part 61 (NESHAPs), and 40 CFR 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>)
R13-0278	01-14-1977	
R13-0985	01-21-1988	PD15-088 Salt Scrubbers
R13-1686H	05-29-2018	PD15-087 de minimus Bandsaw
R13-1145G	11-16-2018	
R13-2617N	10-15-2021	PD15-097

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

The following changes have been made since the most recent version of this permit:

- SIC codes 2819 and 2824 added.
- 1.0 Emission Units table was updated and reorganized so that the Emission Point IDs are closer to numerical order as provided in the application.
- 157-4C baghouse description added.
- 252-81-C bagfilter description added.
- R13-2617N not removed from applicable permit list as a placeholder at request of applicant. Permit issued on 10-15-2021.
- References to 40 CFR 60 changed to 40 CFR 63 in section 3.7.2. j. and k. (typographical errors)
- ZADCE and Z599E were removed from the listing of affected sources in conditions 5.1.8. and 5.1.9. because according to the applicant ZADCE and Z599E have been removed from the facility.
- Emission point 152Z-1-5E was deleted from condition 5.1.8. This emission point was deleted from the table and the list following the table in condition 5.1.9. This emission point is no longer in use.
- The control device 152Z-1C-6C was deleted from 5.1.12. They were the controls for 152Z-1-5E that are no longer in use.
- Z408 was removed from conditions 6.1.3 and 6.1.4 because according to the applicant Z408 has been removed from the facility.
- Corrected cross reference in condition 7.4.3 for 45CSR§21-30.4 (~~7.1.47.3.2~~)
- Deleted reference to 40 C.F.R. §§63.7575(a) through (h) in condition 8.1.3.

- Section 8.5.3. was updated deleting requirements from 40 C.F.R. §63.7550(c)(5) (iv) and adding 40 C.F.R. §63.7550(c)(5)(xvii).
 - o Section (iv) deleted
 - o (xvii) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.
 - o Citations changed to reflect changes to this section [45CSR34; 40 C.F.R. §§63.7550(a), (b), and (c)(1); 40 C.F.R. §§63.7550(c)(5)(i) through (iviii), ~~(xi), and (xiv)~~, and (xvii); 40 C.F.R. §63.7550(h)(3)]

Non-Applicability Determinations

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

1. 40 C.F.R. 60, Subpart K - "Standards of Performance For Storage Vessels For Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978." There are no petroleum liquid storage tanks in the Nylon Resins Production Area.
2. 40 C.F.R. 60, Subpart Ka - "Standards of Performance for Storage Vessels For Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984." There are no petroleum liquid storage tanks in the Nylon Resins Production Area.
3. 40 C.F.R. 60, Subpart Kb - "Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984." There are no volatile organic liquid storage tanks in the Nylon Resins Production Area.
4. 40 C.F.R. 60, Subpart VV - "Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry." The Nylon Resins Production Area does not produce as intermediates or final products any of the materials listed in 40 C.F.R. §60.489.
5. 40 C.F.R. 60, Subpart DDD - "Standards of Performance for Volatile Organic Compound (VOC) Emissions from the Polymer Manufacturing Industry." The Nylon Resins Production Area does not manufacture polypropylene, polyethylene, polystyrene, or poly(ethylene terephthalate) for which this rule applies.
6. 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 Nylon Resins Production Area does not produce any of the chemicals listed in 40 C.F.R. §60.707 as a product, co-product, by-product, or intermediate.
7. 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 Nylon Resins Production Area.
8. 40 C.F.R. 63, Subpart H - "National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks." 40 C.F.R. 63 Subparts F, 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).

9. 40 C.F.R. 63, Subpart JJJ - “National Emission Standards for Hazardous Air Pollutant Emissions: Group IV Polymers and Resins.” The Nylon Resins Production Area does not produce the materials listed in 40 C.F.R. §63.1310.
10. 40 C.F.R. 63, Subpart EEEE – “National Emission Standard for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline).” The Nylon Resins Production Area does not distribute organic liquids as defined by 40 C.F.R. §63.2406.
11. 40 C.F.R.63, Subpart FFFF – “National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing.” The Nylon Resins Production Area does not manufacture any material or family of materials defined in 40 C.F.R. §63.2435(b)(1)(i) through (v).
12. 40 C.F.R. 63, Subpart PPPP – “National Emission Standards for Hazardous Air Pollutants: Surface Coating of Plastic Parts and Products.” The Nylon Resins Production Area does not produce an intermediate or final product that meets the definition of “surface coated” plastic part.
13. 40 C.F.R. 63, Subpart WWWW - “National Emission Standards for Hazardous Air Pollutants: Reinforced Plastic Composites Production.” The Nylon Resins Production Area 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.
14. 40 C.F.R. 82, Subpart B - “Protection of Stratospheric Ozone.” Requires recycling of Chlorofluorocarbons (CFCs) from motor vehicles and that technicians servicing equipment need to be licensed. The Nylon Resins Production Area does not conduct motor vehicle maintenance involving CFCs on site.
15. 40 C.F.R. 82, Subpart C – “Protection of Stratospheric Ozone.” Bans non-essential products containing Class I substances and bans non-essential products containing or manufactured with Class II substances. The Nylon Resins Production Area does not use, manufacture, nor distribute these materials.
16. 40 C.F.R. Part 64 – “Compliance Assurance Monitoring.” At the time of this renewal there are no emission units at the facility that meet all three applicability criteria in 40 C.F.R. §§64.2(a)(1) through (3); therefore, CAM is not applicable.

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: October 25, 2021
Ending Date: November 24, 2021

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.

Response to Comments (Statement of Basis)

Not applicable.