

Fact Sheet



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

Permit Number: **R30-10700182-2016**
Application Received: **March 23, 2015**
Plant Identification Number: **10700182**
Permittee: **The Chemours Company FC, LLC**
Facility Name: **Washington Works**
Business Unit: **Acrylic Resin Production (Part 1 of 14)**
Mailing Address: **P. O. Box 1217, Washington, WV 26181-1217**

Physical Location: Washington, Wood County, West Virginia
UTM Coordinates: 442.368 km Easting • 4,346.679 km Northing • Zone 17
Directions: From I-77, take the Route 50 bypass around Parkersburg towards Ohio. Take the last exit prior to the bridge exit from the Route 50 Bypass onto DuPont Road. At the light turn left onto DuPont road. The facility is on the right approximately ½ miles from the turn.

Facility Description

In the Acrylic Resin Manufacturing Unit, various raw materials are received from vendors and are used to polymerize polyacrylate bead that is then isolated from the reaction mass, dried, and packaged for shipment to customers.

Emissions Summary

Plantwide Emissions Summary [Tons per Year]		
Regulated Pollutants	Potential Emissions Part 1 of 14	2014 Actual Emissions Part 1 of 14
Carbon Monoxide (CO)	0.0	0.0
Nitrogen Oxides (NO _x)	0.0	0.0
Particulate Matter (PM _{2.5})	0.74	0.04
Particulate Matter (PM ₁₀)	12.27	0.65
Total Particulate Matter (TSP)	112.5	2.61
Sulfur Dioxide (SO ₂)	0.0	0.0
Volatile Organic Compounds (VOC)	34.39	5.96

PM₁₀ is a component of TSP.

Hazardous Air Pollutants	Potential Emissions Part 1 of 14	2014 Actual Emissions Part 1 of 14
Methyl Methacrylate	25.69	3.56
Total HAPs	29.07	4.23

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

Title V Program Applicability Basis

Due to the facility-wide 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 aggregate HAPs, Chemours Washington Works 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:	45CSR6	Open burning prohibited.
	45CSR7	Particulate matter and opacity limits for manufacturing sources.
	45CSR11	Standby plans for emergency episodes.
	45CSR13	Preconstruction permits for minor sources.
	WV Code § 22-5-4 (a) (14)	The Secretary can request any pertinent information such as annual emission inventory reporting.
	45CSR30	Operating permit requirement.
	45CSR34	Emission Standards for Hazardous Air Pollutants.

	40 C.F.R. Part 61	Asbestos inspection and removal
	40 C.F.R. 63, Subpart FFFF	Miscellaneous organic chemical manufacturing (MON) MACT.
	40 C.F.R. Part 82, Subpart F	Ozone depleting substances
State Only:	45CSR4	No objectionable odors.
	45CSR§21-30	Control of VOC emissions from cold and solvent metal cleaning.
	45CSR§21-40	Control of VOC emissions
	45CSR27	Best Available Technology (BAT) for HAPs

Each State and Federally-enforceable condition of the Title V Operating Permit references the specific relevant requirements of 45CSR30 or the applicable requirement upon which it is based. Any condition of the Title V permit that is enforceable by the State but is not Federally-enforceable is identified in the Title V permit as such.

The Secretary's authority to require standards under 40 C.F.R. Part 60 (NSPS), 40 C.F.R. Part 61 (NESHAPs), and 40 C.F.R. Part 63 (NESHAPs MACT) is provided in West Virginia Code §§ 22-5-1 *et seq.*, 45CSR16, 45CSR34 and 45CSR30.

Active Permits/Consent Orders

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit (<i>if any</i>)
R13-0181D	11/13/2015	
R13-3223	12/08/2014	

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 Title V Permit:

Miscellaneous:

The greenhouse gas reporting requirements of Conditions 3.1.13 and 3.5.11 have been removed.
 The boilerplate has been updated to the most current version of the Title V Permit.
 The facility name and ID have been changed from "E.I. du Pont de Nemours and Company" and "10700001" to "The Chemours Company FC, LLC" and "10700182" due to the transfer of ownership.

R13-0181D

The following changes from R13-0181C to R13-0181D also incorporate the R30-10700182-2010 (Part 1 of 14) AA02 administrative amendment into this renewal:

- 1) **Changes to the Emission Units Table in Section 1.0.** The Emission Units Table has been updated to remove/revise the following Emission Sources from R13-0181D:

Emission Unit ID	Emission Point ID	Emission Source Description	Control Device
A010.2S	A010E	1B Storage Tank	A010C
A050S	A050E	3S Storage Tank	NA
A080.2S A040.1S	A080E A040.1E	4E Storage Tank	NA
A105S	NA	8 Storage Tank	Closed System
A120S	A120E	#1 Indoor Storage Tank	NA
A130.1S A110.1S	A130E A140E A110E	#5 Indoor Storage Tank	NA
A130.4S	A130E A140E	#3 Indoor Storage Tank	NA
A130.5S	A130E A140E	DDM Indoor Storage Tank	NA
A130.6S	A130E A140E A130.6E	DDM Indoor Ingredient 8 Storage Tank	NA
A180S	A180E	Catalyst Initiator Mix Tank	N/A A180C
A190S	A190E	Catalyst Run Tank	NA
A191S	A190E	Initiator Run Tank	NA
A200S	A200E	Ingredient 11 Run Tank	NA
A220S	A130E A140E	Ingredient 12 System Run Tank	NA
A220.1S	A200E	Ingredient 12 Hold Tank	NA
A220.2S	A200E	Ingredient 12 Mix Tank	NA
A260.1S	NA A200E	Ingredient 22 System Hold Tank	NA
A260.2S	A200E	Ingredient 22 Storage Tank	NA
A270S	A270E	Brine Tank	NA
A290.3S	A290E	Alternate Liquids Microscale Tank	NA
A470S	A470E	Acrylics Lab	NA
A480S	A480E	S. Pk Room Lab Hood	NA
A LabHoods A471S/A472S	A LabHoods A471E/A472E	A LabHoods	NA

2) Changes in Table 4.1.2 Insignificant Sources and Activities.

Table 4.1.2. Insignificant Sources and Activities

Emission Unit ID	Emission Point ID
A130.6S	A130E & A140E <u>A130.6E</u>
<u>A180S</u>	<u>A180E</u>
<u>A191S</u>	<u>A190E</u>
A200S	A200E
A270S	A270E
A470S	A470E
A480S	A480E
<u>A LabHoods (A471S/A472S)</u>	<u>A471E/A472E</u>

3) Changes in Condition 4.1.1 Emission Limits:

Emission Point	Pollutant	Emissions Limits	
		pph	tpy
<u>A040.1E</u>	<u>VOC</u>	<u>1.7</u>	<u>0.04</u>
A050E	VOC Methanol	7.2 7.17	0.30 0.298
A080E	VOC Methyl Methacrylate	4.2 4.16	1.41 <u>1.19</u> 1.408 <u>1.188</u>
A120E	VOC Ethyl Acrylate	1.9 1.83	0.021 0.021
A160E	PM ₁₀	1.3	0.10 <u>0.09</u>
A180E	VOC Methanol	2.2 2.13	0.103 0.103
A190E	VOC Methanol	4.6 4.56	0.09 0.09
A310E	VOC Acrylic Acid Ethyl Acrylate Methanol Methyl Methacrylate	0.30 <u>0.24</u> 0.01 0.03 0.06 0.18	0.720 <u>0.587</u> 0.001 0.060 0.133 0.441
A320E	VOC Acrylic Acid Ethyl Acrylate Methanol Methyl Methacrylate	0.20 <u>0.17</u> 0.01 0.02 0.03 0.09	0.360 <u>0.29</u> 0.001 0.030 0.070 0.221

A350E	PM ₁₀	1.8	4.36
	VOC	0.1	0.13
	Acrylic Acid	0.01	0.001
	Ethyl Acrylate	0.01	0.024
	Methanol	0.02	0.051
	Methyl Methacrylate	0.02	0.042
A390.1E	PM ₁₀	1.1	3.84
	VOC	0.1	0.09
	Acrylic Acid	0.01	0.001
	Ethyl Acrylate	0.01	0.016
	Methanol	0.01	0.033
	Methyl Methacrylate	0.01	0.027
A390.2E	PM ₁₀	1.1	3.84
	VOC	0.1	0.09
	Acrylic Acid	0.01	0.001
	Ethyl Acrylate	0.01	0.016
	Methanol	0.01	0.033
	Methyl Methacrylate	0.01	0.027
A450E	VOC	0.3	0.72
	Acrylic Acid	0.01	0.001
	Ethyl Acrylate	0.03	0.060
	Methanol	0.06	0.133
	Methyl Methacrylate	0.18	0.441
A470E	Methylene Chloride	0.01	0.001
<u>A LabHoods</u> <u>A471E/A472E</u>	<u>Methylene Chloride</u>	<u>0.01</u>	<u>0.001</u>
	<u>Toluene</u>	<u>0.01</u>	<u>0.001</u>
	<u>Methanol</u>	<u>0.01</u>	<u>0.001</u>

4) Changes in Condition 4.2.1 Monitoring Requirements:

The phrase “Monitoring shall be conducted at least once per month with a maximum of forty-five (45) days between consecutive readings.” has been revised to “Monitoring shall be conducted at least once per month.” This change has been made to provide consistency with the majority of other units with the same monitoring requirements at this facility that have this language.

5) Changes in Attachment A – Monthly Production & Throughput Report

The following changes have been made to the Storage Tanks table in Attachment A:

Storage Tanks

Equipment ID	Material Stored	Max Fill Rate (gpm)	Monthly Throughput (gal)	12 Month Total Throughput (gal)	12 Month Total Emissions ²		
					Breathing	Working	Total
A010.2S	EA						
A050S	MeOH						
A080.2S	MMA						
A120S	EA						
A130.1S	MMA VOC						
A130.5S	VOC						
A130.6S	VOC						
A180S	MeOH						
A190S	MeOH						

6) Changes in Attachment B Storage Tanks and Process Equipment Tables VOC & HAP and PM10:

The following changes have been made to Attachment B:

Storage Tanks

Emission Point ID	Equipment ID	Control Device ID	VOC		EA		MMA		MeOH	
			Max. pph	ppy ²	Max. pph	ppy ²	Max. pph	ppy ²	Max. pph	ppy ²
A010E	A010.1S & .2S	A010C								
A040.1E	A040.1S	NA								
A080E	A080.1S & .2S	NA								
A130E	A130.1 .5S	NA								
	A130.2S, .3S, .6S									
A140E	A130.1 .5S	NA								
	A130.2S, .3S, .6S									
A180E	A180S	NA								
A190E	A190S	NA								

Process Equipment – VOC & HAP

Emission Point ID	Equipment ID	Control Device ID	VOC		AA		EA		MMA		MeOH	
			Max. pph	ppy ²	Max. pph	ppy ²	Max. pph	ppy ²	Max. pph	ppy ²	Max. pph	ppy ²
A390.1E	A390.1S A390.2S A390.3S	A390.1C										
A390.2E	A390.1S A390.2S A390.3S	A390.2C										

Process Equipment – PM10

Emission Point ID	Equipment ID	Control Device ID	PM10	
			Max. pph	ppy ²
A390.1E	A390.1S, A390.2S, A390.3S, A390.5S	A390.1C		
A390.2E	A390.1S, A390.2S, A390.3S, A390.5S	A390.2C		
A390.6E	A390.6S	A390.6C		

7) Changes in Attachment C Methyl Methacrylate (MMA), Methanol, and VOC Emissions Reports:

The following changes have been made to Attachment C:

Storage Tank Throughput Summary

Emission Point ID	12-Month Total Throughput (gal)												12 Month Total
	DEC	NOV	OCT	SEP	AUG	JUL	JUN	MAY	APR	MAR	FEB	JAN	
A010E													
A020E													
A030E													
A040E													
A070E													
A080E													

A040.1E															
A110E															
A130E/A140E															
A130E/A140E															
A130E/A140E															
A130.6E															

Acrylic Acid (AA) Emissions (lb)

Emission Point ID	Equipment-ID	DEC	NOV	OCT	SEP	AUG	JUL	JUN	MAY	APR	MAR	FEB	JAN	12 Month Total
A290E	A290.1-3S, A440.1-3S													
A300E	A440.4 & .5S													
A450E	A440.1-.5S													
A310E	A310.1 & .2S													
A320E	A320S													

Acrylic Acid (AA) Emissions (lb)

Emission Point ID	DEC	NOV	OCT	SEP	AUG	JUL	JUN	MAY	APR	MAR	FEB	JAN	12 Month Total
A010E													
A290E													
A300E													
A450E													
A310E													
A320E													
A350E													
A390.1E													
A390.2E													

Methyl Methacrylate (MMA) Emissions (lb)

Emission Point ID	Equipment-ID	DEC	NOV	OCT	SEP	AUG	JUL	JUN	MAY	APR	MAR	FEB	JAN	12 Month Total
A080E	A080.1 & .2S													
A130E	A130.1-.5S													
A140E	A130.1-.5S													
A290E	A290.1-3S, A440.1-3S													
A300E	A440.4 & .5S													
A450E	A440.1-.5S													
A310E	A310.1 & .2S													
A320E	A320S													
A350E	A350.3S													
A390.1E	A390.3S													

A390.2E	A390.3S													

Methanol (MeOH) Emissions (lb)

Emission Point ID	Equipment ID														12 Month Total
A050E	A050S														
A180E	A180S														
A190E	A190S														
A450E	A440.1-.5S														
A310E	A310.1 & .2S														
A320E	A320S														
A350E	A350.3S														
A390.1E	A390.3S														
A390.2E	A390.3S														

VOC Emissions (lb)

Emission Point ID	Equipment ID	DEC	NOV	OCT	SEP	AUG	JUL	JUN	MAY	APR	MAR	FEB	JAN	12 Month Total
A010E	A010.1 & .2S													
A020E	A020S													
A030E	A030S													
A040E	A040S													
A040.1E														
A050E	A050S													
A070E	A070S													
A080E	A080.1 & .2S													
A110E	A110S													
A120E	A120S													
A130E	A130.1-.5S													
A140E	A130.1-.5S													
A180E	A180S													
A190E	A190S													
A290E	A290.1-.3S, A440.1-.3S													
A300E	A440.4 & .5S													
A310E	A440.1-.5S													
A320E	A310.1 & .2S													
A350E	A350.3S													
A390.1E	A390.3S													
A390.2E	A390.3S													
A450E														

PM₁₀ Emissions (lb)

Emission Point ID	Equipment ID	DEC	NOV	OCT	SEP	AUG	JUL	JUN	MAY	APR	MAR	FEB	JAN	12 Month Total
A160E	A160.1-.4S													

A260E	A260S													
A350E	A350.2S, A350.3S, A350.4S, A350.6S, A350.7S, A350.8S, A390.5S, A390.7S													
A390.1E	A390.2S, A390.3S, A390.5S													
A390.2E	A390.2S, A390.3S, A390.5S													
A390.6E	A390.6S													
A390.8E	A390.8S													

Non-Applicability Determinations

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

- a. 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 Acrylic Resin Production Area.
- b. 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 Acrylic Resin Production Area.
- c. 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 Acrylic Resin Production Area constructed after July 23, 1984 with a design capacity equal to or greater than 75 cubic meters (m³).
- d. 40 C.F.R. 60, Subpart VV - “Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry.” The Acrylic Resin Production Area does not produce as intermediates or final products any of the materials listed in 40 C.F.R. §60.489.
- e. 40 C.F.R. 60, Subpart DDD - “Standards of Performance for Volatile Organic Compound (VOC) Emissions from the Polymer Manufacturing Industry.” The Acrylic Resin Production Area does not manufacture polypropylene, polyethylene, polystyrene, or poly(ethylene terephthalate) for which this rule applies.
- f. 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 Acrylic Resin 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.
- g. 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 Acrylic Resin Production Area.

- h. 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).
- i. 40 C.F.R. 63, Subpart JJJ - “National Emission Standards for Hazardous Air Pollutant Emissions: Group IV Polymers and Resins.” The Acrylic Resin Production Area does not produce the materials listed in 40 C.F.R. §63.1310.
- j. 40 C.F.R. 60, Subpart EEEE – “National Emission Standard for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline).” The Acrylic Resin Production Area does not distribute organic liquids as defined by 40 C.F.R. §63.2406.
- k. 40 C.F.R. 63, Subpart PPPP – “National Emission Standards for Hazardous Air Pollutants: Surface Coating of Plastic Parts and Products.” The Acrylic Resin Production Area does not produce as an intermediate or final product that meets the definition of “surface coated” plastic part.
- l. 40 C.F.R. 63, Subpart WWWW - “National Emission Standards for Hazardous Air Pollutants: Reinforced Plastic Composites Production.” The Acrylic Resin 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.
- m. 40 C.F.R. 63, Subpart ZZZZ – “National Emission Standards for Hazardous Air Pollutants: Reciprocating Internal Combustion Engines.” The Acrylic Resin Production Area does not have a stationary Reciprocating Internal Combustion Engine (RICE) as defined by 40 C.F.R. §63.6675.
- n. 40 C.F.R. 63, Subpart DDDDD – “National Emission Standards for Hazardous Air Pollutants: Industrial/Commercial/Institutional Boilers and Process Heaters.” The Acrylic Resin Production Area does not own or operate an industrial, commercial, or institutional boiler or process heater as defined in 40 C.F.R. §63.7575 of the proposed rule.
- o. 40 C.F.R. 63, Subpart HHHHH – “National Emission Standards for Hazardous Air Pollutants: Miscellaneous Coating Manufacturing.” The Acrylic Resin Production Area does not produce, blend, or manufacture coatings as part of the manufacturing process.
- p. 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 Acrylic Resin Production Area does not conduct motor vehicle maintenance involving CFCs on site.
- q. 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 Acrylic Resin Production Area does not use, manufacture, nor distribute these materials.
- r. 45CSR2 – “To Prevent and Control Particulate Air Pollution from Combustion of Fuel in Indirect Heat Exchangers.” The Acrylic Resin Production Area does not contain any fuel burning units.
- s. 45CSR10 – “To Prevent and Control Air Pollution from the Emission of Sulfur Oxides.” The Acrylic Resin Production Area does not contain any fuel burning units subject to the sulfur dioxide weight emission standards of 45CSR§10-3. Also, per 45CSR§10-4.1.e, manufacturing process source operations in the Acrylic Resin Production Area are exempt from the sulfur dioxide concentration limits of 45CSR§10-4.1 because the potential to emit of sulfur dioxide is less than 500 pounds per year.

- t. 45CSR16 – “Standards of Performance for New Stationary Sources Pursuant to 40 C.F.R. 60.” The Acrylic Resin Production Area is not subject to any requirements under 40 C.F.R. 60.
- u. 45CSR17 – “To Prevent and Control Particulate Matter Air Pollution from Materials Handling, Preparation, Storage and Other Sources of Fugitive Particulate Matter.” Per 45CSR§17-6.1, the Acrylic Resin Production Area is not subject to 45CSR17 because it is subject to the fugitive particulate matter emission requirements of 45CSR7.
- v. 40CFR64 – “Compliance Assurance Monitoring (CAM)”
There have been no changes to this Part 1 that increased any Pollutant Specific Emission Unit’s pre-control device PTE to at least 100 percent of the amount, in tons per year, required for the source to be classified as a major source.

Request for Variances or Alternatives

None

Insignificant Activities

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

Comment Period

Beginning Date: December 7, 2015
Ending Date: January 6, 2016

Point of Contact

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

Mike Egnor
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304
Phone: 304/926-0499 ext. 1208 • Fax: 304/926-0478
michael.egnor@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.