

I Source Information

1. Product Description:

DuPont Specialty Products USA, LLC manufactures vinyl fluoride.

2. Site Determination:

DuPont Specialty Products USA, LLC split into two separate companies July 2015. The majority of the processes were retained by the Chemours Company FC, LLC and DuPont retained Emission Unit U6, VF Process. Both companies are in the same major industrial grouping. Chemours owns all of the property bounded by the current DuPont site and DuPont leases the portion of the property where Emission Unit U6 is located. Chemours and DuPont are their own independent companies and do not share any common ownership or control. Each facility’s operations are conducted by its own employees, with its own equipment, under its own permits, and in compliance with its own corporate directions and policies. Each company is a separate source.

3. Emission Unit Summary:

Emission Unit	Equipment Description
U6	VF Process – Vinyl fluoride production
UIA1	Cold Solvent Parts Cleaners

4. Fugitive Sources:

The fugitive sources identified by the source are VOCs from the VF process.

5. Permit Revisions:

Permit No.	Public Notice Date	Issue Date	Change Type	Description/Scope
O-1912-16-V	07/10/2016	08/31/2016	Initial	Initial Permit Issuance. DuPont processes were split off from a larger operation which is now Chemours.
O-1912-16-V (R1)	01/31/2019	03/26/2019	Admin	Ownership and Name Change
O-1912-22-V	06/11/2022	07/26/2022	Renewal	Permit Renewal

6. Application and Related Documents

Document Number	Date	Description
195612	03/01/2021	Public Renewal TV Application
195613	03/01/2021	Confidential Renewal TV Application
202514	3/22/2021	Administratively Complete Letter
218896	05/10/2021	Insignificant Activities AP-100P
246738	08/13/2021	Installing a new recoverd HF tank and new HF adsorbers

7. Construction Permit History:

Permit No.	Effective Date	Description
C-1912-0031-21-V	10/18/2021	Installing a new recoverd HF tank and new HF adsorbers

8. Emission Summary

Pollutant	District Calculated Actual Emissions (tpy) 2019 Data	Pollutant that triggered Major Source Status (based on PTE)
CO	1.35	No
NO _x	1.61	No
SO ₂	0.0097	No
PM	0.0052	No
PM ₁₀	0.0032	No
PM _{2.5}	0.0018	No
VOC	3.81	No
Total HAPs	2.08	No
Single HAP > 1 tpy		
Hydrogen Fluoride	2.05	No*

* Source is a major due to applicability of a major source MACT at the time of the compliance date for the NESHAP (40 CFR 63 Subpart FFFF).

9. Applicable Requirements

- 40 CFR 60 SIP 40 CFR 63
- 40 CFR 61 District Origin Other

10. Referenced Federal Regulations:

- 40 CFR 63 Subpart FFFF National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing
- 40 CFR 63 Subpart SS National Emission Standards for Closed Vent Systems, Control Devices, Recovery Devices and Routing to a Fuel Gas System or Process
- 40 CFR Subpart 68 Chemical Accident Prevention Provisions

1. Non-Applicable Regulations:

Regulation	Title	Reason for Non-applicability
40 CFR 63 Subpart DDDDD	National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters	Potential emissions are below 25 tpy of Total HAP and 10 tpy of Single HAP
40 CFR 63 Subpart JJJJJ	National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources	Does not apply to any gas-fired boilers per 63.11195(e)

II Regulatory Analysis

1. Acid Rain Requirements:

DuPont Specialty Products USA, LLC is not subject to the Acid Rain Program.

2. Stratospheric Ozone Protection Requirements:

Title VI of the CAAA regulates ozone depleting substances and requires a phase-out of their use. This rule applies to any facility that manufactures, sells, distributes, or otherwise uses any of the listed chemicals. DuPont Specialty Products USA, LLC does not manufacture, sell, or distribute any of the listed chemicals. The source’s use of listed chemicals is that in fire extinguishers, chillers, air conditioners and other HVAC equipment.

3. Prevention of Accidental Releases 112(r):

DuPont Specialty Products USA, LLC stores and processes vinyl fluoride in excess of the 10,000 pound threshold quantity and hydrogen fluoride (at greater than 50% concentration) in excess of the 1,000 pounds threshold quantity, and therefore, is required to comply with 40 CFR 68, *Chemical Accident Prevention Provisions*, Subpart G, *Risk Management Plan* and Regulation 5.15, *Chemical Accident Prevention Provisions*. A Plan was received October 2019.

4. 40 CFR Part 64 Applicability Determination:

DuPont Specialty Products USA, LLC is not subject to 40 CFR Part 64 - *Compliance Assurance Monitoring*.

5. Basis of Regulation Applicability

a. Applicable Regulations

Regulation	Title	Basis
5.15	Chemical Accident Prevention Provisions	Sets forth the list of regulated substances and thresholds and the requirements for owners or operators of stationary sources concerning the prevention of accidental releases.
6.07	Standards of Performance for Existing Indirect Heat Exchangers	Applies to boilers with heat generating capacities greater than 1 MMBtu/hr, modified before April 9, 1972, for PM and SO ₂ .
6.18	Solvent Metal Cleaning Equipment	Applies to each cold cleaners, open top vapor degreasers, and conveyORIZED degreasers that use volatile organic compounds (VOCs) to remove soluble impurities from metal surfaces.
6.24	Standard of Performance for Existing Sources Using Organic Materials	Applies to any affected facility using any organic materials which was in being or had a construction permit issued by the District prior to the effective date of this regulation except when a specific regulation exists for the source.
7.25	Standards of Performance for New Sources Using Volatile Organic Compounds	Establishes the requirements for VOC emissions from new processes that commence construction after December 16, 1987
40 CFR 63 Subpart SS	National Emission Standards for Closed Vent Systems, Control	Applies when another subpart references the use of this subpart for such air emission control. Includes

Regulation	Title	Basis
	Devices, Recovery Devices and Routing to a Fuel Gas System or Process	requirements for closed vent systems, control devices and routing of air emissions to a fuel gas system or process.
40 CFR 63 Subpart FFFF	National Emission Standards for Organic Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing	Establishes national emission standards for hazardous air pollutants (NESHAP) for miscellaneous organic chemical manufacturing. Notification of Compliance Status submitted April 17, 2009
40 CFR Subpart 68	Chemical Accident Prevention Provisions	

b. Plantwide

- i. Regulations 5.00 5.20, 5.21, and 5.23 (STAR Program) establish requirements for environmental acceptability of toxic air contaminants (TACs) and the requirement to comply with all applicable emission standards.
- ii. The potential uncontrolled Hydrogen Fluoride (Category 2 TAC) emissions are less than the de minimis rate of 7.6 pounds per hour and are less than the de minimis rate of 6,720 pounds per year.
- iii. Regulation 2.16, section 4.1.9.1 and 4.1.9.2 require monitoring and record keeping to assure ongoing compliance with the terms and conditions of the permit. The owner or operator shall maintain all the required records for a minimum of 5 years and make the records readily available to the District upon request.
- iv. Regulation 2.16, section 4.3.5, requires stationary sources for which a Title V is issued shall submit an annual compliance certification by April 15 of the following calendar year. In addition, as required by Regulation 2.16, section 4.1.9.3, the source shall submit compliance reports at least every six months to show compliance with the permit. Compliance reports and compliance certifications shall be signed by a responsible official and shall include a certification statement per Regulation 2.16, section 3.5.11.
- v. RE-401, VF Reactor, was removed in 2016.

c. Emission Unit U6 – VF Process

EP	Description	Applicable Regulations
U6000		
CL-405	Hydrogen Fluoride (HF) Recycle Distillation Column with Condenser (C-405) and Reboiler (BR-405)	STAR, 5.15, 7.25, 40 CFR 63 Subpart FFFF
CL-406	Raw Material (RM) Recycle Distillation Column with Condenser (C-406) and Reboiler (BR-406)	
CL-500	152a Removal Distillation Column with Condenser (C-500) and Reboiler (BR-500)	STAR, 40 CFR 63 Subpart FFFF ¹
CL-503	Tar Removal Distillation Column with Condenser (C-302) and Tar Concentrator (TR-302)	
CO-410	Vinyl Fluoride (VF) Reactor Outlet Cooler	STAR, 5.15, 7.25
CO-411	VF Crude Compressor Outlet (Recycle) Cooler	
F-430	VF Reactor Outlet Filter	
F-419	VF Crude Gas (1 st Stage) Filter	
H-405N	Process Heat Exchanger	
H-405S	Process Heat Exchanger	
H-407	Salt Heat Exchanger	
T-301	Recovered Product HF Tank and Cooler (CO-309)	STAR, 40 CFR 63 Subpart FFFF ¹
RE-402	VF Reactor	STAR, 5.15, 7.25, 40 CFR 63 Subpart FFFF
S-402	RM Vapor Liquid Separator	STAR, 5.15, 7.25
T-403	RM Vapor Liquid Separator	
TR-303	Receiver	NA
TR-304	Receiver	NA
TR-410	HF Recycle Process Tank	STAR, 40 CFR 63 Subpart FFFF ¹
V-301	Vent Reactor with Condenser 1994 to Vessel with Condenser (C-303)	STAR, 5.15, 7.25, 40 CFR 63 Subpart FFFF
V-402	RM Feed Vaporizer	

¹ These emission points from Unit U6000 Emission Points table do not contain VOCs.

EP	Description	Applicable Regulations
8275CP	VF Crude (1 st Stage) Compressor	STAR, 5.15, 7.25
U6001		
CL-407	VF Pure Distillation Column with Process Condenser (C-407) and Reboiler (BR-407)	STAR, 5.15, 7.25 40 CFR 63 Subpart FFFF
CO-413 a & b	Shell and Tube Cooler (VF Trailer Loading)	
F-409	Pure Column Filter	
F-410	Pure Column Filter	
TR-415	VF Product Receiver Tank with Condenser (C-415)	STAR, 5.15, 6.24
TR-416	VF Product Receiver Tank with Condenser (C-416)	
TR-417	VF Product Receiver Tank with Condenser (C-417)	
8850CP	VF Loading Compressor	STAR, 5.15, 7.25 40 CFR 63 Subpart FFFF
8880CP	VF Loading Compressor	
AD-402	HF Adsorbers	STAR, 40 CFR 63 Subpart FFFF ²
AD-403	HF Adsorbers	
U6002		
C-408	VF Sphere Compressor Vent	40 CFR 63 Subpart FFFF
U6003		
NA	HF Pumps, connections, valves	STAR
NA	VF Pumps, connections, gas valves, liquid valves	STAR

Control ID	Description	Control Efficiency
SB-403 ³	Wet Scrubber	99% ⁴

² These emission points from Unit U6001 Emission Points table do not contain VOCs.

³ In the event when both CD-302 and CD-303 from Chemours, Facility ID #0062, have been taken off-line, the emissions from Chemours will vent to SB-403.

⁴ The scrubber was tested on July 13, 2021, resulting in an average control efficiency of 99.993%, which meets the control efficiency required by 40 CFR 63, Subpart FFFF.

i. Standards

(1) HAP

- (a) 40 CFR 63, Subpart FFFF establishes HAP standards.
- (b) There are no process streams in the VF Miscellaneous Organic Chemical manufacturing Process Unit (MCPU) that contain organic HAPs. Therefore, the Miscellaneous Organic NESHAP (MON) leak detection and repair (LDAR) monitoring requirements do not apply to the Vinyl Fluoride process.
- (c) The heat exchange systems used in the VF MCPU are all closed loop systems that use steam, water, or non-HAP brines (propylene glycol and salt solutions). Since there are no organic HAPs in the process fluids or the heat exchange systems, the heat exchange monitoring requirements do not apply.
- (d) Hydrogen fluoride (HF) is the only HAP contained in wastewater streams from the VF MCPU. It is an inorganic HAP and not listed in the applicable tables, therefore the wastewater streams do not meet the definition of MON wastewater and the requirements are not applicable.

(2) VOC

- (a) Regulation 7.25 requires BACT for affected facilities at sources with a potential to emit greater than 5 tpy. The BACT submitted for emission points S-402, V-402, H-407, H-405N, H-405S, RE-402, F-430, CO-410, F-419, 8275CP, CO-411, CL-405, T-403 and CL-406 demonstrated that emissions from these sources could be controlled to no more than 3029 pounds per year. This value is set as the maximum 12-month emission limit.
- (b) Regulation 7.25 establishes a plant-wide VOC limit of 5 tons per year for all affected facilities, unless Best Available Control Technology (BACT) level of control is utilized to reduce the VOC emissions.
- (c) Regulation 6.24 limits the pound per hour and pound per day emission of Class III Solvents. Class III Solvent means any organic material which is not classified as a Class I or a Class II solvent. The source cannot exceed the pound per day or pound per hour limits in Regulation 6.24 for Class III solvents.

d. Emission Unit UIA1 – Cold Solvent Parts Cleaners

EP	Description	Applicable Regulations
IA1	One (1) Non-Halogenated Cold Solvent Parts Cleaners	6.18

i. Standards

(1) VOC

- (a) Regulation 6.18 establishes standards for cold cleaner that use VOCs to remove soluble impurities from metal surfaces.
- (b) The parts washers under this unit meet the definition of insignificant activities per Regulation 2.16, section 1.23. However, Regulation 6.18 applies to each cold cleaner that use VOC to remove soluble impurities from metal surfaces. These parts washers shall meet the requirements under Regulation 6.18.

e. Emission Unit UIA2 – VF Salt Furnace

EP	Description	Applicable Regulations
IA2	VF Salt Furnace, 9.5 MMBTU/hr (Insignificant Activity)	6.07

i. Standards

(1) PM

The emission standard for PM is determined in accordance with Regulation 6.07, section 3.1

(2) Opacity

Regulation 6.07, section 3.2 and 7.06, section 5.1.1 establishes an opacity standard of less than 20%.

(3) SO₂

The emission standard for SO₂ is determined in accordance with Regulation 6.07, section 4.1.

III Other Requirements

1. Temporary Sources:

The source did not request to operate any temporary facilities.

2. Short Term Activities:

The source did not report any short term activities.

3. Emissions Trading:

The source is not subject to emission trading.

4. Alternative Operating Scenarios:

The source did not request any alternative operating scenarios.

5. Compliance History:

There are no records of any violations of the terms of the present or prior construction or operating permits.

6. Calculation Methodology or Other Approved Method:

Equipment	Emission Point	Emission Factor and Determination Method
VF Reactor and Refining Equipment	6000	Purges through the K-Jet Vent (various vessels); Fluorination catalyst Purges, material from Analyzers and V-301 Reactor vent purging. Emissions VF Catalyst Fluorination Purge: Emissions = No. of catalyst purges [4950 lbs of HF used per purge] (evacuations/yr)*(49.51 lb HF emitted per purge) Emissions for each vessel during the maintenance of the K-Jet Vent: Emissions = (total volume ft ³)(avg. density lb/ft ³)(pollutant mass fraction) = lb pollutant/evacuation VF Reactor Catalyst Shutdown Purge: Emission = (lb mol vented) *(pollutant mass fraction)
VF Tank Truck Loading and Storage	6001	Purges through the 3 Stage Jet Vent (various vessels); vessel evacuations and purging VF vented during loading Raw Material vented during OSP and trailer unloading VF vented during VF trailer maintenance VF density (vap)(volume of pipe vented/trailer)(#trailers)/(2000 lb/ton) = (0.2539 lb/ft ³)(0.873 ft ³)(#trailers)/(2000 lb/ton) = 1.1x10 ⁻⁴ * #trailers = tons VF vented
VF Loading Compressor Vent	6002	VF Sphere Venting: Total amount vented = (hours the valve is open)(standard vent rate)(% valve is open)
Fugitive Emissions	6003	Leaks from pumps, connections, and valves multiplied by an emission factor and the % uptime Fugitive Emissions = component count * # hr/year * DuPont factor

Equipment	Emission Point	Emission Factor and Determination Method
VF Salt Furnace (IA)	6004	AP-42 Section 1.4 Emission Factors (Natural Gas)

7. Insignificant Activities

Equipment	Qty.	PTE (ton/yr)	Regulation Basis
Emergency relief vents, stacks and ventilating systems.	92	NA	Regulation 1.02, Appendix A, Section 3.10
Soil or ground water contamination remediation projects that are entirely passive or entail the total removal of the contaminated substrate for disposal in a certified landfill.	1	NA	Regulation 1.02, Appendix A, Section 3.20
Can Puncturing Device	1	VOC = 0.014	Regulation 1.02 Appendix A, Section 1.38

1. Insignificant activities identified in District Regulation 1.02, Appendix A, may be subject to size or production rate disclosure requirements pursuant to Regulation 2.16, section 3.5.4.1.4.
2. Insignificant activities identified in District Regulation 1.02, Appendix A shall comply with generally applicable requirements as required by Regulation 2.16, section 4.1.9.4.
3. The Insignificant Activities Table is correct as of the date the permit was proposed for review by U.S. EPA, Region 4.
4. Emissions from Insignificant Activities shall be reported in conjunction with the reporting of annual emissions of the facility as required by the District.
5. The owner or operator shall submit an updated list of insignificant activities that occurred during the preceding year pursuant to Regulation 2.16, section 4.3.5.3.6.
6. The owner or operator may elect to monitor actual throughputs for each of the insignificant activities and calculate actual annual emissions, or use Potential to Emit (PTE) to be reported on the annual emission inventory.
7. The District has determined pursuant to Regulation 2.16, section 4.1.9.4 that no monitoring, record keeping, or reporting requirements apply to the insignificant activities listed, except for the equipment that has an applicable regulation and permitted under an insignificant activity (IA) Basis of Regulation Applicability for IA units