

Division of Air Quality

March 11, 2020

MEMORANDUM

To: Heather Carter, Fayetteville Regional Supervisor

From: Gary L. Saunders, Stationary Source Compliance Branch



Subject: The Chemours Company – Fayetteville Works  
Fayetteville, Bladen County, North Carolina  
Facility ID. No. 0900009, Permit No. 03735T47  
Performance Testing for HFPO Dimer Acid Conducted on March 25-26, 2019 at Vinyl Ethers North (VEN) Carbon Bed and Division Waste Gas Stack by Weston Solutions, Inc.  
Tracking No. 2019-203ST

## Summary of HFPO Dimer Acid Test Program

### Sources Tested

This test was conducted on the carbon bed adsorber and the Division Waste Gas Stack as a follow-up test to test 2019-070ST. A previously unidentified source of HFPO Dimer Acid was discovered as the result of the previous test and was routed to the inlet of the scrubber. This test was being conducted to demonstrate the removal efficiency of the carbon bed and to determine if reconfiguring source flow had reduced emissions at the stack.

### Sampling Method

Testing was conducted using a modified EPA Method 0010 found in the SW-846 compendium of *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods*. This sampling train is a variation of the EPA Reference Method 5 found in 40 CFR 60, Appendix A. The Method 0010 train extracts a sample isokinetically from the gas stream, passes the sample through a temperature-controlled filter, through a temperature-controlled condenser and into a series of XAD-2 resin “traps” and impingers to capture and collect the materials that passed through the filter. The test method is designed to capture certain particulate and condensable materials for later recovery and analysis.

After sample recovery, the samples were sent to Chemours’ contractor, Test America’s laboratory in Denver, Colorado. GenX was extracted from the resin traps. The DAQ required split samples after extraction to be submitted for independent analysis. This summary of results only addresses the results provided by Test America for Chemours. Laboratory analysis and quantification was performed using a liquid chromatography column and a dual mass spectrometer (LC/MS/MS).

## Test Results

The reported HFPO test results reflect corrected emission rates accounting for dilution and spike recovery values.

### Vinyl Ethers North Area Test Results

Inlet and outlet emissions from the VEN carbon bed adsorber were measured on March 25-26, 2019 to determine the removal efficiency of HFPO Dimer Acid from the process and room air emissions. Each test run was 90 minutes in length. The process was operating normally and was producing PPVE.

**Table 1. Summary of Stack Test Results for VEN Carbon Bed and DWG Stack on March 25-26, 2019**

Run Number	HFPO Dimer Acid Emission Rate			
	DWG Stack (lb/hr)	Inlet (lb/hr)	Outlet (lb/hr)	% Removal Efficiency
1	8.20E-03	6.16E-01	6.23E-03	99.0
2	5.16E-03	4.95E-02	2.97E-03	94.0
3	1.08E-02	8.98E-02	6.89E-03	92.3
Average	8.05E-03	2.52E-01	5.36E-03	95.1

## Summary and Conclusions

As can be seen in the table above, the stack gas emissions have decreased significantly from the previous tests, indicating that the rerouting of previously unidentified sources of HFPO Dimer Acid have reduced the emission rate and brought it more in-line with the emissions from the outlet of the carbon bed. However, the stack values are still greater than the outlet of the carbon bed indicating that there may be at least one other source of HFPO Dimer Acid reaching the stack and not passing through the controls.

NC DAQ staff members were on site during each day that source testing occurred. DAQ staff observed the source test teams, the sample recovery and the process operations. Based upon the onsite observation of the testing and review of the test report, NC DAQ concludes that the testing was conducted in accordance to the modified testing protocol submitted by Chemours and that the analytical results appear representative of the stack conditions and process operations during the testing.

Cc: Central Files – Bladen County  
IBEAM Documents - 0900009