

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 Monomers and Dimer Acid Conducted November 22 and
December 4, 2019 at Vinyl Ethers North (VEN) Division Waste Gas Stack and
December 4-5, 2019 at the E2 Stack by Weston Solutions, Inc.
Tracking No. 2020-037ST

Summary of HFPO Dimer Acid Test Program

Sources Tested

The VEN Division Waste Gas Stack was sampled using the Modified Method 0010 and Modified Method 18. A two-run test was conducted using Modified Method 0010. A three-run test was conducted using the Modified Method 18 as a “proof-in-concept” test method for use when the thermal oxidizer becomes operational. It is the method for use at the high concentrations that characterize the inlet of the thermal oxidizer. The VEN process was producing PPVE during these tests.

The E2 process stack was sampled for HFPO Dimer Acid. This was the first test of this process stack. Sampling was conducted using Modified Method 0010.

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.

The Modified Method 18 uses mini-impingers filled with methanol for capture and reaction of certain PFAS compounds for lab analysis. The mini-impingers are maintained at a low temperature in a methanol dry ice bath.

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

As a proof in concept test, the results at VEN indicated that the test methods were suitable for use in the upcoming thermal oxidizer testing. The results are displayed in the test report but are not reported here.

The emissions from the E2 process stack are shown in the table below

Table 1. Summary of Stack Test Results for E2 Stack on December 4-5, 2019

Test Method	Run Number	HFPO Dimer Acid Emission Rate	
		lb/hr	g/sec
Modified Method 0010	1	8.80E-05	1.1E-05
	2	1.06E-05	1.34E-06
	3	1.59E-05	2.00E-06
	Average	3.82E-05	4.81E-06

Summary and Conclusions

NC DAQ staff members were on site during source testing. 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