

Division of Air Quality

March 10, 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 E1 at the Polymers Process Stack on May 14, 2018 by Weston Solutions, Inc.
Tracking No. 2018-137ST

Summary of E1 Test Program

Sources Tested

During May 14, 2018, emissions testing was conducted on the Polymers during the operation of the polymers process. The purpose of this testing was to detect and quantify the emissions of one of the intermediate perfluorinated compounds designated as E1 (Heptafluoropropyl 1,2,2,2-tetrafluoroethyl ether). There are no controls associated with this stack.

Sampling Method

Sampling was conducted using the Modified Method 18 mini-impinger system. This method draws the sample through a series of mini-impingers filled with methanol maintained in a dry-ice/methanol bath. Acyl fluoride compounds will react to form the ester derivative compound for analysis in the laboratory

After sample recovery, the samples were sent to Chemours' contractor, Test America's laboratory in Denver, Colorado. 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 E1 test results reflect corrected emission rates accounting for dilution and spike recovery values.

Polymers Process Area

The polymers processing area react and polymerize tetrafluoroethylene with fluorinated vinyl ethers from the Vinyl Ethers North (VEN) area. The polymerized product is extruded to produce an ion exchange membrane product (film). Process operations were considered to be normal during the testing while producing the product designated as SR polymer. The emission test results are presented in the table below for use in emissions estimates. Where emissions could not be quantified because the rate was less than the detection limit, the method detection limit (MDL) was reported.

Table 1. Summary of Stack Test Results for E1 from Polymers Stack on May 14, 2018

Test Method	Run Number	E1 Emission Rate	
		lb/hr	g/sec
Modified Method 18	1	≤ 3.39 E-05	≤ 4.65E-06
	2	6.80E-05	8.56E-06
	3	7.96E-05	1.00E-05
	Average	≤6.15E-05	≤7.75E-06

Summary and Conclusions

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