Message

From: Mitchell, Ken [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=E49335E2F5A64CBFA97C39CBF1FAFF2B-MITCHELL, KENNETH]
Sent: 1/3/2018 6:43:26 PM
To: Strynar, Mark [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=5a9910d5b38e471497bd875fd329a20a-Strynar, Mark]
CC: Lindstrom, Andrew [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=04bf7cf26aa44ce29763fbc1c1b2338e-Lindstrom, Andrew]; Kemker, Carol [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=765ad99166db4233bd15febf6e9917b3-Kemker, Carol]; Gary Saunders [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=user2edd9500]; France, Danny [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2ea6b0627f864f7aa4b237db0d581671-France, Danny]; Gettle, Jeaneanne [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d8e72aa7e1894faea44006fd9f22b637-Gettle, Jeaneanne]; Mundrick, Doug [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ef7f9ffa108342448a86b49d631bb24a-Mundrick, Douglas]; Jones, Aaryn [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c2bed08a5bd54dc5a9d59c5a345c9892-Jones, Aaryn]; Allenbach, Becky [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=fd8d7185973c44268441863f02a769d1-Allenbach, Becky]; George, Verne [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=8d8c394177af44b28b4ce452bccbc851-George, Verne]; Bookman, Robert [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1e8db468531a44949eec31f94db4f002-Bookman, Robert]; Mitchell, Ken [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=e49335e2f5a64cbfa97c39cbf1faff2b-Mitchell, Kenneth]
Subject: RE: Chemours Test Protocol

Mark....thanks!

Kenneth L. Mitchell, Ph.D. | Special Assistant to the Director |
Air, Pesticides, and Toxics Management Division
U.S. Environmental Protection Agency | 61 Forsyth Street, SW | Atlanta, GA 30303
Voice: 404-562-9065 | Fax: 404-562-9066 | Email: mitchell.ken@epa.gov

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From: Strynar, Mark
Sent: Wednesday, January 03, 2018 1:32 PM
To: Mitchell, Ken <Mitchell.Ken@epa.gov>
Cc: Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Gary Saunders <gary.saunders@ncdenr.gov>; France, Danny <France.Danny@epa.gov>; Gettle, Jeaneanne <Gettle.Jeaneanne@epa.gov>; Mundrick, Doug <Mundrick.Doug@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; George, Verne <George.Verne@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>
Subject: RE: Chemours Test Protocol

Ken,

If the HFPO-DA esterifies in methanol, and I presume it would like other PFAS, keeping the methanol basic would prevent this from happening. However, GC-MS analysis of the HFPO-DA methyl ester would be the way to tell.

I expect any HFPO-DA fluoride to rapidly turn into HFPO-DA.

I do not believe this statement is correct if it is referring to the Test America SPE extraction procedure "*Also....I presume the extraction solvent (which is actually a mixture of methanol and ammonium hydroxide) is formulated so as to produce the ammonium salt of the HFPO-DA for subsequent chromatographic elution. Is that correct?" ammonium hydroxide is usually added to methanol in our lab to make the pH of the methanol basic an allow for the elution of the HFPO-DA (and any other perfluorinated acid) to come off of a weak anion exchange (WAX) column.

Mark

From: Mitchell, Ken
Sent: Wednesday, January 03, 2018 1:19 PM
To: Strynar, Mark <Strynar.Mark@epa.gov>
Cc: Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Gary Saunders <gary.saunders@ncdenr.gov>; France, Danny <France.Danny@epa.gov>; Gettle, Jeaneanne <Gettle.Jeaneanne@epa.gov>; Mundrick, Doug <Mundrick.Doug@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; George, Verne <George.Verne@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>
Subject: RE: Chemours Test Protocol

Hey Mark....

Yes....they are only looking for the HFPO Dimer Acid (HFPO-DA) in this stack testing campaign.

We have encourage NCDAQ to push Chemours to test for a larger suite of chemicals (including HFPO). The state both agrees with that and, as I understand it, has pushed Chemours to do so.

For various reasons, including the time it has taken to develop a Sampling/test protocol for just HFPO-DA and the time within which the company wants to collect the samples (January 2018), the company has, as I understand it, declined to expand the scope of their analysis (at least for this go around).

That said, there are a couple of nuances that hopefully the test protocol contemplate (the following statements are based on my conversations with you....please let us know I got this wrong):

1. Any HFPO-DA Fluoride in the stack exhaust would likely be hydrolyzed in the sampling train to HFPO-DA. So, the HFPO-DA analytical result may be higher than the stack concentration by some unknown amount. To me, this is almost a moot point as any HFPO-DA Fluoride would likely hydrolyze quickly to HFPO-DA in ambient air.

2. HFPO-DA can esterify on prolonged exposure (a few days) to methanol (which is the extraction solvent*). I would think that, at a minimum, the analysis should also test for the methyl ester of HFPO-DA.

*Also....I presume the extraction solvent (which is actually a mixture of methanol and ammonium hydroxide) is formulated so as to produce the ammonium salt of the HFPO-DA for subsequent chromatographic elution. Is that correct?

Also also....just so you know (I think you do)....our Athens lab has agreed to run split samples with the company. The company apparently hasn't taken us up on the offer as of yet.

Kenneth L. Mitchell, Ph.D. | Special Assistant to the Director |
Air, Pesticides, and Toxics Management Division

U.S. Environmental Protection Agency | 61 Forsyth Street, SW | Atlanta, GA 30303
Voice: 404-562-9065 | Fax: 404-562-9066 | Email: mitchell.ken@epa.gov

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From: Strynar, Mark
Sent: Wednesday, January 03, 2018 7:32 AM
To: Gary Saunders <gary.saunders@ncdenr.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>
Cc: Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>
Subject: RE: Chemours Test Protocol

Hi Gary. It still seems the only PFAS that is tested for in the samples that is NOT a legacy PFAS is HFPO-DA. Looking at the emission estimates from the Chemours report of many other acid fluorides, and the presence of other PFECAs in surface and ground water samples taken nearby the plant this seems very narrowly focused. Other analytes PFAS will never be found if they are not looked for. This is a concern to me as the other PFAS emitted also have the potential for transformation to acid forms and wet/dry deposition. These will than contribute to local GW and SW contamination.

Mark

From: Saunders, Gary [mailto:gary.saunders@ncdenr.gov]
Sent: Tuesday, January 02, 2018 11:39 AM
To: Mitchell, Ken <Mitchell.Ken@epa.gov>; Strynar, Mark <Strynar.Mark@epa.gov>
Subject: Chemours Test Protocol

I have attached the most recent edition of the test protocol received from Chemours on Friday, December 22, 2018. It looks like they addressed the issues we identified in the initial draft and made some changes based upon analysis testing in the lab. They are looking to begin testing in early January. Based upon the information that we've discussed with Chemours, we are giving them the tentative approval to proceed to testing.

If you have any comments, please feel free to contact me.

Gary L. Saunders
Acting Supervisor
Division of Air Quality, Stationary Source Compliance Branch
North Carolina Department of Environmental Quality

919 707 8413 office
919 715 0718 fax
gary.saunders@ncdenr.gov

217 West Jones Street
1641 Mail Service Center
Raleigh, NC 27699-1641

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