Message

From: Strynar, Mark [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=5A9910D5B38E471497BD875FD329A20A-STRYNAR, MARK]
Sent: 3/22/2019 1:42:45 PM
To: Hogue, Cheryl [C_Hogue@acs.org]
Subject: RE: PFO4DA, PFO5DoDA, and Hydro-EVE acid

No problem Cheryl. I think one thing that throws many for a loop are implied Hs. They are generally not shown in structures. I like to put them in generally to show when an F is missing and instead is a H.

Mark

From: Hogue, Cheryl <C_Hogue@acs.org>
Sent: Friday, March 22, 2019 9:39 AM
To: Strynar, Mark <Strynar.Mark@epa.gov>
Subject: RE: PFO4DA, PFO5DoDA, and Hydro-EVE acid

This is really helpful, Mark. Thanks for the link to the EPA Chemicals Dashboard page. -- Cheyrl

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From: Strynar, Mark <Strynar.Mark@epa.gov>
Sent: Friday, March 22, 2019 6:45 AM
To: Hogue, Cheryl <C_Hogue@acs.org>
Subject: [EXT] RE: PFO4DA, PFO5DoDA, and Hydro-EVE acid

[Actual Sender is Strynar.Mark@epa.gov]

To be perfectly honest I don't think we really know. I think it is more likely the proton is not terminal and is instead on the second to last C with the last C being a CF3. Sorry for the confusion. Chemours also draws it with the proton on the second C so I would go with that isomer.

Here is the correct structural version in the EPAs Chemicals Dashboard
https://comptox.epa.gov/dashboard/dsstoxdb/results?search=DTXSID60904459

Mark

From: Hogue, Cheryl <C_Hogue@acs.org>
Sent: Thursday, March 21, 2019 4:38 PM
To: Strynar, Mark <Strynar.Mark@epa.gov>
Subject: RE: PFO4DA, PFO5DoDA, and Hydro-EVE acid

I'm looking at the structure on the bottom of p. 43

It's a little different than the structure I've found for Hydro-EVE (or as my structure editors call it, Hydro-EVE acid), CAS 773804-62-9, a number which I got from Jane Hoppin's GenX exposure study site.

The molecule on the slide has a terminal CF2H group on the end that's not the carboxyl group side. Mine has a CF3 group (and I think it's missing a fluorine on that next-to-the-last carbon). Obviously they're closely related.

You can view the structure I have here:
https://docs.google.com/document/d/1TJ7mVPGNA6dGI2AD1YezXs9Xc_jl7qBunBRLrpKgQJ8/edit?ts=5c76f01a

I want to make sure that I'm providing the right molecule structure for Hydro-EVE. Can you help?

Cheryl

From: Strynar, Mark <Strynar.Mark@epa.gov>
Sent: Thursday, March 21, 2019 2:26 PM
To: Hogue, Cheryl <C_Hogue@acs.org>
Subject: [EXT] RE: PFO4DA, PFO5DoDA, and Hydro-EVE acid

[Actual Sender is Strynar.Mark@epa.gov]

Hi Cheryl.

The short answer is we found PFO4DA and PFO5DoDA in the river before the ES&T Strynar et al., 2015 paper and the Hydro-EVE as the paper was in galley proof stage. We did not want to add it at that late time post review so it never made it into the paper. In the Sun et al., 2016 paper we also did not measure for it but we know it has been seen in the river and samples with time. You should know James McCord and I have a paper in galley proof stage at ES&T that will show and discuss this PFAS and other.

Where do these chemicals come from in the industrial process I cant answer. We do know the emanate from processes on the Chemours/Dupont facility. I can guess during the generation of either HFPO-DA or some other polyfluoro ether compound these are side products.

We have seen Hydro-EVE in water samples and James paper will show this. I also presented this at ACS last summer in a slide deck. On slide 43 Hydro-EVE is the chemical on the bottom with the mass 426.9657. You should note Hydro-EVE is what Chemours calls it and it is really similar to Nafion BP2 except the end is a carboxylic acid rather than a sulfonate.

See attached.

Mark

From: Hogue, Cheryl <C_Hogue@acs.org>
Sent: Wednesday, March 20, 2019 12:00 PM
To: Strynar, Mark <Strynar.Mark@epa.gov>
Subject: PFO4DA, PFO5DoDA, and Hydro-EVE acid

Hi Mark –

I'm doing a story on the results of Dr. Jane Hoppin's GenX exposure study. I'm trying to track down the process(es) that produce PFO4DA, PFO5DoDA, and Hydro-EVE acid.

I know that in your nontargeted analysis published in ES&T in 2015, your team found the polyethers PFO4DA and PFO5DoDA. Did you determine what industrial processes these are connected to?

In your work on the Cape Fear River, have you found Hydro-EVE acid, CAS 773804-62-9? Can you offer an insights on this chemical?

Thanks so much!

Cheryl

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