Message

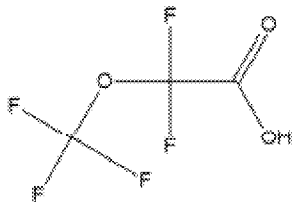
From: Lindstrom, Andrew [Lindstrom.Andrew@epa.gov]
Sent: 8/31/2017 3:10:49 PM
To: Garvey, Mark [Garvey.Mark@epa.gov]; Libelo, Laurence [Libelo.Laurence@epa.gov]; Tobias, David [Tobias.David@epa.gov]; Aubee, Catherine [Aubee.Catherine@epa.gov]; Washington, John [Washington.John@epa.gov]; Strynar, Mark [Strynar.Mark@epa.gov]; Allison, Rose [Allison.Rose@epa.gov]
CC: Miles, James [miles.james@epa.gov]; Lott, Don [Lott.Don@epa.gov]
Subject: RE: Response From Dutch: experts working on PFOA and GenX
Attachments: Sun et al. 2016.pdf; Strynar et al. 2015.pdf; HFPO DuPont.pdf

Mark,

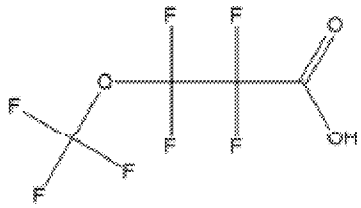
Thank you very much for the information on GenX in the Netherlands. The outline of the analytical method is very useful.

It looks like the GenX concentrations in their factory effluent were a little higher than what we've seen here in Fayetteville (we were in the range of 10s of ug/L), but their drinking water concentrations are lower (~ <10 ng/L). Wilmington's finished drinking water was at one point over 600 ng/L.

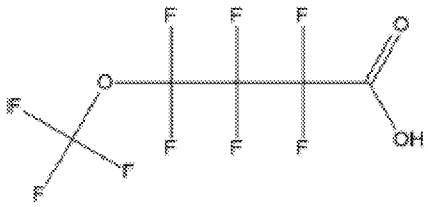
I think it is very important to advise these folks that we found the other polyether compounds noted in the Sun et al. 2016 paper and Strynar et al. 2015 at elevated concentrations as well. Please see these structures below from Sun et al.:



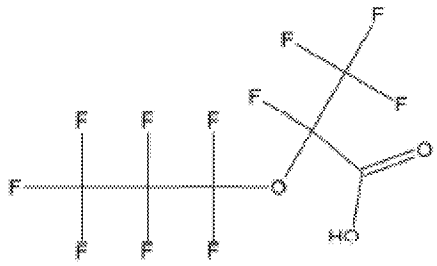
PFMOAA



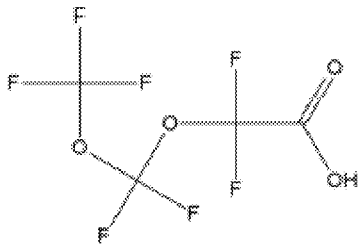
PFMOPrA



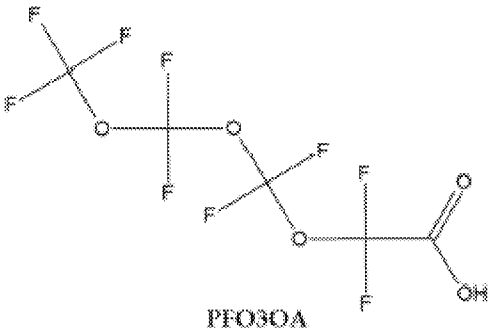
PFMOBA



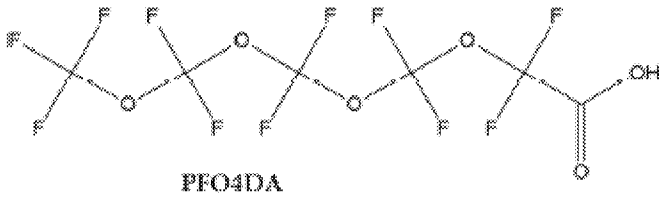
PFPrOPrA



PFO2HxA



PFO3OA



PFO4DA

Figure S1. Molecular structures of PFECAs evaluated in this study

I think all of these compounds are coming from the use of HPFO and folks should be on the lookout for these as well.

Please note that these are polyether analogs of the legacy carboxylic acids. They may have similar toxicities and kinetics.

Thank you,

Andy

From: Garvey, Mark
Sent: Wednesday, August 30, 2017 12:06 PM
To: Libelo, Laurence <Libelo.Laurence@epa.gov>; Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>; Tobias, David

<Tobias.David@epa.gov>; Aubee, Catherine <Aubee.Catherine@epa.gov>; Washington, John <Washington.John@epa.gov>; Strynar, Mark <Strynar.Mark@epa.gov>; Allison, Rose <Allison.Rose@epa.gov>
Cc: Miles, James <miles.james@epa.gov>; Lott, Don <Lott.Don@epa.gov>
Subject: FW: Response From Dutch: experts working on PFOA and GenX

I'm forwarding three attached documents from the Netherlands. There's a one pager with GenX analysis, plus a PDF named Rapportage written in Dutch, and the PDF Heyedebreck item is a published journal article on PFAS. I'm passing them along to OPPT and ORD staff who are involved with PFAS. Clearly the Dutch are interested in working with EPA on GenX.

Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
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garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Lott, Don
Sent: Wednesday, August 30, 2017 10:07 AM
To: Miles, James <miles.james@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>
Subject: FW: request from NL: experts working on PFOA and GenX

From: Emmerson, Caroline
Sent: Wednesday, August 30, 2017 9:21 AM
To: Saenz, Diana <Saenz.Diana@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>; Lott, Don <Lott.Don@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Cavanaugh, Charles <Cavanaugh.Charles@epa.gov>; Folkemer, Nathaniel <Folkemer.Nathaniel@epa.gov>
Subject: Fwd: request from NL: experts working on PFOA and GenX

Please see response from the Dutch Ministry below.

Sent from my iPhone

Begin forwarded message:

From: "Wijmenga, J. (Jan) - DGMI" <Jan.Wijmenga@minienm.nl>
To: "Linkins, Samantha" <Linkins.Samantha@epa.gov>, "Peelen, Jan" <JR.Peelen@minbuza.nl>, "Phillips, Anna" <Phillips.Anna@epa.gov>, "Doroski, Brenda" <Doroski.Brenda@epa.gov>, "Emmerson, Caroline" <Emmerson.Caroline@epa.gov>, "Jones, Davis" <Jones.Davis@epa.gov>
Cc: "WAS-IM" <WAS-IM@minbuza.nl>, "Bakker, P. (Paul) - BSK" <paul.bakker@minienm.nl>
Subject: RE: request from NL: experts working on PFOA and GenX

Dear Ms Linkins,

Thank you for the update on the collection of information. With regard to your question relating to sampling methods: our lab supplied me with a summary of the analytical method they are using to detect GenX in water. If necessary the lab technicians would be available to share further details.

We have two separate measurement campaigns running: one on GenX in surface water and a second one in drinking water.
The measurements in surface water are performed by our own services. For the drinking water tests a notification has been sent to all drinking water suppliers requesting them to test for GenX in drinking water.

Surface water:
In spring 2017 several samples were taken from discharge points of the factory in Dordrecht. Both in the direct emission to surface water and in the indirect discharge (sewer to the WWTP) GenX was detected. Furthermore, surrounding surface water, both upstream and downstream was sampled several times, almost all samples contained GenX (also referred to as FRD or HFPO-DA). I have attached the report, it was published in June. Unfortunately there is only a Dutch version available.
Figure 4.2a gives GenX-concentrations in the discharge to the WWTP and in the discharge of the WWTP to the surface water. The reduction in concentration is considered to be only a dilution effect.
Figure 4.2b shows the GenX-concentrations in the discharge directly from the factory on surface water (5 points were sampled).
Figure 4.2c gives the surface water concentrations at several locations, levels found are between <6 – 144 ng/L.
Our German colleagues have also done some sampling of GenX in surface water, which is of interest to us as the river Rhine flows through Germany to the Netherlands. There is a scientific article on their findings (attached).

Drinking water:
Not all drinking water companies have informed us yet about the levels they are measuring in their processes. The water companies with sources close to the factory have reported low levels of GenX, 4 to 6 ng/L, after treatment. The untreated water from some specific sources contains higher levels, reportedly up to 20 ng/L. When all data have been submitted a report will be drawn up, expected to be ready in October.

I am looking forward to any information you can share.

With kind regards,

Jan Wijmenga
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Van: Linkins, Samantha [mailto:Linkins.Samantha@epa.gov]
Verzonden: donderdag 24 augustus 2017 19:30
Aan: Wijmenga, J. (Jan) - DGMI <Jan.Wijmenga@minienm.nl>; Peelen, Jan <JR.Peelen@minbuza.nl>; Phillips, Anna <Phillips.Anna@epa.gov>; Doroski, Brenda <Doroski.Brenda@epa.gov>; Emmerson, Caroline <Emmerson.Caroline@epa.gov>; Jones, Davis <Jones.Davis@epa.gov>
CC: Jong, Bart de <bart-de.jong@minbuza.nl>; WAS-IM <WAS-IM@minbuza.nl>
Onderwerp: RE: request from NL: experts working on PFOA and GenX

Mr. Wijmenga,

Thank you for your email with background and additional information on your GenX issue. We are happy to share the GenX-related studies and information to the extent it is permitted by law. We are currently collecting and reviewing the information, and we hope to share this information with you within the next two weeks.

We would also appreciate having whatever you can legally share about the studies you are conducting, particularly what sampling methods you are using to measure GenX and what levels you are finding.

Thank you,
Sam

Samantha Linkins
Science Communication Specialist and Congressional Lead
Office of Research and Development, US Environmental Protection Agency
Washington, DC

From: Wijmenga, J. (Jan) - DGMI [mailto:Jan.Wijmenga@minienm.nl]
Sent: Thursday, August 17, 2017 11:34 AM
To: Peelen, Jan <JR.Peelen@minbuza.nl>; Phillips, Anna <Phillips.Anna@epa.gov>; Doroski, Brenda <Doroski.Brenda@epa.gov>; Linkins, Samantha <Linkins.Samantha@epa.gov>; Emmerson, Caroline <Emmerson.Caroline@epa.gov>; Jones, Davis <Jones.Davis@epa.gov>
Cc: Jong, Bart de <bart-de.jong@minbuza.nl>; WAS-IM <WAS-IM@minbuza.nl>
Subject: RE: request from NL: experts working on PFOA and GenX

Dear EPA colleagues,

Thanks to my colleague at the NL embassy in DC for establishing this contact and thanks for the opportunity to have an exchange on PFOA and GenX with EPA staff. At this moment our interest mainly lies in GenX (CAS-number 62037-80-3), as we are investigating the possible health effects associated with the emission of GenX to air and water from a factory owned by Chemours in Dordrecht, NL.

To give a brief sketch of the situation in the Netherlands: the Chemours factory was previously used by DuPont for the production of fluoropolymers (a.o. PTFE), which used PFOA in the production process until 2012 when it was phased out in lieu of GenX. In 2015 Chemours took over the responsibility for the operation of the plant, I assume under similar conditions as in the USA.

Our interest in the case started after an (initially very limited) study, published in April 2016, showed that people living in the vicinity of the factory have been exposed to concentrations of PFOA that could have led to health effects. A subsequent blood measurement campaign confirmed these results in May 2017. As PFOA has been phased out already for some years, there is now a keen interest in further information on the alternative substances that are used (commonly referred to as 'GenX').

We have already published results of research carried out by our National Institute for Public Health and the Environment (RIVM) on GenX, but have not been able so far to conclude for all relevant routes of exposure that no health effects are expected. Confronted with an increasing pressure from municipalities and drinking water companies, with low (but increasing) quantities of GenX also measured in surface and drinking water far away from the factory, we are very interested to know whether the EPA has any additional information on the substance. GenX was registered by Chemours at the European Chemicals Agency (ECHA), so a basic set of information is available to us, but we are lacking a reliable bioaccumulation study (preferably in fish), and are also looking for additional information on the degradation product E1 (CAS # 3330-15-2).

A process has been initiated to formally request studies from Chemours, but it may take some time before this process can be concluded. If the EPA already has access to such information, we would appreciate it if this could be shared with us. Furthermore, we have some indications that also crops grown in the vicinity of the source may take up considerable quantities of GenX, but have not found any literature on crop uptake and are now planning to launch a study shortly to follow-up on this. Also on this aspect any information that the EPA would have access to is highly appreciated!

From our side it would of course be possible to share information on the investigations we are running with regard to PFOA or GenX.
Thanks in advance for your time and I am looking forward to a fruitful exchange.

With kind regards,

Jan Wijmenga
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Van: Peelen, Jan [mailto:JR.Peelen@minbuza.nl]
Verzonden: dinsdag 15 augustus 2017 16:57
Aan: Wijmenga, J. (Jan) - DGMI <Jan.Wijmenga@minienm.nl>
CC: 'Phillips.Anna@epa.gov' <Phillips.Anna@epa.gov>; 'Doroski.Brenda@epa.gov' <Doroski.Brenda@epa.gov>; 'Linkins.Samantha@epa.gov' <Linkins.Samantha@epa.gov>; 'Emmerson.Caroline@epa.gov' <Emmerson.Caroline@epa.gov>; 'Jones.Davis@epa.gov' <Jones.Davis@epa.gov>; Jong, Bart de <bart-de.jong@minbuza.nl>; WAS-IM <WAS-IM@minbuza.nl>
Onderwerp: FW: request from NL: experts working on PFOA and GenX

Dear Mr. Wijmenga,

I reached out to our colleagues at EPA (in cc) regarding their experiences with PFOA and GenX. As you can see in their response, they ask for more detailed questions and additional background, so they can answer any questions effectively. I suggest you send your specific questions and some background information to the EPA-contacts in cc.

Please keep us posted on the outcome of this discussion.

Best,

Jan Peelen
Attaché for Infrastructure and the Environment

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From: Phillips, Anna [mailto:Phillips.Anna@epa.gov]
Sent: maandag 14 augustus 2017 17:34
To: WAS-IM <WAS-IM@minbuza.nl>
Cc: Jong, Bart de <bart-de.jong@minbuza.nl>; Doroski, Brenda <Doroski.Brenda@epa.gov>; Linkins, Samantha <Linkins.Samantha@epa.gov>; Emmerson, Caroline <Emmerson.Caroline@epa.gov>; Jones, Davis <Jones.Davis@epa.gov>
Subject: RE: request from NL: experts working on PFOA and GenX

Dear Jan,

As promised, I have consulted within EPA on your request for additional information on PFOA and GenX and we would be happy to help provide additional information.

As a first step, it would be helpful to receive more details on specific questions that your colleagues might have which in turn will help experts here frame their response more effectively. Additional background also would be useful, such as understanding more about what methods they are using to measure PFAS and GenX, and what levels they are finding.

Best,
Anna

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E-mail: phillips.anna@epa.gov
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Please consider the environment before printing this message.

From: Phillips, Anna
Sent: Thursday, July 27, 2017 4:57 PM
To: 'WAS-IM' <WAS-IM@minbuza.nl>
Cc: Jong, Bart de <bart-de.jong@minbuza.nl>
Subject: RE: request from NL: experts working on PFOA and GenX

Hi, Jan – I have shared your request with relevant EPA experts and I will let you know as soon as I have information to share on this.

Best,
Anna

~~~~~~

Anna Phillips
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