


NASF Washington Update

MFASC Chapter Meeting

Los Angeles, CA

November 20, 2019

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What are PFAS Compounds?

- Per-and polyfluoroalkyl substances are collectively referred to as **PFAS** and are terms used to describe a large group of organic fluorinated chemicals
- PFAS are anthropogenic chemicals and do not occur naturally in the environment
- PFAS are a group of chemicals that are comprised of a carbon backbone containing many carbon-fluorine (C-F) bonds
- The C-F bond is the shortest and strongest in nature
- Due to their unique chemical structure, PFAS are very stable in the environment and are relatively resistant to biodegradation

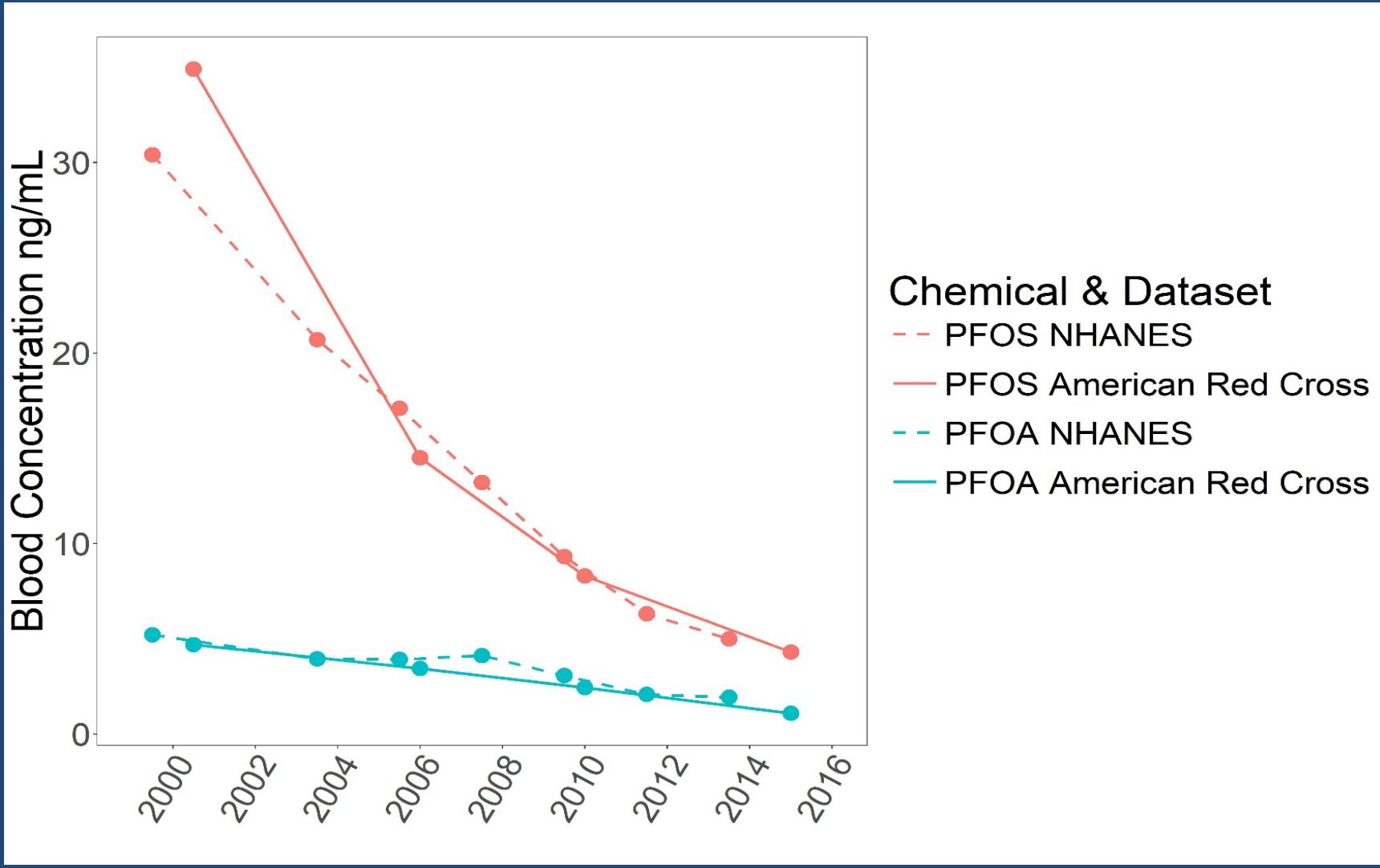
- The 2 most studied PFAS are
  - Perfluorooctanoic Acid (PFOA)
  - Perfluorooctane Sulfonate (PFOS)
- PFAS family = thousands of diverse compounds
- 24 PFAS compounds typically tested

Industrial & Commercial Uses of PFAS

- Fire fighting foam
- Textiles and leather – stain and water repellant
- Fume suppressant for chromium electroplating processes
- Paper and packaging
- Wire coating and insulation
- Surfactants, resins, molds and plastics
- Food surfaces – Teflon, fast food containers, microwave popcorn bags
- Household cleaning products
- Cross country ski wax

~99% of U.S. General Population Have Detectable Levels of PFOS & PFOA in Serum

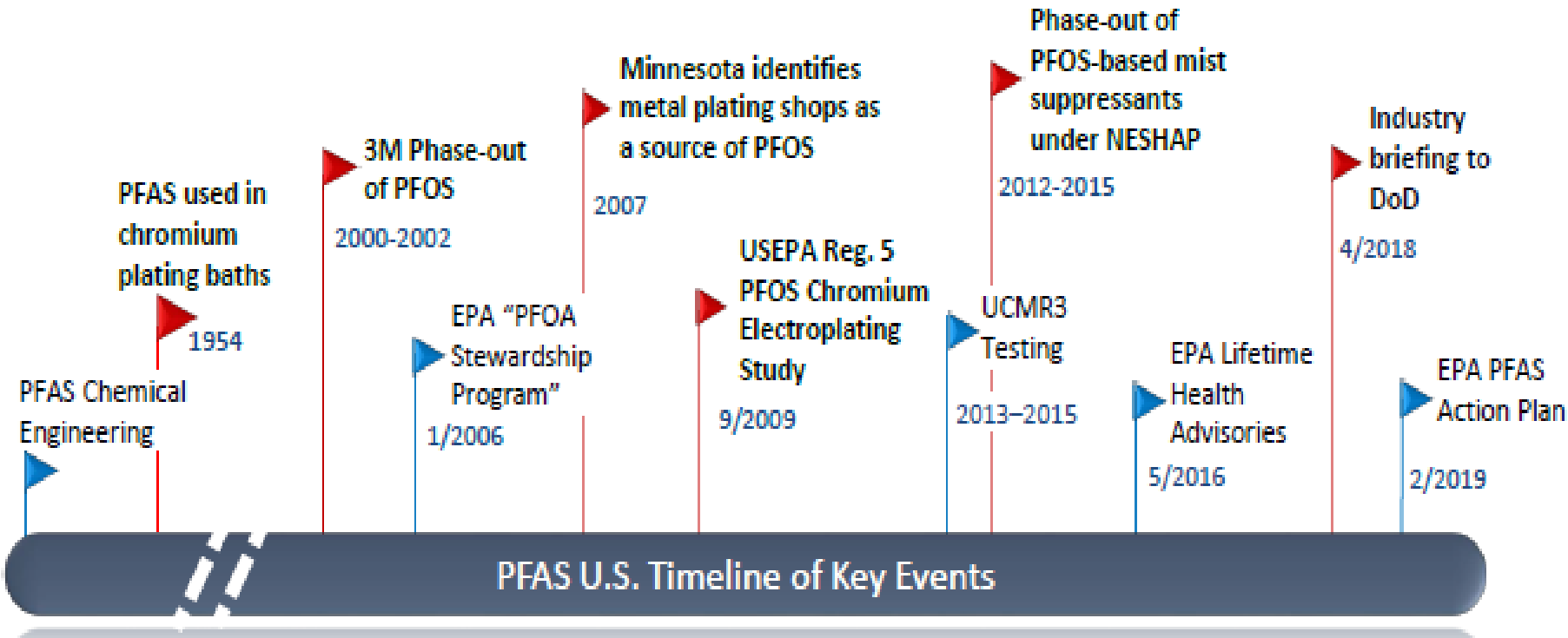
Levels Have Been Decreasing



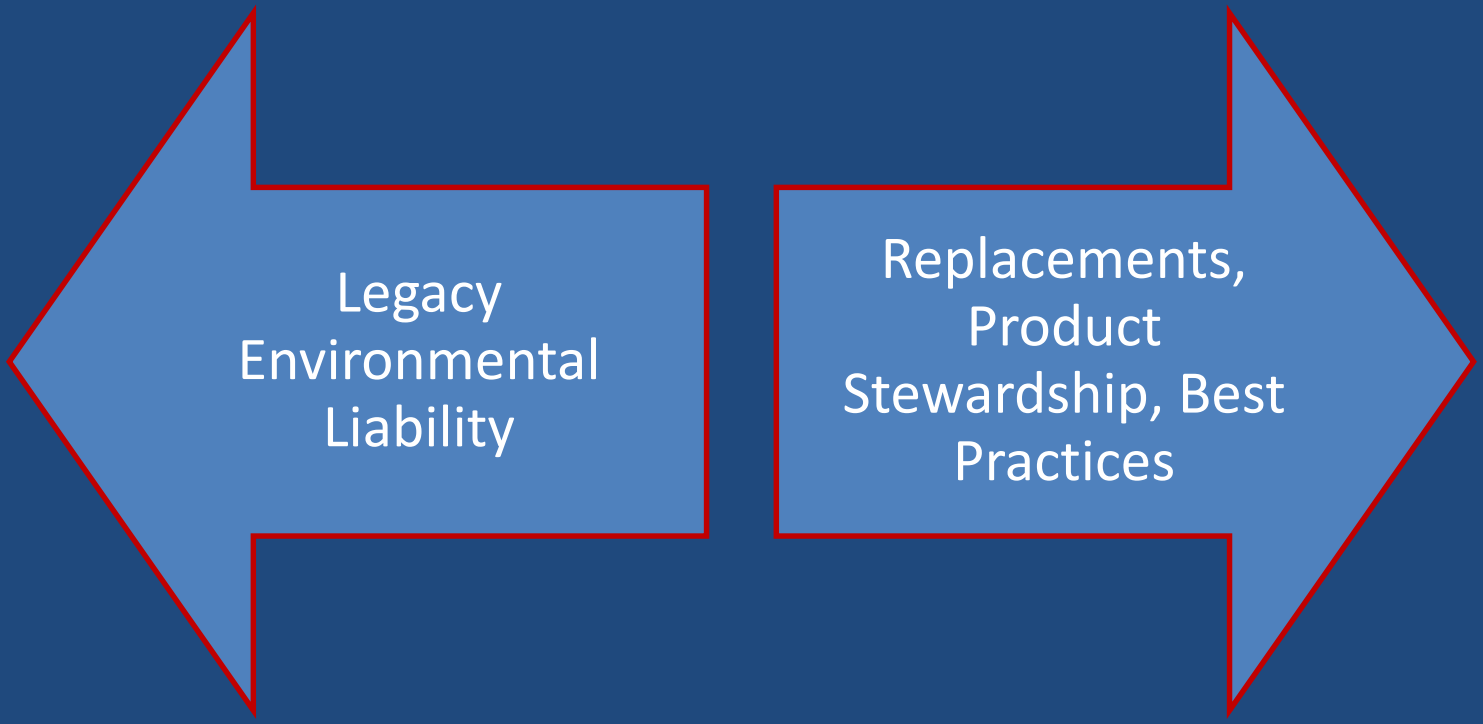
PFOS: Long History of NASF Involvement

Per- and Polyfluoroalkyl Substances

PFAS – REGULATORY LANDSCAPE



Key Industry Concerns for Mist Suppressants



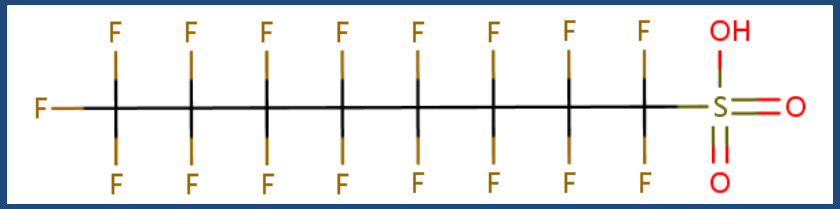
PRIMARY CONCERN - PFOS

EMERGING ALTERNATIVES

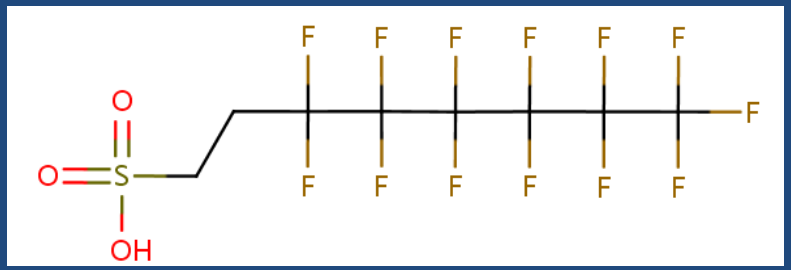
Transition to 6:2 FTS Improves Risk Profile of Fume Suppressants

- Generally accepted that polyfluorinated compounds are:
  - Less persistent
  - Less bioaccumulative
  - Less toxic
- Non-PFAS formulations aren't effective hexavalent chromium mist suppressants
- Other fluorinated surfactants tested without success

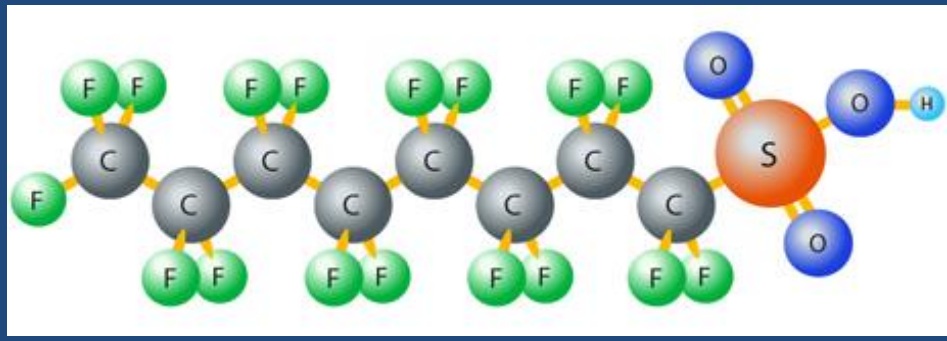
PFOS



6:2 FTS



Perfluorooctanesulfonate (PFOS) Emerging Issues



- Michigan DEQ found PFOS in Flint River and traced source to chromium etch facility
- PFOS in wastewater discharge despite being phased out since September 2015
- Michigan DEQ set surface water quality standard of 12 ppt
- EPA drinking water advisory level of 70 ppt for PFOS
- DEQ asking POTWs to start screening for PFOS
- Testing methodology an issue
- Focus on legacy issues and new non-PFOS (but PFAS) products
- EPA established Working Group
- More states are expressing concerns and Impatience with EPA

Future Outlook—Continued Public Outcry

PIZZA, POPCORN AND PFCS: THE SICKENING TRUTH

PFAS found in drinking water wells in unexpected places

Bipartisan Outrage as EPA, White House Try to Cover Up Chemical Health Assessment (May 16, 2018)

WATER POLLUTION IN HOOSICK FALLS PROMPTS ACTION BY NY STATE

How Your Waterproof Jacket Might Be Making You Fat

Oscoda toxic PFC groundwater plumes approaching Lake Huron

FLINT RESIDENTS MAY HAVE BEEN DRINKING PFCs IN ADDITION TO LEAD

Man with no injury allowed to sue over PFAS in bloodstream, but judge doesn't create national class action – yet

HOT TOPICS

By Daniel Fisher | Oct 1, 2019

Thurlow

COLUMBUS, Ohio (Legal Newsline) - A federal judge in Ohio on Monday allowed a firefighter to proceed with his lawsuit against 3M, DuPont and other manufacturers of a class of chemicals known as PFAS, although the judge stopped short of transforming the case into a class action on behalf of virtually every person in the U.S., as plaintiff lawyers want.

In his **35-page decision**, Judge Edmund Sargus said plaintiff Kevin Hardwick can sue PFAS producers even though Hardwick suffers from no present illness due to the chemicals. Hardwick is seeking medical monitoring and a judicial order creating a "science panel" to study the effects of PFAS on the human body, in what defendant companies say is a transparent effort to obtain evidence for future litigation.

Nearly everyone has PFAS molecules in their bloodstream because the highly persistent chemicals were used in everything from firefighting foam to nonstick coatings on cookware. Hardwick's lawyers are seeking to establish a class action on behalf of anyone exposed to PFAS. But Judge Sargus wrote in his opinion that he only reviewed "the plausibility of Mr. Hardwick's individual claims" and made "no determination as to whether they are appropriate for class certification."

SCIENCE

FDA's First Tests For "Forever Chemicals" In Food Found Them In Meat And Chocolate Cake

Researchers said the results are preliminary, but indicate it's important to track the chemicals in food.

Nidhi Subbaraman
BuzzFeed News Reporter

Posted on June 11, 2019, at 6:31 p.m. ET

MICHELE COHEN MARILL SCIENCE 10.10.2019 07:00 AM

'Forever Chemicals' Are in Your Popcorn—and Your Blood

Food packaging can contain a group of chemicals called PFAS, which have been linked to immune, thyroid, kidney, and reproductive health problems.

Next time you pick up a pizza from your favorite pizzeria and toss the box in your front seat, think about why the grease doesn't saturate through the cardboard onto your upholstery. Or when you hear popcorn bursting in a bag in your microwave, consider why the oil doesn't ooze out and the paper doesn't burst into flames, even when some kernels turn black.

The answer is likely to be PFAS. Per- and polyfluoroalkyl substances are a group of about 4,700 chemicals that make carpets and upholstery stain-resistant and help firefighters douse burning oil and gas. Some PFAS versions keep your burger from sticking to its fast-food wrapper and your salad from turning its fiber-based bowl into a soggy mess.

October 24, 2019

PFAS Are Here: First Round of Results Show PFAS in California Drinking Water Supply Wells

Results from the first phase of sampling drinking water supply wells for per- and polyfluoroalkyl substances (PFAS) were recently published by the California State Water Resources Control Board (State Water Board) and show reportable levels at approximately 190 or 35% of the 570 wells tested. The State Water Board's initial testing program focused on wells near commercial airports and municipal solid waste landfills. Of the 570 drinking water supply wells sampled, only four percent were above the response level (RL) of 70 parts per trillion (ppt) for perfluorooctane sulfonic (PFOS) and perfluorooctanoic acid (PFOA), the two most common PFAS compounds tested. Sixty-five percent of the wells sampled were below the notification levels set for PFOS and PFOA, 6.5 ppt and 5.1 ppt respectively. The results thus far are good news for many public water systems, as they show more than half of the wells tested are largely free of PFOA and PFOS. For those public water systems with supply wells impacted above the RL, and for the neighboring airports, the State Water Board will be requiring additional sampling to identify sources contributing to PFAS in the impacted wells.

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PUBLISHED IN:

Chemicals

Contamination

Drinking Water

Applicable Regulations for PFAS

- **Federal -- no enforceable regulations**
  - **70 ppt lifetime drinking water health advisory**
- New Jersey drinking water standard
  - PFOS 13 ppt & PFOA 14 ppt
- New York recommended drinking water standard of 10 ppt for PFOS and PFOA
- Michigan DEQ surface water quality standard
  - PFOS 12 ppt (11ppt for sources of drinking water)
  - PFOA 12,000 ppt (420 ppt for sources of drinking water)
  - Prompting action by POTWs
- California Water Boards issued order to over 250 chrome platers
  - Sampling effluent discharge, stormwater, ground water and soil samples

Patchwork of Divergent Standards and Actions

Examples of ***some*** *US* GW/DW PFAS values (in µg/L

	Agency / Dept	Year	Type	Promulgated Rule (Y/N/O)	PFOA	PFOS	PFNA	PFBA	PFBS	PFHxS
USEPA	Office of Water	2016	DW	N	**0.07**	**0.07**				
	Regions	2018	GW	N	**0.4**	**0.4**			400	
Alaska (AK)	DEC	2016	GW	Y	**0.40**	**0.40**				
Connecticut (CT)	DPH	2016	DW/GW	N	**0.07**	**0.07**	0.07			
Maine (ME)	CDC	2016	DW	N	**0.07**	**0.07**				
	DEP	2016	GW	N	**0.13**	**0.56**				
Massachusetts (MA)	DEP	2018	DW	O	**0.07**	**0.07**	0.07		2	
Michigan (MI)	DEQ	2015	SW	Y	**0.42**	**0.011**				
	DEQ	2018	GW	Y	**0.07**	**0.07**				
Minnesota (MN)	MDH	2017	DW/GW	O/N	**0.035**	**0.027**		7	3	0.027
		2017	DW/GW	O/N	**0.035**	**0.027**		7	3	0.027
		2017	DW/GW	O/N	**0.035**	**0.027**		7	2	0.027
New Jersey (NJ)	DEP	2018	GW	Y			0.010			
	DEP	2017	DW	O			0.013			
	DWQI	2017	DW	O	**0.014**					
	DWQI	2018	DW	O		**0.013**				
Texas (TX)	CEQ	2017	GW	Y	**0.29**	**0.56**	0.29	71	34	0.093
Vermont (VT)	DEC/DOH	2016	GW/DW	Y	**0.02**	**0.02**				

For the full list of up-to-date US and international standards, see https://pfas-1.itrcweb.org/fact-sheets/

- Increasing list of analytes
- Increasingly divergent priorities
- Increased attention to non-AFFF sources: landfills, POTWs
- Additional exposure routes: surface water, effluent, soil, food
- Increasing use of state legislature: >80 legislative bills related to PFAS issued in FY18

California PFAS Efforts

- **October 2019 announced result from 570 drinking water supply wells**
  - **190 or 35% had reportable levels of PFAS**
  - **Only 4% were above Response Level of 70 ppt**
  - **65% were below CA notification levels**
    6.5 ppt – PFOS and 5.1 ppt -- PFOA
- California Water Boards Order to Sample for PFAS
  - Airports
  - Landfills
  - Chrome Platers
    Sampling effluent discharge, stormwater, ground water and soil samples
  - Manufacturing facilities
  - Bulk terminals
  - Wastewater treatment facilities

Federal Legislation

- No Enforceable Federal Regulations
- Bipartisan Congressional PFAS Task Group
- Senate EPW Hearing May 22, 2019
- National Defense Authorization Act
  - House Bill
    - CERCLA Hazardous Substance Listing for All PFAS
    - Drinking Water MCL
    - Toxics Release Inventory (TRI) Reporting
  - Senate Bill
    - TRI Reporting
  - Conference for Compromise Bill
    - "Skinny" NDAA Introduced last week of October without PFAS provisions
- Separate Stand Alone Bills in the House
  - House Energy and Commerce Markup of 11 Bills -- November 19, 2019
- **2020 Elections Could Be Key for Future Legislation**

Federal Regulatory Actions

- EPA proposal to list PFOS and PFOA as hazardous substances under CERCLA (October 2019)
- ELG Limits for PFAS (stormwater too)
- Drinking Water Standard Evaluation
  - Non-enforceable 70 ppt lifetime health advisory
- EPA has proposed a cleanup level of 70 ppt for groundwater that is used or has the potential to be used as drinking water – with a screening level of 40 ppt.
- Toxicity profiles on some PFAS compounds

EPA Draft SW-846 Update, Method 8327 for PFAS

- Issued June 19, 2019
- NASF Comments August 16, 2019
  - EPA should withdraw and reconsider Method 8327
  - Difficulties with reproducibility – 6:2 FTS
  - Lower level of detection limits not low enough to demonstrate compliance with state standards
  - Filtering of samples not recommended due to adsorption of PFAS in filter
  - Use of external standard quantification does not allow correction for variation of samples
  - Procedure for quantification of branched isomers allows too much flexibility among different labs thereby impacting reproducibility
- Could Use Method 8327 for Screening Only

NASF Projects to Address PFAS Issues

- Why is there still residual PFOS in chrome plating shop effluent today?
- What is the current PFAS formulation used in chrome mist suppressants and what data supports its continued use?
- What contribution do metal plating shops have to the overall load of PFAS into POTWs/WWTPs?
- What are the potential legal liabilities for the surface finishing industry?
- Foundation funding research – Electrochemical destruction of PFOS

Information on PFAS

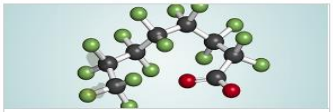
for finishers, government officials, the public and other interested stakeholders

The National Association for Surface Finishing (NASF) represents the interests of businesses, technologists and professionals in the surface coatings industry.

NASF and its member companies have a long history of environmental stewardship. **We are the only industry in the U.S. to have requested a ban from the U.S. Environmental Protection Agency on the use of PFOS nearly ten years ago.**

Due to the association's efforts, the EPA banned the use of perfluorooctane sulfonate (PFOS) in our industry in 2012. NASF and its members have continued to work proactively with the U.S. EPA, the Michigan Department of the Environment, Great Lakes and Energy (MEGLE), and other stakeholders at the national and global levels, to find effective solutions to reduce and eliminate any residual PFOS in wastewater discharges from plating facilities.

As recent concerns of other PFAS in wastewater discharge have come to light, NASF has continued to engage stakeholders across the U.S. and worldwide to better understand and take appropriate steps to address the issues.



What are PFAS?

What are per- and polyfluoroalkyl substances and their uses

PFAS in Surface Finishing

Use as a fume suppressant and history of proactive environmental stewardship

Replacement Chemicals

Safety of EPA-compliant replacement FTS 6:2

NASF Actions and Priorities

Working with regulators and ongoing industry efforts

News

NASF engages on PFAS issues

Additional Resources

Where to find more information about PFAS

All questions regarding the NASF and the surface plating industry's environmental stewardship efforts to address PFOS in wastewater discharges should be directed to Christian Richter at crichter@thepolicygroup.com or Jeff Hannapel at jhannapel@thepolicygroup.com.

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Join the NASF 1000 today!

When you make a $1,000 contribution to the GAC Fund, you demonstrate your support of advancing a sustainable future for our industry.
Help us achieve our goal of $500,000!

Thank you
The Government Advisory Comittee

QUESTIONS

For More Information, Contact:

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