Per/Poly Fluorinated Compounds (PFAS)

Considerations about what to test for and how to assess risk

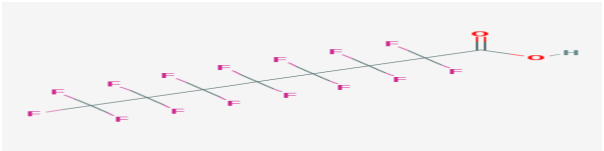
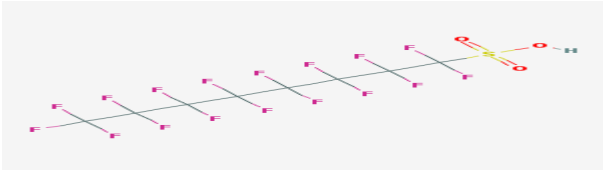
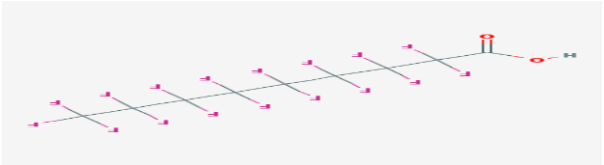
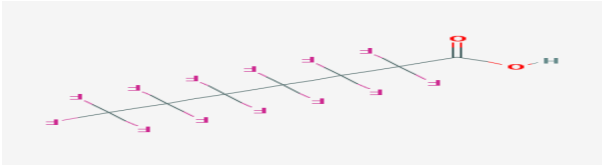
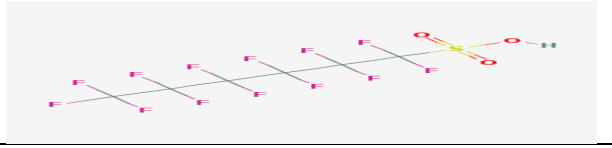
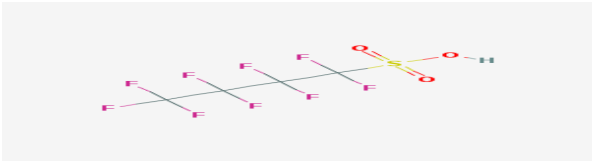
Draft PFAS Sampling Guidance

- Feedback included several comments related to:
  - What to test for - beyond PFOS and PFOA or not?
  - How to assess risk for analytes other than PFOA and PFOS

Approaches

- PFOS and PFOA only
  - RfD/HA
- EPA 537 Analytes (14)
  - 12 w/o RfD/HA
- UCMR3 Analytes (6)
  - 4 w/o RfD/HA
  - But 3 of the 4 very similar to PFOA/PFOS
- Other? (NH-9; 24+ that some labs can achieve with isotopic dilution methods)

PFAS (CAS)	Abrev.	C-chain	EPA 537 Analytes (14)	UCMR3 Analytes (6)	NH Analytes (9)	CT DPH Policy
Perfluorobutanoic acid	PFBA	4			x	
Perfluorobutanesulfonic acid (375-73-5)	PFBS	4	x	x	x	
Perfluoropentanoic acid	PFPeA	5			x	
Perfluorohexanoic acid (307-24-4)	PFHxA	6	x		x	
Perfluorohexanesulfonic acid (355-46-4)	PFHxS	6	x	x	x	Sum
Perfluoroheptanoic acid (375-85-9)	PFHpA	7	x	x	x	Sum
Perfluorooctanoic acid (335-67-1)	PFOA	8	x	x	x	Sum
Perfluorooctanesulfonic acid (1763-23-1)	PFOS	8	x	x	x	Sum
N-ethyl perfluorooctane-sulfonamidoacetic acid	NEtFOSAA	8	x			
N-methyl perfluorooctane-sulfonamidoacetic acid	NMeFOSAA	8	x			
Perfluorononanoic acid (375-95-1)	PFNA	9	x	x	x	Sum
Perfluorodecanoic acid (335-76-2)	PFDA	10	x			
Perfluoroundecanoic acid (2058-94-8)	PFUnA	11	x			
Perfluorododecanoic acid (307-55-1)	PFDoA	12	x			
Perfluorotridecanoic acid (72629-94-8)	PFTrDA	13	x			
Perfluorotetradecanoic acid (376-06-7)	PFTA	14	x			

UCMR-3 PFAS	Structure	*In vivo* toxicity vs. PFOA	*In vitro* toxicity vs. PFOA	Serum $T^{1/2}$ (days)
Perfluorooctanoic acid 335-67-1 Carbon chain = 8	PFOA 	1	1	1280
Perfluorooctanesulfonic acid 1763-23-1 Carbon chain = 8	PFOS 	1		1750
Perfluorononanoic acid 375-95-1 Carbon chain = 9	PFNA 	>/= 1	1.2	NA
Perfluoroheptanoic acid 375-85-9 Carbon chain = 7	PFHpA 		0.8	NA
Perfluorohexanesulfonic acid 355-46-4 Carbon chain = 6	PFHxS 	>/= 1		2670
Perfluorobutanesulfonic acid 375-73-5 Carbon chain = 4	PFBS 		< 0.3	30