

### Method Detection Limit Summary Sheet

SOP: Modified TO-17 SOP135  
 Target List: FTOH/FOSA  
 Valid Date: 1/17/2023

Tube: CAMSCO PFCA/PFAS  
 Analyst: NW

MDL Spike: 2.0 uL of #3318-84-0.05

Units : nanograms

Analyte	Spike Amt (ng)	tq010508	tq010509	tq010510	tq011008	tq011009	tq011010	tq011306	tq011307	t= 2.998			Ratio Avg/MDL <sub>s</sub>
		MDL 1	MDL 2	MDL 3	MDL 4	MDL 5	MDL 6	MDL 7	MDL 8	Average	SD	MDL <sub>s</sub>	
PFBA	0.10	0.0425	0.1463	0.1111	0.0897	0.0882	0.0985	0.0347	0.1064	0.0897	0.0364	0.109	0.82
PFPeA	0.10	0.1077	0.1129	0.1136	0.1061	0.1063	0.1014	0.0962	0.0988	0.1054	0.0063	0.019	5.62
PFHxA	0.10	0.1015	0.1201	0.1055	0.1077	0.0953	0.0932	0.1144	0.1064	0.1055	0.0090	0.027	3.90
PFHpA	0.10	0.0903	0.1081	0.1013	0.1121	0.1018	0.0968	0.0979	0.0969	0.1007	0.0069	0.021	4.88
PFOA	0.10	0.1044	0.1270	0.1102	0.1120	0.1112	0.1451	0.0936	0.1077	0.1139	0.0156	0.047	2.43

MDL Blank

Analyte	tq010505	tq010506	tq010507	tq011006	tq011007	tq011706	tq011707	t= 3.143			MDL <sub>b</sub>
	BLK1	BLK2	BLK3	BLK4	BLK5	BLK6	BLK7	Average	SD	MDL	
PFBA	0.0107	0.0173	0.0756	0.0131	0.0144	0.0369	0.0208	0.0270	0.0231	0.0726	0.0996
PFPeA	0.0073	0.0028	0.0045	0.0029	0.0021	0.0079	0.0051	0.0047	0.0023	0.0071	0.0118
PFHxA	0.0057	0.0028	0.0034	0.0033	0.0021	0.0122	0.0115	0.0058	0.00424	0.0133	0.0191
PFHpA	0.0028	0.0062	0.0016	0.0019	0.0012	0.0020	0.0025	0.0026	0.00167	0.0053	0.0079
PFOA	0.0271	0.0300	0.0368	0.0224	0.0351	0.0382	0.0286	0.0312	0.00574	0.0181	0.0493

Analyte	Units = nanograms			Reportable	
	MDL <sub>s</sub>	MDL <sub>b</sub>	Raw MDL	MDL	RL
PFBA	0.109	0.0996	0.109	0.200	0.10
PFPeA	0.019	0.0118	0.019	0.040	0.10
PFHxA	0.027	0.0191	0.027	0.040	0.10
PFHpA	0.021	0.0079	0.021	0.040	0.20
PFOA	0.047	0.0493	0.049	0.050	0.10

# TQ-1 MRM MDL PFCAs CASE NARRATIVE

A Method Detection Limit Study for the TO17 Perfluorocarboxylic acids MRM method was analyzed 01/05/23, 01/10/23, 01/13/23 and 01/17/23. The interface was a Markes TD.

**0.1 ng MDL:** 2.0 µL of a 0.05 ng standard, 2.0 µL of the surrogate standard and 2.0 µL of the Internal Standard were injected directly onto the sampling end of the tube. The tube was then flushed with N<sub>2</sub> for 5 min. at an approximate flow of 80 mL/min.

- Standard ID: # 3318-84-0.05 (0.05 ng)
- Surrogate Standard ID: #3318-66-0.5A
- Internal Standard ID: #3318-95-0.5 (1.0ng)

## NOTES:

1. An MDL verification was analyzed on 1/19/23. Standard # 3318-84-0.05 (0.05 ng); File TQ011906; A 1.8 µL aliquot yielded a concentration of 0.09 ng. The MDL verification for PFBA was analyzed on 1/19/23 Standard # 3318-84-0.05 (0.05 ng); File TQ011907; A 3.0 µL aliquot yielded a concentration of 0.15 ng.
2. The MDL spike recovery was calculated for all the MDL points. All recoveries were within  $\pm 50\%$ .

**The MDL values for the following compounds were taken from the MDL BLANK:**

PFOA (0.0493 ng)

**MDL Expires 17/01/24.**

Name	Group	TS	RT	Transition	Avg Conc.	Std. Dev.	Avg Conc./Std. Dev.	Conc. RSD	MDL	LOQ	LOD	Noise	S/N	Avg Height	Avg. Resp	Resp. RSD	MDL &
PFBA		1	4.406	150.0 > 100.0	0.0897	0.0364	2.46	40.6	0.1092	0.3642	0.1092	17.83	351.96	4865	14581	40.0	0.0916
PFHxA		1	4.647	250.0 > 131.0	0.1055	0.0690	11.71	8.5	0.0270	0.0901	0.0270	14.05	164.65	2279	7120	8.6	0.091
PFPeA		1	4.482	200.0 > 131.0	0.1054	0.0653	16.86	5.9	0.0187	0.0625	0.0188	16.74	335.56	5575	15285	7.6	0.0118
PFHxA		2	4.922	300.0 > 131.0	0.1007	0.0059	14.57	6.9	0.0207	0.0691	0.0207	16.76	92.28	1428	4627	4.9	0.0071
PFBA		2	5.351	350.0 > 131.0	0.1139	0.0156	7.29	13.7	0.0469	0.1563	0.0469	15.73	59.30	920	3355	15.3	0.0453

MDL Spike Report MW 1/18/23.

8 replicates students  $t = 2.998$

PFHxA std. dev 0.0069  $\times 2.998 = 0.0207$  MW 1/18/23

TQ-1, mRM, PFCA's

Spike 2.0  $\mu$ g # 3318-84-005  $\rightarrow 0.1 \mu$ g

OB 2/17/23

Name	Group	TS	RT	Transition	Avg Conc.	Std. Dev.	Avg Conc./Std. Dev.	Conc. RSD	MDL	LQD	LOD	Noise	S/N	Avg Height	Avg. Resp	Resp RSD
PFBA		1	4.406	150.0 > 100.0	0.0270	0.00231	1.17	85.7	0.0728	0.2312	0.0594	24.50	64.16	1575	4738	85.9
PFHxA		1	4.547	250.0 > 131.0	0.0058	0.00042	1.23	72.5	0.0133	0.0424	0.0127	14.62	8.35	134	435	78.3
PFPeA		1	4.489	100.0 > 131.0	0.0047	0.00023	2.06	48.5	0.0071	0.0227	0.0069	17.13	14.16	205	733	52.2
PFHpA		2	4.922	300.0 > 131.0	0.0026	0.00017	1.55	64.5	0.0053	0.0167	0.0050	18.23	2.03	37	127	63.7
PFDA		2	5.361	350.0 > 131.0	0.0012	0.00058	5.40	18.5	0.0181	0.0577	0.0173	15.58	17.29	258	977	20.7

MDL BLANK REPORT Nov 11/8/23

TQ-1, mRM, PFC's

DB  
2/17/230.0096  
0.0191  
0.0118  
0.0079  
0.0493