

**Pennsylvania State (Chapter 252) Accreditation  
Fields of Proficiency Testing  
Solid and Chemical Materials  
Effective June 18, 2022**

<i>Matrix</i>	<i>Analyte<sup>6</sup></i>	<i>PTRL</i>	<i>Units</i>
	<b>Trace Metals</b>		
SOLIDS	Aluminum	250	mg/kg
SOLIDS	Antimony	8.0	mg/kg
SOLIDS	Arsenic	4.0	mg/kg
SOLIDS	Barium	10	mg/kg
SOLIDS	Beryllium	4.0	mg/kg
SOLIDS	Boron	48	mg/kg
SOLIDS	Cadmium	4.0	mg/kg
SOLIDS	Calcium	150	mg/kg
SOLIDS	Chromium	4.0	mg/kg
SOLIDS	Chromium (VI)	4.0	mg/kg
SOLIDS	Cobalt	4.0	mg/kg
SOLIDS	Copper	4.0	mg/kg
SOLIDS	Iron	500	mg/kg
SOLIDS	Lead	4.0	mg/kg
SOLIDS	Magnesium	120	mg/kg
SOLIDS	Manganese	10	mg/kg
SOLIDS	Mercury	0.10	mg/kg
SOLIDS	Molybdenum	3.0	mg/kg
SOLIDS	Nickel	4.0	mg/kg
SOLIDS	Potassium	140	mg/kg
SOLIDS	Selenium	4.0	mg/kg
SOLIDS	Silver	2.0	mg/kg
SOLIDS	Sodium	15	mg/kg
SOLIDS	Strontium	4.0	mg/kg
SOLIDS	Thallium	4.0	mg/kg
SOLIDS	Tin	5.0	mg/kg
SOLIDS	Vanadium	4.0	mg/kg
SOLIDS	Zinc	10	mg/kg
SOLIDS	Bromide	1.0	mg/kg
SOLIDS	Chloride	20	mg/kg
SOLIDS	Fluoride	2.5	mg/kg
SOLIDS	Nitrate as N	2.5	mg/kg
SOLIDS	Sulfate	2.5	mg/kg
	<b>Nutrients</b>		
SOLIDS	Ammonia as N	30	mg/kg
SOLIDS	Total Kjeldahl-Nitrogen (TKN)	40	mg/kg
SOLIDS	Total Phosphorus	30	mg/kg

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	<b>Misc Analytes</b>		
SOLIDS	Corrosivity (pH)	N/A	N/A
SOLIDS	Total Cyanide	2.0	mg/kg
SOLVENT	Ignitability	N/A	N/A
	<b>Low Level Volatile Aromatics<sup>1</sup></b>		
SOLIDS	Benzene <sup>1</sup>	13	µg/kg
SOLIDS	Chlorobenzene <sup>1</sup>	10	µg/kg
SOLIDS	1,2-Dichlorobenzene (o-Dichlorobenzene) <sup>1,2</sup>	12	µg/kg
SOLIDS	1,3-Dichlorobenzene (m-Dichlorobenzene) <sup>1,2</sup>	12	µg/kg
SOLIDS	1,4-Dichlorobenzene (p-Dichlorobenzene) <sup>1,2</sup>	12	µg/kg
SOLIDS	Ethylbenzene <sup>1</sup>	12	µg/kg
SOLIDS	Naphthalene <sup>1,2</sup>	20	µg/kg
SOLIDS	Styrene <sup>1</sup>	26	µg/kg
SOLIDS	Toluene <sup>1</sup>	13	µg/kg
SOLIDS	1,2,4-Trichlorobenzene <sup>1,2</sup>	16	µg/kg
SOLIDS	m/p-Xylenes <sup>1,7*</sup>	11	µg/kg
SOLIDS	o-Xylene <sup>1,7*</sup>	11	µg/kg
SOLIDS	Xylene (total) <sup>1,7</sup>	22	µg/kg
	<b>Low Level Volatile Halocarbons<sup>1</sup></b>		
SOLIDS	Bromodichloromethane <sup>1</sup>	12	µg/kg
SOLIDS	Bromoform <sup>1</sup>	11	µg/kg
SOLIDS	Carbon tetrachloride <sup>1</sup>	10	µg/kg
SOLIDS	Chloroform <sup>1</sup>	12	µg/kg
SOLIDS	Chlorodibromomethane <sup>1</sup>	12	µg/kg
SOLIDS	1,2-Dibromo-3-chloropropane (DBCP) <sup>1</sup>	10	µg/kg
SOLIDS	1,2-Dibromoethane (EDB, Ethylene dibromide) <sup>1</sup>	13	µg/kg
SOLIDS	1,1-Dichloroethane <sup>1</sup>	12	µg/kg
SOLIDS	1,2-Dichloroethane (Ethylene dichloride) <sup>1</sup>	12	µg/kg
SOLIDS	1,1-Dichloroethene <sup>1</sup>	10	µg/kg
SOLIDS	cis-1,2-Dichloroethylene <sup>1</sup>	12	µg/kg
SOLIDS	trans-1,2-Dichloroethylene <sup>1</sup>	12	µg/kg
SOLIDS	Methylene chloride (Dichloromethane) <sup>1</sup>	10	µg/kg
SOLIDS	1,2-Dichloropropane <sup>1</sup>	13	µg/kg
SOLIDS	cis-1,3-Dichloropropene*	12	µg/kg
SOLIDS	trans-1,3-Dichloropropylene*	11	µg/kg
SOLIDS	1,1,1,2-Tetrachloroethane <sup>1</sup>	12	µg/kg
SOLIDS	1,1,2,2-Tetrachloroethane <sup>1</sup>	11	µg/kg
SOLIDS	Tetrachloroethylene (Perchloroethylene) <sup>1</sup>	10	µg/kg

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<i>Matrix</i>	<i>Analyte<sup>6</sup></i>	<i>PTRL</i>	<i>Units</i>
SOLIDS	1,1,1-Trichloroethane <sup>1</sup>	11	µg/kg
SOLIDS	1,1,2-Trichloroethane <sup>1</sup>	14	µg/kg
SOLIDS	Trichloroethene (Trichloroethylene) <sup>1</sup>	12	µg/kg
SOLIDS	1,2,3-Trichloropropane <sup>1</sup>	12	µg/kg
	<b>Low Level Volatile Ketone/Ethers<sup>1</sup></b>		
SOLIDS	Acetone <sup>1</sup>	20	µg/kg
SOLIDS	2-Butanone (Methyl ethyl ketone, MEK) <sup>1</sup>	10	µg/kg
SOLIDS	2-Hexanone <sup>1</sup>	50	µg/kg
SOLIDS	4-Methyl-2-pentanone (MIBK) <sup>1</sup>	50	µg/kg
SOLIDS	Methyl tert-butyl ether (MTBE) <sup>1</sup>	12	µg/kg
	<b>Medium Level Volatile Aromatics</b>		
SOLIDS	Benzene	750	µg/kg
SOLIDS	Chlorobenzene	750	µg/kg
SOLIDS	1,2-Dichlorobenzene (o-Dichlorobenzene) <sup>2</sup>	750	µg/kg
SOLIDS	1,3-Dichlorobenzene (m-Dichlorobenzene) <sup>2</sup>	606	µg/kg
SOLIDS	1,4-Dichlorobenzene (p-Dichlorobenzene) <sup>2</sup>	723	µg/kg
SOLIDS	Ethylbenzene	700	µg/kg
SOLIDS	Naphthalene <sup>2</sup>	721	µg/kg
SOLIDS	Styrene	1200	µg/kg
SOLIDS	Toluene	750	µg/kg
SOLIDS	1,2,4-Trichlorobenzene <sup>2</sup>	1200	µg/kg
SOLIDS	m/p-Xylenes <sup>7*</sup>	700	µg/kg
SOLIDS	o-Xylene <sup>7*</sup>	700	µg/kg
SOLIDS	Xylene (total) <sup>7</sup>	700	µg/kg
	<b>Medium Level Volatile Halocarbons</b>		
SOLIDS	Bromodichloromethane	650	µg/kg
SOLIDS	Bromoform	600	µg/kg
SOLIDS	Carbon tetrachloride	480	µg/kg
SOLIDS	Chloroform	700	µg/kg
SOLIDS	Chlorodibromomethane	700	µg/kg
SOLIDS	1,2-Dibromo-3-chloropropane (DBCP)	1200	µg/kg
SOLIDS	1,2-Dibromoethane (EDB, Ethylene dibromide)	1200	µg/kg
SOLIDS	Dibromomethane (Methylene bromide)	1200	µg/kg
SOLIDS	1,1-Dichloroethane	650	µg/kg
SOLIDS	1,2-Dichloroethane (Ethylene dichloride)	930	µg/kg
SOLIDS	1,1-Dichloroethene	1000	µg/kg
SOLIDS	cis-1,2-Dichloroethylene	1200	µg/kg

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SOLIDS	trans-1,2-Dichloroethylene	1200	µg/kg
SOLIDS	Methylene chloride (Dichloromethane)	600	µg/kg
SOLIDS	1,2-Dichloropropane	1400	µg/kg
SOLIDS	cis-1,3-Dichloropropene*	1200	µg/kg
SOLIDS	trans-1,3-Dichloropropylene*	1200	µg/kg
SOLIDS	1,1,1,2-Tetrachloroethane	520	µg/kg
SOLIDS	1,1,2,2-Tetrachloroethane	455	µg/kg
SOLIDS	Tetrachloroethylene (Perchloroethylene)	747	µg/kg
SOLIDS	1,1,1-Trichloroethane	600	µg/kg
SOLIDS	1,1,2-Trichloroethane	650	µg/kg
SOLIDS	Trichloroethene (Trichloroethylene)	643	µg/kg
SOLIDS	1,2,3-Trichloropropane	825	µg/kg
	<b>Medium Level Volatile Ketone/Ethers</b>		
SOLIDS	Acetone	929	µg/kg
SOLIDS	2-Butanone (Methyl ethyl ketone, MEK)	808	µg/kg
SOLIDS	2-Hexanone	2000	µg/kg
SOLIDS	4-Methyl-2-pentanone (MIBK)	2000	µg/kg
SOLIDS	Methyl tert-butyl ether (MTBE)	1400	µg/kg
	<b>Volatile Petroleum Hydrocarbons</b>		
SOLIDS	Gasoline Range Organics (GRO) <sup>9</sup>	10	mg/kg
	<b>Base/Neutrals</b>		
SOLIDS	Acenaphthene	100	µg/kg
SOLIDS	Acenaphthylene	100	µg/kg
SOLIDS	Anthracene	100	µg/kg
SOLIDS	Benzo(a)anthracene	100	µg/kg
SOLIDS	Benzo(b)fluoranthene	100	µg/kg
SOLIDS	Benzo(k)fluoranthene	100	µg/kg
SOLIDS	Benzo(g,h,i)perylene	100	µg/kg
SOLIDS	Benzo(a)pyrene	100	µg/kg
SOLIDS	4-Bromophenyl phenyl ether (BDE-3)	150	µg/kg
SOLIDS	Butyl benzyl phthalate	100	µg/kg
SOLIDS	bis(2-Chloroethyl)ether	150	µg/kg
SOLIDS	bis(2-Chloroethoxy)methane	100	µg/kg
SOLIDS	2-2'-Oxybis(1-Chloropropane), bis(2-Chloro-1-methylethyl)ether	150	µg/kg
SOLIDS	2-Chloronaphthalene	100	µg/kg
SOLIDS	4-Chlorophenyl phenylether	100	µg/kg
SOLIDS	Chrysene	100	µg/kg

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SOLIDS	Dibenz(a,h)anthracene	100	µg/kg
SOLIDS	Dibenzofuran	150	µg/kg
SOLIDS	1,2-Dichlorobenzene (o-Dichlorobenzene) <sup>2</sup>	150	µg/kg
SOLIDS	1,3-Dichlorobenzene (m-Dichlorobenzene) <sup>2</sup>	150	µg/kg
SOLIDS	1,4-Dichlorobenzene (p-Dichlorobenzene) <sup>2</sup>	150	µg/kg
SOLIDS	Diethyl phthalate	100	µg/kg
SOLIDS	Dimethyl phthalate	100	µg/kg
SOLIDS	Di-n-butyl phthalate	100	µg/kg
SOLIDS	2,4-Dinitrotoluene (2,4-DNT)	150	µg/kg
SOLIDS	2,6-Dinitrotoluene (2,6-DNT)	150	µg/kg
SOLIDS	Di-n-octyl phthalate	100	µg/kg
SOLIDS	Di(2-ethylhexyl phthalate (bis(2-Ethylhexyl)phthalate, DEHP)	150	µg/kg
SOLIDS	Fluoranthene	100	µg/kg
SOLIDS	Fluorene	100	µg/kg
SOLIDS	Hexachloroethane	150	µg/kg
SOLIDS	Hexachlorobenzene	150	µg/kg
SOLIDS	Hexachlorobutadiene	150	µg/kg
SOLIDS	Indeno(1,2,3-cd) pyrene	100	µg/kg
SOLIDS	Isophorone	150	µg/kg
SOLIDS	2-Methylnaphthalene	100	µg/kg
SOLIDS	Naphthalene <sup>2</sup>	100	µg/kg
SOLIDS	Nitrobenzene	150	µg/kg
SOLIDS	N-Nitrosodi-n-propylamine	150	µg/kg
SOLIDS	Phenanthrene	100	µg/kg
SOLIDS	Pyrene	100	µg/kg
SOLIDS	1,2,4-Trichlorobenzene <sup>2</sup>	150	µg/kg
	<b>Acids</b>		
SOLIDS	4-Chloro-3-methylphenol	150	µg/kg
SOLIDS	2-Chlorophenol	150	µg/kg
SOLIDS	2,4-Dichlorophenol	150	µg/kg
SOLIDS	2-Methylphenol (o-Cresol)	300	µg/kg
SOLIDS	4-Methylphenol (p-Cresol) <sup>4</sup>	300	µg/kg
SOLIDS	2-Nitrophenol	300	µg/kg
SOLIDS	4-Nitrophenol	300	µg/kg
SOLIDS	Phenol	150	µg/kg
SOLIDS	Pentachlorophenol	300	µg/kg
SOLIDS	2,4,5-Trichlorophenol	150	µg/kg
SOLIDS	2,4,6-Trichlorophenol	150	µg/kg

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<i>Matrix</i>	<i>Analyte<sup>6</sup></i>	<i>PTRL</i>	<i>Units</i>
	<b>PCBs<sup>3,8</sup></b>		
SOLIDS	Aroclor 1016 (PCB-1016) <sup>3,8</sup>	0.1	mg/kg
SOLIDS	Aroclor 1221 (PCB-1221) <sup>3,8</sup>	0.1	mg/kg
SOLIDS	Aroclor 1232 (PCB-1232) <sup>3,8</sup>	0.1	mg/kg
SOLIDS	Aroclor 1242 (PCB-1242) <sup>3,8</sup>	0.1	mg/kg
SOLIDS	Aroclor 1248 (PCB-1248) <sup>3,8</sup>	0.1	mg/kg
SOLIDS	Aroclor 1254 (PCB-1254) <sup>3,8</sup>	0.1	mg/kg
SOLIDS	Aroclor 1260 (PCB-1260) <sup>3,8</sup>	0.1	mg/kg
	<b>PCBs in Oil<sup>3,8</sup></b>		
OIL	Aroclor 1016 (PCB-1016) <sup>3,8</sup>	0.86	mg/kg
OIL	Aroclor 1221 (PCB-1221) <sup>3,8*</sup>	1.25	mg/kg
OIL	Aroclor 1232 (PCB-1232) <sup>3,8*</sup>	1.25	mg/kg
OIL	Aroclor 1242 (PCB-1242) <sup>3,8</sup>	0.86	mg/kg
OIL	Aroclor 1248 (PCB-1248) <sup>3,8*</sup>	1.25	mg/kg
OIL	Aroclor 1254 (PCB-1254) <sup>3,8</sup>	0.86	mg/kg
OIL	Aroclor 1260 (PCB-1260) <sup>3,8</sup>	0.86	mg/kg
	<b>Organochlorine Pesticides</b>		
SOLIDS	Aldrin	5.0	µg/kg
SOLIDS	alpha-BHC (alpha-Hexachlorocyclohexane)	5.0	µg/kg
SOLIDS	beta-BHC (beta-Hexachlorocyclohexane)	5.0	µg/kg
SOLIDS	delta-BHC	5.0	µg/kg
SOLIDS	gamma-BHC(Lindane, gamma-Hexachlorocyclohexane)	5.0	µg/kg
SOLIDS	cis-Chlordane, alpha-Chlordane	5.0	µg/kg
SOLIDS	gamma-Chlordane	5.0	µg/kg
SOLIDS	Chlordane (tech.)	10	µg/kg
SOLIDS	4,4'-DDD	5.0	µg/kg
SOLIDS	4,4'-DDE	5.0	µg/kg
SOLIDS	4,4'-DDT	5.0	µg/kg
SOLIDS	Dieldrin	5.0	µg/kg
SOLIDS	Endosulfan I	5.0	µg/kg
SOLIDS	Endosulfan II	5.0	µg/kg
SOLIDS	Endosulfan sulfate	5.0	µg/kg
SOLIDS	Endrin	5.0	µg/kg
SOLIDS	Endrin aldehyde	5.0	µg/kg
SOLIDS	Endrin ketone	5.0	µg/kg
SOLIDS	Heptachlor	5.0	µg/kg
SOLIDS	Heptachlor epoxide	5.0	µg/kg
SOLIDS	Methoxychlor	5.0	µg/kg

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SOLIDS	Toxaphene (Chlorinated Camphene)	20	µg/kg
	<b>Herbicides</b>		
SOLIDS	2,4-D	10	µg/kg
SOLIDS	2,4-DB	10	µg/kg
SOLIDS	Dicamba	10	µg/kg
SOLIDS	Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	10	µg/kg
SOLIDS	Pentachlorophenol	10	µg/kg
SOLIDS	2,4,5-T	10	µg/kg
SOLIDS	Silvex (2,4,5-TP)	10	µg/kg
	<b>Petroleum Hydrocarbons</b>		
SOLIDS	Diesel Range Organics (DRO) <sup>10</sup>	30	mg/kg
SOLIDS	n-Hexane Extractable Material (O&G) <sup>5</sup>	30	mg/kg
	<b>Low Level Polyaromatic Hydrocarbons (PAHs)<sup>1</sup></b>		
SOLIDS	Acenaphthene <sup>1</sup>	15	µg/kg
SOLIDS	Acenaphthylene <sup>1</sup>	15	µg/kg
SOLIDS	Anthracene <sup>1</sup>	10	µg/kg
SOLIDS	Benzo(a)anthracene <sup>1</sup>	5.0	µg/kg
SOLIDS	Benzo(b)fluoranthene <sup>1</sup>	5.0	µg/kg
SOLIDS	Benzo(k)fluoranthene <sup>1</sup>	5.0	µg/kg
SOLIDS	Benzo(g,h,i)perylene <sup>1</sup>	10	µg/kg
SOLIDS	Benzo(a)pyrene <sup>1</sup>	5.0	µg/kg
SOLIDS	Chrysene <sup>1</sup>	5.0	µg/kg
SOLIDS	Dibenz(a,h) anthracene <sup>1</sup>	5.0	µg/kg
SOLIDS	Fluoranthene <sup>1</sup>	10	µg/kg
SOLIDS	Fluorene <sup>1</sup>	5.0	µg/kg
SOLIDS	Indeno(1,2,3-cd) pyrene <sup>1</sup>	5.0	µg/kg
SOLIDS	Naphthalene <sup>1</sup>	15	µg/kg
SOLIDS	Phenanthrene <sup>1</sup>	10	µg/kg
SOLIDS	Pyrene <sup>1</sup>	5.0	µg/kg

\*) Identifies new FoPT.

1) The Low Level Analytes are specifically intended for technologies/methods that can achieve the listed PTRL. Laboratories analyzing routine environmental samples using technologies/methods that can achieve the listed PTRLs must analyze the Low Level Analyte PT samples.

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- 2) Analysis required per volatile analytical technologies and solvent extraction/semivolatile analytical technologies.
- 3) Laboratories must analyze and report results for all Aroclors for a given matrix in an individual PT study. Incorrect identification or quantitation of one Aroclor will result in failure for the group.
- 4) Laboratories seeking to report data for Solid and Chemical Material analyte 4-Methylphenol or the coeluting isomer pair of 3-Methylphenol and 4-Methylphenol must report the data as 4-Methylphenol.
- 5) n-Hexane Extractable Material (HEM) per solvent extraction followed by gravimetric or infrared spectrometric analysis (Oil & Grease).
- 6) All FoPTs must meet the design, verification, homogeneity, stability, and acceptance limits described in V3 of the TNI Standard and the TNI FoPT Tables.
- 7) Volatile Aromatics contain all three Xylene isomers. The concentration range of o-Xylene and m/p-Xylenes is 20-200 ug/kg (Low Level) or 1000-10000 (Medium Level) each.
- 8) A “Not Acceptable” evaluation of any one or more Aroclor Identifications constitutes a failure to demonstrate proficiency for all accredited Aroclors reported.
- 9) Gasoline Range Organics (GRO) per purge-and-trap extraction followed by chromatographic analysis. GRO is defined as the carbon range between n-C<sub>5</sub> and n-C<sub>10</sub>.
- 10) Diesel Range Organics (DRO) per solvent extraction followed by chromatographic analysis. DRO is defined as the carbon range between n-C<sub>10</sub> and n-C<sub>28</sub>.