

**Appendix A**  
**Analytical Methods for Air Sampling**

Compound	Method of Analysis	Media for Collection	Reporting Limit* (See notes for units)	Method Detection Limit* (ug/m <sup>3</sup> )
Acenaphthene	TO-13A	PUF / XAD	10	0.4
Acenaphthylene	TO-13A	PUF / XAD	10	0.35
Acetaldehyde				
Acetone	TO-15	Can or Bag	1.9	0.47
Acetonitrile	TO-15	Can or Bag	1.7	0.12
Acetophenone				
Acrolein	TO-15	Can or Bag	1.1	0.11
Acrylamide				
Acrylic Acid				
Acrylonitrile	TO-15	Can or Bag	11	0.17
Allyl Alcohol				
Aniline	TO-13A	PUF/XAD		
Anthracene	TO-13A	PUF / XAD	10	0.47
Benzene	TO-15A	Can or Bag	0.64	0.26
Benzotrichloride				
Benzyl chloride	TO-15	Can or Bag	1.04	0.38
Biphenyl, 1-1				
Bis (2-chloroethyl) ether	TO-13A	PUF / XAD	10	1.2
Bis (2-chloro-isopropyl) ether	TO-13A	PUF / XAD	10	1.6
Bis (chloromethyl) ether				
Bromochloromethane	TO-15	Can or Bag		
BromoDichloromethane	TO-15	Can or Bag	0.87	0.31
Bromomethane	TO-15	Can or Bag	0.78	0.35
Butadiene, 1,3-	TO-15	Can or Bag	0.88	0.18
Butyl Alcohol, N-	TO-15	Can or Bag	1.3	0.3
Butylbenzene, N-	TO-15	Can or Bag	1.1	0.4
Butylbenzene, Sec-	TO-15	Can or Bag	1.1	0.4
Butylbenzene, Tert-	TO-15	Can or Bag	TIC	
Carbon Disulfide	TO-15	Can or Bag	3.1	0.44
Carbon Tetrachloride	TO-15	Can or Bag	1.3	0.25
Chloro-1,1-Difluoroethane, 1-	TO-15	Can or Bag	TIC	
Chloro-1-Propene, 3- (Allyl Chloride)	TO-15	Can or Bag	1.6	0.47
Chlorobenzene	TO-15	Can or Bag	0.92	0.41
Chlorobutane, 1-	TO-15	Can or Bag	TIC	
Chlorodibromomethane (Dibromochloromethane)	TO-15	Can or Bag	1.7	0.68
Chlorodifluoromethane	TO-15	Can or Bag	3.5	-
Chloroethane	TO-15	Can or Bag	1.1	0.37
Chloroform	TO-15	Can or Bag	0.97	0.29
Chloronaphthalene, 2-	TO-13A	PUF / XAD	10	1.1

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Chlorophenol, 2-	TO-13A	PUF / XAD	10	3.25
Chloroprene				
Chloropropane, 2-	TO-15	Can or Bag	TIC	
Chlorotoluene, O-	TO-15	Can or Bag	TIC	
Cresol (s)	TO-13A	PUF / XAD	10	
Cresol, O- (Methylphenol, 2-)	TO-13A	PUF / XAD	10	10
Crotonaldehyde	TO-11A	DNPH Cartidge		
Crotonaldehyde, Trans-	TO-11A	DNPH Cartidge		
Cumene (Isopropylbenzene)	TO-15	Can or Bag	2	0.15
Cyclohexanone	TO-15	Can or Bag	TIC	
Dibromo-3-chloropropane, 1,2-	TO-15	Can or Bag	TIC	
Dibromoethane, 1,2- (Ethylene Dibromide)	TO-15	Can or Bag	1.5	0.46
Dibromomethane	TO-15	Can or Bag	0.78	0.35
Dichloro-2-Butene, 1,4-	TO-15	Can or Bag	TIC	
Dichlorobenzene, 1,2-	TO-15	Can or Bag	1.2	0.42
Dichlorobenzene, 1,3-	TO-15	Can or Bag	1.2	0.48
Dichlorobenzene, P- (1,4-)	TO-15	Can or Bag	1.2	0.36
Dichloroethane, 1,1-	TO-15	Can or Bag	0.81	0.2
Dichloroethane, 1,2-	TO-15	Can or Bag	0.81	0.24
Dichloroethylene, 1,1-	TO-15	Can or Bag	0.79	0.24
Dichloroethylene, Cis - 1,2-	TO-15	Can or Bag	0.79	0.2
Dichloroethylene, Trans - 1,2-	TO-15	Can or Bag	0.79	0.28
Dichloromethane (Methylene Chloride)	TO-15	Can or Bag	0.69	0.24
Dichloropropane, 1,2-	TO-15	Can or Bag	0.92	0.28
Dichloropropene, 1,3- (cis or trans)	TO-15	Can or Bag	0.91	0.36
Dichloropropionic acid (Dalapon), 2,2-				
Dicyclopentadiene				
Dimethylaniline , N,N-				
Dioxane, 1,4-	TO-15	Can or Bag	1.8	0.18
Epichlorohydrin				
Ethoxyethanol, 2- (EGEE)				
Ethyl Acetate	TO-15	Can or Bag	0.72	0.29
Ethyl Acrylate	TO-15	Can or Bag	TIC	
Ethyl Benzene	TO-15	Can or Bag	0.87	0.3
Ethyl dipropylthiocarbamate, S- (EPTC)				
Ethyl Ether	TO-15	Can or Bag	1.5	0.21
Ethyl Methacrylate	TO-15	Can or Bag	TIC	
Ethylene Glycol	NIOSH 552	Tube		
Fluorene	TO-13A	PUF / XAD	10	0.12

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Formaldehyde	TO-11	DNPH Cartridge	0.05 mg	
Formic Acid	NIOSH 20	Tube		
Furan	TO-9A	PUF/XAD		
Furfural				
Hexane	TO-15	Can or Bag	3.5	0.35
Hydrazine / Hydrazine Sulfate				
Isobutyl Alcohol				
Methacrylonitrile				
Methanol	TO-15	Can or Bag	13	1.2
Methoxyethanol, 2-				
Methyl Acetate	TO-15	Can or Bag	TIC	
Methyl Acrylate	TO-15	Can or Bag	TIC	
Methyl Chloride Chloromethane)	TO-15	Can or Bag	0.82	0.14
Methyl Ethyl Ketone (2-Butanone)	TO-15	Can or Bag	2.9	0.59
Methyl Isobutyl Ketone	TO-15	Can or Bag	1.6	0.36
Methyl Methacrylate	TO-15	Can or Bag	1.6	0.37
Methyl Styrene (Alpha only)	TO-15	Can or Bag	1.9	0.29
Methyl Tert-butyl Ether (MTBE)	TO-15	Can or Bag	3.6	0.36
Methylnaphthalene, 2-	TO-13A	PUF / XAD	10	0.57
Methylstyrene, Alpha	TO-13A	PUF/XAD		
Naphthalene	TO-15	Can or Bag	1.05	0.52
Nitrobenzene	TO-13A	PUF / XAD	10	1.84
Nitrophenol, 2-	TO-13A	PUF / XAD	50	3.43
Nitropropane, 2-				
Nitrosodiethylamine, N-				
Nitrosodimethylamine, N-	TO-13A	PUF / XAD	10	0.5
Nitroso-di-N-butylamine, N-				
PCB - 1221	TO-10A	PUF	0.5	0.03
Phenanthrene	TO-13A	PUF / XAD	10	0.13
Phenol	TO-13A	PUF/XAD	50	10
Propylbenzene, N	TO-15	Can or Bag	0.9	0.22
Propylene Oxide				
Pyridine	TO-13A	PUF/XAD		
Styrene	TO-15	Can or Bag	0.85	0.26
Tetrachloroethane, 1,1,1,2-	TO-15	Can or Bag	1.4	NA
Tetrachloroethane, 1,1,2,2-	TO-15	Can or Bag	1.4	0.55
Tetrachloroethylene (PCE)	TO-15	Can or Bag	1.4	0.61
Toluene	TO-15	Can or Bag	1.1	0.34
Tribromomethane (Bromoform)	TO-15	Can or Bag	2.1	0.72

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Trichloro-1,2,2-trifluoroethane, 1,1,2-	TO-15	Can or Bag	3.1	0.54
Trichlorobenzene, 1,2,4-	TO-15	Can or Bag	5.9	0.67
Trichlorobenzene, 1,3,5-	TO-15	Can or Bag	TIC	
Trichloroethane, 1,1,1-	TO-15	Can or Bag	1.1	0.44
Trichloroethane, 1,1,2-	TO-15	Can or Bag	1.1	0.44
Trichloroethylene (TCE)	TO-15	Can or Bag	1.1	0.43
Trichloropropane, 1,1,2-	TO-15	Can or Bag	TIC	
Trichloropropane, 1,2,3-	TO-15	Can or Bag	1.2	0.18
Trichloropropene, 1,2,3-	TO-15	Can or Bag	TIC	
Trimethylbenzene, 1,3,4- (Trimethylbenzene, 1,2,4)	TO-15	Can or Bag	2	0.39
Trimethylbenzene, 1,3,5-	TO-15	Can or Bag	2	0.44
Vinyl Acetate	TO-15	Can or Bag	3.5	0.14
Vinyl Bromide (Bromoethene)	TO-15	Can or Bag	0.87	0.31
Vinyl Chloride	TO-15	Can or Bag	0.51	0.15
Xylenes (Total)	TO-15	Can or Bag	2.2	0.87

\* Reporting Limit (RLs) - This is a relative list of RLs (or PQLs) that is to be used for informational purposes only. Act 2 specifies that in demonstrating attainment of any standard, the concentration of a regulated substance shall not be required to be less than the practical quantitation limit set by EPA. Section 250.4 of the regulations addresses how the Department interprets this requirement in light of the SW-846 analytical methods. Since EPA does not publish Estimated Quantitation Limits (EQLs) or method detection limits for the TO-series methods, the procedure in Section 250.4(c)(2) shall be used in developing PQLs for these analytical methods. Because this method of determining a PQL is specific to a particular laboratory, and will vary from one laboratory to another, the calibration data associated with a particular data set should be included when transmitting analytical results to the Department. Labs should be consulted prior to sampling to obtain MDLs and reporting limits (or PQLs) for the compounds of interest.

**Notes:**

TO-13A is reported in ug/PUF

TO-15 is reported either as ug/m<sup>3</sup> as indicated on this table or as ppbv or parts per billion by volume

ug/m<sup>3</sup> is calculated as (ppbv x molecular weight) divided by 24.45

Can or Bag media refers to either a Stainless Steel 6L Canister or a Tedlar Bag. Tedlar bags are not the preferred media for collection of volatiles as they only have a 72 hour hold time and some VOCs may interact with the bag.

PUF is Polyurethane Fiber

XAD is a resin

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<b>Compound</b>	<b>Method of Analysis</b>	<b>Media for Collection</b>	<b>Reporting Limit* (See notes for units)</b>	<b>Method Detection Limit* (ug/m<sup>3</sup>)</b>
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Dioxins/Furans in ambient air can be done by TO-9A

Some compounds with no method or limit listing can be analyzed as TICs (Tentatively Identified Compounds) on the appropriate method.