

TARGET REPORTING LIMITS FOR SYNTHETIC ORGANIC ANALYTES

SWAMP	Organochlorine Pesticides (by EPA 8081A using GC-ECD)		
	WATER	TISSUE	SEDIMENTS
	(1.0-L H2O samples)	Fresh Wt	Dry Wt (Based on 50% moisture)
Organochlorine Pesticide Name	Target Reporting Limit ppb (ug/L)	Target Reporting Limit ppb (ng/g)	Target Reporting Limit ppb (ng/g)
Aldrin	0.002	1	2
Chlordane, cis	0.002	2	4
Chlordane, trans	0.002	2	4
Chlordene, alpha	0.002	1	2
Chlordene, gamma	0.002	1	2
Chlorpyrifos	0.02	2	4
Dacthal	0.0020	2	4
DCBP, p,p'	NA	10	20
DDD, o,p'	0.002	2	4
DDD, p,p'	0.002	2	4
DDE, o,p'	0.002	2	4
DDE, p,p'	0.002	2	4
DDMU, p,p'	0.002	3	6
DDT, o,p'	0.002	3	6
DDT, p,p'	0.005	5	10
Diazinon	0.020	20	40
Dieldrin	0.002	2	4
Endosulfan I	0.002	2	4
Endosulfan II	0.002	10	20
Endosulfan sulfate	0.002	10	20
Endrin	0.002	2	4
Endrin Aldehyde	0.005	NA	NA
Endrin Ketone	0.005	NA	NA
Ethion	0.050	6	12
HCH, alpha	0.002	1	2
HCH, beta	0.002	2	4
HCH, gamma	0.002	1	2
HCH, delta	0.002	2	4
Heptachlor	0.002	2	4
Heptachlor epoxide	0.002	1	2
Hexachlorobenzene	0.001	0.3	0.6
Methoxychlor	0.002	5	10
Mirex	0.002	3	6
Nonachlor, cis	0.002	2	4
Nonachlor, trans	0.002	1	2
Oxadiazon	0.002	3	6
Oxychlordane	0.002	1	2
Parathion, ethyl	0.050	2	4
Parathion, methyl	0.020	4	8
Tedion	0.002	2	4
Toxaphene	NA	20	40
Surrogate			
207	Not Applicable	Not Applicable	Not Applicable
DBOB	Not Applicable	Not Applicable	Not Applicable
DDD*, p,p'	Not Applicable	Not Applicable	Not Applicable
DBCE	Not Applicable	Not Applicable	Not Applicable
NA-not a target compound (not analyzed)			

TARGET REPORTING LIMITS FOR SYNTHETIC ORGANIC ANALYTES

SWAMP	Organophosphate Pesticides (by EPA 8141A using GC-FPD & TSD)		
	WATER	TISSUE	SEDIMENTS
	(1.0-L H2O samples)	Fresh Wt	Dry Wt (Based on 50% moisture)
Organophosphate Pesticide Name	Target Reporting Limit ppb (ug/L)	Target Reporting Limit ppb (ng/g)	Target Reporting Limit ppb (ng/g)
Aspon	0.050	NA	NA
Azinphos-ethyl	0.050	NA	NA
Carbophenothion	0.050	NA	NA
Chlorfenvinphos	0.050	NA	NA
Chlorpyrifos	0.020	2	4
Chlorpyrifos methyl	0.050	NA	NA
Ciodrin (Crotoxyphos)	0.050	NA	NA
Coumaphos	0.050	NA	NA
Demeton-S	0.050	NA	NA
Diazinon	0.020	20	40
Dibrom (Naled)	0.050	NA	NA
Dichlofenthion	0.050	NA	NA
Dichlorvos	0.050	NA	NA
Dicrotophos	0.050	NA	NA
Dimethoat	0.050	NA	NA
Dioxathion	0.050	NA	NA
Disulfoton	0.050	NA	NA
Ethion	0.050	6	12
Famphur	0.050	NA	NA
Fenchlorophos (Ronnel)	0.050	NA	NA
Fenitrothion	0.050	NA	NA
Fensulfothion	0.050	NA	NA
Fenthion (Mercaptophos)	0.050	NA	NA
Fonofos (Dyfonate)	0.050	NA	NA
Guthion (Azinphos methyl)	0.050	NA	NA
Leptophos	0.050	NA	NA
Malathion	0.050	NA	NA
Methidathion	0.050	NA	NA
Parathion, ethyl	0.050	2	4
Parathion, methyl	0.020	4	8
Molinate (Ordram)	0.100	NA	NA
Phorate	0.050	NA	NA
Phosdrin (Mevinphos)	0.050	NA	NA
Phosmet	0.050	NA	NA
Phosphamidon	0.050	NA	NA
Prophos (Ethoprop)	0.050	NA	NA
Sulprofos (Bolstar)	0.050	NA	NA
Terbufos	0.050	NA	NA
Tetrachlorvinphos (Stirifos)	0.050	NA	NA
Thiobencarb (Bolero)	0.100	NA	NA
Thionzin (Thionazin)	0.050	NA	NA
Tokuthion	0.050	NA	NA
Tributylphosphorotrithioite (0.050	NA	NA
Trichlorfon	0.050	NA	NA
Trichloronate	0.050	NA	NA
Surrogate			
Triphenyl phosphate	not applicable	not applicable	not applicable
NA-not a target compound (not analyzed)			

TARGET REPORTING LIMITS FOR SYNTHETIC ORGANIC ANALYTES

SWAMP	Polychlorinated Biphenyl (PCB) Congeners and Aroclor Compounds (By GC-ECD)		
	WATER	TISSUE	SEDIMENTS
	(1.0-L H ₂ O samples)	Fresh Wt	Dry Wt Based on 50% moisture
PCB Congener No.	Target Reporting Limit ppb (ug/L)	Target Reporting Limit ppb (ng/g)	Target Reporting Limit ppb (ng/g)
5	0.002	NA	NA
8	0.002	0.2	0.4
15	0.002	NA	NA
18	0.002	0.2	0.4
27	0.002	0.2	0.4
28	0.002	0.2	0.4
29	0.002	0.2	0.4
31	0.002	0.2	0.4
33	0.002	0.2	0.4
44	0.002	0.2	0.4
49	0.002	0.2	0.4
52	0.002	0.2	0.4
56	0.002	0.2	0.4
60	0.002	0.2	0.4
66	0.002	0.2	0.4
70	0.002	0.2	0.4
74	0.002	0.2	0.4
87	0.002	0.2	0.4
95	0.002	0.2	0.4
97	0.002	0.2	0.4
99	0.002	0.2	0.4
101	0.002	0.2	0.4
105	0.002	0.2	0.4
110	0.002	0.2	0.4
114	0.002	0.2	0.4
118	0.002	0.2	0.4
128	0.002	0.2	0.4
137	0.002	0.2	0.4
138	0.002	0.2	0.4
141	0.002	0.2	0.4
149	0.002	0.2	0.4
151	0.002	0.2	0.4
153	0.002	0.2	0.4
156	0.002	0.2	0.4
157	0.002	0.2	0.4
158	0.002	0.2	0.4
170	0.002	0.2	0.4
174	0.002	0.2	0.4
177	0.002	0.2	0.4
180	0.002	0.2	0.4
183	0.002	0.2	0.4
187	0.002	0.2	0.4
189	0.002	0.2	0.4
194	0.002	0.2	0.4
195	0.002	0.2	0.4
200	0.002	0.2	0.4
201	0.002	0.2	0.4
203	0.002	0.2	0.4
206	0.002	0.2	0.4
209	0.002	0.2	0.4
Aroclor 1248	2.5	25	50
Aroclor 1254	1.0	10	20
Aroclor 1260	1.0	10	20
Surrogate			
207	not applicable	not applicable	not applicable
NA-not a target compound (not analyzed)			

TARGET REPORTING LIMITS FOR SYNTHETIC ORGANIC ANALYTES

SWAMP	Polynuclear Aromatic Hydrocarbons (PAH's) (by GC-MS)		
	WATER	TISSUE	SEDIMENTS
	(1.0-L H2O samples)	Fresh Wt	Dry Wt (Based on 50% moisture)
PAH name	Target Reporting Limit ppb (ug/L)	Target Reporting Limit ppb (ng/g)	Target Reporting Limit ppb (ng/g)
Naphthalene	10	20	100
2-Methylnaphthalene	10	20	100
1-Methylnaphthalene	10	20	100
C1 - Naphthalenes	10	20	100
C2 - Naphthalenes	10	20	100
C3 - Naphthalenes	10	20	100
C4 - Naphthalenes	10	20	100
Biphenyl	10	20	100
2,6-Dimethylnaphthalene	10	20	100
Acenaphthylene	10	20	100
Acenaphthene	10	20	100
2,3,5-Trimethylnaphthalene	10	20	100
Fluorene	10	20	100
C1 - Fluorenes	10	20	100
C2 - Fluorenes	10	20	100
C3 - Fluorenes	10	20	100
Dibenzothiophene	10	20	100
C1 - Dibenzothiophenes	10	20	100
C2 - Dibenzothiophenes	10	20	100
C3 - Dibenzothiophenes	10	20	100
Phenanthrene	10	20	100
C1 - Phenanthrene/Anthracene	10	20	100
C2 - Phenanthrene/Anthracene	10	20	100
C3 - Phenanthrene/Anthracene	10	20	100
C4 - Phenanthrene/Anthracene	10	20	100
Anthracene	10	20	100
1-Methylphenanthrene	10	20	100
Fluoranthene	10	20	100
C1 - Fluoranthene/Pyrenes	10	20	100
Pyrene	10	20	100
Benz[a]anthracene	10	20	100
Chrysene	10	20	100
C1 - Chrysenes	10	20	100
C2 - Chrysenes	10	20	100
C3 - Chrysenes	10	20	100
Benzo[b]fluoranthene	10	20	100
Benzo[k]fluoranthene	10	20	100
Benzo[e]pyrene	10	20	100
Benzo[a]pyrene	10	20	100
Perylene	10	20	100
Indeno[1,2,3-cd]pyrene	10	20	100
Dibenz[a,h]anthracene	10	20	100
Benzo[ghi]perylene	10	20	100
Cholestane	10	20	100
Terpanes	10	20	100
Steranes	10	20	100
Monoaromatic Steranes	10	20	100
Triaromatic Steranes	10	20	100

TARGET REPORTING LIMITS FOR SYNTHETIC ORGANIC ANALYTES

SWAMP	Polynuclear Aromatic Hydrocarbons (PAH's) (by HPLC-UV diode array/fluoresence)
	WATER ONLY
	(1.0-L H2O samples)
PAH name	Target Reporting Limit ppb (ug/L)
1-Methylnaphthalene	0.020
1-Methylphenanthrene	0.020
2,3,5-Trimethylnaphthalene	0.020
2,6-Dimethylnaphthalene	0.020
2-Methylnaphthalene	0.020
Acenaphthene	0.020
Acenaphthylene	0.020
Anthracene	0.020
Benz[a]anthracene	0.020
Benzo[a]pyrene	0.020
Benzo[b]fluoranthene	0.020
Benzo[e]pyrene	0.020
Benzo[ghi]perylene	0.020
Benzo[k]fluoranthene	0.020
Biphenyl	0.020
Chrysene	0.020
Dibenz[a,h]anthracene	0.020
Fluoranthene	0.020
Fluorene	0.020
Indeno[1,2,3-cd]pyrene	0.020
Naphthalene	0.020
Phenanthrene	0.020
Pyrene	0.020
Surrogate	
Decachlorobiphenyl	not applicable

TARGET REPORTING LIMITS FOR SYNTHETIC ORGANIC ANALYTES

SWAMP	Semi-volatile Organic Analytes (by EPA-8270)	
	WATER	SEDIMENTS
	(1.0-L H ₂ O samples)	Dry Wt (Based on 50% moisture)
Semi-volatile Organic Analyte Names	Target Reporting Limit ppb (ug/L)	Target Reporting Limit ppb (ng/g)
1,4-Dichlorobenzene-d4	10	0.3
2-Fluorophenol(Surr.)	10	0.3
Phenol-d6(Surr.)	10	0.3
Phenol	10	0.3
Bis(2-chloroethyl) ether	10	0.3
2-Chlorophenol	10	0.3
1,3-Dichlorobenzene	10	0.3
1,4-Dichlorobenzene	10	0.3
1,2-Dichlorobenzene	10	0.3
2-Methylphenol	10	0.3
N-Nitrosodi-n-propylamine	10	0.3
Hexachloroethane	10	0.3
Naphthalene-d8	10	0.3
4-Methylphenol/3-Methylphenol(10	0.3
Nitrobenzene-d5(Surr)	10	0.3
2-Nitrophenol	10	0.3
2,4-Dimethylphenol	10	0.3
Bis(2-chloroethoxy)methane	10	0.3
2,4-Dichlorophenol	10	0.3
1,2,4-Trichlorobenzene	10	0.3
Naphthalene	10	0.3
4-Chloroaniline	10	0.3
Hexachlorobutadiene	10	0.3
4-Chloro-3-methylphenol	10	0.3
2-Methylnaphthalene	10	0.3
Hexachlorocyclopentadiene	10	0.3
Acenaphthene-d10	10	0.3
2,4,6-Trichlorophenol	10	0.3
2,4,5-Trichlorophenol	10	0.3
2-Fluorobiphenyl(Surr)	10	0.3
2-Chloronaphthalene	10	0.3
2-Nitroaniline	10	0.3
Dimethyl phthalate	10	0.3
Acenaphthylene	10	0.3
3-Nitroaniline	10	0.3
Acenaphthene	10	0.3
2,4-Dinitrophenol	10	0.3
Dibenzofuran	10	0.3
4-Nitrophenol	10	0.3
Diethyl phthalate	10	0.3
Fluorene	10	0.3
4-Chlorophenyl phenyl ether	10	0.3
Phenanthrene-d10	10	0.3
4,6-Dinitro-2-methylphenol	10	0.3
Carbazole	10	0.3
2,4,6-Tribromophenol(Surr.)	10	0.3
4-Bromophenyl phenyl ether	10	0.3
Hexachlorobenzene	10	0.3
Pentachlorophenol	10	0.3
4-Nitroaniline	10	0.3
Phenanthrene	10	0.3
Anthracene	10	0.3
Di-n-butyl phthalate	10	0.3
Fluoranthene	10	0.3
Chrysene-d12	10	0.3
Pyrene	10	0.3
Butyl benzyl phthalate	10	0.3

TARGET REPORTING LIMITS FOR SYNTHETIC ORGANIC ANALYTES

SWAMP	Volatile Organic Analytes (by EPA-8260)	
	WATER	SEDIMENTS
	(1.0-L H2O samples)	Dry Wt (Based on 50% moisture)
Volatile Organic Analyte Names	Target Reporting Limit ppb (ug/L)	Target Reporting Limit ppb (ng/g)
Fluorobenzene	0.08	20
1,1-Dichloroethylene	0.08	20
trans-1,2-Dichloroethylene	0.08	20
1,1-Dichloroethane	0.08	20
2,2-Dichloropropane	0.08	20
cis-1,2-Dichloroethylene	0.08	20
Bromochloromethane	0.08	20
Chloroform	0.08	20
1,1,1-Trichloroethane	0.08	20
Dibromofluoromethane (Surr.)	0.08	20
Carbon tetrachloride	0.08	20
1,1-Dichloropropene	0.08	20
Benzene	0.08	20
1,2-Dichloroethane-d4 (Surr.)	0.08	20
1,2-Dichloroethane	0.08	20
Trichloroethylene	0.08	20
1,2-Dichloropropane	0.08	20
Dibromomethane	0.08	20
Bromodichloromethane	0.08	20
Toluene-d8 (Surr.)	0.08	20
Chlorobenzene-d5	0.08	20
Toluene	0.08	20
1,1,2-Trichloroethane	0.08	20
Tetrachloroethylene	0.08	20
1,3-Dichloropropane	0.08	20
Dibromochloromethane	0.08	20
1,2-Dibromoethane	0.08	20
Chlorobenzene	0.08	20
Ethylbenzene	0.08	20
m/p-Xylene	0.08	20
o-Xylene	0.08	20
1,1,1,2-Tetrachloroethane	0.08	20
Bromoform	0.08	20
Isopropylbenzene	0.08	20
Bromofluorobenzene (Surr.)	0.08	20
Bromobenzene	0.08	20
n-Propylbenzene	0.08	20
1,2,3-Trichloropropane	0.08	20
1,1,2,2-Tetrachloroethane	0.08	20
2-Chlorotoluene	0.08	20
1,3,5-Trimethylbenzene	0.08	20
4-Chlorotoluene	0.08	20
1,4-Dichlorobenzene-d4	0.08	20
tert-Butylbenzene	0.08	20
1,2,4-Trimethylbenzene	0.08	20
sec-Butylbenzene	0.08	20
1,3-Dichlorobenzene	0.08	20
p-Isopropyltoluene	0.08	20
1,4-Dichlorobenzene	0.08	20
n-Butylbenzene	0.08	20
1,2-Dichlorobenzene	0.08	20
1,2-Dibromo-3-chloropropane	0.08	20
1,2,4-Trichlorobenzene	0.08	20
Hexachlorobutadiene	0.08	20
Naphthalene	0.08	20
1,2,3-Trichlorobenzene	0.08	20
MTBE	0.08	20

TARGET REPORTING LIMITS FOR SYNTHETIC ORGANIC ANALYTES

*NOTE REGARDING SUGGESTED METHODS

All analytical methods listed above are suggested. Other methods may be employed, and modifications of standard methods are encouraged, as long as the methods used: 1) meet the sensitivity requirements of the TRL's, and 2) are contained in 40CFR36, the most current version of Standard Methods, or another reliable procedure as documented to produce results that are equal to or more stringent than the method being modified (modifications made according to CFR (Title 40, Part 136.4).

Any changes in procedures due to equipment changes or to improved precision and accuracy will be documented. Analyses and determinations must be performed by qualified personnel in conformance with the United States Environmental Protection Agency (EPA) or DHS approved test procedures described in the current Code of Federal Regulations (CFR) (Title 40, Part 136); "Test Methods for Evaluating Solid Waste," SW846; or Title 22, CFR, Article 11, as appropriate. The test procedures may be modified subject to the application and approval of alternate test procedures under the CFR (Title 40, Part 136.4). The SWAMP Program strongly encourages the use of "performance-based methodology" (PBM) for conducting analytical procedures and therefore recognized the use of modified standard procedures, as appropriately documented following CFR 40, Part 136.4. The use of PBM allows for approved procedures to be modified according to these guidelines, which provide results that are equal to or better than (more stringent than) the standard protocol which was modified.

REFERENCES (Only the methods of analysis are listed in tables)

1. US EPA. Methods for Chemical Analysis of Water and Waste, revised March 1983, Manual #EPA-600/4-79-020. Washington, D.C.
2. US EPA. Test methods for Evaluating Solid Waste. SW846 3rd edition. Update III (1997).
3. American Public Health Association, et al. Standard Methods for the Examination of Water and Wastewater. 18th Edition, 1996; 19th Edition, 1997; 20th Edition 1998. Washington, D.C.
4. American Society for Testing and Materials (ASTM). Annual Book of Standards, Vol 11.02.