

§ 264 Appendix IX

Groundwater Monitoring List¹

<i>Common name (1)</i>	<i>CAS RN (2)</i>	<i>Chemical abstracts service index name (3)</i>
Acenaphthene	83-32-9	Acenaphthylene, 1,2-dihydro
Acenaphthylene	208-96-8	Acenaphthylene
Acetone	67-64-1	2-Propanone
Acetophenone	98-86-2	Ethanone, 1-phenyl
Acetonitrile; Methyl cyanide	75-05-8	Acetonitrile
2-Acetylaminofluorene;2-AAF	53-96-3	Acetamide, N-9H-fluoren-2-yl
Acrolein	107-02-8	2-Propenal
Acrylonitrile	107-13-1	2-Propenenitrile
Aldrin	309-00-2	1,4:5,8-Dimethanonaphthalene,1,2,3,4,10,10 hexachloro- 1,4, 4a,5,8,8a-hexahydro(1a,4a,4ab,5a,8a,8ab)-
Allyl chloride	107-05-1	1-Propene, 3-chloro
4-Aminobiphenyl	92-67-1	[1,1-Biphenyl]-4-amine
Aniline	62-53-3	Benzenamine
Anthracene	120-12-7	Anthracene
Antimony	(Total)	Antimony
Aramite	140-57-8	Sulfurous acid, 2-chloroethyl 2-[4-(1,1-dimethylethyl)phenoxy]-1-methylethyl ester
Arsenic	(Total)	Arsenic
Barium	(Total)	Barium
Benzene	71-43-2	Benzene
Benzo[a]anthracene; Benzanthracene	56-55-3	Benz[a]anthracene
Benzo[b]fluoranthene	205-99-2	Benz[e]acephenanthrylene
Benzo[k]fluoranthene	207-08-9	Benzo[k]fluoranthene
Benzo[ghi]perylene	191-24-2	Benzo[ghi]perylene
Benzo[a]pyrene	50-32-8	Benzo[a]pyrene
Benzyl alcohol	100-51-6	Benzenemethanol
Beryllium	(Total)	Beryllium
alpha-BHC	319-84-6	Cyclohexane, 1,2,3,4,5,6-hexachloro (1a,2a,3b,4a,5b,6b)
beta-BHC	319-85-7	Cyclohexane, 1,2,3,4,5,6-hexachloro- (1a,2b,3a,4b,5a, 6b)
delta-BHC	319-86-8	Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1a,2a,3a,4b,5a,6b)
gamma-BHC; Lindane	58-89-9	Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1a,2a,3b,4a,5a,6b)
Bis(2-chloroethoxy)methane	111-91-1	Ethane, 1,1-[methylenebis(oxy)]bis[2-chloro-
Bis(2-chloroethyl)ether	111-44-4	Ethane, 1,1-oxybis[2-chloro-
Bis(2-chloro-1-methylethyl) ether;	108-60-1	Propane, 2,2-oxybis[1-chloro-
Bis(2-ethylhexyl) phthalate	117-81-7	1,2-Benzenedicarboxylic acid, biis(2-ethylhexyl)ester
Bromodichloromethane	75-27-4	Methane, bromodichloro-
Bromoform; Tribromomethane	75-25-2	Methane, tribromo-

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4-Bromophenyl phenyl ether	101-55-3	Benzene, 1-bromo-4-phenoxy
Butyl benzyl phthalate; Benzyl	85-68-7	1,2-Benzenedicarboxylic acid, butyl phenylmethyl ester butyl phthalate
Cadmium	(Total)	Cadmium
Carbon disulfide	75-15-0	Carbon disulfide
Carbon tetrachloride	56-23-5	Methane, tetrachloro
Chlordane	57-74-9	4,7-Methano-1H-indene,1,2,4,5,6,7,8,8- octachloro-2,3,3a,4,7, 7a-hexahydro-
p-Chloroaniline	106-47-8	Benzenamine, 4-chloro
Chlorobenzene	108-90-7	Benzene, chloro
Chlorobenzilate	510-15-6	Benzenoacetic acid, 4-chloro-(4-chlorophenyl)-hydroxy- ,ethyl ester
p-Chloro-m-cresol	59-50-7	Phenol, 4-chloro-3-methyl-
Chloroethane; Ethyl chloride	75-00-3	Ethane, chloro
Chloroform	67-66-3	Methane, trichloro
2-Chloronaphthalene	91-58-7	Naphthalene, 2-chloro
2-Chlorophenol	95-57-8	Phenol, 2-chloro
4-Chlorophenyl phenyl ether	7005-72-3	Benzene, 1-chloro-4-phenoxy-
Chloroprene	126-99-8	1,3-Butadiene, 2-chloro
Chromium	(Total)	Chromium
Chrysene	218-01-9	Chrysene
Cobalt	(Total)	Cobalt
Copper	(Total)	Copper
m-Cresol	108-39-4	Phenol, 3-methyl
o-Cresol	95-48-7	Phenol, 2-methyl
p-Cresol	106-44-5	Phenol, 4-methyl
Cyanide	57-12-5	Cyanide
2,4-D; 2,4-Dichlorophenoxyacetic acid	94-75-7	Acetic acid, (2,4- dichlorophenoxy)-
4,4-DDD	72-54-8	Benzene 1,1-(2,2 dichloroethylidene)bis[4- chloro-
4,4-DDE	72-55-9	Benzene, 1,1- (dichloroethenylidene)bis[4- chloro-
4,4-DDT	50-29-3	Benzene, 1,1-(2,2,2trichloroethylidene)bis[4- chloro-
Diallate	2303-16-4	Carbamothioic acid, bis(1-methylethyl)- , S- (2,3-dichloro- 2-propenyl) ester
Dibenz[a,h]anthracene	53-70-3	Dibenz[a,h]anthracene
Dibenzofuran	132-64-9	Dibenzofuran
Dibromochloromethane	124-48-1	Methane, dibromochloro
1,2-Dibromo-3-chloropropane; DBCP	96-12-8	Propane, 1,2-dibromo-3-chloro-
1,2-Dibromoethane; Ethylene	106-93-4	Ethane, 1,2-dibromo
Di-n-butyl phthalate	84-74-2	1,2-Benzenedicarboxylic acid, dibutyl ester
o-Dichlorobenzene	95-50-1	Benzene, 1,2-dichloro-
m-Dichlorobenzene	541-73-1	Benzene, 1,3-dichloro-
p-Dichlorobenzene	106-46-7	Benzene, 1,4-dichloro-
3,3-Dichlorobenzidine	91-94-1	[1,1-Biphenyl]-4,4-diamine, 3, 3-dichloro-
trans-1,4-Dichloro-2-butene	110-57-6	2-Butene, 1,4-dichloro-, (E)-
Dichlorodifluoromethane	75-71-8	Methane, dichlorodifluoro-
1,1-Dichloroethane	75-34-3	Ethane, 1,1-dichloro-
1,2-Dichloroethane; Ethylen	107-06-2	Ethane, 1,2-dichloro- dichloride
1,1-Dichloroethylene; Vinylidene	75-35-4	Ethene, 1,1-dichloro-chloride
trans-1,2-Dichloroethylene	156-60-5	Ethene, 1,2-dichloro-, (E)
2,4-Dichlorophenol	120-83-2	Phenol, 2,4-dichloro

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2,6-Dichlorophenol	87-65-0	Phenol, 2,6-dichloro
1,2-Dichloropropane	78-87-5	Propane, 1,2-dichloro
cis-1,3-Dichloropropene	10061-01-5	1 Propene, 1,3-dichloro-, (Z)-
trans-1,3-Dichloropropene	10061-02-6	1-Propene, 1,3-dichloro-, (E)-
Dieldrin	60-57-1	2,7:3,6-Dimethanonaphth[2,3- b]oxirene 3,4,5,6,9,9 hexachloro-1a,2,2a,3,6,6a,7,7a octahydro-, (1aa,2b,2aa,3b,6b,6aa,7b,7aa)-
Diethyl phthalate	84-66-2	1,2-Benzenedicarboxylic acid, diethyl ester
O,O-Diethyl O-2-pyrazinyl	297-97-2	Phosphorothioic acid, O,O-phosphorothioate; Thionazin diethyl O-pyrazinyl ester
Dimethoate	60-51-5	Phosphorodithioic acid, O,O- dimethyl S-[2-(methylamino)-2- oxoethyl] ester
p-(Dimethylamino)azobenzene	60-11-7	Benzenamine, N,N-dimethyl-4-(phenylazo)-
7,12-Dimethylbenz[a]anthracene	57-97-6	Benz[a]anthracene, 7,12- dimethyl-
3,3-Dimethylbenzidine	119-93-7	[1,1-Biphenyl]-4,4-diamine, 3, 3-dimethyl-
alpha, alpha-Dimethylphenethylamine	122-09-8	Benzeneethanamine, a,a-dimethyl-
2,4-Dimethylphenol	105-67-9	Phenol, 2,4-dimethyl
Dimethyl phthalate	131-11-3	1,2 Benzenedicarboxylic acid, dimethyl ester
m-Dinitrobenzene	99-65-0	Benzene, 1,3-dinitro
4,6-Dinitro-o-cresol	534-52-1	Phenol, 2-methyl-4,6-dinitro-
2,4-Dinitrophenol	51-28-5	Phenol, 2,4-dinitro
2,4-Dinitrotoluene	121-14-2	Benzene, 1-methyl-2,4-dinitro-
2,6-Dinitrotoluene	606-20-2	Benzene, 2-methyl-1,3-dinitro-
Dinoseb; DNBP; 2-sec-Butyl-4,6	88-85-7	Phenol, 2-(1-methylpropyl)-4,6-dinitrophenol dinitro
Di-n-octyl phthalate	117-84-0	1,2-Benzenedicarboxylic acid, dioctyl ester
1,4-Dioxane	123-91-1	1,4-Dioxane
Diphenylamine	122-39-4	Benzenamine, N-phenyl-
Disulfoton	298-04-4	Phosphorodithioic acid, O,O- diethyl S-[2 (ethylthio)ethyl]ester
Endosulfan I	959-98-8	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10, 10-hexachloro-1,5,5a,6,9,9ahexahydro-, 3-oxide, (3a,5ab,6a,9a,9ab)-
Endosulfan II	33213-65-9	6,9-Methano-2,4,3- benzodioxathiepin, 6,7,8,9,10,10-hexachloro- 1,5,5a,6,9,9a- hexahydro-3-oxide, (3a,5aa, 6b,9b,9aa)-
Endosulfan sulfate	1031-07-8	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10, 10-hexachloro- 1,5,5a,6,9,9a-hexahydro-, 3,3-dioxide
Endrin	72-20-8	2,7:3,6-Dimethanonaphth[2,3- b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7, 7a-octahydro-, (1aa, 2b,2ab,3a,6a,6ab,7b,7aa)-
Endrin aldehyde	7421-93-4	1,2,4 Methenocyclopenta[cd]pentalene-5-carboxaldehyde, 2,2a,3,3,4,7-hexachlorodecahydro-, (1a,2b,2ab,4b,4ab,5b,6ab,6bb,7R*)-
Ethylbenzene	100-41-4	Benzene, ethyl
Ethyl methacrylate	97-63-2	2-Propenoic acid, 2-methyl-, ethyl ester
Ethyl methanesulfonate	62-50-0	Methanesulfonic acid, ethyl ester
Famphu	52-85-7	Phosphorothioic acid, O-[4- [(dimethylamino)sulfonyl]phenyl]-O,O-dimethyl ester
Fluoranthene	206-44-0	Fluoranthene

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Fluorene	86-73-7	9H-Fluorene
Heptachlor	76-44-8	4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro 3a,4,7,7a-tetrahydro-
Heptachlor epoxide	1024-57-3	2,5-Methano-2H-indeno[1,2-b]oxirene, 2,3,4,5,6,7,7- heptachloro-1a,1b,5,5a,6,6a,-hexahydro-, (1aa,1bb,2a,5a,5ab,6b,6aa)
Hexachlorobenzene	118-74-1	Benzene, hexachloro
Hexachlorobutadiene	87-68-3	1,3-Butadiene, 1,1,2,3,4,4-hexachloro
Hexachlorocyclopentadiene	77-47-4	1,3-Cyclopentadiene, 1,2,3,4,5,5-h hexachloro
Hexachloroethane	67-72-1	Ethane, hexachloro-
Hexachlorophene	70-30-4	Phenol, 2,2-methylenebis[3,4,6-trichloro-
Hexachloropropene	1888-71-7	1-Propene, 1,1,2,3,3,3- hexachloro-
2-Hexanone	591-78-6	2-Hexanone
Indeno(1,2,3-cd)pyrene	193-39-5	ndeno[1,2,3-cd]pyrene
Isobutyl alcohol	78-83-1	1-Propanol, 2-methyl
Isodrin	465-73-6	1,4,5,8-Dimethanonaphthalene,1, 2,3,4,10,10-hexachloro- 1,4,4a,5,8,8a hexahydro-(1a,4a,4ab,5b,8b,8ab)- 2-Cyclohexen-1-one, 3,5,5-trimethyl
Isophorone	78-59-1	1,3-Benzodioxole, 5-(1-propenyl)-
Isosafrole	120-58-1	1,3,4-Metheno-2H-cyclobuta-[cd]pentalen-2-one,
Kepone	143-50-0	1,1a,3,3a,4,5,5,5a,5b,6-decachlorooctahydro-
Lead	(Total)	Lead
Mercury	(Total)	Mercury
Methacrylonitrile	126-98-7	2-Propenenitrile, 2-methyl-
Methapyrilene	91-80-5	1,2,Ethanediamine, N,N- dimethyl- N-2-pyridinyl-N-(2- thienylmethyl)-
Methoxychlor	72-43-5	Benzene, 1,1-(2,2,2, trichloroethylidene)bis[4-methoxy-
Methyl bromide; Bromomethane	74-83-9	Methane, bromo
Methyl chloride; Chloromethane	74-87-3	Methane, chloro-
3-Methylcholanthrene	56-49-5	Benz[j]aceanthrylene, 1,2- dihydro-3-methyl-
Methylene bromide; Dibromomethane	74-95-3	Methane, dibromo-
Methylene chloride; Dichloromethane	75-09-2	Methane, dichloro-
Methyl ethyl ketone; MEK	78-93-3	2-Butanone
Methyl iodide; Iodomethane	74-88-4	Methane, iodo-
Methyl methacrylate	80-62-6	2-Propenoic acid, 2-methyl-methyl ester
Methyl methanesulfonate	66-27-3	Methanesulfonic acid, methyl ester
2-Methylnaphthalene	91-57-6	Naphthalene, 2-methyl-
Methyl parathion; Parathion methyl	298-00-0	Phosphorothioic acid, O,O-dimethyl O-(4-nitrophenyl) ester
4-Methyl-2-pentanone; Methyl Naphthalene	108-10-1 91-20-3	2-Pentanone, 4-methyl- isobutyl ketone Naphthalene
1,4-Naphthoquinone	130-15-4	1,4-Naphthalenedione
1-Naphthylamine	134-32-7	1-Naphthalenamine
2-Naphthylamine	91-59-8	2-Naphthalenamine
Nickel	(Total)	Nickel
o-Nitroaniline	88-74-4	Benzenamine, 2-nitro
m-Nitroaniline	99-09-2	Benzenamine, 3-nitro
p-Nitroaniline	100-01-6	Benzenamine, 4-nitro-
Nitrobenzene	98-95-3	Benzene, nitro
o-Nitrophenol	88-75-5	Phenol, 2-nitro

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p-Nitrophenol	100-02-7	Phenol, 4-nitro-
4-Nitroquinoline 1-oxide	56-57-5	Quinoline, 4-nitro-, 1-oxide
N-Nitrosodi-n-butylamine	924-16-3	1-Butanamine, N-butyl-N- nitroso-
N-Nitrosodiethylamine	55-18-5	Ethanamine, N-ethyl-N-nitroso-
N-Nitrosodimethylamine	62-75-9	Methanamine, N-methyl-N- nitroso-
N-Nitrosodiphenylamine	86-30-6	Benzenamine, N-nitroso-N-phenyl-
N-Nitrosodipropylamine; Di-n-	621-64-7	1-Propanamine, N-nitroso-N-propyl-propylnitrosamine
N-Nitrosomethylethylamine	10595-95-6	Ethanamine, N-methyl-N-nitroso-
N-Nitrosomorpholine	59-89-2	Morpholine, 4-nitroso-
N-Nitrosopiperidine	100-75-4	Piperidine, 1-nitroso-
N-Nitrosopyrrolidine	930-55-2	Pyrrolidine, 1-nitroso-
5-Nitro-o-toluidine	99-55-8	Benzenamine, 2-methyl-5-nitro-
Parathion	56-38-2	Phosphorothioic acid, O,O- diethyl- O-(4-nitrophenyl) ester
Polychlorinated biphenyls; PCBs	See Note 7	1,1-Biphenyl, chloro derivatives
Polychlorinated dibenzo-p-dioxins; PCDDs	See Note 8	Dibenzo[b,e][1,4]dioxin, chloro derivatives
Polychlorinated dibenzofurans; PCDFs	See Note 9	Dibenzofuran, chloro derivatives
Pentachlorobenzene	608-93-5	Benzene, pentachloro-
Pentachloroethane	76-01-7	Ethane, pentachloro-
Pentachloronitrobenzene	82-68-8	Benzene, pentachloronitro-
Pentachlorophenol	87-86-5	Phenol, pentachloro-
Phenacetin	62-44-2	Acetamide, N-(4-ethoxyphenyl)
Phenanthrene	85-01-8	Phenanthrene
Phenol	108-95-2	Phenol
p-Phenylenediamine	106-50-3	1,4-Benzenediamine
Phorate	298-02-2	Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester
2-Picoline	109-06-8	Pyridine, 2-methyl-
Pronamide	23950-58-5	Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)-
Propionitrile; Ethyl cyanide	107-12-0	Propanenitrile
Pyrene	129-00-0	Pyrene
Pyridine	110-86-1	Pyridine
Safrole	94-59-7	1,3-Benzodioxole, 5-(2propenyl)-
Selenium	(Total)	Selenium
Silver	(Total)	Silver
Silvex; 2,4,5-TP	93-72-1	Propanoic acid, 2-(2,4,5-trichlorophenoxy)-
Styrene	100-42-5	Benzene, ethenyl-
Sulfide	18496-25-8	Sulfide
2,4,5-T; 2,4,5-	93-76-5	Acetic acid, (2,4,5-trichlorophenoxy)-Trichlorophenoxyacetic acid
2,3,7,8-TCDD; 2,3,7,8-	1746-01-6	Dibenzo[b,e][1,4]dioxin, 2,3,7,8 tetrachloro-Tetrachlorodibenzo-p-dioxin
1,2,4,5-Tetrachlorobenzene	95-94-3	Benzene, 1,2,4,5-tetrachloro-
1,1,1,2-Tetrachloroethane	630-20-6	Ethane, 1,1,1,2-tetrachloro-
1,1,2,2-Tetrachloroethane	79-34-5	Ethane, 1,1,2,2-tetrachloro-
Tetrachloroethylene;	127-18-4	Ethene, tetrachloro-Perchloroethylene; Tetrachloroethene
2,3,4,6-Tetrachlorophenol	58-90-2	Phenol, 2,3,4,6-tetrachloro-

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Tetraethyl dithiopyrophosphate; Sulfotepp	3689-24-5	Thiodiphosphoric acid (((HO)2P(S))2O), tetraethylester
Thallium	(Total)	Thallium
Tin	(Total)	Tin
Toluene	108-88-3	Benzene, methyl-
o-Toluidine	95-53-4	Benzenamine, 2-methyl-
Toxaphene	8001-35-2	Toxaphene
1,2,4-Trichlorobenzene	120-82-1	Benzene, 1,2,4-trichloro-
1,1,1-Trichloroethane; Methylchloroform	71-55-6	Ethane, 1,1,1-trichloro-
1,1,2-Trichloroethane	79-00-5	Ethane, 1,1,2-trichloro
Trichloroethylene; Trichloroethene	9-01-6	Ethene, trichloro-
Trichlorofluoromethane	75-69-4	Methane, trichlorofluoro-
2,4,5-Trichlorophenol	95-95-4	Phenol, 2,4,5-trichloro-
2,4,6-Trichlorophenol	88-06-2	Phenol, 2,4,6-trichloro-
1,2,3-Trichloropropane	96-18-4	Propane, 1,2,3-trichloro-
O,O,O-Triethyl phosphorothioate	126-68-1	Phosphorothioic acid, O,O,O-triethyl ester
sym-Trinitrobenzene	99-35-4	Benzene, 1,3,5-trinitro
Vanadium	(Total)	Vanadium
Vinyl acetate	108-05-4	Acetic acid, ethenyl ester
Vinyl chloride	75-01-4	Ethene, chloro
Xylene (total)	1330-20-7	Benzene, dimethyl
Zinc	(Total)	Zinc

FOOTNOTES:

(1) The regulatory requirements pertain only to the list of substances; the right hand columns (Methods and PQL) are given for informational purposes only. See also footnotes 5 and 6.

(2) Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

(3) Chemical Abstracts Service registry number. Where "Total" is entered, all species in the ground water that contain this element are included.

(4) CAS index names are those used in the 9th Cumulative Index.

(5) Suggested methods refer to analytical procedure numbers used in the EPA publication, SW-846, "Test Methods for Evaluating Solid Waste", Third Edition. Analytical details can be found in SW-846 and in documentation on file at the Agency. The packed column gas chromatography methods 8010, 8020, 8030, 8040, 8060, 8080, 8090, 8110, 8120, 8140, 8150, 8240, and 8250 were promulgated methods through Update IIB of SW-846 and, **as of Update III, the Agency has replaced these methods with "capillary column GC methods", as the suggested methods.**

(6) Practical Quantitation Limits (PQLs) are the lowest concentrations of analytes in ground waters that can be reliably determined within specified limits of precision and accuracy by the indicated methods under routine laboratory operating conditions. The PQLs listed are generally stated to one significant figure. CAUTION: The PQL values in many cases are based only on a general estimate for the method and not on a determination for individual compounds; PQLs are not a part of the regulation.

(7) Polychlorinated biphenyls (CAS RN 1336-36-3); this category contains congener chemicals, including constituents of Aroclor-1016 (CAS RN 12674-11-2), Aroclor-1221 (CAS RN 11104-28-2), Aroclor-1232 (CAS RN 11141-16-5), Aroclor-1242 (CAS RN 53469-21-9), Aroclor-1248 (CAS RN 12672-29-6), Aroclor-1254 (CAS RN 11097-69-1), and Aroclor-1260 (CAS RN 11096-82-5). The PQL shown is an average value for PCB congeners.

(8) This category contains congener chemicals, including tetrachlorodibenzo-p-dioxins (see also 2,3,7,8-TCDD), pentachlorodibenzo-p-dioxins, and hexachlorodibenzo-p-dioxins. The PQL shown is an average value for PCDD congeners.

(9) This category contains congener chemicals, including tetrachlorodibenzofurans, pentachlorodibenzofurans, and hexachlorodibenzofurans. The PQL shown is an average value for PCDF congeners.