

Chapter NR 507

APPENDIX II

SUBSTANCES FOR ASSESSMENT MONITORING¹
AT MUNICIPAL SOLID WASTE LANDFILLS

Common name ²	CAS RN ⁴	Synonyms
Acenaphthene	83-32-9	1,2-Dihydroacenaphthylene
Acenaphthylene	208-96-8	
Acetone	67-64-1	2-Propanone
Acetonitrile	75-05-8	Methyl cyanide
Acetophenone	98-86-2	1-Phenylethanone
2-Acetylaminofluorene	53-96-3	N-9H-fluoren-2-yl-Acetamide; 2-AAF
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- (1 α ,4 α ,4a β ,5 α ,8 α -,8a β)-
Allyl chloride	107-05-1	3-Chloro-1-propene
4-Aminobiphenyl	92-67-1	[1,1'-Biphenyl]-4-amine
Anthracene	120-12-7	
Antimony	7440-36-0	
Arsenic	7440-38-2	
Barium	7440-39-3	
Benzene	71-43-2	
Benzo[a]anthracene	56-55-3	Benzanthracene
Benzo[b]fluoranthene	205-99-2	Benz[e]acephenanthrylene
Benzo[k]fluoranthene	207-08-9	
Benzo[ghi]perylene	191-24-2	
Benzo[a]pyrene	50-32-8	
Benzyl alcohol	100-51-6	Benzenemethanol
Beryllium	7440-41-7	
alpha-BHC	319-84-6	Cyclohexane, 1,2,3,4,5,6-hexachloro-,(1 α ,2 α ,3 β ,4 α ,5 β , 6 β)
beta-BHC	319-85-7	Cyclohexane, 1,2,3,4,5,6-hexachloro-,(1 α ,2 β ,3 α ,4 β ,5 α ,6 β)-
delta-BHC	319-86-8	Cyclohexane, 1,2,3,4,5,6-hexachloro-,(1 α ,2 α ,3 α ,4 β ,5 α ,6 β)-
gamma-BHC; Lindane	58-89-9	Cyclohexane, 1,2,3,4,5,6-hexachloro-,(1 α ,2 α ,3 β ,4 α ,5 α ,6 β)-
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 [see note 4]	108-60-1	2,2'-Dichlorodiisopropylether
Bis(2-ethylhexyl) phthalate	117-81-7	1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl)ester
Bromochloromethane	74-97-5	Chlorobromomethane
Bromodichloromethane	75-27-4	Dichlorobromomethane
Bromoform	75-25-2	Tribromomethane
4-Bromophenyl phenyl ether	101-55-3	Benzene, 1-bromo-4-phenoxy-

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Common name ²	CAS RN ⁴	Synonyms
Butyl benzyl phthalate	85-68-7	Benzyl butyl phthalate
Cadmium	7440-43-9	
Carbon disulfide	75-15-0	
Carbon tetrachloride	56-23-5	Tetrachloromethane
Chlordane [see note 5]	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	Monochlorobenzene
Chlorobenzilate	510-15-6	Benzeneacetic acid, 4-chloro- α -(4-chlorophenyl)- α -hydroxy-, ethyl ester
p-Chloro-m-cresol	59-50-7	Phenol, 4-chloro-3-methyl-
Chloroethane	75-00-3	Ethyl chloride
Chloroform	67-66-3	Trichloromethane
2-Chloronaphthalene	91-58-7	
2-Chlorophenol	95-57-8	
4-Chlorophenyl phenyl ether	7005-72-3	Benzene, 1-chloro-4-phenoxy-
Chloroprene	126-99-8	1,3-Butadiene, 2-chloro-
Chromium	7440-47-3	
Chrysene	218-01-9	
Cobalt	7440-48-3	
Copper	7440-50-8	
m-Cresol	108-39-4	3-Methylphenol
o-Cresol	95-48-7	2-Methylphenol
p-Cresol	106-44-5	4-Methylphenol
Cyanide	57-12-5	
2,4-D; 2,4-Dichlorophenoxy-acetic 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'-(dichloroethylidene)bis[4-chloro
4,4'-DDT	50-29-3	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro
Diallate	2303-16-4	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3-dichloro-2-propenyl) ester
Dibenzo[a,h]anthracene	53-70-3	Dibenz[a,h]anthracene
Dibenzofuran	132-64-9	
Dibromochloromethane	124-48-1	Chlorodibromomethane
1,2-Dibromo-3-chloropropane	96-12-8	DBCP
1,2-Dibromoethane	106-93-4	Ethylene dibromide, EDB
Di-n-butyl phthalate	84-74-2	1,2-Benzenedicarboxylic acid, dibutyl ester
o-Dichlorobenzene	95-50-1	1,2-Dichlorobenzene
m-Dichlorobenzene	541-73-1	1,3-Dichlorobenzene
p-Dichlorobenzene	106-46-7	1,4-Dichlorobenzene
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	Freon 12, CFC-12
1,1-Dichloroethane	75-34-3	Ethylidene chloride
1,2-Dichloroethane	107-06-2	Ethylene dichloride

Common name ²	CAS RN ⁴	Synonyms
1,1-Dichloroethylene	75-35-4	Vinylidene chloride; 1,1-Dichloroethene
cis-1,2-Dichloroethylene	156-59-2	cis-1,2-Dichloroethene
trans-1,2-Dichloroethylene	156-60-5	trans-1,2-Dichloroethene
2,4-Dichlorophenol	120-83-2	
2,6-Dichlorophenol	87-65-0	
1,2-Dichloropropane	78-87-5	Propylene dichloride
1,3-Dichloropropane	142-28-9	Trimethylene chloride
2,2-Dichloropropane	594-20-7	
1,1-Dichloropropene	563-58-6	1,1-dichloropropylene .
cis-1,3-Dichloropropene	10061-01-5	1,3-dichloropropylene, (Z)
trans-1,3-Dichloropropene	10061-02-6	1,3-dichloropropylene, (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-, (1 α ,2 β ,2 α ,3 β ,6 α ,7 β ,7 α)-
Diethyl phthalate	84-66-2	1,2-Benzenedicarboxylic acid, diethyl ester
O,O-Diethyl O-2-pyrazinyl phosphorothioate	297-97-2	Thionazin
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-
2,4-Dimethylphenol	105-67-9	2,4-Dimethylphenol
Dimethyl phthalate	131-11-3	1,2-Benzenedicarboxylic acid, dimethyl ester
m-Dinitrobenzene	99-65-0	1,3-Dinitrobenzene
4,6-Dinitro-o-cresol	534-52-1	2-Methyl-4,6-dinitrophenol
2,4-Dinitrophenol	51-28-5	
2,4-Dinitrotoluene	121-14-2	1-Methyl-2,4-dinitrobenzene
2,6-Dinitrotoluene	606-20-2	2-Methyl-1,3-dinitrobenzene
Dinoseb	88-85-7	DNBP; 2-sec-Butyl-4,6-dinitrophenol
Di-n-octyl phthalate	117-84-0	1,2-Benzenedicarboxylic acid, dioctyl ester
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,6,9,9a hexahydro-, 3-oxide, (3 α ,5 α β ,6 α ,9 α ,9 α β)-
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, (3 α ,5 α α ,6 β ,9 β ,9 α α)-
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-, (1 α ,2 β ,2 α β ,3 α ,6 α ,6 α β ,7 β ,7 α)-
Endrin aldehyde	7421-93-4	1,2,4-Methenocyclopenta[cd]pentalene-5- carboxaldehyde, 2,2a,3,3,4,7-hexachlorodecahydro-, (1 α ,2 β ,2 α β ,4 β ,4 α β ,5 β ,6 α β ,6 β β ,7R*)-
Ethylbenzene	100-41-4	

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Common name ²	CAS RN ⁴	Synonyms
Ethyl methacrylate	97-63-2	2-Propenoic acid, 2-methyl-, ethyl ester
Ethyl methanesulfonate	62-50-0	Methanesulfonic acid, ethyl ester
Famphur	52-85-7	Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl]phenyl]-O,O-dimethyl ester
Fluoranthene	206-44-0	
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,(1α,1β,2α,5α,5aβ,6β,6α)
Hexachlorobenzene	118-74-1	
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-hexachloro-
Hexachloroethane	67-72-1	
Hexachloropropene	1888-71-7	1-Propene, 1,1,2,3,3,3-hexachloro-
2-Hexanone	591-78-6	Methyl butyl ketone
Indeno(1,2,3-cd)pyrene	193-39-5	Indeno[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-(1α,4α,4aβ,5β,8β,8aβ)-
Isophorone	78-59-1	2-Cyclohexen-1-one, 3,5,5-trimethyl-
Isosafrole	120-58-1	1,3-Benzodioxole, 5-(1-propenyl)-
Kepone	143-50-0	1,3,4-Metheno-2H-cyclobuta- [cd]pentalen-2-one, 1,1a,3,3a,4,5,5a,5b,6-decachloro- octahydro-
Lead	7439-92-1	
Mercury	7439-97-6	
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'-(2,2,2,2-trichloroethylidene)bis [4-methoxy-
Methyl bromide	74-83-9	Bromomethane
Methyl chloride	74-87-3	Chloromethane
3-Methylcholanthrene	56-49-5	Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-
Methyl ethyl ketone	78-93-3	2-Butanone; MEK
Methyl iodide	74-88-4	Iodomethane
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	
Methyl parathion	298-00-0	Phosphorothioic acid, O,O-dimethyl O-(4-nitrophenyl) ester
4-Methyl-2-pentanone	108-10-1	Methyl isobutyl ketone
Methyl tert-butyl ether	1634-04-4	Methyl-t-butyl ether. MTBE
Methylene bromide	74-95-3	Dibromomethane
Methylene chloride	75-09-2	Dichloromethane
Naphthalene	91-20-3	

Common name ²	CAS RN ⁴	Synonyms
1,4-Naphthoquinone	130-15-4	1,4-Naphthalenedione
1-Naphthylamine	134-32-7	1-Naphthalenamine
2-Naphthylamine	91-59-8	2-Naphthalenamine
Nickel	7440-02-0	
o-Nitroaniline	88-74-4	2-Nitrobenzenamine
m-Nitroaniline	99-09-2	3-Nitrobenzenamine
p-Nitroaniline	100-01-6	4-Nitrobenzenamine
Nitrobenzene	98-95-3	
o-Nitrophenol	88-75-5	2-Nitrophenol
p-Nitrophenol	100-02-7	4-Nitrophenol
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	621-64-7	Di-n-propylnitrosamine
N-Nitrosomethylethylamine	10595-95-6	Ethanamine, N-methyl-N-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
Pentachlorobenzene	608-93-5	
Pentachloronitrobenzene	82-68-8	
Pentachlorophenol	87-86-5	
Phenacetin	62-44-2	Acetamide, N-(4-ethoxyphenyl)
Phenanthrene	85-01-8	
Phenol	108-95-2	
p-Phenylenediamine	106-50-3	1,4-Benzenediamine
Phorate	298-02-2	Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester
Polychlorinated biphenyls	See Note 6	PCBs; 1,1'-Biphenyl, chloro derivatives, Arochlors
Pronamide	23950-58-5	Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)-
Propionitrile	107-12-0	Ethyl cyanide; Propanenitrile
Pyrene	129-00-0	
Pyridine	110-86-1	
Safrole	94-59-7	1,3-Benzodioxole, 5-(2-propenyl)-
Selenium	7782-49-2	
Silver	7440-22-4	
Silvex	93-72-1	2,4,5-TP; Propanoic acid, 2-(2,4,5-trichlorophenoxy)-
Styrene	100-42-5	Ethenylbenzene
Sulfide	18496-25-8	
2,4,5-T	93-76-5	2,4,5-Trichloro-phenoxyacetic acid
1,2,4,5-Tetrachlorobenzene	95-94-3	
1,1,1,2-Tetrachloroethane	630-20-6	
1,1,2,2-Tetrachloroethane	79-34-5	
Tetrachloroethylene	127-18-4	Perchloroethylene; Tetrachloroethene; PCE

Common name ²	CAS RN ⁴	Synonyms
2,3,4,6-Tetrachlorophenol	58-90-2	
Tetrahydrofuran	109-99-9	THF
Thallium	7440-28-0	
Tin	7440-31-5	
Toluene	108-88-3	Methylbenzene
o-Toluidine	95-53-4	2-Methylbenzenamine
Toxaphene	See note 7	
1,2,4-Trichlorobenzene	120-82-1	
1,1,1-Trichloroethane	71-55-6	Methylchloroform
1,1,2-Trichloroethane	79-00-5	
Trichloroethylene	79-01-6	Trichloroethene; TCE
Trichlorofluoromethane	75-69-4	Freon 11, Fluorotrichloromethane, CFC-11
2,4,5-Trichlorophenol	95-95-4	
2,4,6-Trichlorophenol	88-06-2	
1,2,3-Trichloropropane	96-18-4	
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	7440-62-2	
Vinyl acetate	108-05-4	Ethenyl ester acetic acid
Vinyl chloride	75-01-4	Chloroethene
Xylene (total)	See note 8	Dimethylbenzene
Zinc	7440-66-6	

1 This table includes all the substances required for assessment monitoring under RCRA Subtitle D (40 CFR Part 258 Appendix II). DNR GEMS parameter numbers for the substances in this table can be found at <http://www.dnr.wi.gov/org/aw/wm/monitor/>

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.

4 This substance is often called Bis(2-chloroisopropyl) ether, the name the Chemical Abstracts Service applies to its noncommercial isomer, Propane, 2,2'-oxybis[2-chloro- (CAS RN 39638-32-9).

5 Chlordane: This entry includes alpha-chlordane (CAS RN 5103-71-9), beta-chlordane (CAS RN 5103-74-2), gamma-chlordane (CAS RN 5566-34-7), and constituents of chlordane (CAS RN 57-74-9 and CAS RN 12789-03-6).

6 Polychlorinated biphenyls (CAS RN 01336-36-3); 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).

7 Toxaphene: This entry includes congener chemicals contained in technical toxaphene (CAS RN 8001-35-2), i.e., chlorinated camphene.

8 Xylene (total): This entry includes o-xylene (CAS RN 96-47-6), m-xylene (CAS RN 108-38-3), p-xylene (CAS RN 106-42-3), and unspecified xylenes (dimethylbenzenes) (CAS RN 1330-20-7).