

Maryland Department of the Environment
GENERIC NUMERIC CLEANUP STANDARDS FOR GROUNDWATER AND SOIL

Analyte	Groundwater Standards		Soil Standards		
	Type I & II Aquifers		Residential Clean-up Standard	Non-Residential Clean-up Standard	Protection of Groundwater ^a
	ug/L	mg/L	mg/kg	mg/kg	mg/kg
Acetone	550	0.550	7000	92000	22
Benzene	5.0	0.005	12	52	0.0019
Bromodichloromethane (THM) ^b	80	0.080	10	46	0.0011
Bromoform (THM) ^b	80	0.080	81	360	0.067
Bromomethane	0.85	0.00085	11	140	0.041
2-Butanone (Methyl Ethyl Ketone)	700	0.700	4700	61000	29
Carbon Disulfide	100	0.100	780	10000	19
Carbon Tetrachloride	5.0	0.005	4.9	22	0.0021
Chlorobenzene	100	0.100	160	2000	0.680
Chloroethane	3.6	0.0036	220	990	0.019
Chloroform (THM) ^b	80	0.080	78	1000	0.00091
Chloromethane	19	0.019	--	--	0.930
Dibromochloromethane (THM) ^b	80	0.080	7.6	34	0.00083
Dibromochloropropane (DBCP) ^f	0.20	0.0002	0.2	3.6	0.0000037
1,2-Dibromoethane (Ethylene Dibromide, EDB)	0.05	0.00005	0.3	1.4	0.00006
1,1-Dichloroethane	90	0.090	1600	20000	5.1
1,2-Dichloroethane	5.0	0.005	7.0	31	0.0010
1,1-Dichloroethene	7.0	0.007	390	5100	2.9
cis-1,2-Dichloroethene	70	0.070	78	1000	--
trans-1,2-Dichloroethene	100	0.100	160	2000	0.720
1,2-Dichloroethene (total)	5.50	0.0055	70	920	0.370
1,2-Dichloropropane	5.0	0.005	9.4	42	0.0034
cis-1,3-Dichloropropene	0.44	0.00044	6.4	29	0.0031
trans-1,3-Dichloropropene	0.44	0.00044	6.4	29	0.0031
Ethylbenzene	700	0.700	780	10000	15
Isopropylbenzene (Cumene)	66	0.066	780	10000	64
4-Methyl-2-pentanone (Methyl Isobutyl Ketone)	630	0.630	--	--	59
Methylene Chloride (Dichloromethane)	5.0	0.005	85	380	0.019
Methyl tert-butyl ether (MTBE) ^c	20	0.020	160	720	0.012
Styrene	100	0.100	1600	20000	57
Tetrachloroethene	5.0	0.005	1.2	5.3	0.0047
1,1,2,2-Tetrachloroethane	0.05	0.00005	3.2	14	0.001
Toluene	1000	1.000	630	8200	27
1,1,1-Trichloroethane	200	0.200	16000	200000	32
1,1,2-Trichloroethane	5.0	0.005	11	50	0.00078
Trichloroethene	5.0	0.005	1.6	7.2	0.00026
Vinyl Chloride (earlylife) ^f	2.0	0.002	0.09	--	0.00012
Vinyl Chloride (adult) ^f	2.0	0.002	--	4.0	0.00012
Xylenes	10000	10	1600	20000	3.0

^a Standard based on Region III SSLs for groundwater migration using a dilution attenuation factor (DAF) of 20. (10/31/2007)

^b THM (trihalomethanes) Contaminants within this group are disinfection byproducts sometimes added to drinking water.

^c MTBE action level in Maryland is 20 ug/L.

^d bis(2-chloroisopropyl)ether (CAS:108601) was named 2,2'-Oxybis(1-chloropropane) in 2001 version.

^e The vapor intrusion and inhalation of volatiles and fugitive dust exposure pathways must be evaluated when mercury detections on a site exceed the regional mercury Anticipated Typical Concentration (ATC).

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	ug/L	mg/L	mg/kg	mg/kg	mg/kg
Acenaphthene	37	0.037	470	6100	100
Acenaphthylene	37	0.037	470	6100	100
Anthracene	180	0.18	2300	31000	470
Benz[a]anthracene ^f	0.20	0.0002	0.22	3.90	0.48
Benzo[a]pyrene ^f	0.20	0.0002	0.022	0.39	0.12
Benzo[b]fluoranthene ^f	0.20	0.0002	0.22	3.90	1.50
Benzo[g,h,i]perylene	18	0.018	230	3100	680
Benzo[k]fluoranthene ^f	0.30	0.0003	2.2	39	15
bis(2-Chloroethyl)ether	0.01	0.00001	0.58	2.6	0.000044
bis(2-Ethylhexyl)phthalate	6.00	0.006	46	200	2900
Carbazole	3.30	0.0033	32	140	0.47
4-Chloroaniline	15	0.015	31	410	1.0
2-Chloronaphthalene	49	0.049	630	8200	32
2-Chlorophenol	3.00	0.003	39	510	--
Chrysene ^f	3.00	0.003	22	390	48
Dibenz[a,h]anthracene ^f	0.20	0.0002	0.022	0.39	0.46
Dibenzofuran	3.70	0.0037	7.80	100	--
Di(2-ethylhexyl)adipate	400	0.40	53	240	--
1,2-Dichlorobenzene	600	0.60	700	9200	4.60
1,3-Dichlorobenzene	1.8	0.0018	23	310	0.29
1,4-Dichlorobenzene	75	0.075	27	120	0.0042
3,3-Dichlorobenzidine	0.15	0.00015	1.4	6.4	0.0049
2,4-Dichlorophenol	11	0.011	23	310	1.2
Diethylphthalate	2900	2.90	6300	82000	450
2,4-Dimethylphenol	73	0.073	160	2000	6.7
Di-n-butylphthalate	370	0.37	780	10000	5000
2,4-Dinitrophenol	7.3	0.0073	16	200	--
2,4-Dinitrotoluene	7.3	0.0073	16	200	0.57
2,6-Dinitrotoluene	3.7	0.0037	7.8	100	0.25
Fluoranthene	150	0.15	310	4100	6300
Fluorene	24	0.024	310	4100	140
Hexachlorobenzene	1.00	0.001	0.4	1.8	0.05
Hexachlorobutadiene	0.86	0.00086	8.2	37	1.8
Hexachlorocyclopentadiene	50	0.05	47	610	1800
Hexachloroethane	4.8	0.0048	46	200	0.36
Indeno[1,2,3-c,d]pyrene ^f	0.20	0.0002	0.2	3.9	4.2
Isophorone	70	0.07	670	3000	0.41
2-Methylnaphthalene	2.40	0.0024	31	410	4.4
2-Methylphenol	180	0.18	390	5100	--
4-Methylphenol	18	0.018	39	510	--
Naphthalene	0.65	0.00065	160	2000	0.15
Nitrobenzene	0.35	0.00035	3.9	51	0.023
N-Nitrosodiphenylamine	14	0.014	130	580	0.76
N-Nitroso-di-n-propylamine	0.01	0.00001	0.091	0.41	0.000047
Bis(2-Chloroisopropyl)ether ^d	0.26	0.00026	9.1	41	0.0017
Pentachlorophenol	1.0	0.001	5.3	24	--
Phenanthrene	180	0.18	2300	31000	470
Phenol	1100	1.10	2300	31000	67
Pyrene	18	0.018	230	3100	680
1,2,4-Trichlorobenzene	70	0.07	78	1000	2.4
2,4,5-Trichlorophenol	370	0.37	780	10000	--
2,4,6-Trichlorophenol	6.10	0.0061	58	260	--

- PAH compounds

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Alachlor	2.0	0.0020	8.0	36	0.0070
Aldrin	0.0039	0.0000039	0.038	0.2	0.0077
Atrazine	3.0	0.0030	2.9	13	0.0088
a-BHC (a-HCH)	0.0110	0.000011	0.10	0.5	0.00089
b-BHC (b-HCH)	0.0370	0.000037	0.35	1.6	0.0031
d-BHC	0.20	0.00020	0.49	2.2	0.0043
g-BHC (Lindane)	0.20	0.00020	0.49	2.2	0.0043
Chlordane	2.0	0.00200	1.8	8.2	0.92
2,4-D	70	0.070	78	1000	9.0
4,4'-DDD	0.2800	0.00028	2.7	12	11
4,4'-DDE	0.20	0.0002	1.9	8.4	35
4,4'-DDT	0.20	0.0002	1.9	8.4	1.2
Dalapon	200	0.20	230	3100	7.1
Dieldrin	0.0042	0.0000042	0.040	0.18	0.0022
Dinoseb	7.0	0.007	7.8	100	0.17
Endosulfan	22	0.022	47	610	20
Endosulfan I	22	0.022	47	610	20
Endosulfan II	22	0.022	47	610	20
Endosulfan Sulfate	22	0.022	47	610	20
Endrin	2.0	0.0020	2.3	31	5.4
Endrin Aldehyde	1.1	0.0011	2.3	31	5.4
Endrin Ketone	1.1	0.0011	2.3	31	5.4
Glyphosate	700	0.70	780	10000	530
Heptachlor	0.4	0.0004	0.14	0.64	0.84
Heptachlor Epoxide	0.2	0.0002	0.070	0.31	0.025
Methoxychlor	40	0.040	39	510	310
Oxamyl	200	0.200	200	2600	3.8
Simazine	4.0	0.0040	5.3	24	0.0033
2,4,5-TP (Silvex)	50	0.05	78	1000	2.0
Toxaphene	3.0	0.003	0.58	2.6	0.63
PCB(total)	0.50	0.0005	0.32	1.4	0.41
Aroclor 1016	1.0	0.0010	0.55	41	4.2
Aroclor 1221	0.50	0.0005	0.32	1.4	--
Aroclor 1232	0.50	0.0005	0.32	1.4	--
Aroclor 1242	0.50	0.0005	0.32	1.4	--
Aroclor 1248	0.50	0.0005	0.32	1.4	--
Aroclor 1254	0.50	0.0005	0.32	1.4	1.1
Aroclor 1260	0.50	0.0005	0.32	1.4	--

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	ug/L	mg/L	mg/kg	mg/kg	mg/kg
Aluminum	3700	3.7	7800	100000	--
Antimony	6.0	0.0060	3.1	41	13
Arsenic	10	0.010	0.43	1.9	0.026
Barium	2000	2.0	1600	20000	6000
Beryllium	4.0	0.0040	16	200	1200
Cadmium	5.0	0.0050	3.9	51	27
Chromium (total)	100	0.10	23	310	42
Chromium III	100	0.10	12000	150000	2000000000
Chromium VI	100	0.10	23	310	42
Copper	1300	1.3	310	4100	11000
Iron	2600	2.6	5500	72000	--
Lead	15	0.015	400	1000	--
Manganese (nonfood)	73	0.073	160	2000	950
Mercury (element) ^e	2.0	0.0020	--	--	--
Mercury (inorganic/Mercuric Dichloride)	2.0	0.002	2.3	31	--
Nickel	73	0.073	160	2000	--
Selenium	50	0.050	39	510	19
Silver	18	0.018	39	510	31
Thallium	2.0	0.0020	0.55	7.2	3.6
Tin	2200	2.2	4700	61000	--
Vanadium	3.7	0.0037	7.8	100	730
Zinc	1100	1.1	2300	31000	14000
Perchlorate	2.6	0.0026	5.5	72	--
Cyanide	200	0.20	160	2000	150
Methylmercury	0.4	0.0004	0.78	10	--

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Analyte	mg/L	mg/kg	mg/kg	mg/kg
Gasoline Range Organics	0.047	230	620	
Diesel Range Organics	0.047	230	620	

