Appendix G

Risk Reduction Rules
Standard 2 Tables

Updated Examples of Standard No. 2, Appendix II Medium-Specific Concentrations (MSCs)

Background Information:

Section 335.558(d) of the existing Risk Reduction Rules indicates that the Commission will periodically revise the example unadjusted Standard No. 2 MSCs presented in the Appendix II table to reflect newly promulgated standards and to provide MSCs based on current toxicological data. Additionally, §335.556(b) requires consideration of other exposure pathways by which human populations are likely to be exposed (e.g., dermal absorption and vegetable uptake) when setting MSCs.

However, because no specific equations or parameters were provided in the rule, consideration of the dermal absorption pathway has not been addressed in a consistent manner. Therefore, in order to facilitate implementation of Standard No. 2, the MSC values have been updated to reflect current standards (e.g., MCLs), toxicological factors, the soil dermal absorption exposure pathway where appropriate (see Section VII of the memo entitled Implementation of the Existing Risk Reduction Rule for more detail), and to identify contaminants where exposure through vegetable consumption is of particular concern (i.e., cadmium). The updated Standard No. 2 MSCs are provided below for your convenience.

The updated Standard No. 2 Soil MSCs have been calculated using the Risk Reduction Standard No. 2 equations, with the addition of the dermal pathway, updated toxicity factors, and updated chemical/physical properties. In calculating the updated Standard No. 2 Soil MSCs, a risk level of 10^{-6} was used for Class A and B carcingens and a risk level of 10^{-5} was used for Class C carcinogens, and a hazard quotient of 1 was used for all noncarcinogens. In cases where contaminants had both carcinogenic and noncarcinogenic toxicity factors, both types of MSCs (carcinogenic and noncarcinogenic) were calculated and the lowest value (i.e., most conservative) was selected as the updated Standard No. 2 Soil MSC.

The updated Standard No. 2 Groundwater MSCs have been calculated using the MCL (when available) or Risk Reduction Standard No. 2 equations with updated toxicity factors when MCLs were not available. In calculating the updated Standard No. 2 Groundwater MSCs, a risk level of 10^{-6} was used for Class A and B carcingens and a risk level of 10^{-5} was used for Class C carcinogens, and a hazard quotient of 1 was used for all noncarcinogens. In cases where contaminants had both carcinogenic and noncarcinogenic toxicity factors, both types of MSCs (carcinogenic and noncarcinogenic) were calculated and the lowest value (i.e., most conservative) was selected as the updated Standard No. 2 Groundwater MSC.

Abbreviations:

CAS# - Chemical Abstracts Service number GW-Res - Groundwater MSC for Residential Use
GW-Ind - Groundwater MSC for Industrial Use GWP-Res - Soil MSC for Residential Use Based on Groundwater Protection
GWP-Ind - Soil MSC for Industrial Use Based on Groundwater Protection
SAI-Res - Soil MSC for Residential Use Based on Inhalation, Ingestion, and Dermal Contact
SAI-Ind - Soil MSC for Industrial Use Based on Inhalation, Ingestion, and Dermal Contact

Updated Examples of Standard No. 2, Appendix II Medium-Specific Concentrations (MSCs)

(Last update: March 15, 2001)

Contaminant	CAS #	GW-Res (mg/l)	GW-Ind (mg/l)	GWP-Res (mg/kg)	GWP-Ind (mg/kg)	SAI-Res[a] (mg/kg)	SAI-Ind[a] (mg/kg)
Acenaphthene	83-32-9	2.2E+00	6.1E+00	2.2E+02	6.1E+02	8.2E+03	5.3E+04
Acenaphthylene	208-96-8	2.2E+00	6.1E+00	2.2E+02	6.1E+02	8.2E+03	5.3E+04
Acetaldehyde	75-07-0	3.7E+00	1.0E+01	3.7E+02	1.0E+03	5.2E+00	8.8E+00
Acetone	67-64-1	3.7E+00	1.0E+01	3.7E+02	1.0E+03	1.6E+03	2.4E+03
Acetone cyanohydrin	75-86-5	2.9E-02	8.2E-02	2.9E+00	8.2E+00	1.2E+02	8.2E+02
Acetonitrile	75-05-8	---	---	---	---	1.8E+02	2.6E+02
Acetophenone	98-86-2	3.7E+00	1.0E+01	3.7E+02	1.0E+03	2.7E+03	4.3E+03
Acifluorfen, sodium	62476-59-9	4.7E-01	1.3E+00	4.7E+01	1.3E+02	2.0E+03	1.3E+04
Acrolein	107-02-8	7.3E-01	2.0E+00	7.3E+01	2.0E+02	5.5E+03	4.1E+04
Acrylamide	79-06-1	1.9E-05	6.4E-05	1.9E-03	6.4E-03	1.1E-01	6.4E-01
Acrylic acid	79-10-7	1.8E+01	5.1E+01	1.8E+03	5.1E+03	1.4E+05	1.0E+06
Acrylonitrile	107-13-1	1.6E-04	5.3E-04	1.6E-02	5.3E-02	7.9E-02	1.4E-01
Alachlor	15972-60-8	2.0E-03	2.0E-03	2.0E-01	2.0E-01	6.1E+00	3.6E+01
Aldicarb	116-06-3	7.0E-03	7.0E-03	7.0E-01	7.0E-01	1.5E+02	1.0E+03
Aldicarb sulfone	1646-88-4	7.0E-03	7.0E-03	7.0E-01	7.0E-01	1.5E+02	1.0E+03
Aldrin	309-00-2	5.0E-06	1.7E-05	5.0E-04	1.7E-03	2.7E-02	1.4E-01

Updated Examples of Standard No. 2, Appendix II Medium-Specific Concentrations (MSCs)

(Last update: March 15, 2001)

Contaminant	CAS #	GW-Res (mg/l)	GW-Ind (mg/l)	GWP-Res (mg/kg)	GWP-Ind (mg/kg)	SAI-Res[a] (mg/kg)	SAI-Ind[a] (mg/kg)
Allyl alcohol	107-18-6	1.8E-01	5.1E-01	1.8E+01	5.1E+01	1.4E+03	1.0E+04
Allyl chloride	107-05-1	3.7E-01	1.0E+00	3.7E+01	1.0E+02	1.3E+00	1.8E+00
Aluminum	7429-90-5	3.7E+01	1.0E+02	3.7E+03	1.0E+04	1.5E+05	1.0E+06
Aminopyridine, 4-	504-24-5	7.3E-04	2.0E-03	7.3E-02	2.0E-01	3.1E+00	2.0E+01
Amino-2,6-dinitrotoluene, 4-	19406-51-0	6.1E-03	1.7E-02	6.1E-01	1.7E+00	2.6E+01	1.7E+02
Amino-4,6-dinitrotoluene, 2-	35572-78-2	6.1E-03	1.7E-02	6.1E-01	1.7E+00	2.6E+01	1.7E+02
Ammonia	7664-41-7	---	---	---	---	1.6E+02	2.3E+02
Aniline	62-53-3	1.5E-02	5.0E-02	1.5E+00	5.0E+00	8.6E+01	5.0E+02
Anthracene	120-12-7	1.1E+01	3.1E+01	1.1E+03	3.1E+03	4.1E+04	2.7E+05
Antimony	7440-36-0	6.0E-03	6.0E-03	6.0E-01	6.0E-01	7.2E+01	4.9E+02
Aramite	140-57-8	3.4E-03	1.1E-02	3.4E-01	1.1E+00	2.0E+01	1.1E+02
Arsenic	7440-38-2	5.0E-02	5.0E-02	5.0E+00	5.0E+00	2.0E+01[b]	2.0E+02[b]
Arsine	7784-42-1	---	---	---	---	---	---
Asbestos	1332-21-4	---	---	---	---	---	---
Atrazine	1912-24-9	3.0E-03	3.0E-03	3.0E-01	3.0E-01	2.2E+01	1.3E+02
Barium	7440-39-3	2.0E+00	2.0E+00	2.0E+02	2.0E+02	9.1E+03	5.9E+04
Benzaldehyde	100-52-7	3.7E+00	1.0E+01	3.7E+02	1.0E+03	1.8E-01	2.5E-01
Benzene	71-43-2	5.0E-03	5.0E-03	5.0E-01	5.0E-01	8.8E-01	1.6E+00
Benzenethiol	108-98-5	3.7E-04	1.0E-03	3.7E-02	1.0E-01	1.5E+00	3.9E+00
Benzidine	92-87-5	3.7E-07	1.2E-06	3.7E-05	1.2E-04	2.1E-03	1.2E-02
Benz-a-anthracene	56-55-3	2.0E-04	3.9E-04	2.0E-02	3.9E-02	6.3E-01	3.4E+00
Benzo-a-pyrene	50-32-8	2.0E-04	2.0E-04	2.0E-02	2.0E-02	6.3E-02	3.4E-01
Benzo-b-fluoranthene	205-99-2	2.0E-04	3.9E-04	2.0E-02	3.9E-02	6.3E-01	3.4E+00
Benzo-k-fluoranthene	207-08-9	1.2E-03	3.9E-03	1.2E-01	3.9E-01	6.3E+00	3.4E+01
Benzo-g,h,i-perylene	191-24-2	1.1E+00	3.1E+00	1.1E+02	3.1E+02	4.1E+03	2.7E+04
Benzoic acid	65-85-0	1.5E+02	4.1E+02	1.5E+04	4.1E+04	6.2E+05	4.1E+06
Benzotrichloride	98-07-7	6.6E-06	2.2E-05	6.6E-04	2.2E-03	3.8E-02	2.2E-01
Benzyl alcohol	100-51-6	1.1E+01	3.1E+01	1.1E+03	3.1E+03	4.6E+04	3.1E+05
Benzyl chloride	100-44-7	5.0E-04	1.7E-03	5.0E-02	1.7E-01	3.8E+00	3.4E+01
Beryllium	7440-41-7	4.0E-03	4.0E-03	4.0E-01	4.0E-01	4.6E+01	2.7E+02
Biphenyl, 1,1-	92-52-4	1.8E+00	5.1E+00	1.8E+02	5.1E+02	1.9E+02	2.7E+02
Bis (2-chloroethoxy) methane	111-91-1	3.9E-07	1.3E-06	3.9E-05	1.3E-04	2.2E-03	1.3E-02
Bis (2-chloroethyl) ether	111-44-4	7.7E-05	2.6E-04	7.7E-03	2.6E-02	1.5E-01	3.2E-01
Bis (2-chloroisopropyl) ether	108-60-1	1.2E-02	4.1E-02	1.2E+00	4.1E+00	4.8E+01	1.5E+02
Bis (2-chloromethyl) ether	542-88-1	3.9E-07	1.3E-06	3.9E-05	1.3E-04	1.1E-04	1.9E-04
Bis (2-ethyl-hexyl) phthalate	117-81-7	6.0E-03	6.0E-03	6.0E-01	6.0E-01	1.7E+01	6.5E+01
Bisphenol A	80-05-7	1.8E+00	5.1E+00	1.8E+02	5.1E+02	7.7E+03	5.1E+04
Boron	7440-42-8	3.3E+00	9.2E+00	3.3E+02	9.2E+02	2.3E+04	1.7E+05
Bromobenzene	108-86-1	7.3E-01	2.0E+00	7.3E+01	2.0E+02	8.0E+00	1.1E+01
Bromodichloromethane	75-27-4	1.0E-01	1.0E-01	1.0E+01	1.0E+01	1.0E+01	9.2E+01
Bromoform	75-25-2	1.0E-01	1.0E-01	1.0E+01	1.0E+01	3.4E+01	8.5E+01
Bromomethane	74-83-9	5.1E-02	1.4E-01	5.1E+00	1.4E+01	3.5E+00	4.9E+00
Bromophenyl phenylether, 4-	101-55-3	5.7E-05	1.9E-04	5.7E-03	1.9E-02	3.1E-01	1.6E+00
Butadiene, 1,3-	106-99-0	---	---	---	---	1.8E-02	3.0E-02
Butanol, n-	71-36-3	3.7E+00	1.0E+01	3.7E+02	1.0E+03	2.7E+04	2.0E+05
Butyl acrylate	141-32-2	3.3E-01	9.2E-01	3.3E+01	9.2E+01	8.6E+01	1.2E+02
Butylbenzene, n-	104-51-8	1.5E+00	4.1E+00	1.5E+02	4.1E+02	2.7E+03	5.7E+03
Butylbenzene, sec-	135-98-8	1.5E+00	4.1E+00	1.5E+02	4.1E+02	3.0E+03	5.4E+03
Butylbenzene, tert-	98-06-6	1.5E+00	4.1E+00	1.5E+02	4.1E+02	2.6E+03	4.5E+03
Butylate	2008-41-5	1.8E+00	5.1E+00	1.8E+02	5.1E+02	7.7E+03	5.1E+04
Butyl benzyl phthalate	85-68-7	7.3E+00	2.0E+01	7.3E+02	2.0E+03	3.1E+04	2.0E+05

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(Last update: March 15, 2001)

Contaminant	CAS #	GW-Res (mg/l)	GW-Ind (mg/l)	GWP-Res (mg/kg)	GWP-Ind (mg/kg)	SAI-Res[a] (mg/kg)	SAI-Ind[a] (mg/kg)
Cacodylic acid	75-60-5	1.1E-01	3.1E-01	1.1E+01	3.1E+01	4.6E+02	3.1E+03
Cadmium	7440-43-9	5.0E-03	5.0E-03	5.0E-01	5.0E-01	2.4E+02[c]	1.5E+03
Caprolactam	105-60-2	1.8E+01	5.1E+01	1.8E+03	5.1E+03	7.7E+04	5.1E+05
Captan	133-06-2	2.4E-02	8.2E-02	2.4E+00	8.2E+00	1.4E+02	8.2E+02
Carbaryl	63-25-2	3.7E+00	1.0E+01	3.7E+02	1.0E+03	1.5E+04	1.0E+05
Carbazole	86-74-8	4.3E-03	1.4E-02	4.3E-01	1.4E+00	2.4E+01	1.4E+02
Carbofuran	1563-66-2	4.0E-02	4.0E-02	4.0E+00	4.0E+00	7.7E+02	5.1E+03
Carbon disulfide	75-15-0	3.7E+00	1.0E+01	3.7E+02	1.0E+03	1.0E+03	1.5E+03
Carbon tetrachloride	56-23-5	5.0E-03	5.0E-03	5.0E-01	5.0E-01	3.5E-01	6.3E-01
Carbosulfan	55285-14-8	3.7E-01	1.0E+00	3.7E+01	1.0E+02	1.5E+03	1.0E+04
Chloral	75-87-6	3.7E+00	1.0E+01	3.7E+02	1.0E+03	2.7E+04	2.0E+05
Chloral hydrate (1,1-ethanediol, 2,2,2-trichloro-)	302-17-0	3.7E+00	1.0E+01	3.7E+02	1.0E+03	1.5E+04	1.0E+05
Chlordane (technical)	12789-03-6	2.0E-03	2.0E-03	2.0E-01	2.0E-01	1.6E+00	1.1E+01
Chlordane, cis- (alpha chlordane)	5103-71-9	2.4E-04	8.2E-04	2.4E-02	8.2E-02	1.4E+00	8.0E+00
Chlordane, gamma	57-74-9	2.4E-04	8.2E-04	2.4E-02	8.2E-02	1.8E+00	1.6E+01
Chlorfenvinphos	470-90-6	2.6E-02	7.2E-02	2.6E+00	7.2E+00	1.1E+02	7.2E+02
Chlorine	7782-50-5	4.0E+00	4.0E+00	4.0E+02	4.0E+02	2.0E+04	1.4E+05
Chloroaniline, p-	106-47-8	1.5E-01	4.1E-01	1.5E+01	4.1E+01	6.2E+02	4.1E+03
Chlorobenzene	108-90-7	1.0E-01	1.0E-01	1.0E+01	1.0E+01	4.0E+02	5.9E+02
Chlorobenzilate	510-15-6	3.2E-04	1.1E-03	3.2E-02	1.1E-01	1.8E+00	1.1E+01
Chlorobromomethane (bromochloromethane)	74-97-5	1.5E+00	4.1E+00	1.5E+02	4.1E+02	2.4E+02	3.4E+02
Chloro-1,3-butadiene, 2-	126-99-8	---	---	---	---	1.0E+01	1.4E+01
Chlorodifluoromethane	75-45-6	---	---	---	---	1.1E+04	1.5E+04
Chloroethane (ethyl chloride)	75-00-3	1.5E+01	4.1E+01	1.5E+03	4.1E+03	1.1E+04	1.7E+04
Chloroethoxy ethene, 2- (2-chloroethylvinylether)	110-75-8	7.7E-04	2.6E-03	7.7E-02	2.6E-01	2.1E+00	3.0E+00
Chloroform	67-66-3	1.0E-01	1.0E-01	1.0E+01	1.0E+01	3.1E-01	5.1E-01
Chloromethane	74-87-3	6.6E-02	2.2E-01	6.6E+00	2.2E+01	2.3E+00	3.8E+00
Chloro-3-methylphenol, 4-	59-50-7	1.8E-01	5.1E-01	1.8E+01	5.1E+01	7.7E+02	5.1E+03
Chloronaphthalene, 2- (chloronaphthalene, beta)	91-58-7	2.9E+00	8.2E+00	2.9E+02	8.2E+02	1.1E+04	7.1E+04
Chlorophenol, 2-	95-57-8	1.8E-01	5.1E-01	1.8E+01	5.1E+01	1.1E+03	4.0E+03
Chlorophenyl phenylether, 4-	7005-72-3	5.7E-05	1.9E-04	5.7E-03	1.9E-02	2.8E-01	1.2E+00
Chlorotoluene, o- (2-chlorotoluene)	95-49-8	7.3E-01	2.0E+00	7.3E+01	2.0E+02	1.5E+03	3.5E+03
Chlorotoluene, p- (4-chlorotoluene)	106-43-4	7.3E-01	2.0E+00	7.3E+01	2.0E+02	3.4E+00	4.8E+00
Chlorpyrifos	2921-88-2	1.1E-01	3.1E-01	1.1E+01	3.1E+01	4.6E+02	3.1E+03
Chromium (III) (total chromium)	16065-83-1/ 7440-47-3	1.0E-01	1.0E-01	1.0E+01	1.0E+01	5.9E+04	3.5E+05
Chromium (VI)	18540-29-9	1.0E-01	1.0E-01	1.0E+01	1.0E+01	2.0E+02	1.2E+03
Chrysene	218-01-9	1.2E-02	3.9E-02	1.2E+00	3.9E+00	6.3E+01	3.4E+02
Cobalt	7440-48-4	2.2E+00	6.1E+00	2.2E+02	6.1E+02	1.5E+04	1.1E+05
Copper	7440-50-8	1.3E+00	1.3E+00	1.3E+02	1.3E+02	1.0E+04	7.4E+04
Coumaphos	56-72-4	2.6E-01	7.2E-01	2.6E+01	7.2E+01	1.1E+03	7.2E+03
Cresol, m- (3-methylphenol)	108-39-4	1.8E+00	5.1E+00	1.8E+02	5.1E+02	7.7E+03	5.1E+04
Cresol, o- (2-methylphenol)	95-48-7	1.8E+00	5.1E+00	1.8E+02	5.1E+02	7.7E+03	5.1E+04
Cresol, p- (4-methylphenol)	106-44-5	1.8E-01	5.1E-01	1.8E+01	5.1E+01	7.7E+02	5.1E+03
Crotonaldehyde	123-73-9	4.5E-04	1.5E-03	4.5E-02	1.5E-01	3.4E+00	3.0E+01
Cumene (isopropylbenzene)	98-82-8	3.7E+00	1.0E+01	3.7E+02	1.0E+03	5.4E+03	9.0E+03
Cyanazine	21725-46-2	1.0E-03	3.4E-03	1.0E-01	3.4E-01	5.8E+00	3.4E+01
Cyanide	57-12-5	2.0E-01	2.0E-01	2.0E+01	2.0E+01	5.1E+03	3.7E+04
Cyanogen	460-19-5	1.5E+00	4.1E+00	1.5E+02	4.1E+02	4.3E+00	6.0E+00
Cyclohexane	110-82-7	1.8E+02	5.1E+02	1.8E+04	5.1E+04	2.0E-01	2.8E-01
Cyclohexanol	108-93-0	1.8E+02	5.1E+02	1.8E+04	5.1E+04	7.7E+05	5.1E+06

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Contaminant	CAS #	GW-Res (mg/l)	GW-Ind (mg/l)	GWP-Res (mg/kg)	GWP-Ind (mg/kg)	SAI-Res[a] (mg/kg)	SAI-Ind[a] (mg/kg)
Cyclohexanone	108-94-1	1.8E+02	5.1E+02	1.8E+04	5.1E+04	2.1E+03	3.0E+03
Cyclotetramethylenetetranitramine (HMX)	2691-41-0	1.8E+00	5.1E+00	1.8E+02	5.1E+02	1.4E+04	1.0E+05
Cyclotrimethylenetrinitramine (RDX)	121-82-4	7.7E-03	2.6E-02	7.7E-01	2.6E+00	3.6E+01	5.4E+01
Cymene (isopropyltoluene)	99-87-6	3.7E+00	1.0E+01	3.7E+02	1.0E+03	4.2E+03	6.7E+03
DDD	72-54-8	3.5E-04	1.2E-03	3.5E-02	1.2E-01	2.4E+00	1.8E+01
DDE	72-55-9	2.5E-04	8.4E-04	2.5E-02	8.4E-02	1.7E+00	1.3E+01
DDT	50-29-3	2.5E-04	8.4E-04	2.5E-02	8.4E-02	1.7E+00	1.2E+01
Di-n-butyl phthalate	84-74-2	3.7E+00	1.0E+01	3.7E+02	1.0E+03	1.5E+04	1.0E+05
Di-n-octyl phthalate	117-84-0	7.3E-01	2.0E+00	7.3E+01	2.0E+02	3.1E+03	2.0E+04
Diacetone alcohol (4-hydroxy-4-methyl-2-pentanone)	123-42-2	1.5E+00	4.1E+00	1.5E+02	4.1E+02	6.2E+03	4.1E+04
Diallate	2303-16-4	1.4E-03	4.7E-03	1.4E-01	4.7E-01	8.0E+00	4.7E+01
Diazinon	333-41-5	3.3E-02	9.2E-02	3.3E+00	9.2E+00	1.4E+02	9.2E+02
Dibenz(a,h)acridine	226-36-8	7.1E-05	2.4E-04	7.1E-03	2.4E-02	4.1E-01	2.4E+00
Dibenz-a,h-anthracene	53-70-3	2.0E-04	2.0E-04	2.0E-02	2.0E-02	6.3E-02	3.4E-01
Dibenzofuran	132-64-9	1.5E-01	4.1E-01	1.5E+01	4.1E+01	6.2E+02	4.1E+03
Dibromo-3-chloropropane, 1,2-	96-12-8	2.0E-04	2.0E-04	2.0E-02	2.0E-02	3.5E-01	2.0E+00
Dibromochloromethane	124-48-1	1.0E-01	1.0E-01	1.0E+01	1.0E+01	7.6E+01	6.8E+02
Dicamba	1918-00-9	1.1E+00	3.1E+00	1.1E+02	3.1E+02	4.6E+03	3.1E+04
Dichlorobenzene, 1,2-	95-50-1	6.0E-01	6.0E-01	6.0E+01	6.0E+01	2.6E+03	3.9E+03
Dichlorobenzene, 1,3-	541-73-1	1.1E+00	3.1E+00	1.1E+02	3.1E+02	5.1E+01	7.1E+01
Dichlorobenzene, 1,4-	106-46-7	7.5E-02	7.5E-02	7.5E+00	7.5E+00	2.7E+02	2.4E+03
Dichlorobenzidine, 3,3-	91-94-1	1.9E-04	6.4E-04	1.9E-02	6.4E-02	1.1E+00	6.4E+00
Dichloro-2-butene, 1,4-	764-41-0	---	---	---	---	2.3E-02	3.8E-02
Dichlorodifluoromethane	75-71-8	7.3E+00	2.0E+01	7.3E+02	2.0E+03	2.2E+03	3.1E+03
Dichloroethane, 1,1-	75-34-3	3.7E+00	1.0E+01	3.7E+02	1.0E+03	8.9E+02	1.3E+03
Dichloroethane, 1,2-	107-06-2	5.0E-03	5.0E-03	5.0E-01	5.0E-01	2.7E-01	4.7E-01
Dichloroethylene, 1,1-	75-35-4	7.0E-03	7.0E-03	7.0E-01	7.0E-01	6.0E-01	1.1E+00
Dichloroethylene, cis-1,2-	156-59-2	7.0E-02	7.0E-02	7.0E+00	7.0E+00	1.2E+03	2.5E+03
Dichloroethylene, trans-1,2	156-60-5	1.0E-01	1.0E-01	1.0E+01	1.0E+01	1.4E+03	2.4E+03
Dichlorophenol, 2,4-	120-83-2	1.1E-01	3.1E-01	1.1E+01	3.1E+01	4.6E+02	3.1E+03
Dichlorophenoxyacetic acid, 2,4- (2,4-D)	94-75-7	7.0E-02	7.0E-02	7.0E+00	7.0E+00	2.0E+03	1.4E+04
Dichloropropane, 1,2-	78-87-5	5.0E-03	5.0E-03	5.0E-01	5.0E-01	9.4E+00	2.5E+01
Dichloropropane, 1,3-	142-28-9	8.5E-03	2.9E-02	8.5E-01	2.9E+00	3.0E+01	8.0E+01
Dichloropropane, 2,2-	594-20-7	1.3E-02	4.2E-02	1.3E+00	4.2E+00	1.7E+01	2.4E+01
Dichloropropanol, 2,3-	616-23-9	1.1E-01	3.1E-01	1.1E+01	3.1E+01	4.6E+02	3.1E+03
Dichloropropene, 1,1-	563-58-6	8.5E-04	2.9E-03	8.5E-02	2.9E-01	9.9E-01	1.9E+00
Dichloropropene, cis 1,3-	10061-01-5	1.6E-03	5.3E-03	1.6E-01	5.3E-01	1.2E+01	3.4E+01
Dichloropropene, 1,3- (mixed isomers)	542-75-6	8.5E-04	2.9E-03	8.5E-02	2.9E-01	1.9E+00	4.2E+00
Dichloropropene, trans 1,3-	10061-02-6	8.5E-03	2.9E-02	8.5E-01	2.9E+00	1.8E+01	4.0E+01
Dichlorvos	62-73-7	2.9E-04	9.9E-04	2.9E-02	9.9E-02	1.7E+00	9.9E+00
Dicyclopentadiene	77-73-6	1.1E+00	3.1E+00	1.1E+02	3.1E+02	8.2E+03	6.1E+04
Dieldrin	60-57-1	5.3E-06	1.8E-05	5.3E-04	1.8E-03	3.1E-02	1.8E-01
Diethanolamine	111-42-2	1.8E-02	5.1E-02	1.8E+00	5.1E+00	7.7E+01	5.1E+02
Diethylene glycol monobutyl ether	112-34-5	3.3E+00	9.2E+00	3.3E+02	9.2E+02	1.4E+04	9.2E+04
Diethylhexyl adipate	103-23-1	7.1E-01	2.4E+00	7.1E+01	2.4E+02	4.1E+03	2.4E+04
Diethyl phthalate	84-66-2	2.9E+01	8.2E+01	2.9E+03	8.2E+03	1.2E+05	8.2E+05
Diethylstilbestrol	56-53-1	1.8E-08	6.1E-08	1.8E-06	6.1E-06	1.0E-04	6.1E-04
Dimethoate	60-51-5	7.3E-03	2.0E-02	7.3E-01	2.0E+00	3.1E+01	2.0E+02
Dimethoxybenzidine, 3,3'-	119-90-4	6.1E-03	2.0E-02	6.1E-01	2.0E+00	3.5E+01	2.0E+02
Dimethylbenzidine, 3,3'-	119-93-7	9.3E-06	3.1E-05	9.3E-04	3.1E-03	5.3E-02	3.1E-01
Dimethyl phenol, 2,4-	105-67-9	7.3E-01	2.0E+00	7.3E+01	2.0E+02	3.1E+03	2.0E+04

Updated Examples of Standard No. 2, Appendix II Medium-Specific Concentrations (MSCs)

(Last update: March 15, 2001)

Contaminant	CAS #	GW-Res (mg/l)	GW-Ind (mg/l)	GWP-Res (mg/kg)	GWP-Ind (mg/kg)	SAI-Res[a] (mg/kg)	SAI-Ind[a] (mg/kg)
Dimethylphthalate	131-11-3	2.9E+01	8.2E+01	2.9E+03	8.2E+03	1.2E+05	8.2E+05
Dinitrobenzene, 1,3- (dinitrobenzene, 2,4-)	99-65-0	3.7E-03	1.0E-02	3.7E-01	1.0E+00	1.5E+01	1.0E+02
Dinitrobenzene, 1,4-	100-25-4	1.5E-02	4.1E-02	1.5E+00	4.1E+00	6.2E+01	4.1E+02
Dinitro-2-methylphenol, 4,6- (dinitro-o-cresol, 4, 6-)	534-52-1	7.3E-02	2.0E-01	7.3E+00	2.0E+01	3.1E+02	2.0E+03
Dinitrophenol, 2,4-	51-28-5	7.3E-02	2.0E-01	7.3E+00	2.0E+01	3.1E+02	2.0E+03
Dinitrotoluene, 2,4-	121-14-2	1.3E-04	4.2E-04	1.3E-02	4.2E-02	7.2E-01	4.2E+00
Dinitrotoluene, 2,6-	606-20-2	1.3E-04	4.2E-04	1.3E-02	4.2E-02	7.2E-01	4.2E+00
Dinoseb	88-85-7	7.0E-03	7.0E-03	7.0E-01	7.0E-01	1.5E+02	1.0E+03
Dioxane 1,4-	123-91-1	7.7E-03	2.6E-02	7.7E-01	2.6E+00	5.8E+01	5.2E+02
Diphenylamine	122-39-4	9.1E-01	2.6E+00	9.1E+01	2.6E+02	3.9E+03	2.6E+04
Diphenylhydrazine, 1,2-	122-66-7	1.1E-04	3.6E-04	1.1E-02	3.6E-02	6.1E-01	3.6E+00
Diquat	85-00-7	2.0E-02	2.0E-02	2.0E+00	2.0E+00	3.4E+02	2.2E+03
Disulfoton	298-04-4	1.5E-03	4.1E-03	1.5E-01	4.1E-01	6.2E+00	4.1E+01
Diuron	330-54-1	7.3E-02	2.0E-01	7.3E+00	2.0E+01	3.1E+02	2.0E+03
Endosulfan	115-29-7	2.2E-01	6.1E-01	2.2E+01	6.1E+01	6.2E+01	9.2E+01
Endosulfan I	959-98-8	7.3E-02	2.0E-01	7.3E+00	2.0E+01	3.1E+02	2.0E+03
Endosulfan II	33213-65-9	2.2E-01	6.1E-01	2.2E+01	6.1E+01	9.3E+02	6.1E+03
Endosulfan sulfate	1031-07-8	2.2E-01	6.1E-01	2.2E+01	6.1E+01	9.3E+02	6.1E+03
Endothall	145-73-3	1.0E-01	1.0E-01	1.0E+01	1.0E+01	3.1E+03	2.0E+04
Endrin	72-20-8	2.0E-03	2.0E-03	2.0E-01	2.0E-01	4.6E+01	3.1E+02
Endrin aldehyde	7421-93-4	1.1E-02	3.1E-02	1.1E+00	3.1E+00	4.6E+01	3.1E+02
Endrin ketone	N-McG/D	1.1E-02	3.1E-02	1.1E+00	3.1E+00	4.6E+01	3.1E+02
Epichlorohydrin	106-89-8	8.6E-03	2.9E-02	8.6E-01	2.9E+00	7.2E+00	1.0E+01
Ethion	563-12-2	1.8E-02	5.1E-02	1.8E+00	5.1E+00	7.7E+01	5.1E+02
Ethoxy ethanol, 2-	110-80-5	1.5E+01	4.1E+01	1.5E+03	4.1E+03	4.3E+00	6.0E+00
Ethyl acetate	141-78-6	3.3E+01	9.2E+01	3.3E+03	9.2E+03	8.9E+03	1.3E+04
Ethyl acrylate	140-88-5	1.8E-03	6.0E-03	1.8E-01	6.0E-01	1.3E+01	1.2E+02
Ethyl benzene	100-41-4	7.0E-01	7.0E-01	7.0E+01	7.0E+01	4.3E+03	6.9E+03
Ethyl dipropylthiocarbamate, S-	759-94-4	9.1E-01	2.6E+00	9.1E+01	2.6E+02	3.9E+03	2.6E+04
Ethyl ether	60-29-7	7.3E+00	2.0E+01	7.3E+02	2.0E+03	3.8E+03	5.7E+03
Ethyl methacrylate	97-63-2	3.3E+00	9.2E+00	3.3E+02	9.2E+02	5.7E+03	9.9E+03
Ethyl-2-methyl benzene, 1-	611-14-3	7.3E+00	2.0E+01	7.3E+02	2.0E+03	5.5E+03	8.4E+03
Ethyl-4-methyl benzene, 1-	622-96-8	7.3E+00	2.0E+01	7.3E+02	2.0E+03	4.8E+03	7.2E+03
Ethylenediamine	107-15-3	7.3E-01	2.0E+00	7.3E+01	2.0E+02	5.5E+03	4.1E+04
Ethylene dibromide (dibromoethane, 1,2-)	106-93-4	5.0E-05	5.0E-05	5.0E-03	5.0E-03	7.2E-03	5.5E-02
Ethylene glycol	107-21-1	7.3E+01	2.0E+02	7.3E+03	2.0E+04	3.1E+05	2.0E+06
Ethylene oxide	75-21-8	8.3E-05	2.8E-04	8.3E-03	2.8E-02	7.5E-02	1.4E-01
Ethylene thiourea	96-45-7	7.7E-04	2.6E-03	7.7E-02	2.6E-01	4.4E+00	2.6E+01
Famphur	52-85-7	1.1E-03	3.1E-03	1.1E-01	3.1E-01	4.6E+00	3.1E+01
Fluoranthene	206-44-0	1.5E+00	4.1E+00	1.5E+02	4.1E+02	5.5E+03	3.6E+04
Fluorene	86-73-7	1.5E+00	4.1E+00	1.5E+02	4.1E+02	5.5E+03	3.6E+04
Fluorine (soluble fluoride)	7782-41-4	4.0E+00	4.0E+00	4.0E+02	4.0E+02	1.5E+04	1.1E+05
Formaldehyde	50-00-0	7.3E+00	2.0E+01	7.3E+02	2.0E+03	5.5E+04	4.1E+05
Formic acid	64-18-6	7.3E+01	2.0E+02	7.3E+03	2.0E+04	5.5E+05	4.1E+06
Furan	110-00-9	3.7E-02	1.0E-01	3.7E+00	1.0E+01	3.9E+01	6.1E+01
Furfural	98-01-1	1.1E-01	3.1E-01	1.1E+01	3.1E+01	8.2E+02	6.1E+03
Glycidylaldehyde	765-34-4	1.5E-02	4.1E-02	1.5E+00	4.1E+00	1.1E+02	8.2E+02
Heptachlor	76-44-8	4.0E-04	4.0E-04	4.0E-02	4.0E-02	9.3E-02	4.1E-01
Heptachlor epoxide	1024-57-3	2.0E-04	2.0E-04	2.0E-02	2.0E-02	5.4E-02	3.1E-01
Hexachlorobenzene	118-74-1	1.0E-03	1.0E-03	1.0E-01	1.0E-01	2.5E-01	1.0E+00
Hexachlorobutadiene	87-68-3	7.3E-03	2.0E-02	7.3E-01	2.0E+00	1.6E+01	3.2E+01

Updated Examples of Standard No. 2, Appendix II Medium-Specific Concentrations (MSCs)

(Last update: March 15, 2001)

Contaminant	CAS #	GW-Res (mg/l)	GW-Ind (mg/l)	GWP-Res (mg/kg)	GWP-Ind (mg/kg)	SAI-Res[a] (mg/kg)	SAI-Ind[a] (mg/kg)
Hexachlorocyclohexane, alpha (alpha-BHC)	319-84-6	1.4E-05	4.5E-05	1.4E-03	4.5E-03	9.0E-02	6.5E-01
Hexachlorocyclohexane, beta (beta-BHC)	319-85-7	4.7E-04	1.6E-03	4.7E-02	1.6E-01	3.2E+00	2.3E+01
Hexachlorocyclohexane, gamma (lindane; gamma-BH(	58-89-9	2.0E-04	2.0E-04	2.0E-02	2.0E-02	4.4E-01	3.1E+00
Hexachlorocyclohexane, delta (delta-BHC)	319-86-8	4.7E-05	1.6E-04	4.7E-03	1.6E-02	3.2E-01	2.3E+00
Hexachlorocyclohexane, techn (technical-BHC)	608-73-1	4.7E-05	1.6E-04	4.7E-03	1.6E-02	3.2E-01	2.3E+00
Hexachlorocyclopentadiene	77-47-4	5.0E-02	5.0E-02	5.0E+00	5.0E+00	3.6E+00	5.0E+00
Hexachloroethane	67-72-1	3.7E-02	1.0E-01	3.7E+00	1.0E+01	1.5E+02	7.5E+02
Hexachlorophene	70-30-4	1.1E-02	3.1E-02	1.1E+00	3.1E+00	4.6E+01	3.1E+02
Hexane, n-	110-54-3	2.2E+00	6.1E+00	2.2E+02	6.1E+02	5.7E+01	8.1E+01
Hexanediol, 1,6-	629-11-8	1.8E+02	5.1E+02	1.8E+04	5.1E+04	7.7E+05	5.1E+06
Hexanoic acid	142-62-1	1.8E+02	5.1E+02	1.8E+04	5.1E+04	7.7E+05	5.1E+06
Hexanone, 2-	591-78-6	2.2E+00	6.1E+00	2.2E+02	6.1E+02	6.2E+01	8.7E+01
Hexazinone	51235-04-2	1.2E+00	3.4E+00	1.2E+02	3.4E+02	5.1E+03	3.4E+04
Hexylene glycol (2-methyl-2,4-pentanediol)	107-41-5	1.1E+01	3.1E+01	1.1E+03	3.1E+03	4.6E+04	3.1E+05
Hydrazine	302-01-2	2.8E-05	9.5E-05	2.8E-03	9.5E-03	2.1E-01	1.9E+00
Indene	95-13-6	7.3E-01	2.0E+00	7.3E+01	2.0E+02	7.9E+01	1.1E+02
Indeno-1,2,3-cd-pyrene	193-39-5	2.0E-04	3.9E-04	2.0E-02	3.9E-02	6.3E-01	3.4E+00
Isobutyl alcohol	78-83-1	1.1E+01	3.1E+01	1.1E+03	3.1E+03	3.0E+03	4.3E+03
Isodrin	465-73-6	5.0E-06	1.7E-05	5.0E-04	1.7E-03	2.8E-02	1.6E-01
Isopropyl alcohol	67-63-0	7.3E+00	2.0E+01	7.3E+02	2.0E+03	5.5E+04	4.1E+05
Isophorone	78-59-1	9.0E-01	3.0E+00	9.0E+01	3.0E+02	5.2E+03	3.0E+04
Kepone (chlordecone)	143-50-0	5.3E-06	1.8E-05	5.3E-04	1.8E-03	3.1E-02	1.8E-01
Lead (inorganic)	7439-92-1	1.5E-02	1.5E-02	1.5E+00	1.5E+00	5.0E+02[d]	1.0E+03[d]
Lithium	7439-93-2	4.7E+00	1.3E+01	4.7E+02	1.3E+03	3.3E+04	2.4E+05
Malathion	121-75-5	7.3E-01	2.0E+00	7.3E+01	2.0E+02	3.1E+03	2.0E+04
Maleic anhydride	108-31-6	3.7E+00	1.0E+01	3.7E+02	1.0E+03	1.5E+04	1.0E+05
Maleic hydrazide	123-33-1	1.8E+01	5.1E+01	1.8E+03	5.1E+03	7.7E+04	5.1E+05
Malononitrile	109-77-3	7.3E-04	2.0E-03	7.3E-02	2.0E-01	3.1E+00	2.0E+01
Manganese	7439-96-5	1.7E+00	1.4E+01	1.7E+02	1.4E+03	1.7E+04	1.1E+05
Mercury (pH = 4.9)	7439-97-6	2.0E-03	2.0E-03	2.0E-01	2.0E-01	1.1E-01	1.5E-01
Mercury (pH = 6.8)	7439-97-6	2.0E-03	2.0E-03	2.0E-01	2.0E-01	6.1E+00	9.6E+00
Methacrylic acid (2-methyl-2-propenoic acid)	79-41-4	3.7E-01	1.0E+00	3.7E+01	1.0E+02	2.4E+01	3.4E+01
Methacrylonitrile	126-98-7	3.7E-03	1.0E-02	3.7E-01	1.0E+00	1.1E+01	2.2E+01
Methanol	67-56-1	1.8E+01	5.1E+01	1.8E+03	5.1E+03	1.4E+05	1.0E+06
Methomyl	16752-77-5	9.1E-01	2.6E+00	9.1E+01	2.6E+02	3.9E+03	2.6E+04
Methoxychlor	72-43-5	4.0E-02	4.0E-02	4.0E+00	4.0E+00	7.5E+02	4.4E+03
Methoxyethanol, 2-	109-86-4	---	---	---	---	6.1E+00	8.5E+00
Methyl acetate (acetic acid, methyl ester)	79-20-9	1.5E+00	4.1E+00	1.5E+02	4.1E+02	1.8E+03	2.9E+03
Methyl chrysene, 1-	3351-28-8	1.2E-01	3.9E-01	1.2E+01	3.9E+01	6.3E+02	3.4E+03
Methyl chrysene, 2-	3351-32-4	1.2E-01	3.9E-01	1.2E+01	3.9E+01	6.3E+02	3.4E+03
Methyl cyclohexane	108-87-2	1.8E+02	5.1E+02	1.8E+04	5.1E+04	3.8E+03	5.3E+03
Methyl ethyl ketone (2-butanone)	78-93-3	2.2E+01	6.1E+01	2.2E+03	6.1E+03	6.0E+03	8.6E+03
Methyl iodide (iodomethane)	74-88-4	5.1E-02	1.4E-01	5.1E+00	1.4E+01	1.8E+01	2.6E+01
Methyl isobutyl ketone	108-10-1	2.9E+00	8.2E+00	2.9E+02	8.2E+02	2.0E+03	2.9E+03
Methyl mercury	22967-92-6	3.7E-03	1.0E-02	3.7E-01	1.0E+00	2.5E+01	1.9E+02
Methyl methacrylate	80-62-6	5.1E+01	1.4E+02	5.1E+03	1.4E+04	5.8E+03	8.2E+03
Methylpyrrolidone, N-	872-50-4	7.3E-01	2.0E+00	7.3E+01	2.0E+02	3.1E+03	2.0E+04
Methylnaphthalene, 1-	90-12-0	7.3E-01	2.0E+00	7.3E+01	2.0E+02	2.7E+03	1.8E+04
Methylnaphthalene, 2-	91-57-6	7.3E-01	2.0E+00	7.3E+01	2.0E+02	2.7E+03	1.8E+04
Methyl parathion	298-00-0	9.1E-03	2.6E-02	9.1E-01	2.6E+00	3.9E+01	2.6E+02
Methylene bromide (dibromomethane)	74-95-3	1.1E-01	3.8E-01	1.1E+01	3.8E+01	1.9E+02	2.7E+02

Updated Examples of Standard No. 2, Appendix II Medium-Specific Concentrations (MSCs)

(Last update: March 15, 2001)

Contaminant	CAS #	GW-Res (mg/l)	GW-Ind (mg/l)	GWP-Res (mg/kg)	GWP-Ind (mg/kg)	SAI-Res[a] (mg/kg)	SAI-Ind[a] (mg/kg)
Methylene-bis (2-chloroaniline) 4,4'-	101-14-4	6.6E-04	2.2E-03	6.6E-02	2.2E-01	3.8E+00	2.2E+01
Methylene chloride (dichloromethane)	75-09-2	5.0E-03	5.0E-03	5.0E-01	5.0E-01	8.7E+00	1.6E+01
Methyltetrahydrofuran, 2-	96-47-9	1.1E-01	3.8E-01	1.1E+01	3.8E+01	7.0E+01	1.3E+02
Methyltetrahydropyran, 2-	10141-72-7	1.1E-01	3.8E-01	1.1E+01	3.8E+01	1.1E+02	2.0E+02
Metolachlor	51218-45-2	5.5E+00	1.5E+01	5.5E+02	1.5E+03	2.3E+04	1.5E+05
Molinate	2212-67-1	7.3E-02	2.0E-01	7.3E+00	2.0E+01	3.1E+02	2.0E+03
Molybdenum	7439-98-7	1.8E-01	5.1E-01	1.8E+01	5.1E+01	1.1E+03	8.1E+03
Morpholine	110-91-8	1.8E+04	5.1E+04	1.8E+06	5.1E+06	1.4E+08	1.0E+09
MTBE	1634-04-4	3.7E-01/ 1.5E-02[e]	1.0E+00/ 1.5E-02[e]	3.7E+01	1.0E+02	1.5E+03	3.7E+03
Naled	300-76-5	7.3E-02	2.0E-01	7.3E+00	2.0E+01	1.1E+02	2.2E+02
Naphthalene	91-20-3	7.3E-01	2.0E+00	7.3E+01	2.0E+02	1.8E+02	2.7E+02
Nickel and compounds	7440-02-0	7.3E-01	2.0E+00	7.3E+01	2.0E+02	1.9E+03	1.2E+04
Nitrate	14797-55-8	1.0E+01	1.0E+01	1.0E+03	1.0E+03	4.1E+05	3.0E+06
Nitrite	14797-65-0	1.0E+00	1.0E+00	1.0E+02	1.0E+02	2.5E+04	1.9E+05
Nitroaniline, 2-	88-74-4	1.1E-02	3.1E-02	1.1E+00	3.1E+00	4.6E+01	3.1E+02
Nitroaniline, 3-	99-09-2	1.1E-02	3.1E-02	1.1E+00	3.1E+00	4.6E+01	3.1E+02
Nitroaniline, 4-	100-01-6	2.2E-02	7.5E-02	2.2E+00	7.5E+00	1.3E+02	7.5E+02
Nitrobenzene	98-95-3	1.8E-02	5.1E-02	1.8E+00	5.1E+00	6.5E+01	2.7E+02
Nitropropane, 2-	79-46-9	---	---	---	---	4.2E-03	7.0E-03
Nitroso-n-ethylurea, n-	759-73-9	6.1E-07	2.0E-06	6.1E-05	2.0E-04	3.5E-03	2.0E-02
Nitroso-methyl-ethyl-amine, n-	10595-95-6	3.9E-06	1.3E-05	3.9E-04	1.3E-03	2.9E-02	2.6E-01
Nitrosodi-n-butylamine, n-	924-16-3	1.6E-05	5.3E-05	1.6E-03	5.3E-03	4.1E-02	1.0E-01
Nitrosodi-n-propylamine, n-	621-64-7	1.2E-05	4.1E-05	1.2E-03	4.1E-03	4.1E-02	1.6E-01
Nitrosodiethanolamine	1116-54-7	3.0E-05	1.0E-04	3.0E-03	1.0E-02	1.7E-01	1.0E+00
Nitrosodiethylamine, n-	55-18-5	5.7E-07	1.9E-06	5.7E-05	1.9E-04	4.3E-03	3.8E-02
Nitrosodimethylamine, n-	62-75-9	1.7E-06	5.6E-06	1.7E-04	5.6E-04	1.3E-02	1.1E-01
Nitrosodiphenylamine	86-30-6	1.7E-02	5.8E-02	1.7E+00	5.8E+00	5.9E+01	2.3E+02
Nitrophenol, 2-	88-75-5	7.3E-02	2.0E-01	7.3E+00	2.0E+01	3.1E+02	2.0E+03
Nitrophenol, 4-	100-02-7	7.3E-02	2.0E-01	7.3E+00	2.0E+01	3.1E+02	2.0E+03
Nitrosopyrrolidine, n-	930-55-2	4.1E-05	1.4E-04	4.1E-03	1.4E-02	2.3E-01	1.4E+00
Nitrotoluene, m-	99-08-1	3.7E-01	1.0E+00	3.7E+01	1.0E+02	4.4E+02	7.9E+02
Nitrotoluene, o-	88-72-2	3.7E-01	1.0E+00	3.7E+01	1.0E+02	4.7E+02	8.6E+02
Nitrotoluene, p-	99-99-0	3.7E-01	1.0E+00	3.7E+01	1.0E+02	4.4E+02	7.9E+02
Octamethylpyrophosphoramide	152-16-9	7.3E-02	2.0E-01	7.3E+00	2.0E+01	3.1E+02	2.0E+03
Oxamyl	23135-22-0	2.0E-01	2.0E-01	2.0E+01	2.0E+01	3.9E+03	2.6E+04
Parathion (ethyl parathion)	56-38-2	2.2E-01	6.1E-01	2.2E+01	6.1E+01	9.3E+02	6.1E+03
Pebulate	1114-71-2	1.8E+00	5.1E+00	1.8E+02	5.1E+02	7.7E+03	5.1E+04
Pendimethalin	40487-42-1	1.5E+00	4.1E+00	1.5E+02	4.1E+02	6.2E+03	4.1E+04
Pentachlorobenzene	608-93-5	2.9E-02	8.2E-02	2.9E+00	8.2E+00	1.2E+02	8.0E+02
Pentachloronitrobenzene	82-68-8	3.3E-03	1.1E-02	3.3E-01	1.1E+00	1.9E+01	1.1E+02
Pentachlorophenol	87-86-5	1.0E-03	1.0E-03	1.0E-01	1.0E-01	3.0E+00	1.4E+01
Pentanediol, 1,5-	111-29-5	1.8E+02	5.1E+02	1.8E+04	5.1E+04	7.7E+05	5.1E+06
Perchlorate	NA	2.2E-02[f]	9.2E-02	2.2E+00[f]	9.2E+00	6.6E+01[f]	1.2E+03
Phenanthrene	85-01-8	1.1E+00	3.1E+00	1.1E+02	3.1E+02	4.1E+03	2.7E+04
Phenol	108-95-2	2.2E+01	6.1E+01	2.2E+03	6.1E+03	9.3E+04	6.1E+05
Phenyl mercuric acetate	62-38-4	2.9E-03	8.2E-03	2.9E-01	8.2E-01	1.2E+01	8.2E+01
Phenylene diamine, m-	108-45-2	2.2E-01	6.1E-01	2.2E+01	6.1E+01	9.3E+02	6.1E+03
Phenylene diamine, p-	106-50-3	6.9E+00	1.9E+01	6.9E+02	1.9E+03	2.9E+04	1.9E+05
Phorate	298-02-2	7.3E-03	2.0E-02	7.3E-01	2.0E+00	1.6E+01	3.8E+01
Phosphine	7803-51-2	1.1E-02	3.1E-02	1.1E+00	3.1E+00	5.9E+01	4.1E+02

Updated Examples of Standard No. 2, Appendix II Medium-Specific Concentrations (MSCs)

(Last update: March 15, 2001)

Contaminant	CAS #	GW-Res (mg/l)	GW-Ind (mg/l)	GWP-Res (mg/kg)	GWP-Ind (mg/kg)	SAI-Res[a] (mg/kg)	SAI-Ind[a] (mg/kg)
Phosphorus, white	7723-14-0	7.3E-04	2.0E-03	7.3E-02	2.0E-01	4.0E+00	2.7E+01
Phthalic anhydride	85-44-9	7.3E+01	2.0E+02	7.3E+03	2.0E+04	3.1E+05	2.0E+06
Polybrominated biphenyls (PBBs)	67774-32-7	9.6E-06	3.2E-05	9.6E-04	3.2E-03	5.5E-02	3.2E-01
Polychlorinated biphenyls (PCBs)	1336-36-3	5.0E-04	5.0E-04	5.0E-02	5.0E-02	1.0E+01[g]	1.0E+01[g]
Pronamide	23950-58-5	2.7E+00	7.7E+00	2.7E+02	7.7E+02	1.2E+04	7.7E+04
Propargite	2312-35-8	7.3E-01	2.0E+00	7.3E+01	2.0E+02	3.1E+03	2.0E+04
Propargyl alcohol	107-19-7	7.3E-02	2.0E-01	7.3E+00	2.0E+01	5.5E+02	4.1E+03
Propham	122-42-9	7.3E-01	2.0E+00	7.3E+01	2.0E+02	3.1E+03	2.0E+04
Propionitrile (propane nitrile)	107-12-0	1.5E-02	4.1E-02	1.5E+00	4.1E+00	4.3E+01	8.9E+01
Propylbenzene, n-	103-65-1	1.5E+00	4.1E+00	1.5E+02	4.1E+02	3.2E+03	5.9E+03
Propylene glycol	57-55-6	7.3E+02	2.0E+03	7.3E+04	2.0E+05	3.1E+06	2.0E+07
Propylene glycol monomethyl ether	107-98-2	2.6E+01	7.2E+01	2.6E+03	7.2E+03	1.9E+05	1.4E+06
Propylene oxide	75-56-9	3.5E-04	1.2E-03	3.5E-02	1.2E-01	1.2E+00	3.1E+00
Pyrene	129-00-0	1.1E+00	3.1E+00	1.1E+02	3.1E+02	4.1E+03	2.7E+04
Pyridine	110-86-1	3.7E-02	1.0E-01	3.7E+00	1.0E+01	8.2E+00	1.2E+01
Quinoline	91-22-5	7.1E-05	2.4E-04	7.1E-03	2.4E-02	4.1E-01	2.4E+00
Selenium	7782-49-2	5.0E-02	5.0E-02	5.0E+00	5.0E+00	1.3E+03	9.3E+03
Selenourea	630-10-4	1.8E-01	5.1E-01	1.8E+01	5.1E+01	1.4E+03	1.0E+04
Silver	7440-22-4	1.8E-01	5.1E-01	1.8E+01	5.1E+01	4.7E+02	2.9E+03
Sodium diethyldithiocarbamate	148-18-5	3.2E-03	1.1E-02	3.2E-01	1.1E+00	2.4E+01	2.1E+02
Strychnine	57-24-9	1.1E-02	3.1E-02	1.1E+00	3.1E+00	4.6E+01	3.1E+02
Styrene	100-42-5	1.0E-01	1.0E-01	1.0E+01	1.0E+01	1.3E+04	2.3E+04
Sulfolane	126-33-0	7.3E-04	2.0E-03	7.3E-02	2.0E-01	3.1E+00	2.0E+01
Tert-amyl-methyl ether (TAME)	994-05-8	1.5E+00	4.1E+00	1.5E+02	4.1E+02	1.1E+04	8.2E+04
Tetrachlorobenzene, 1,2,3,5-	634-90-2	1.1E-02	3.1E-02	1.1E+00	3.1E+00	4.6E+01	3.1E+02
Tetrachlorobenzene, 1,2,4,5-	95-94-3	1.1E-02	3.1E-02	1.1E+00	3.1E+00	4.6E+01	3.0E+02
Tetrachloroethane, 1,1,1,2-	630-20-6	3.3E-02	1.1E-01	3.3E+00	1.1E+01	5.2E+01	1.0E+02
Tetrachloroethane, 1,1,2,2-	79-34-5	4.3E-03	1.4E-02	4.3E-01	1.4E+00	5.1E+00	9.8E+00
Tetrachloroethylene	127-18-4	5.0E-03	5.0E-03	5.0E-01	5.0E-01	6.0E+00	1.7E+01
Tetrachlorophenol, 2,3,4,6-	58-90-2	1.1E+00	3.1E+00	1.1E+02	3.1E+02	4.6E+03	3.1E+04
Tetraethyl dithiopyrophosphate (Sulfotep)	3689-24-5	1.8E-02	5.1E-02	1.8E+00	5.1E+00	7.7E+01	5.1E+02
Tetrahydrofuran	109-99-9	1.1E-01	3.8E-01	1.1E+01	3.8E+01	5.4E+01	9.5E+01
Tetrahydropyran	142-68-7	1.1E-01	3.8E-01	1.1E+01	3.8E+01	8.5E+01	1.5E+02
Tetraethyl lead	78-00-2	3.7E-06	1.0E-05	3.7E-04	1.0E-03	1.5E-02	9.7E-02
Thallium and compounds (as thallium chloride)	7791-12-0	2.0E-03	2.0E-03	2.0E-01	2.0E-01	2.0E+01	1.5E+02
Thiofanox	39196-18-4	1.1E-02	3.1E-02	1.1E+00	3.1E+00	4.6E+01	3.1E+02
Thiophanate-methyl	23564-05-8	2.9E+00	8.2E+00	2.9E+02	8.2E+02	1.2E+04	8.2E+04
Thiram	137-26-8	1.8E-01	5.1E-01	1.8E+01	5.1E+01	7.7E+02	5.1E+03
Tin	7440-31-5	2.2E+01	6.1E+01	2.2E+03	6.1E+03	9.3E+04	6.1E+05
Titanium	7440-32-6	1.8E+04	5.1E+04	1.8E+06	5.1E+06	3.8E+07	2.4E+08
Toluene	108-88-3	1.0E+00	1.0E+00	1.0E+02	1.0E+02	1.7E+03	2.4E+03
Toluenediamine, 2,4-	95-80-7	2.7E-05	8.9E-05	2.7E-03	8.9E-03	1.5E-01	8.9E-01
Toluenediamine, 2,6-	823-40-5	7.3E+00	2.0E+01	7.3E+02	2.0E+03	3.1E+04	2.0E+05
Toluene diisocyanate, 2,4/2,6-	26471-62-5	---	---	---	---	2.9E+02	4.1E+02
Toluidine, p-	106-49-0	4.5E-03	1.5E-02	4.5E-01	1.5E+00	2.6E+01	1.5E+02
Toxaphene	8001-35-2	3.0E-03	3.0E-03	3.0E-01	3.0E-01	4.4E-01	2.6E+00
TP Silvex, 2,4,5-	93-72-1	5.0E-02	5.0E-02	5.0E+00	5.0E+00	1.2E+03	8.2E+03
Triallate	2303-17-5	4.7E-01	1.3E+00	4.7E+01	1.3E+02	2.0E+03	1.3E+04
Triaminotrinitrobenzene (TATB)	3058-38-6	2.8E-02	9.5E-02	2.8E+00	9.5E+00	1.6E+02	9.5E+02
Tributyltin oxide	56-35-9	1.1E-02	3.1E-02	1.1E+00	3.1E+00	4.6E+01	3.1E+02
Trichloro-1,2,2-trifluoroethane, 1,1,2-	76-13-1	1.1E+03	3.1E+03	1.1E+05	3.1E+05	4.3E+04	6.0E+04

Updated Examples of Standard No. 2, Appendix II Medium-Specific Concentrations (MSCs)

(Last update: March 15, 2001)

Contaminant	CAS #	GW-Res (mg/l)	GW-Ind (mg/l)	GWP-Res (mg/kg)	GWP-Ind (mg/kg)	SAI-Res[a] (mg/kg)	SAI-Ind[a] (mg/kg)
Trichlorobenzene, 1,2,3-	87-61-6	1.1E-01	3.1E-01	1.1E+01	3.1E+01	4.2E+02	2.0E+03
Trichlorobenzene, 1,2,4-	120-82-1	7.0E-02	7.0E-02	7.0E+00	7.0E+00	1.4E+03	6.1E+03
Trichlorobenzene, 1,3,5-	108-70-3	1.1E-01	3.1E-01	1.1E+01	3.1E+01	3.7E+02	1.4E+03
Trichloroethane, 1,1,1-	71-55-6	2.0E-01	2.0E-01	2.0E+01	2.0E+01	2.3E+03	3.4E+03
Trichloroethane, 1,1,2-	79-00-5	5.0E-03	5.0E-03	5.0E-01	5.0E-01	9.7E+00	1.7E+01
Trichloroethylene	79-01-6	5.0E-03	5.0E-03	5.0E-01	5.0E-01	3.7E+00	6.6E+00
Trichlorofluoromethane	75-69-4	1.1E+01	3.1E+01	1.1E+03	3.1E+03	2.6E+03	3.8E+03
Trichlorophenol, 2,4,5-	95-95-4	3.7E+00	1.0E+01	3.7E+02	1.0E+03	1.5E+04	1.0E+05
Trichlorophenol, 2,4,6-	88-06-2	7.7E-03	2.6E-02	7.7E-01	2.6E+00	4.4E+01	2.6E+02
Trichlorophenoxyacetic acid, 2,4,5-	93-76-5	3.7E-01	1.0E+00	3.7E+01	1.0E+02	1.5E+03	1.0E+04
Trichloropropane, 1,1,2-	598-77-6	1.8E-01	5.1E-01	1.8E+01	5.1E+01	1.7E+02	2.7E+02
Trichloropropane, 1,2,3-	96-18-4	1.2E-05	4.1E-05	1.2E-03	4.1E-03	9.1E-02	8.2E-01
Triethanolamine	102-71-6	7.3E+00	2.0E+01	7.3E+02	2.0E+03	3.1E+04	2.0E+05
Triethylamine	121-44-8	---	---	---	---	3.7E+01	5.2E+01
Triethylphosphorothioate, O, O, O-	126-68-1	3.0E-04	8.5E-04	3.0E-02	8.5E-02	1.3E+00	8.5E+00
Trifluralin	1582-09-8	1.1E-01	3.7E-01	1.1E+01	3.7E+01	6.4E+02	3.7E+03
Trimethylbenzene, 1,2,3-	526-73-8	1.8E+00	5.1E+00	1.8E+02	5.1E+02	8.6E+01	1.2E+02
Trimethylbenzene, 1,2,4-	95-63-6	1.8E+00	5.1E+00	1.8E+02	5.1E+02	9.6E+01	1.4E+02
Trimethylbenzene, 1,3,5-	108-67-8	1.8E+00	5.1E+00	1.8E+02	5.1E+02	8.3E+01	1.2E+02
Trinitrobenzene, 1,3,5-	99-35-4	1.1E+00	3.1E+00	1.1E+02	3.1E+02	4.6E+03	3.1E+04
Trinitrophenylmethylnitramine (tetryl; nitramine)	479-45-8	3.7E-01	1.0E+00	3.7E+01	1.0E+02	1.5E+03	1.0E+04
Trinitrotoluene, 2,4,6-	118-96-7	1.8E-02	5.1E-02	1.8E+00	5.1E+00	7.7E+01	5.1E+02
Uranium (soluble salts)	7440-61-1	2.0E-02	2.0E-02	2.0E+00	2.0E+00	7.6E+02	5.6E+03
Valeric acid (pentanoic acid)	109-52-4	1.8E+02	5.1E+02	1.8E+04	5.1E+04	7.7E+05	5.1E+06
Vanadium	7440-62-2	2.6E-01	7.2E-01	2.6E+01	7.2E+01	4.8E+02	3.0E+03
Vernam	1929-77-7	3.7E-02	1.0E-01	3.7E+00	1.0E+01	1.5E+02	1.0E+03
Vinyl acetate	108-05-4	3.7E+01	1.0E+02	3.7E+03	1.0E+04	5.7E+02	8.0E+02
Vinyl chloride	75-01-4	2.0E-03	2.0E-03	2.0E-01	2.0E-01	3.6E-02	6.6E-02
Warfarin	81-81-2	1.1E-02	3.1E-02	1.1E+00	3.1E+00	4.6E+01	3.1E+02
Xylene, m-	108-38-3	1.0E+01	1.0E+01	1.0E+03	1.0E+03	2.3E+03	3.3E+03
Xylene, o-	95-47-6	1.0E+01	1.0E+01	1.0E+03	1.0E+03	3.3E+04	4.8E+04
Xylene, p-	106-42-3	1.0E+01	1.0E+01	1.0E+03	1.0E+03	2.7E+03	3.8E+03
Xylenes	1330-20-7	1.0E+01	1.0E+01	1.0E+03	1.0E+03	2.6E+03	3.6E+03
Zinc	7440-66-6	1.1E+01	3.1E+01	1.1E+03	3.1E+03	5.9E+04	4.1E+05
6 C aliphatics (TPH)	NA	2.2E+00	6.1E+00	2.2E+02	6.1E+02	1.5E+02	2.1E+02
>6-8 C aliphatics (TPH)	NA	2.2E+00	6.1E+00	2.2E+02	6.1E+02	3.0E+02	4.2E+02
>8-10 C aliphatics (TPH)	NA	3.7E+00	1.0E+01	3.7E+02	1.0E+03	3.1E+03	4.8E+03
>10-12 C aliphatics (TPH)	NA	3.7E+00	1.0E+01	3.7E+02	1.0E+03	5.3E+03	1.0E+04
>12-16 C aliphatics (TPH)	NA	3.7E+00	1.0E+01	3.7E+02	1.0E+03	8.2E+03	2.0E+04
>16-21 C aliphatics (TPH)	NA	7.3E+01	2.0E+02	7.3E+03	2.0E+04	3.1E+05	2.0E+06
>16-21 C, >21-35 C aliphatics (TPH) (for transformer mineral oil releases only)	NA	5.8E+01	1.6E+02	5.8E+03	1.6E+04	2.5E+05	1.6E+06
>7-8 C aromatics (TPH)	NA	3.7E+00	1.0E+01	3.7E+02	1.0E+03	3.7E+03	5.8E+03
>8-10 C aromatics (TPH)	NA	1.5E+00	4.1E+00	1.5E+02	4.1E+02	1.7E+03	2.8E+03
>10-12 C aromatics (TPH)	NA	1.5E+00	4.1E+00	1.5E+02	4.1E+02	2.7E+03	5.8E+03
>12-16 C aromatics (TPH)	NA	1.5E+00	4.1E+00	1.5E+02	4.1E+02	4.0E+03	1.1E+04
>16-21 C aromatics (TPH)	NA	1.1E+00	3.1E+00	1.1E+02	3.1E+02	4.1E+03	2.7E+04
>21-35 C aromatics (TPH)	NA	1.1E+00	3.1E+00	1.1E+02	3.1E+02	4.1E+03	2.7E+04

Footnotes

Updated Examples of Standard No. 2, Appendix II Medium-Specific Concentrations (MSCs)

(Last update: March 15, 2001)

Contaminant	CAS #	GW-Res (mg/l)	GW-Ind (mg/l)	GWP-Res (mg/kg)	GWP-Ind (mg/kg)	SAI-Res[a] (mg/kg)	SAI-Ind[a] (mg/kg)

[a]SAI was originally defined as "Soil/Air and Ingestion Standard." However, the SAI values provided in this table include the soil dermal absorption pathway where appropriate as well.

[b]The SAI-Res (20 mg/kg) and SAI-Ind (200 mg/kg) values for arsenic are based on the cleanup levels established by the Executive Director (interoffice memos entitled "Arsenic Soil Cleanup Standards" from Dan Pearson on May 19, 1995 and "Arsenic Soil Cleanup Standards for Commercial/Industrial Areas" from Jeff Saitas on September 11, 1998, respectively).

[c]The SAI-Res MSC value for cadmium does NOT account for vegetable ingestion. Please include this pathway when warranted due to site-specific conditions.

[d]The SAI-Res and SAI-Ind values for lead were calculated using the USEPA Lead Uptake/Biokinetic Model and the USEPA Model for Assessing Risks Associated with Adult Exposures to Lead in Soil, respectively.

[e]The first value for MTBE represents the health-based value; the second value for MTBE is based on odor and taste.

[f]The GW-Res, GWP-Res, and SAI-res values for perchlorate are specifically set to address a childhood exposure scenario, due to the potential for the unique toxicity of perchlorate to children.

[g]The SAI-Res and SAI-Ind value for PCBs (10 mg/kg) is based on the TSCA limit defined in 40 CFR 761.125. An alternate cleanup level of 25 mg/kg may be appropriate for certain industrial sites, provided the site meets the requirements for a restricted access site (i.e., > 0.1 km from a residential/commercial area limited by man-made barriers) as defined in TSCA 40 CFR 761.123.