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RISK BASED CONCENTRATION TABLE, THIRD QUARTER 1993, DATED OCTOBER 15, 1993 - (USED AS A REFERENCE IN OU5 RI REPORT - APPENDIX A)

07/09/93

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MEMO

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region III
841 Chestnut Street
Philadelphia, Pennsylvania 19107

July 9, 1993

SUBJECT: Risk-Based Concentration Table, Third Quarter 1993

FROM: Roy L. Smith, Ph.D., Senior Toxicologist
Technical Support Section (3HW13)

TO: RBC Table mailing list

Attached is the EPA Region III risk-based concentration table, which has been distributed quarterly to all interested EPA offices and private parties since 1991. If you are not currently on the mailing list, but would like to be, please contact Anna Poulton (phone: 215-597-3179, fax: 215-597-9890) and give her your name, address, and phone and FAX numbers.

The table contains reference doses and carcinogenic potency slopes (obtained from IRIS through July 1, 1993, HEAST through November 1992, OHEA-Cincinnati, and other EPA sources) for nearly 600 chemicals. These toxicity constants have been combined with "standard" exposure scenarios to calculate chemical concentrations corresponding to fixed levels of risk (*i.e.*, a hazard quotient of 1, or lifetime cancer risk of 10^{-6}, whichever occurs at a lower concentration) in water, air, fish tissue, and soil.

The Region III toxicologists use this table as a risk-based screen for Superfund sites, and as a desk reference for emergencies and other requests for immediate information. The table also provides a useful benchmark for evaluating preliminary site investigation data and contractor-prepared preliminary remediation goals. The table has no official status as either regulation or guidance, and should be used only as a predictor of generic single-contaminant health risk estimates. *The table is specifically not intended as (1) a stand-alone decision-making tool, (2) a substitute for EPA guidance for preparing baseline risk assessments, (3) a source of site-specific cleanup levels, or (4) a rule to determine if a waste is hazardous under RCRA.* In general, chemical concentrations above the levels in the table suggest a need for a closer look by a toxicologist, but should not be used as the sole basis for taking any action.

The toxicity information in the table has been assembled by hand, and (despite extensive checking and several years' use) may contain errors. It's advisable to cross-check before relying on any numbers in the table. If you find any errors, please send me a note. My thanks to summer student intern Scott Davis, who cross-checked all the IRIS-derived toxicity constants. He found a few mis-spellings, and one numerical error (see summary of changes, below).

This update of the table contains new listings for diesel engine emissions and vinyl

bromide. It also reflects revised toxicity constants (and therefore new risk-based concentrations) for methyl ethyl ketone, carcinogenic polynuclear aromatic hydrocarbons, and Aroclor 1016. The reference dose for Aroclor 1016 in the last version of the table was incorrect.

Attachments

Risk-Based Concentration Table
Background Information

General: Separate carcinogenic and non-carcinogenic risk-based concentrations were calculated for each compound for each pathway. The concentration in the table is the lower of the two, rounded to two significant figures. All calculations for non-carcinogens used an averaging time equal to the exposure duration times 365 days per year. The following terms and values were used in the calculations:

Exposure variables	Value	Name
1-General:		
Carcinogenic potency slope oral (kg-d/mg):	•	CPSo
Carcinogenic potency slope inhaled (kg-d/mg):	•	CPSi
Reference dose oral (mg/kg/d):	•	RfDo
Reference dose inhaled (mg/kg/d):	•	RfDi
Target cancer risk:	1e-06	TR
Target hazard quotient:	1	THQ
Body weight, adult (kg):	70	BWa
Body weight, age 1-6 (kg):	15	BWc
Body weight, age adjusted (kg):	59	BWall
Averaging time carcinogens (d):	25550	ATc
Averaging time non-carcinogens (d):	ED*365	ATn
Air inhaled, adult (m3/d):	20	IRAa
Air inhaled, age 1-6 (m3/d):	12	IRAc
Air inhaled, age-adjusted (m3/d):	18	IRAall
Tap water ingested, adult (L/d):	2	IRWa
Tap water ingested, age 1-6 (L/d):	1	IRWc
Tap water ingested, age-adjusted (L/d):	1.8	IRWall
Fish ingested (g/d):	54	IRF
Soil ingested, adult (mg/d):	100	IRSa
Soil ingested, age 1-6 (mg/d):	200	IRSc
Soil ingested, age adjusted (mg/d):	120	IRSall

Exposure variables	Value	Name
2-Residential:		
Exposure frequency (d/y):	350	EFr
Exposure duration, age adjusted (y):	30	EDall
Exposure duration, age 1-6 (y):	6	EDc
Volatilization factor (L/m3):	0.5	VF
3-Occupational:		
Exposure frequency (d/y):	250	EFo
Exposure duration (y):	25	EDo
• = Contaminant-specific toxicity parameters		

The priority among sources of toxicological constants was as follows: (1) IRIS, (2) HEAST, (3) HEAST alternative method, (4) ECAO-Cincinnati, (5) withdrawn from IRIS, (6) withdrawn from HEAST, and (7) other EPA documents. Each source was used only if numbers from higher-priority sources were unavailable.

Algorithms:

1. Residential water use ($\mu g/L$). Volatilization terms were calculated only for compounds with "y" in the "VOC" column. Compounds having a Henry's Law constant greater than 10^{-5} were considered volatile. The list may be incomplete, but is unlikely to include false positives. The equations and the volatilization factor (VF, above) were obtained from the draft RAGS IB. Oral potency slopes and reference doses were used for both oral and inhaled exposures for volatile compounds lacking inhalation values. Inhaled potency slopes were substituted for unavailable oral potency slopes only for volatile compounds; inhaled RfDs were substituted for unavailable oral RfDs for both volatile and non-volatile compounds.

a. Carcinogens: Calculations were based on combined childhood and adult exposure.

$$\frac{TR \cdot BWall \cdot ATc \cdot 1000\frac{\mu g}{mg}}{EFr \cdot EDall \cdot ([VF \cdot IRAall \cdot CPSi] + [IRWall \cdot CPSo])}$$

b. Non-carcinogens: Calculations were based on adult exposure.

$$\frac{THQ \cdot BWa \cdot ATn \cdot 1000\frac{ug}{mg}}{EFr \cdot EDall \cdot \left(\frac{VF \cdot IRAa}{RfDi} + \frac{IRWa}{RfDo}\right)}$$

2. Air ($\mu g/m^3$). Oral potency slopes and references were used where inhalation values were not available.

a. Carcinogens: Calculations were based on combined childhood and adult exposure.

$$\frac{TR \cdot BWall \cdot ATc \cdot 1000\frac{ug}{mg}}{EFr \cdot EDall \cdot IRAall \cdot CPSi}$$

b. Non-carcinogens: Calculations were based on adult exposure.

$$\frac{THQ \cdot RfDi \cdot BWa \cdot ATn \cdot 1000\frac{ug}{mg}}{EFr \cdot EDall \cdot IRAa}$$

3. Fish (mg/kg):

a. Carcinogens: Calculations were based on adult exposure.

$$\frac{TR \cdot BWa \cdot ATc}{EFr \cdot EDall \cdot \frac{IRF}{1000\frac{g}{kg}} \cdot CPSo}$$

b. Non-carcinogens: Calculations were based on adult exposure.

$$\frac{THQ \cdot RfDo \cdot BWa \cdot ATn}{EFr \cdot EDall \cdot \frac{IRF}{1000\frac{g}{kg}}}$$

4. Soil commercial/industrial (mg/kg): The default exposure assumption that only 50% of incidental soil ingestion occurs at work has been omitted. Calculations were based on adult occupational exposure.

a. Carcinogens:

$$\frac{TR \cdot BWa \cdot ATc}{EFo \cdot EDo \cdot \frac{IRSa}{10^6 \frac{mg}{kg}} \cdot CPSo}$$

b. Non-carcinogens:

$$\frac{THQ \cdot RfDo \cdot BWa \cdot ATn}{EFo \cdot EDo \cdot \frac{IRSa}{10^6 \frac{mg}{kg}}}$$

5. Soil residential (mg/kg):

a. Carcinogens: Calculations were based on combined childhood and adult exposure.

$$\frac{TR \cdot BWall \cdot ATc}{EFr \cdot EDall \cdot \frac{IRSall}{10^6 \frac{mg}{kg}} \cdot CPSo}$$

b. Non-carcinogens: Calculations were based on childhood exposure only.

$$\frac{THQ \cdot RfDo \cdot BWc \cdot ATn}{EFr \cdot EDc \cdot \frac{IRSc}{10^6 \frac{mg}{kg}}}$$

Contaminant	Oral RfD (mg/kg/d)	Inhaled RfD (mg/kg/d)	Oral Potency Slope 1/(mg/kg/d)	Inhaled Potency Slope 1/(mg/kg/d)	VOC	Tap water (µg/l)	Ambient air (µg/m3)	Fish (mg/kg)	Commercial/ industrial soil (mg/kg)	Residential soil (mg/kg)
Acephate	4.00e-03 i		8.70e-03 i			9.2	0.92	0.36	330	140
Acetaldehyde		2.57e-03 i		7.70e-03 i		94	1			
Acetone	1.00e-01 i					3700	370	140	100000	7800
Acetone cyanohydrin	7.00e-02 h	2.86e-03 a				2600	10	95	72000	5500
Acetonitrile	6.00e-03 i	1.43e-02 a				220	52	8.1	6100	470
Acetophenone	1.00e-01 i	5.71e-06 y			y	0.042	0.021	140	100000	7800
Acifluorfen	1.30e-02 i					470	47	18	13000	1000
Acrolein	2.00e-02 h	5.71e-06 i				730	0.021	27	20000	1600
Acrylamide	2.00e-04 i		4.50e+00 i	4.55e+00 i		0.018	0.0018	0.0007	0.64	0.27
Acrylic acid	8.00e-02 i	8.57e-05 i				2900	0.31	110	82000	6300
Acrylonitrile		5.71e-04 i	5.40e-01 i	2.38e-01 i		0.15	0.034	0.0058	5.3	2.2
Alachlor	1.00e-02 i		8.00e-02 h			1	0.1	0.039	36	15
Alar	1.50e-01 i					5500	550	200	150000	12000
Aldicarb	2.00e-04 i					7.3	0.73	0.27	200	16
Aldicarb sulfone	3.00e-04 x					11	1.1	0.41	310	23
Aldrin	3.00e-05 i		1.70e+01 i	1.72e+01 i		0.0047	0.00047	0.00019	0.17	0.07
Ally	2.50e-01 i					9100	910	340	260000	20000
Allyl alcohol	5.00e-03 i					180	18	6.8	5100	390
Allyl chloride	5.00e-02 h	2.86e-04 i				1800	1	68	51000	3900
Aluminum	2.90e+00 o					110000	11000	3900	1000000	230000
Aluminum phosphide	4.00e-04 i					15	1.5	0.54	410	31
Amdro	3.00e-04 i					11	1.1	0.41	310	23
Ametryn	9.00e-03 i					330	33	12	9200	700
m-Aminophenol	7.00e-02 h					2600	260	95	72000	5500
4-Aminopyridine	2.00e-05 h					0.73	0.073	0.027	20	1.6
Amitraz	2.50e-03 i					91	9.1	3.4	2600	200
Ammonia		2.86e-02 i				1000	100			
Ammonium sulfamate	2.00e-01 i					7300	730	270	200000	16000
Aniline		2.86e-04 i	5.70e-03 i			10	1	0.55	500	210
Antimony and compounds	4.00e-04 i					15	1.5	0.54	410	31
Antimony pentoxide	5.00e-04 h					18	1.8	0.68	510	39
Antimony potassium tartrate	9.00e-04 h					33	3.3	1.2	920	70
Antimony tetroxide	4.00e-04 h					15	1.5	0.54	410	31
Antimony trioxide	4.00e-04 h					15	1.5	0.54	410	31
Apollo	1.30e-02 i					470	47	18	13000	1000
Aramite	5.00e-02 h		2.50e-02 i	2.49e-02 i		3.2	0.32	0.13	110	48
Arsenic	3.00e-04 i					11	1.1	0.41	310	23
Arsenic (as carcinogen)			1.75e+00 i	1.51e+01 i		0.046	0.00053	0.0018	1.6	0.68
Assure	9.00e-03 i					330	33	12	9200	700

Key to Data Sources: i=IRIS h=HEAST a=HEAST alternate method x=Withdrawn from IRIS y=Withdrawn from HEAST e=EPA-ECAO o=Other EPA documents.

Contaminant	Oral RfD (mg/kg/d)	Inhaled RfD (mg/kg/d)	Oral Potency Slope 1/(mg/kg/d)	Inhaled Potency Slope 1/(mg/kg/d)	VOC	Tap water (µg/l)	Ambient air (µg/m3)	Fish (mg/kg)	Commercial/ industrial soil (mg/kg)	Residential soil (mg/kg)
Asulam	5.00e-02 i					1800	180	68	51000	3900
Atrazine	5.00e-03 i		2.22e-01 h			0.36	0.036	0.014	13	5.4
Avermectin B1	4.00e-04 i					15	1.5	0.54	410	31
Azobenzene			1.10e-01 i	1.09e-01 i		0.73	0.074	0.029	26	1
Barium and compounds	7.00e-02 i	1.43e-04 a				2600	0.52	95	0	5500
Baygon	4.00e-03 i					150	15	5.4	4100	310
Bayleton	3.00e-02 i					1100	110	41	31000	2300
Baythroid	2.50e-02 i					910	91	34	26000	2000
Benefin	3.00e-01 i					11000	1100	410	310000	23000
Benomyl	5.00e-02 i					1800	180	68	51000	3900
Bentazon	2.50e-03 i					91	9.1	3.4	2600	200
Benzaldehyde	1.00e-01 i				y	610	370	140	100000	7800
Benzene		5.71e-05 e	2.90e-02 i	2.91e-02 i	y	0.35	0.21	0.11	99	41
Benzidine	3.00e-03 i		2.30e+02 i	2.35e+02 i		0.0[illegible]35	0.000034	0.000014	0.012	0.0052
Benzoic acid	4.00e+00 i					150000	15000	5400	1000000	310000
Benzotrichloride			1.30e+01 i			0.0061	0.00061	0.00024	0.22	0.092
Benzyl alcohol	3.00e-01 h					11000	1100	410	310000	23000
Benzyl chloride			1.70e-01 i		y	0.078	0.047	0.019	17	7
Beryllium and compounds	5.00e-03 i		4.30e+00 i	8.40e+00 i		0.019	0.00095	0.00073	0.67	0.28
Bidrin	1.00e-04 i					3.7	0.37	0.14	100	7.8
Biphenthrin (Talstar)	1.50e-02 i					550	55	20	15000	1200
1,1-Biphenyl	5.00e-02 i					1800	180	68	51000	3900
Bis(2-chloroethyl)ether			1.10e+00 i	1.16e+00 i	y	0.012	0.0069	0.0029	2.6	1.1
Bis(2-chloroisopropyl)ether	4.00e-02 i		7.00e-02 h	3.50e-02 h	y	0.33	0.23	0.045	41	17
Bis(chloromethyl)ether			2.20e+02 i	2.17e+02 i	y	0.000061	0.000037	0.000014	0.013	0.0054
Bis(2-chloro-1-methylethyl)ether			7.00e-02 y	7.00e-02 y		1.1	0.11	0.045	41	17
Bis(2-ethylhexyl)phthalate (DEHP)	2.00e-02 i		1.40e-02 i			5.7	0.57	0.23	200	85
Bisphenol A	5.00e-02 i					1800	180	68	51000	3900
Boron (and borates)	9.00e-02 i	5.71e-03 h				3300	21	120	92000	7000
Boron trifluoride		2.00e-04 h				7.3	0.73			
Bromodichloromethane	2.00e-02 i		6.20e-02 i		y	0.21	0.13	0.051	46	19
Bromoethene				1.10e-01 h	y	0.12	0.073			
Bromoform (tribromomethane)	2.00e-02 i		7.90e-03 i	3.85e-03 i	y	2.9	2.1	0.4	360	150
Bromomethane	1.40e-03 i	1.43e-03 i			y	8.7	5.2	1.9	1400	110
4-Bromophenyl phenyl ether	5.80e-02 o					2100	210	78	59000	4500
Bromophos	5.00e-03 h					180	18	6.8	5100	390
Bromoxynil	2.00e-02 i					730	73	27	20000	1600
Bromoxynil octanoate	2.00e-02 i					730	73	27	20000	1600
1,3-Butadiene				9.80e-01 i	y	0.014	0.0081			

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Contaminant	Oral RfD (mg/kg/d)	Inhaled RfD (mg/kg/d)	Oral Potency Slope 1/(mg/kg/d)	Inhaled Potency Slope 1/(mg/kg/d)	VOC	Tap water (µg/l)	Ambient air (µg/m3)	Fish (mg/kg)	Commercial/ Industrial soil (mg/kg)	Residential soil (mg/kg)
1-Butanol	1.00e-01 i					3700	370	140	100000	7800
Butylate	5.00e-02 i					1800	180	68	51000	3900
Butyl benzyl phthalate	2.00e-01 i					7300	730	270	200000	16000
Butylphthalyl butylglycolate	1.00e+00 i					37000	3700	1400	1000000	78000
Cacodylic acid	3.00e-03 h					110	11	4.1	3100	230
Cadmium and compounds	5.00e-04 i			6.30e+00 i		18	0.0013	0.68	510	39
Caprolactam	5.00e-01 i					18000	1800	680	510000	39000
Captafol	2.00e-03 i		8.60e-03 h			9.3	0.93	0.37	330	140
Captan	1.30e-01 i		3.50e-03 h			23	2.3	0.9	820	340
Carbaryl	1.00e-01 i					3700	370	140	100000	7800
Carbazole			2.00e-02 h			4	0.4	0.16	140	60
Carbofuran	5.00e-03 i					180	18	6.8	5100	390
Carbon disulfide	1.00e-01 i	2.86e-03 h			y	21	10	140	100000	7800
Carbon tetrachloride	7.00e-04 i	5.71e-04 e	1.30e-01 i	5.25e-02 i	y	0.2	0.15	0.024	22	9.2
Carbosulfan	1.00e-02 i					370	37	14	10000	780
Carboxin	1.00e-01 i					3700	370	140	100000	7800
Chloral	2.00e-03 i					73	7.3	2.7	2000	160
Chloramben	1.50e-02 i					550	55	20	15000	1200
Chloranil			4.03e-01 h			0.2	0.02	0.0078	7.1	3
Chlordane	6.00e-05 i		1.30e+00 i	1.30e+00 i		0.061	0.0062	0.0024	2.2	0.92
Chlorimuron-ethyl	2.00e-02 i					730	73	27	20000	1600
Chlorine dioxide		5.71e-05 i				2.1	0.21			
Chloroacetaldehyde	6.90e-03 o					250	25	9.3	7100	540
Chloroacetic acid	2.00e-03 h					73	7.3	2.7	2000	160
2-Chloroacetophenone		8.57e-06 i				0.31	0.031			
4-Chloroaniline	4.00e-03 i					150	15	5.4	4100	310
Chlorobenzene	2.00e-02 i	5.71e-03 a			y	39	21	27	20000	1600
Chlorobenzilate	2.00e-02 i		2.70e-01 h	2.70e-01 h		0.3	0.03	0.012	11	4.4
p-Chlorobenzoic acid	2.00e-01 h					7300	730	2	200000	16000
4-Chlorobenzotrifluoride	2.00e-02 h					730	73	27	20000	1600
2-Chloro-1,3-butadiene	7.00e-03 h	2.86e-02 a			y	110	100	9.5	7200	550
1-Chlorobutane	4.00e-01 h				y	2400	1500	540	410000	31000
Chloroethane	2.00e-02 e	2.86e+00 i			y	710	10000	27	20000	1600
2-Chloroethyl vinyl ether	2.50e-02 o				y	150	91	34	26000	2000
Chloroform	1.00e-02 i		6.10e-03 i	8.05e-02 i	y	0.2	0.099	0.52	470	200
Chloromethane			1.30e-02 h	6.30e-03 h	y	1.8	1.3	0.24	220	92
4-Chloro-2-methylaniline			5.80e-01 h			0.14	0.014	0.0054	4.9	2.1
4-Chloro-2,2-methylaniline hydrochloride			4.60e-01 h			0.17	0.017	0.0069	6.2	2.6

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Contaminant	Oral RfD (mg/kg/d)	Inhaled RfD (mg/kg/d)	Oral Potency Slope 1/(mg/kg/d)	Inhaled Potency Slope 1/(mg/kg/d)	VOC	Tap water (µg/l)	Ambient air (µg/m3)	Fish (mg/kg)	Commercial/ industrial soil (mg/kg)	Residential soil (mg/kg)
beta-Chloronaphthalene	8.00e-02 i					2900	290	110	82000	6300
o-Chloronitrobenzene			2.50e-02 h		y	0.53	0.32	0.13	110	48
p-Chloronitrobenzene			1.80e-02 h		y	0.74	0.44	0.18	160	66
2-Chlorophenol	5.00e-03 i					180	18	6.8	5100	390
2-Chloropropane		2.86e-02 h			y	170	100			
Chlorothalonil	1.50e-02 i		1.10e-02 h			7.3	0.73	0.29	260	110
o-Chlorotoluene	2.00e-02 i				y	120	73	27	20000	1600
Chlorpropham	2.00e-01 i					7300	730	270	200000	16000
Chlorpyrifos	3.00e-03 i					110	11	4.1	3100	230
Chlorpyrifos-methyl	1.00e-02 h					370	37	14	10000	780
Chlorsulfuron	5.00e-02 i					1800	180	68	51000	3900
Chlorthiophos	8.00e-04 h					29	2.9	1.1	820	63
Chromium III and compounds	1.00e+00 i	5.71e-07 y				37000	0.0021	1400	1000000	78000
Chromium VI and compounds	5.00e-03 i			4.20e+01 i		180	0.00019	6.8	5100	390
Coal tars				2.20e+00 h			0.0036			
Coke Oven Emissions				2.17e+00 i			0.0037			
Copper and compounds	3.71e-02 h					1400	140	50	38000	2900
Crotonaldehyde	1.00e-02 x		1.90e+00 h	1.90e+00 y		0.042	0.0042	0.0017	1.5	0.63
Cumene	4.00e-02 i	2.57e-03 h				1500	9.4	54	41000	3100
Cyanazine	2.00e-03 h					73	7.3	2.7	2000	160
Cyanides										
Barium cyanide	1.00e-01 h					3700	370	140	100000	7800
Copper cyanide	5.00e-03 i					180	18	6.8	5100	390
Calcium cyanide	4.00e-02 i					1500	150	54	41000	3100
Cyanogen	4.00e-02 i					1500	150	54	41000	3100
Cyanogen bromide	9.00e-02 i					3300	330	120	92000	7000
Cyanogen chloride	5.00e-02 i					1800	180	68	51000	3900
Free cyanide	2.00e-02 i					730	73	27	20000	1600
Hydrogen cyanide	2.00e-02 i					730	73	27	20000	1600
Potassium cyanide	5.00e-02 i					1800	180	68	51000	3900
Potassium silver cyanide	2.00e-01 i					7300	730	270	200000	16000
Silver cyanide	1.00e-01 i					3700	370	140	100000	7800
Sodium cyanide	4.00e-02 i					1500	150	54	41000	3100
Zinc cyanide	5.00e-02 i					1800	180	68	51000	3900
Cyclohexanone	5.00e+00 i				y	30000	18000	6800	1000000	390000
Cyclohexlamine	2.00e-01 i					7300	730	270	200000	16000
Cyhalothrin/Karate	5.00e-03 i					180	18	6.8	5100	390
Cypermethrin	1.00e-02 i					370	37	14	10000	780
Cyromazine	7.50e-03 i					270	27	10	7700	590

Key to Data Sources: i=IRIS h=HEAST a=HEAST alternate method x=Withdrawn from IRIS y=Withdrawn from HEAST e=EPA-ECAO o=Other EPA documents

010000

Contaminant	Oral RfD (mg/kg/d)	Inhaled RfD (mg/kg/d)	Oral Potency Slope 1/(mg/kg/d)	Inhaled Potency Slope 1/(mg/kg/d)	VOC	Tap water (µg/l)	Ambient air (µg/m3)	Fish (mg/kg)	Commercial/ industrial soil (mg/kg)	Residential soil (mg/kg)
Dacthal	5.00e-01 i					18000	1800	680	510000	39000
Dalapon	3.00e-02 i					1100	110	41	31000	2300
Danitol	5.00e-04 x					18	1.8	0.68	510	39
DDD			2.40e-01 i			0.33	0.033	0.013	12	5
DDE			3.40e-01 i			0.23	0.023	0.0093	8.4	3.5
DDT	5.00e-04 i		3.40e-01 i	3.40e-01 i		0.23	0.023	0.0093	8.4	3.5
Decabromodiphenyl ether	1.00e-02 i				y	61	37	14	10000	780
Demeton	4.00e-05 i					1.5	0.15	0.054	41	3.1
Diallate			6.10e-02 h		y	0.22	0.13	0.052	47	20
Diazinon	9.00e-04 h					33	3.3	1.2	920	70
1,4-Dibromobenzene	1.00e-02 i				y	61	37	14	10000	700
Dibromochloromethane	2.00e-02 i		8.40e-02 i		y	0.16	0.095	0.038	34	14
1,2-Dibromo-3-chloropropane		5.71e-05 i	1.40e+00 h	2.40e-03 h	y	0.056	0.21	0.0023	2	0.85
1,2-Dibromoethane			8.50e+01 i	7.70e-01 i	y	0.0009	0.01	0.000037	0.034	0.014
Dibutyl phthalate	1.00e-01 i					3700	370	140	100000	7800
Dicamba	3.00e-02 i					1100	110	41	31000	2300
1,2-Dichlorobenzene	9.00e-02 i	5.71e-02 a			y	370	210	120	92000	7000
1,3-Dichlorobenzene	8.90e-02 o				y	540	320	120	91000	7000
1,4-Dichlorobenzene		2.29e-01 h	2.40e-02 h		y	0.55	0.33	0.13	120	50
3,3'-Dichlorobenzidine			4.50e-01 i			0.18	0.018	0.007	6.4	2.7
1,4-Dichloro-2-butene				9.30e+00 h	y	0.0[illegible]	0.00086			
Dichlorodifluoromethane	2.00e-01 i	5.71e-02 a			y	390	210	270	200000	16000
1,1-Dichloroethane	1.00e-01 h	1.43e-01 a			y	810	520	140	100000	7800
1,2-Dichloroethane (EDC)		2.86e-03 e	9.10e-02 i	9.10e-02 i	y	0.15	0.088	0.035	31	13
1,1-Dichloroethylene	9.00e-03 i		6.00e-01 i	1.75e-01 i	y	0.054	0.046	0.0053	4.8	2
1,2-Dichloroethylene (cis)	1.00e-02 h				y	61	37	14	10000	780
1,2-Dichloroethylene (trans)	2.00e-02 i				y	120	73	27	20000	1600
1,2-Dichloroethylene (mixture)	9.00e-03 h				y	55	33	12	9200	700
2,4-Dichlorophenol	3.00e-03 i					110	11	4.1	3100	230
4-(2,4-Dichlorophenoxy)butyric Acid (2,4-DB)	8.00e-03 i					290	29	11	8200	630
2,4-Dichlorophenoxyacetic Acid (2,4-D)	1.00e-02 i				y	61	37	14	10000	780
1,2-Dichloropropane		1.14e-03 i	6.80e-02 h		y	0.2	0.12	0.046	42	18
1,3-Dichloropropene	3.00e-04 i	5.71e-03 i	1.80e-01 h	1.30e-01 h	y	0.096	0.061	0.018	16	6.6
2,3-Dichloropropanol	3.00e-03 i					110	11	4.1	3100	230
Dichlorvos	8.00e-04 x		2.90e-01 i			0.28	0.028	0.011	9.9	4.1
Dicofol			4.40e-01 x			0.18	0.018	0.0072	6.5	2.7
Dicyclopentadiene	3.00e-02 h	5.71e-05 a			y	0.42	0.21	41	31000	2300

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000011

Contaminant	Oral RfD (mg/kg/d)	Inhaled RfD (mg/kg/d)	Oral Potency Slope 1/(mg/kg/d)	Inhaled Potency Slope 1/(mg/kg/d)	VOC	Tap water (µg/l)	Ambient air (µg/m3)	Fish (mg/kg)	Commercial/ industrial soil (mg/kg)	Residential soil (mg/kg)
Dieldrin	5.00e-05 i		1.60e+01 i	1.61e+01 i		0.005	0.0005	0.0002	0.18	0.075
Diesel emissions		1.43e-03 i				52	5.2			
Diethylene glycol, monobutyl ether		5.71e-03 h				210	21			
Diethylene glycol, monoethyl ether	2.00e+00 h					73000	7300	2700	1000000	160000
Diethylformamide	1.10e-02 h					400	40	15	11000	860
Di(2-ethylhexyl)adipate	6.00e-01 i		1.20e-03 i			66	6.6	2.6	2400	1000
Diethyl phthalate	8.00e-01 i					29000	2900	1100	820000	63000
Diethylstilbestrol			4.70e+03 h			0.000017	0.0000017	0.00000067	0.00061	0.00025
Difenzoquat (Avenge)	8.00e-02 i					2900	290	110	82000	6300
Diflubenzuron	2.00e-02 i					730	73	27	20000	1600
Diisopropyl methylphosphonate (DIMP)	8.00e-02 i					2900	290	110	82000	6300
Dimethipin	2.00e-02 i					730	73	27	20000	1600
Dimethoate	2.00e-04 i					7.3	0.73	0.27	200	16
3,3'-Dimethoxybenzidine			1.40e-02 h			5.7	0.57	0.23	200	85
Dimethylamine		5.71e-06 x				0.21	0.021			
N-N-Dimethylaniline	2.00e-03 i					73	7.3	2.7	2000	160
2,4-Dimethylaniline			7.50e-01 h			0.11	0.011	0.0042	3.8	1.6
2,4-Dimethylaniline hydrochloride			5.80e-01 h			0.14	0.014	0.0054	4.9	2.1
3,3'-Dimethylbenzidine			9.20e+00 h			0.0087	0.00087	0.00034	0.31	0.13
N,N-Dimethylformamide	1.00e-01 h	8.57e-03 i				3700	31	140	100000	7800
1,1-Dimethylhydrazine			2.60e+00 h	3.50e+00 h		0.031	0.0023	0.0012	1.1	0.46
1,2-Dimethylhydrazine			3.70e+01 h	3.70e+01 h		0.0022	0.00022	0.000085	0.077	0.03[illegible]
2,4-Dimethylphenol	2.00e-02 i					730	73	27	20000	1600
2,6-Dimethylphenol	6.00e-04 i					22	2.2	0.81	610	47
3,4-Dimethylphenol	1.00e-03 i					37	3.7	1.4	1000	78
Dimethyl phthalate	1.00e+01 h					370000	37000	14000	1000000	780000
Dimethyl terephthalate	1.00e-01 i					3700	370	140	100000	7800
4,6-Dinitro-o-cyclohexyl phenol	2.00e-03 i					73	7.3	2.7	2000	160
1,2-Dinitrobenzene	4.00e-04 h					15	1.5	0.54	410	31
1,3-Dinitrobenzene	1.00e-04 i					3.7	0.37	0.14	100	7.8
1,4-Dinitrobenzene	4.00e-04 h					15	1.5	0.54	410	31
2,4-Dinitrophenol	2.00e-03 i					73	7.3	2.7	2000	160
Dinitrotoluene mixture			6.80e-01 i			0.12	0.012	0.0046	4.2	1.8
2,4-Dinitrotoluene	2.00e-03 i					73	7.3	2.7	2000	160
Dinoseb	1.00e-03 i					37	3.7	1.4	1000	78
di-n-Octyl phthalate	2.00e-02 h					730	73	27	20000	1600
1,4-Dioxane			1.10e-02 i			7.3	0.73	0.29	260	110
Diphenamid	3.00e-02 i					1100	110	41	31000	2300

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000012

Contaminant	Oral RfD (mg/kg/d)	Inhaled RfD (mg/kg/d)	Oral Potency Slope 1/(mg/kg/d)	Inhaled Potency Slope 1/(mg/kg/d)	VOC	Tap water (µg/l)	Ambient air (µg/m3)	Fish (mg/kg)	Commercial/ industrial soil (mg/kg)	Residential soil (mg/kg)
Diphenylamine	2.50e-02 i					910	91	34	26000	2000
1,2-Diphenylhydrazine			8.00e-01 i	7.70e-01 i		0.1	0.01	0.0039	3.6	1.5
Diquat	2.20e-03 i					80	8	3	2200	170
Direct black 38			8.60e+00 h			0.0093	0.00093	0.00037	0.33	0.14
Direct blue 6			8.10e+00 h			0.0098	0.00098	0.00039	0.35	0.15
Direct brown 35			9.30e+00 h			0.0086	0.00086	0.00034	0.31	0.13
Disulfoton	4.00e-05 i					1.5	0.15	0.054	41	3.1
Diuron	2.00e-03 i					73	7.3	2.7	2000	160
1,4-Dithiane	1.00e-02 i					370	37	14	10000	780
Dodine	4.00e-03 i					150	15	5.4	4100	310
Endosulfan	5.00e-05 x					1.8	0.18	0.068	51	3.9
Endothall	2.00e-02 i					730	73	27	20000	1600
Endrin	3.00e-04 i					11	1.1	0.41	310	23
Epichlorohydrin	2.00e-03 h	2.86e-04 i	9.90e-03 i	4.20e-03 i		8.1	1	0.32	290	120
1,2-Epoxybutane		5.71e-03 i				210	21			
EPTC (S-Ethyl dipropylthiocarbamate)	2.50e-02 i					910	91	34	26000	2000
Ethephon (2-chloroethyl phosphonic acid)	5.00e-03 i					180	18	6.8	5100	390
Ethion	5.00e-04 i					18	1.8	0.68	510	39
2-Ethoxyethanol	4.00e-01 h	5.71e-02 i				15000	210	540	410000	31000
2-Ethoxyethanol acetate	3.00e-01 a					11000	1100	410	310000	23000
Ethyl acetate	9.00e-01 i					33000	3300	1200	920000	70000
Ethyl acrylate			4.80e-02 h			1.7	0.17	0.066	60	25
Ethylbenzene	1.00e-01 i	2.86e-01 i			y	1300	1000	140	100000	7800
Ethylene cyanohydrin	3.00e-01 h					11000	1100	410	310000	23000
Ethylene diamine	2.00e-02 h					730	73	27	20000	1600
Ethylene glycol	2.00e+00 i					73000	7300	2700	1000000	160000
Ethylene glycol, monobutyl ether		5.71e-03 h				210	21			
Ethylene oxide			1.02e+00 h	3.50e-01 h		0.078	0.023	0.0031	2.8	1.2
Ethylene thiourea (ETU)	8.00e-05 i		6.00e-01 h			0.13	0.013	0.0053	4.8	2
Ethyl ether	2.00e-01 i				y	1200	730	270	200000	16000
Ethyl methacrylate	9.00e-02 h					3300	330	120	92000	7000
Ethyl p-nitrophenyl phenylphosphorothioate	1.00e-05 i		-			0.37	0.037	0.014	10	0.78
Ethylnitrosourea			1.40e+02 h			0.00057	0.000057	0.000023	0.02	0.0065
Ethylphthalyl ethyl glycolate	3.00e+00 i					110000	11000	4100	1000000	230000
Express	8.00e-03 i					290	29	11	8200	630
Fenamiphos	2.50e-04 i					9.1	0.91	0.34	260	20

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000013

Contaminant	Oral RfD (mg/kg/d)	Inhaled RfD (mg/kg/d)	Oral Potency Slope 1/(mg/kg/d)	Inhaled Potency Slope (mg/kg/d)	VOC	Tap water (µg/l)	Ambient air (µg/m3)	Fish (mg/kg)	Commercial/ industrial soil (mg/kg)	Residential soil (mg/kg)
Fluometuron	1.30e-02 i					470	47	18	13000	1000
Fluoride	6.00e-02 i					2200	220	81	61000	4700
Fluoridone	8.00e-02 i					2900	290	110	82000	6300
Flurprimidol	2.00e-02 i					730	73	27	20000	1600
Flutolanil	6.00e-02 i					2200	220	81	61000	4700
Fluvalinate	1.00e-02 i					370	37	14	10000	780
Folpet	1.00e-01 i		3.50e-03 i			23	2.3	0.9	820	340
Fomesafen			1.90e-01 i			0.42	0.042	0.017	15	6.3
Fonofos	2.00e-03 i					73	7.3	2.7	2000	160
Formaldehyde	2.00e-01 i			4.55e-02 i		7300	0.18	270	200000	16000
Formic Acid	2.00e+00 h					73000	7300	2700	2000000	160000
Fosetyl-al	3.00e+00 i					110000	11000	4100	1000000	230000
Furan	1.00e-03 i					37	3.7	1.4	1000	78
Furazolidone			3.80e+00 h			0.021	0.0021	0.00083	0.75	0.31
Furfural	3.00e-03 i	1.43e-02 a				110	52	4.1	3100	230
Furium			5.00e+01 h			0.0016	0.00016	0.000063	0.057	0.024
Furmecyclox			3.00e-02 i			2.7	0.27	0.11	95	40
Glufosinate-ammonium	4.00e-04 i					15	1.5	0.54	410	31
Glycidaldehyde	4.00e-04 i	2.86e-04 h				15	1	0.54	410	31
Glyphosate	1.00e-01 i					3700	370	140	100000	7800
Haloxyfop-methyl	5.00e-05 i					1.8	0.18	0.068	51	3.9
Harmony	1.30e-02 i					470	47	18	13000	1000
Heptachlor	5.00e-04 i		4.50e+00 i	4.55e+00 i	y	0.0029	0.0018	0.0007	0.64	0.27
Heptachlor epoxide	1.30e-05 i		9.10e+00 i	9.10e+00 i	y	0.0015	0.00088	0.00035	0.31	0.13
Hexabromobenzene	2.00e-03 i				y	12	7.3	2.7	2000	160
Hexachlorobenzene	8.00e-04 i		1.60e+00 i	1.61e+00 i	y	0.0083	0.005	0.002	1.8	0.75
Hexachlorobutadiene	2.00e-03 x		7.80e-02 i	7.7[illegible]e-02 i	y	0.17	0.1	0.04	37	15
HCH (alpha)			6.30e+00 i	6.[illegible]e+00 i		0.013	0.0013	0.0005	0.45	0.19
HCH (beta)			1.80e+00 i	1.80e+00 i		0.044	0.0044	0.0018	1.6	0.66
HCH (gamma) Lindane	3.00e-04 i		1.30e+00 h			0.061	0.0061	0.0024	2.2	0.92
HCH-technical			1.80e+00 i	1.79e+00 i		0.044	0.0045	0.0018	1.6	0.66
Hexachlorocyclopentadiene	7.00e-03 i	2.00e-05 h			y	0.15	0.073	9.5	7200	550
Hexachlorodibenzo-p-dioxin mixture (HxCDD)			6.20e+03 i	4.55e+03 i		0.000013	0.0000018	0.00000051	0.00046	0.00019
Hexachloroethane	1.00e-03 i		1.40e-02 i	1.40e-02 i	y	0.95	0.57	0.23	200	78
Hexachlorophene	3.00e-04 i					11	1.1	0.41	310	23
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	3.00e-03 i		1.10e-01 i			0.73	0.073	0.029	26	11
n-Hexane	6.00e-02 h	5.71e-02 i			y	350	210	81	61000	4700

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000014

Contaminant	Oral RfD (mg/kg/d)	Inhaled RfD (mg/kg/d)	Oral Potency Slope 1/(mg/kg/d)	Inhaled Potency Slope 1/(mg/kg/d)	VOC	Tap water (µg/l)	Ambient air (µg/m3)	Fish (mg/kg)	Commercial/ industrial soil (mg/kg)	Residential soil (mg/kg)
Hexazinone	3.30e-02 i					1200	120	45	34000	2600
Hydrazine, hydrazine sulfate			3.00e+00 i	1.72e+01 i		0.027	0.00047	0.0011	0.95	0.4
Hydrogen chloride		2.00e-03 i				73	7.3			
Hydrogen sulfide	3.00e-03 i	2.57e-04 i				110	0.94	4.1	3100	230
p-Hydroquinone	4.00e-02 h					1500	150	54	41000	3100
Imazalil	1.30e-02 i					470	47	18	13000	1000
Imazaquin	2.50e-01 i					9100	910	340	260000	20000
Iprodione	4.00e-02 i					1500	150	54	41000	3100
Isobutanol	3.00e-01 i				y	18[illegible]0	1100	410	310000	23000
Isophorone	2.00e-01 i		9.50e-04 i			84	8.4	3.3	3000	1300
Isopropalin	1.50e-02 i					550	55	20	15000	1200
Isopropyl methyl phosphonic acid (IMPA)	1.00e-01 i					3700	370	140	100000	7800
Isoxaben	5.00e-02 i					1800	180	68	51000	3900
Kepone			1.80e+01 e			0.0044	0.00044	0.00018	0.16	0.066
Lactofen	2.00e-03 i					73	7.3	2.7	2000	160
Lead (tetraethyl)	1.00e-07 i					0.0037	0.00037	0.00014	0.1	0.0078
Linuron	2.00e-03 i					73	7.3	2.7	2000	160
Lithium	2.00e-02 e					730	73	27	20000	1600
Londax	2.00e-01 i					7300	730	270	200000	16000
Malathion	2.00e-02 i					730	73	27	20000	1600
Maleic anhydride	1.00e-01 i					3700	370	140	100000	7800
Maleic hydrazide	5.00e-01 i					18000	1800	680	510000	39000
[illegible]lononitrile	2.00e-05 h					0.73	0.073	0.027	20	1.6
[illegible]ncozeb	3.00e-02 h					1100	110	41	31000	2300
Maneb	5.00e-03 i					180	18	6.8	5100	390
Manganese and compounds	5.00e-03 i	1.14e-04 i				180	0.42	6.8	5100	390
Mephosfolan	9.00e-05 h					3.3	0.33	0.12	92	7
Mepiquat chloride	3.00e-02 i					1100	110	41	31000	2300
Mercury (methyl)	3.00e-04 i					11	1.1	0.41	310	23
Mercury (inorganic)	3.00e-04 h	8.57e-05 h				11	0.31	0.41	310	23
Merphos	3.00e-05 i					1.1	0.11	0.041	31	2.3
Merphos oxide	3.00e-05 i					1.1	0.11	0.041	31	2.3
Metalaxyl	6.00e-02 i					2200	220	81	61000	4700
Methacrylonitrile	1.00e-04 i	2.00e-04 a				3.7	0.73	0.14	100	7.8
Methamidophos	5.00e-05 i					1.8	0.18	0.068	51	3.9
Methanol	5.00e-01 i					18000	1800	680	510000	39000
Methidathion	1.00e-03 i					37	3.7	1.4	1000	78
Methomyl	2.50e-02 i					910	91	34	26000	2000

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2315

000015

Contaminant	Oral RfD (mg/kg/d)	Inhaled RfD (mg/kg/d)	Oral Potency Slope 1/(mg/kg/d)	Inhaled Potency Slope 1/(mg/kg/d)	VOC	Tap water (µg/l)	Ambient air (µg/m3)	Fish (mg/kg)	Commercial/ industrial soil (mg/kg)	Residential soil (mg/kg)
Methoxychlor	5.00e-03 i					180	18	6.8	5100	390
2-Methoxyethanol	4.00e-03 h	5.71e-03 i				150	21	5.4	4100	310
2-Methoxyethanol acetate	2.00e-03 a					73	7.3	2.7	2000	160
2-Methoxy-5-nitroaniline			4.60e-02 h			1.7	0.17	0.069	62	26
Methyl acetate	1.00e+00 h					37000	3700	1400	1000000	78000
Methyl acrylate	3.00e-02 a					1100	110	41	31000	2300
2-Methylaniline (o-toluidine)			2.40e-01 h			0.33	0.033	0.013	12	5
2-Methylaniline hydrochloride			1.80e-01 h			0.44	0.044	0.018	16	6.6
Methyl chlorocarbonate	1.00e+00 x					37000	3700	1400	1000000	78000
2-Methyl-4-chlorophenoxyacetic acid	5.00e-04 i					18	1.8	0.68	510	39
4-(2-Methyl-4-chlorophenoxy) butyric acid (MCPB)	1.00e-02 i					370	37	14	10000	780
2-(2-Methyl-4-chlorophenoxy) propionic acid	1.00e-03 i					37	3.7	1.4	1000	78
2-(2-Methyl-1,4-chlorophenoxy) propionic acid (MCPP)	1.00e-03 i					37	3.7	1.4	1000	78
Methylcyclohexane		8.57e-01 h				31000	3100			
4,4'-Methylenediphenyl isocyanate		5.71e-06 h			y	0.035	0.021			
4,4'-Methylenebisbenzeneamine			2.50e-01 h			0.32	0.032	0.013	11	4.8
4,4'-Methylene bis(2-chloroaniline)	7.00e-04 h		1.30e-01 h	1.30e-01 h		0.61	0.061	0.024	22	9.2
4,4'-Methylene bis(N,N'-dimethyl)aniline			4.60e-02 i			1.7	0.17	0.069	62	26
Methylene bromide	1.00e-02 a				y	61	37	14	10000	780
Methylene chloride	6.00e-02 i	8.57e-01 h	7.50e-03 i	1.65e-03 i	y	5.1	4.8	0.42	380	160
Methyl ethyl ketone	6.00e-01 i	2.86e-01 i				22000	1000	810	610000	47000
Methyl hydrazine			1.10e+00 h			0.073	0.0073	0.0029	2.6	1.1
Methyl isobutyl ketone	5.00e-02 h	2.29e-02 a				1800	83	68	51000	3900
Methyl methacrylate	8.00e-02 h					2900	290	110	82000	6300
2-Methyl-5-nitroaniline			3.30e-02 h			2.4	0.24	0.096	87	36
Methyl parathion	2.50e-04 i					9.1	0.91	0.34	260	20
2-Methylphenol (o-cresol)	5.00e-02 i					1800	180	68	51000	3900
-Methylphenol (m-cresol)	5.00e-02 i					1800	180	68	51000	3900
4-Methylphenol (p-cresol)	5.00e-03 h					180	18	6.8	5100	390
Methyl styrene (mixture)	6.00e-03 a	1.14e-02 a			y	60	42	8.1	6100	470
Methyl styrene (alpha)	7.00e-02 a				y	430	260	95	72000	5500
Methyl tertbutyl ether (MTBE)	5.00e-03 e	1.43e-01 i			y	160	520	6.8	5100	390
Metolachlor (Dual)	1.50e-01 i					5500	550	200	150000	12000
Metribuzin	2.50e 02 i					910	91	34	26000	2000
Mirex	2.00e-04 i		1.80e+00 h			0.044	0.0044	0.0018	1.6	0.66

Key to Data Sources: i=IRIS h=HEAST a=HEAST alternate method x=Withdrawn from IRIS y=Withdrawn from HEAST e=EPA-ECAO o=Other EPA documents.

000016

Contaminant	Oral RfD (mg/kg/d)	Inhaled RfD (mg/kg/d)	Oral Potency Slope 1/(mg/kg/d)	Inhaled Potency Slope 1/(mg/kg/d)	VOC	Tap water (µg/l)	Ambient air (µg/m3)	Fish (mg/kg)	Commercial/ industrial soil (mg/kg)	Residential soil (mg/kg)
Molinate	2.00e-03 i					73	7.3	2.7	2000	160
Molybdenum	5.00e-03 i					180	18	6.8	5100	[illegible]
Monochloramine	1.00e-01 i					3700	370	140	100000	7800
Naled	2.00e-03 i					73	7.3	2.7	2000	160
Napropamide	1.00e-01 i					3700	370	140	100000	7800
Nickel (soluble salts)	2.00e-02 i					730	73	27	20000	1600
Nickel refinery dust				8.40e-01 i			0.0095			
Nickel subsulfide				1.70e+00 i			0.0047			
Nitrapyrin	1.50e-03 x					55	5.5	2	1500	120
Nitrate	1.60e+00 i					58000	5800	2200	1000000	130000
Nitric Oxide	1.00e-01 i					3700	370	140	100000	7800
Nitrite	1.00e-01 i					3700	370	140	100000	7[illegible]
2-Nitroaniline	6.00e-05 h	5.71e-05 h				2.2	0.21	0.081	61	4.7
3-Nitroaniline	3.00e-03 o					110	11	4.1	3100	230
4-Nitroaniline	3.00e-03 o					110	11	4.1	3100	230
Nitrobenzene	5.00e-04 i	5.71e-04 a			y	3.4	2.1	0.68	510	39
Nitrofurantoin	7.00e-02 h					2600	260	95	72000	5500
Nitrofurazone			1.50e+00 h	9.40e+00 h		0.053	0.00085	0.0021	1.9	0.8
Nitrogen dioxide	1.00e+00 i					37000	3700	1400	1000000	78000
Nitroguanidine	1.00e-01 i					3700	370	140	100000	7800
4-Nitrophenol	6.20e-02 o					2300	230	84	63000	4800
2-Nitropropane		5.71e-03 i		9.40e+00 h		210	0.00085			
N-Nitrosodi-n-butylamine			5.40e+00 i	5.60e+00 i		0.015	0.0014	0.00058	0.53	0.22
N-Nitrosodiethanolamine			2.80e+00 i			0.028	0.0028	0.0011	1	0.43
N-Nitrosodiethylamine			1.50e+02 i	1.51e+02 i		0.00053	0.000053	0.000021	0.019	0.008
N-Nitrosodimethylamine			5.10e+01 i	4.90e+01 i		0.0016	0.00016	0.000062	0.056	0.023
N-Nitrosodiphenylamine			4.90e-03 i			16	1.6	0.64	580	240
N-Nitroso di-n-propylamine			7.00e+00 i			0.011	0.0011	0.00045	0.41	0.17
N-Nitroso-N-methylethylamine			2.20e+01 i			0.0036	0.00036	0.00014	0.13	0.054
N-Nitrosopyrrolidine			2.10e+00 i	2.14e+00 i		0.038	0.0037	0.0015	1.4	0.57
m-Nitrotoluene	1.00e-02 h				y	61	37	14	10000	780
p-Nitrotoluene	1.00e-02 h				y	61	37	14	10000	780
Norflurazon	4.00e-02 i					1500	150	54	41000	3100
NuStar	7.00e-04 i					26	2.6	0.95	720	55
Octabromodiphenyl ether	3.00e-03 i					110	11	4.1	3100	230
Octahydro-1357-tetranitro-1357-tetrazocine (HMX)	5.00e-02 i					1800	180	68	51000	3900
Octamethylpyrophosphoramide	2.00e-03 h					73	7.3	2.7	2000	160
Oryzalin	5.00e-02 i					1800	180	68	51000	3900

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000017

Contaminant	Oral RfD (mg/kg/d)	Inhaled RfD (mg/kg/d)	Oral Potency Slope 1/(mg/kg/d)	Inhaled Potency Slope 1/(mg/kg/d)	VOC	Tap water (µg/l)	Ambient air (µg/m3)	Fish (mg/kg)	Commercial/ industrial soil (mg/kg)	Residential soil (mg/kg)
Oxadiazon	5.00e-03 i					180	18	6.8	5100	390
Oxamyl	2.50e-02 i					910	91	34	26000	2000
Oxyfluorfen	3.00e-03 i					110	11	4.1	3100	230
Paclobutrazol	1.30e-02 i					470	47	18	13000	1000
Paraquat	4.50e-03 i					160	16	6.1	4600	350
Parathion	6.00e-03 h					220	22	8.1	6100	470
Pebulate	5.00e-02 h					1800	180	68	51000	3900
Pendimethalin	4.00e-02 i					1500	150	54	41000	3100
Pentabromo-6-chloro cyclohexane			2.30e-02 h			3.5	0.35	0.14	120	52
Pentabromodiphenyl ether	2.00e-03 i					73	7.3	2.7	2000	160
Pentachlorobenzene	8.00e-04 i				y	4.9	2.9	1.1	820	63
Pentachloronitrobenzene	3.00e-03 i		2.60e-01 h		y	0.051	0.031	0.012	11	4.6
Pentachlorophenol	3.00e-02 i		1.20e-01 i			0.66	0.066	0.026	24	10
Permethrin	5.00e-02 i					1800	180	68	51000	3900
Phenmedipham	2.50e-01 i					9100	910	340	260000	20000
Phenol	6.00e-01 i					22000	2[illegible]	810	610000	47000
m-Phenylenediamine	6.00e-03 i					220	22	8.1	6100	470
p-Phenylenediamine	1.90e-01 h					6900	690	260	190000	15000
Phenylmercuric acetate	8.00e-05 i					2.9	0.29	0.11	82	6.3
Phenylphenol			1.94e-03 h			41	4.1	1.6	1500	620
Phorate	2.00e-04 h					7.3	0.73	0.27	200	16
Phosmet	2.00e-02 i					730	73	27	20000	1600
Phosphine	3.00e-04 i	8.57e-06 h				11	0.0[illegible]	0.41	310	23
Phosphorus (white)	2.00e-05 i					0.73	0.073	0.027	20	1.6
p-Phthalic acid	1.00e+00 h					37000	3700	1400	1000000	78000
Phthalic anhydride	2.00e+00 i	3.43e-01 h				73000	1300	2700	1000000	160000
Picloram	7.00e-02 i					2600	260	95	72000	5500
Pirimiphos-methyl	1.00e-02 i					370	37	14	10000	780
Polybrominated biphenyls	7.00e-06 h		8.90e+00 h			0.009	0.00[illegible]	0.00035	0.32	0.13
Polychlorinated biphenyls (PCBs)			7.70e+00 i			0.01	0.001	0.00041	0.37	0.16
Aroclor 1016	7.00e-05 i					2.6	0.26	0.095	72	5.5
Polychlorinated terphenyls (PCTs)			4.50e+00 e			0.018	0.0018	0.0007	0.64	0.27
Polynuclear aromatic hydrocarbons										
Acenaphthene	6.00e-02 i					2200	220	81	61000	4700
Anthracene	3.00e-01 i					11000	1100	410	310000	23000
Benz[a]anthracene			7.30e-01 e	6.10e-01 e		0.11	0.013	0.0043	3.9	1.6
Benzo[b]fluoranthene			7.30e-01 e	6.10e-01 e		0.11	0.013	0.0043	3.9	1.6
Benzo[k]fluoranthene			7.30e-02 e	6.10e-02 e		1.1	0.13	0.043	39	16
Benzo[a]pyrene			7.30e+00 i	6.10e+00 h		0.011	0.0013	0.00043	0.39	0.16

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870000

Contaminant	Oral RfD (mg/kg/d)	Inhaled RfD (mg/kg/d)	Oral Potency Slope 1/(mg/kg/d)	Inhaled Potency Slope 1/(mg/kg/d)	VOC	Tap water (µg/l)	Ambient air (µg/m3)	Fish (mg/kg)	Commercial/ industrial soil (mg/kg)	Residential soil (mg/kg)
Chrysene			7.30e-05 e	6.10e-05 e		1100	130	43	39000	16000
Dibenz[ah]anthracene			7.30e+00 e	6.10e+00 e		0.011	0.0013	0.00043	0.39	0.16
Fluoranthene	4.00e-02 i					1500	150	54	41000	3100
Fluorene	4.00e-02 i					1500	150	54	41000	3100
Indeno[1,2,3-cd]pyrene			7.30e-01 e	6.10e-01 e		0.11	0.013	0.0043	3.9	1.6
Naphthalene	4.00e-02 h					1500	150	54	41000	3100
Pyrene	3.00e-02 i					1100	110	41	31000	2300
Prochloraz	9.00e-03 i		1.50e-01 i			0.53	0.053	0.021	19	8
Profluralin	6.00e-03 h					220	22	8.1	6100	470
Prometon	1.50e-02 i					550	55	20	15000	1200
Prometryn	4.00e-03 i					150	15	5.4	4100	310
Pronamide	7.50e-02 i					2700	270	100	77000	5900
Propachlor	1.30e-02 i					470	47	18	13000	1000
Propanil	5.00e-03 i					180	18	6.8	5100	390
Propargite	2.00e-02 i					730	73	27	20000	1600
Propargyl alcohol	2.00e-03 i					73	7.3	2.7	2000	160
Propazine	2.00e-02 i					730	73	27	20000	1600
Propham	2.00e-02 i					730	73	27	20000	1600
Propiconazole	1.30e-02 i					470	47	18	13000	1000
Propylene glycol	2.00e+01 h					730000	73000	27000	1000000	1000000
Propylene glycol, monoethyl ether	7.00e-01 h					26000	2600	950	720000	55000
Propylene glycol, monomethyl ether	7.00e-01 h	5.71e-01 i				26000	2100	950	720000	55000
Propylene oxide		8.57e-03 i	2.40e-01 i	1.30e-02 i		0.33	0.62	0.013	12	5
Pursuit	2.50e-01 i					9100	910	340	260000	20000
Pydrin	2.50e-02 i					910	91	34	26000	2000
Pyridine	1.00e-03 i					37	3.7	1.4	1000	78
Quinalphos	5.00e-04 i					18	1.8	0.68	510	39
Quinoline			1.20e+01 h			0.0066	0.00066	0.00026	0.24	0.1
Resmethrin	3.[illegible]e-02 i					1100	110	41	31000	2300
Ronnel	5.00e-02 h					1800	180	68	51000	3900
Rotenone	4.00e-03 i					150	15	5.4	4100	310
Savey	2.50e-02 i					910	91	34	26000	2000
Selenious Acid	5.00e-03 i					180	18	6.8	5100	390
Selenium	5.00e-03 i					180	18	6.8	5100	390
Selenourea	5.00e-03 h					180	18	6.8	5100	390
Sethoxydim	9.00e-02 i					3300	330	120	92000	7000
Silver and compounds	5.00e-03 i					180	18	6.8	5100	390
Simazine	2.00e-03 h		1.20e-01 h			0.66	0.066	0.026	24	10
Sodium azide	4.00e-03 i					150	15	5.4	4100	310

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000019

Contaminant	Oral RfD (mg/kg/d)	Inhaled RfD (mg/kg/d)	Oral Potency Slope 1/(mg/kg/d)	Inhaled Potency Slope 1/(mg/kg/d)	VOC	Tap water (µg/l)	Ambient air (µg/m3)	Fish (mg/kg)	Commercial/ industrial soil (mg/kg)	Residential soil (mg/kg)
Sodium diethyldithiocarbamate	3.00e-02 i		2.70e-01 h			0.3	0.03	0.012	11	4.4
Sodium fluoroacetate	2.00e-05 i					0.73	0.073	0.027	20	1.6
Sodium metavanadate	1.00e-03 h					37	3.7	1.4	1000	78
Strontium, stable	6.00e-01 i					22000	2200	810	610000	47000
Strychnine	3.00e-04 i					11	1.1	0.41	310	23
Styrene	2.00e-01 i	2.86e-01 i			y	1600	1000	270	200000	16000
Syathane	2.50e-02 i					910	91	34	26000	2000
2,3,7,8-TCDD (dioxin)			1.50e+05 h	1.50e+05 h		0.00000053	0.000000053	0.000000021	0.000019	0.000008
Tebuthiuron	7.00e-02 i					2600	260	95	72000	5500
Temephos	2.00e-02 h					730	73	27	20000	1600
Terbacil	1.30e-02 i					470	47	18	13000	1000
Terbufos	2.50e-05 h					0.91	0.091	0.034	26	2
Terbutryn	1.00e-03 i					37	3.7	1.4	1000	78
1,2,4,5-Tetrachlorobenzene	3.00e-04 i				y	1.8	1.1	0.41	310	23
1,1,1,2-Tetrachloroethane	3.00e-02 i		2.60e-02 i	2.59e-02 i	y	0.51	0.31	0.12	110	46
1,1,2,2-Tetrachloroethane			2.00e-01 i	2.03e-01 i	y	0.066	0.039	0.016	14	6
Tetrachloroethylene (PCE)	1.00e-02 i		5.20e-02 e	2.03e-03 e	y	1.3	3.9	0.061	55	23
2,3,4,6-Tetrachlorophenol	3.00e-02 i					1100	110	41	31000	2300
p,a,a,a-Tetrachlorotoluene			2.00e+01 h		y	0.00066	0.0004	0.00016	0.14	0.06
Tetrachlorovinphos	3.00e-02 i		2.40e-02 h			3.3	0.33	0.13	120	50
Tetraethyldithiopyrophosphate	5.00e-04 i					18	1.8	0.68	510	39
Thallic oxide	7.00e-05 h					2.6	0.26	0.095	72	5.5
Thallium acetate	9.00e-05 i					3.3	0.33	0.12	92	7
Thallium carbonate	8.00e-05 i					2.9	0.29	0.11	82	6.3
Thallium chloride	8.00e-05 i					2.9	0.29	0.11	82	6.3
Thallium nitrate	9.00e-05 i					3.3	0.33	0.12	92	7
Thallium selenite	9.00e-05 i					3.3	0.33	0.12	92	7
Thallium sulfate	8.00e-05 i					2.9	0.29	0.11	82	6.3
Thiobencarb	1.00e-02 i					370	37	14	10000	780
2-(Thiocyanomethylthio)-benzothiazole (TCMTB)	3.00e-02 y					1100	110	41	31000	2300
Thiofanox	3.00e-04 h					11	1.1	0.41	310	23
Thiophanate-methyl	8.00e-02 i					2900	290	110	82000	6300
Thiram	5.00e-03 i					180	18	6.8	5100	390
Tin and compounds	6.00e-01 h					22000	2200	810	610000	47000
Toluene	2.00e-01 i	1.14e-01 h			y	750	420	270	200000	16000
Toluene-2,4-diamine			3.20e+00 h			0.025	0.0025	0.00099	0.89	0.37
Toluene-2,5-diamine	6.00e-01 h					22000	2200	810	610000	47000
Toluene-2,6-diamine	2.00e-01 h					7300	730	270	200000	16000

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000020

Contaminant	Oral RfD (mg/kg/d)	Inhaled RfD (mg/kg/d)	Oral Potency Slope 1/(mg/kg/d)	Inhaled Potency Slope 1/(mg/kg/d)	VOC	Tap water (µg/l)	Ambient air (µg/m3)	Fish (mg/kg)	Commercial/ industrial soil (mg/kg)	Residential soil (mg/kg)
Toxaphene			1.10e+00 i	1.12e+00 i		0.073	0.0071	0.0029	2.6	1.1
Tralomethrin	7.50e-03 i					270	27	10	7700	590
Triallate	1.30e-02 i					470	47	18	13000	1000
Triasulfuron	1.00e-02 i					370	37	14	10000	780
1,2,4-Tribromobenzene	5.00e-03 i				y	30	18	6.8	5100	390
Tributyltin oxide (TBTO)	3.00e-05 i					1.1	0.11	0.041	31	2.3
2,4,6-Trichloroaniline			3.40e-02 h			2.3	0.23	0.093	84	35
2,4,6-Trichloroaniline hydrochloride			2.90e-02 h			2.8	0.28	0.11	99	41
1,2,4-Trichlorobenzene	1.00e-02 i	2.57e-03 a			y	18	9.4	14	10000	780
1,1,1-Trichloroethane	9.00e-02 h	2.86e-01 a			y	1300	1000	120	92000	7000
1,1,2-Trichloroethane	4.00e-03 i		5.70e-02 i	5.60e-02 i	y	0.24	0.14	0.055	50	21
Trichloroethylene (TCE)	6.00e-03 e		1.10e-02 y	6.00e-03 e	y	1.9	1.3	0.29	260	110
Trichlorofluoromethane	3.00e-01 i	2.00e-01 a			y	1300	730	410	310000	23000
2,4,5-Trichlorophenol	1.00e-01 i					3700	370	140	100000	7800
2,4,6-Trichlorophenol			1.10e-02 i	1.09e-02 i		7.3	0.74	0.29	260	110
2,4,5-Trichlorophenoxyacetic Acid	1.00e-02 i					370	37	14	10000	780
2-(2,4,5-Trichlorophenoxy) propionic acid	8.00e-03 i					290	29	11	8200	630
1,1,2-Trichloropropane	5.00e-03 i				y	30	18	6.8	5100	390
1,2,3-Trichloropropane	6.00e-03 i				y	37	22	8.1	6100	470
1,2,3-TCP as carcinogen			2.70e+00 e		y	0.0049	0.003	0.0012	1.1	0.44
1,2,3-Trichloropropene	5.00e-03 h				y	30	18	6.8	5100	390
1,1,2-Trichloro-1,2,2-trifluoroethane	3.00e+01 i	8.57e+00 h			y	59000	31000	41000	1000000	1000000
Tridiphane	3.00e-03 i					110	11	4.1	3100	230
Triethylamine		2.00e-03 i				73	7.3			
Trifluralin	7.50e-03 i		7.70e-03 i			10	1	0.41	370	160
Trimethyl phosphate			3.70e-02 h			2.2	0.22	0.085	77	32
1,3,5-Trinitrobenzene	5.00e-05 i					1.8	0.18	0.068	51	3.9
Trinitrophenylmethylnitramine	1.00e-02 h					370	37	14	10000	780
2,4,6-Trinitrotoluene	5.00e-04 i		3.00e-02 i			2.7	0.27	0.11	95	39
Uranium (soluble salts)	3.00e-03 i					110	11	4.1	3100	230
Vanadium	7.00e-03 h					260	26	9.5	7200	550
Vanadium pentoxide	9.00e-03 i					330	33	12	9200	700
Vanadyl sulfate	2.00e-02 h					730	73	27	20000	1600
Vanadium sulfate	2.00e-02 h					730	73	27	20000	1600
Vernam	1.00e-03 i					37	3.7	1.4	1000	78
Vinclozolin	2.50e-02 i					910	91	34	26000	2000
Vinyl acetate	1.00e+00 h	5.71e-02 i				37000	210	1400	1000000	78000
Vinyl bromide		8.57e-04 i			y	5.2	3.1			

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T20000

Contaminant	Oral RfD (mg/kg/d)	Inhaled RfD (mg/kg/d)	Oral Potency Slope 1/(mg/kg/d)	Inhaled Potency Slope 1/(mg/kg/d)	VOC	Tap water (µg/l)	Ambient air (µg/m3)	Fish (mg/kg)	Commercial/ industrial soil (mg/kg)	Residential soil (mg/kg)
Vinyl chloride			1.90e+00 h	3.00e-01 h	y	0.023	0.027	0.0017	[illegible]	0.63
Warfarin	3.00e-04 i					11	1.1	0.41	310	23
m-Xylene		2.00e-01 y			y	1200	730			
o-Xylene		2.00e-01 y			y	1200	730			
p-Xylene		8.57e-02 y			y	520	310			
Xylene (mixed)	2.00e+00 i				y	12000	7300	2700	1000000	160000
Zinc	3.00e-01 i					11000	1100	410	310000	23000
Zinc phosphide	3.00e-04 i					11	1.1	0.41	310	23
Zineb	5.00e-02 i					1800	180	68	51000	3900

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