Table 1
CONSOLIDATED TABLE OF OEHHA/ARB APPROVED RISK ASSESSMENT HEALTH VALUES[a]

Substance	Chemical[b] Abstract Number	Noncancer Effects								Cancer Risk					
		Acute Inhalation ($\mu g/m^3$)	Date[c] Value Reviewed [Added]	8-Hour Inhalation ($\mu g/m^3$)	Date[c] Value Reviewed [Added]	Chronic Inhalation ($\mu g/m^3$)	Date[c] Value Reviewed [Added]	Chronic Oral (mg/kg-d)	Date[c] Value Reviewed [Added]	Inhalation[d] Unit Risk $(\mu g/m^3)^{-1}$	Inhalation[d] Cancer Potency Factor $(mg/kg\text{-}d)^{-1}$	Date[c] Value Reviewed [Added]	Oral Slope Factor $(mg/kg\text{-}d)^{-1}$	Date[c] Value Reviewed [Added]	M[e] W A F
ACETALDEHYDE	75-07-0	4.7E+02	12/08	3.0E+02	12/08	1.4E+02	12/08			2.7E-06	1.0E-02	4/99 [5/93]			1
ACETAMIDE	60-35-5									2.0E-05	7.0E-02	4/99			1
ACROLEIN	107-02-8	2.5E+00	12/08	7.0E-01	12/08	3.5E-01	12/08								1
ACRYLAMIDE	79-06-1									1.3E-03	4.5E+00	4/99 [7/90]			1
ACRYLIC ACID	79-10-7	6.0E+03	4/99												1
ACRYLONITRILE	107-13-1					5.0E+00	12/01			2.9E-04	1.0E+00	4/99 [1/91]			1
ALLYL CHLORIDE	107-05-1									6.0E-06	2.1E-02	4/99			1
2-AMINOANTHRAQUINONE	117-79-3									9.4E-06	3.3E-02	4/99			1
AMMONIA	7664-41-7	3.2E+03	4/99			2.0E+02	2/00								1
ANILINE	62-53-3									1.6E-06	5.7E-03	4/99			1
Aniline hydrochloride	*142-04-1*									*1.6E-06*	*5.7E-03*	*4/99 [8/22]*			*1*
ARSENIC AND COMPOUNDS (INORGANIC)[TAC] [Including but not limited to: arsenic (inorganic oxides)]	7440-38-2 1016 [1015]	2.0E-01	12/08	1.5E-02	12/08	1.5E-02	12/08	3.5E-06	12/08	3.3E-03 TAC	1.2E+01	7/90	1.5E+00	10/00	1
Arsenic acid	*7778-39-4*	*2.0E-01*	*12/08 [8/22]*	*1.5E-02*	*12/08 [8/22]*	*1.5E-02*	*12/08 [8/22]*	*3.5E-06*	*12/08 [8/22]*	*3.3E-03 TAC*	*1.2E+01*	*7/90 [8/22]*	*1.5E+00*	*10/00 [8/22]*	*0.5278*
Arsenic pentoxide	*1303-28-2*	*2.0E-01*	*12/08 [8/22]*	*1.5E-02*	*12/08 [8/22]*	*1.5E-02*	*12/08 [8/22]*	*3.5E-06*	*12/08 [8/22]*	*3.3E-03 TAC*	*1.2E+01*	*7/90 [8/22]*	*1.5E+00*	*10/00 [8/22]*	*0.6519*
Arsenic trioxide	*1327-53-3*	*2.0E-01*	*12/08 [8/22]*	*1.5E-02*	*12/08 [8/22]*	*1.5E-02*	*12/08 [8/22]*	*3.5E-06*	*12/08 [8/22]*	*3.3E-03 TAC*	*1.2E+01*	*7/90 [8/22]*	*1.5E+00*	*10/00 [8/22]*	*0.7574*
ARSINE	7784-42-1	2.0E-01	12/08	1.5E-02	12/08	1.5E-02	12/08								1
Calcium arsenate	*7778-44-1*	*2.0E-01*	*12/08 [8/22]*	*1.5E-02*	*12/08 [8/22]*	*1.5E-02*	*12/08 [8/22]*	*3.5E-06*	*12/08 [8/22]*	*3.3E-03 TAC*	*1.2E+01*	*7/90 [8/22]*	*1.5E+00*	*10/00 [8/22]*	*0.3766*
Gallium arsenide	*1303-00-0*	*2.0E-01*	*12/08 [8/22]*	*1.5E-02*	*12/08 [8/22]*	*1.5E-02*	*12/08 [8/22]*	*3.5E-06*	*12/08 [8/22]*	*3.3E-03 TAC*	*1.2E+01*	*7/90 [8/22]*	*1.5E+00*	*10/00 [8/22]*	*0.518*
ASBESTOS[TAC, f]	1332-21-4									1.9E-04 TACf	2.2E+02	3/86			333.33
Actinolite	*77536-66-4*									*1.9E-04 TACf*	*2.2E+02*	*3/86 [8/22]*			*333.33*
Amosite	*12172-73-5*									*1.9E-04 TACf*	*2.2E+02*	*3/86 [8/22]*			*333.33*
Anthophyllite	*77536-67-5*									*1.9E-04 TACf*	*2.2E+02*	*3/86 [8/22]*			*333.33*
Chrysotile	*12001-29-5*									*1.9E-04 TACf*	*2.2E+02*	*3/86 [8/22]*			*333.33*
Crocidolite	*12001-28-4*									*1.9E-04 TACf*	*2.2E+02*	*3/86 [8/22]*			*333.33*
Tremolite	*77536-68-6*									*1.9E-04 TACf*	*2.2E+02*	*3/86 [8/22]*			*333.33*

Table last updated: September 25, 2025

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Substance	Chemical[b] Abstract Number	Noncancer Effects								Cancer Risk					
		Acute Inhalation ($\mu g/m^3$)	Date[c] Value Reviewed [Added]	8-Hour Inhalation ($\mu g/m^3$)	Date[c] Value Reviewed [Added]	Chronic Inhalation ($\mu g/m^3$)	Date[c] Value Reviewed [Added]	Chronic Oral (mg/kg-d)	Date[c] Value Reviewed [Added]	Inhalation[d] Unit Risk $(\mu g/m^3)^{-1}$	Inhalation[d] Cancer Potency Factor $(mg/kg\text{-}d)^{-1}$	Date[c] Value Reviewed [Added]	Oral Slope Factor $(mg/kg\text{-}d)^{-1}$	Date[c] Value Reviewed [Added]	MWAF[e]
BENZENE[TAC]	71-43-2	2.7E+01	6/14	3.0E+00	6/14	3.0E+00	6/14			2.9E-05[TAC]	1.0E-01	1/85			1
BENZIDINE (AND ITS SALTS) *values also apply to:*	92-87-5									1.4E-01	5.0E+02	4/99 [1/91]			1
Benzidine based dyes	*1020*									*1.4E-01*	*5.0E+02*	*4/99 [1/91]*			*1*
C.I. Direct Blue 218 [PAH-Derivative/Related, POM]	*28407-37-6*									*1.4E-01*	*5.0E+02*	*4/99 [8/22]*			*1*
3,3'-Dimethylbenzidine dihydrochloride	*612-82-8*									*1.4E-01*	*5.0E+02*	*4/99 [8/22]*			*1*
Direct Black 38	*1937-37-7*									*1.4E-01*	*5.0E+02*	*4/99 [1/91]*			*1*
Direct Blue 6	*2602-46-2*									*1.4E-01*	*5.0E+02*	*4/99 [1/91]*			*1*
Direct Brown 95 (technical grade)	*16071-86-6*									*1.4E-01*	*5.0E+02*	*4/99 [1/91]*			*1*
BENZYL CHLORIDE	100-44-7	2.4E+02	4/99							4.9E-05	1.7E-01	4/99			1
BERYLLIUM AND COMPOUNDS	7440-41-7 [1021]					7.0E-03	12/01	2.0E-03	12/01	2.4E-03	8.4E+00	4/99 [7/90]			1
Beryllium sulfate	*13510-49-1*					*7.0E-03*	*12/01 [8/22]*	*2.0E-03*	*12/01 [8/22]*	*2.4E-03*	*8.4E+00*	*4/99 [8/22]*			*0.0857*
Beryllium sulfate (tetrahydrate)	*7787-56-6*					*7.0E-03*	*12/01 [8/22]*	*2.0E-03*	*12/01 [8/22]*	*2.4E-03*	*8.4E+00*	*4/99 [8/22]*			*0.0508*
Beryllium oxide	*1304-56-9*					*7.0E-03*	*12/01 [8/22]*	*2.0E-03*	*12/01 [8/22]*	*2.4E-03*	*8.4E+00*	*4/99 [8/22]*			*0.36*
BIS(2-CHLOROETHYL)ETHER (Dichloroethyl ether)	111-44-4									7.1E-04	2.5E+00	4/99			1
BIS(CHLOROMETHYL)ETHER	542-88-1									1.3E-02	4.6E+01	4/99 [1/91]			1
BROMINE AND COMPOUNDS	7726-95-6 [1040]														1
Bromate	*15541-45-4*									*1.4E-04*	*4.9E-01*	*4/99 [8/22]*			*0.6247*
POTASSIUM BROMATE	7758-01-2									1.4E-04	4.9E-01	4/99 [10/93]			1
1-BROMOPROPANE	106-94-5	3.3E+03	4/23	3.4E+00	4/23	1.7E+00	4/23			3.7E-6	1.3E-2	12/22			1
1,3-BUTADIENE[TAC]	106-99-0	6.6E+02	7/13	9.0E+00	7/13	2.0E+00	7/13			1.7E-04 [TAC]	6.0E-01	7/92			1
CADMIUM AND COMPOUNDS[TAC]	7440-43-9 [1045]					2.0E-02	1/01	5.0E-04	10/00	4.2E-03 [TAC]	1.5E+01	1/87			1
Cadmium chloride	*10108-64-2*					*2.0E-02*	*1/01 [8/22]*	*5.0E-04*	*10/00 [8/22]*	*4.2E-03 [TAC]*	*1.5E+01*	*1/87 [8/22]*			*0.6132*
Cadmium succinate	*141-00-4*					*2.0E-02*	*1/01 [8/22]*	*5.0E-04*	*10/00 [8/22]*	*4.2E-03 [TAC]*	*1.5E+01*	*1/87 [8/22]*			*0.4921*

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Substance	Chemical[b] Abstract Number	Noncancer Effects								Cancer Risk					
		Acute Inhalation (µg/m³)	Date[c] Value Reviewed [Added]	8-Hour Inhalation (µg/m³)	Date[c] Value Reviewed [Added]	Chronic Inhalation (µg/m³)	Date[c] Value Reviewed [Added]	Chronic Oral (mg/kg-d)	Date[c] Value Reviewed [Added]	Inhalation[d] Unit Risk (µg/m³)⁻¹	Inhalation[d] Cancer Potency Factor (mg/kg-d)⁻¹	Date[c] Value Reviewed [Added]	Oral Slope Factor (mg/kg-d)⁻¹	Date[c] Value Reviewed [Added]	M[e] W A F
CAPROLACTAM	105-60-2	5.0E+01	10/13	7.0E+00	10/13	2.2E+00	10/13								1
CARBON DISULFIDE	75-15-0	6.2E+03	4/99			8.0E+02	5/02								1
CARBON MONOXIDE	630-08-0	2.3E+04	4/99												1
CARBON TETRACHLORIDE[TAC] (Tetrachloromethane)	56-23-5	1.9E+03	4/99			4.0E+01	1/01			4.2E-05 TAC	1.5E-01	9/87			1
CARBONYL SULFIDE	463-58-1	6.6E+02	2/17	1.0E+01	2/17	1.0E+01	2/17								1
CHLORINATED PARAFFINS	108171-26-2									2.5E-05	8.9E-02	4/99			1
CHLORINE	7782-50-5	2.1E+02	4/99			2.0E-01	2/00								1
CHLORINE DIOXIDE	10049-04-4					6.0E-01	1/01								1
4-CHLORO-O-PHENYLENEDIAMINE	95-83-0									4.6E-06	1.6E-02	4/99			1
CHLOROBENZENE	108-90-7					1.0E+03	1/01								1
CHLOROFORM[TAC]	67-66-3	1.5E+02	4/99			3.0E+02	4/00			5.3E-06 TAC	1.9E-02	12/90			1
Chlorophenols	*1060*														*1*
PENTACHLOROPHENOL	87-86-5									5.1E-06	1.8E-02	4/99			1
2,4,6-TRICHLOROPHENOL	88-06-2									2.0E-05	7.0E-02	4/99 [1/91]			1
CHLOROPICRIN	76-06-2	2.9E+01	4/99			4.0E-01	12/01								1
p-CHLORO-o-TOLUIDINE	95-69-2									7.7E-05	2.7E-01	4/99			1
1-CHLORO-4-(TRIFLUOROMETHYL)BENZENE {PCBTF}	98-56-6									8.6E-06	3.0E-02	8/20 [8/22]			1
CHROMIUM (III)	16065-83-1	4.8E-01	8/22	1.2E-01	8/22	6.0E-02	8/22								1
CHROMIUM 6+[TAC] *values also apply to:*[g]	18540-29-9					2.0E-01	1/01	2.0E-02	10/00	1.5E-01 TAC	5.1E+02	1/86	5.0E-01	*1/14*	1
Barium chromate	*10294-40-3*					*2.0E-01*	*1/01*	*2.0E-02*	*10/00*	*1.5E-01 TAC*	*5.1E+02*	*1/86*	*5.0E-01*	*1/14*	*0.2053*
t-Butyl chromate(VI)	*1189-85-1*					*2.0E-01*	*1/01 [8/22]*	*2.0E-02*	*10/00 [8/22]*	*1.5E-01 TAC*	*5.1E+02*	*1/86 [8/22]*	*5.0E-01*	*1/14 [8/22]*	*0.2258*
Calcium chromate	*13765-19-0*					*2.0E-01*	*1/01*	*2.0E-02*	*10/00*	*1.5E-01 TAC*	*5.1E+02*	*1/86*	*5.0E-01*	*1/14*	*0.3332*
Lead chromate	*7758-97-6*					*2.0E-01*	*1/01*	*2.0E-02*	*10/00*	*1.5E-01 TAC*	*5.1E+02*	*1/86*	*5.0E-01*	*1/14*	*0.1609*
Sodium dichromate	*10588-01-9*					*2.0E-01*	*1/01*	*2.0E-02*	*10/00*	*1.5E-01 TAC*	*5.1E+02*	*1/86*	*5.0E-01*	*1/14*	*0.397*
Strontium chromate	*7789-06-2*					*2.0E-01*	*1/01*	*2.0E-02*	*10/00*	*1.5E-01 TAC*	*5.1E+02*	*1/86*	*5.0E-01*	*1/14*	*0.2554*
CHROMIUM TRIOXIDE (as chromic acid mist)	1333-82-0					2.0E-03	1/01	2.0E-02	10/00	1.5E-01 TAC	5.1E+02	1/86	5.0E-01	*1/14*	0.52
COBALT	7440-48-4									7.7E-3	2.7E+01	10/20			1
Cobalt compounds, insoluble, including but not limited to:	1216									7.7E-3	2.7E+01	10/20 [8/22]			1

Table last updated: September 25, 2025

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		Acute Inhalation ($\mu g/m^3$)	Date[c] Value Reviewed [Added]	8-Hour Inhalation ($\mu g/m^3$)	Date[c] Value Reviewed [Added]	Chronic Inhalation ($\mu g/m^3$)	Date[c] Value Reviewed [Added]	Chronic Oral (mg/kg-d)	Date[c] Value Reviewed [Added]	Inhalation[d] Unit Risk $(\mu g/m^3)^{-1}$	Inhalation[d] Cancer Potency Factor $(mg/kg\text{-}d)^{-1}$	Date[c] Value Reviewed [Added]	Oral Slope Factor $(mg/kg\text{-}d)^{-1}$	Date[c] Value Reviewed [Added]	MeWAF
COBALT CARBONATE	513-79-1									7.7E-3	2.7E+01	10/20 [8/22]			0.4955
COBALT CARBONYL	10210-68-1									7.7E-3	2.7E+01	10/20 [8/22]			0.3448
COBALT HYDROXIDE	21041-93-0									7.7E-3	2.7E+01	10/20 [8/22]			0.6341
COBALT OXALATE	814-89-1									7.7E-3	2.7E+01	10/20 [8/22]			0.3957
COBALT [II] OXIDE	1307-96-6									7.7E-3	2.7E+01	10/20 [8/22]			0.7865
COBALT [III] OXIDE	1308-06-1									7.7E-3	2.7E+01	10/20 [8/22]			0.7342
COBALT SULFIDE	1317-42-6									7.7E-3	2.7E+01	10/20 [8/22]			0.6481
Cobalt sulfate and other soluble cobalt compounds, including but not limited to:	1217									1.0E-02	3.5E+01	8/23 [8/22]			1
COBALT ACETATE (TETRAHYDRATE)	71-48-7									1.0E-02	3.5E+01	8/23 [8/22]			0.3331
COBALT CHLORIDE (HEXAHYDRATE)	7646-79-9									1.0E-02	3.5E+01	8/23 [8/22]			0.4539
COBALT HYDROCARBONYL	16842-03-8									1.0E-02	3.5E+01	8/23 [8/22]			0.3428
COBALT NITRATE (HEXAHYDRATE)	10141-05-6									1.0E-02	3.5E+01	8/23 [8/22]			0.3221
COBALT OCTOATE	136-52-7									1.0E-02	3.5E+01	8/23 [8/22]			0.1708
COBALT SULFATE	10124-43-3									1.0E-02	3.5E+01	8/23 [8/22]			0.3804
COBALT SULFATE (HEPTAHYDRATE)	10026-24-1									1.0E-02	3.5E+01	8/23 [8/22]			0.3804
COPPER AND COMPOUNDS [Including but not limited to: copper fume (as copper)]	7440-50-8 [1067]	1.0E+02	4/99												1
p-CRESIDINE	120-71-8									4.3E-05	1.5E-01	4/99			1
CRESOLS (mixtures of)	1319-77-3					6.0E+02	1/01								1
m-CRESOL	108-39-4					6.0E+02	1/01								1
o-CRESOL	95-48-7					6.0E+02	1/01								1
p-CRESOL	106-44-5					6.0E+02	1/01								1
CUPFERRON	135-20-6									6.3E-05	2.2E-01	4/99			1
Cyanide Compounds (inorganic)	*57-12-5 1073*	*3.4E+02*	*4/99*			*9.0E+00*	*4/00*								*1*
Calcium cyanide	*592-01-8*	*3.4E+02*	*4/99 [8/22]*			*9.0E+00*	*4/00 [8/22]*								*1*

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HYDROGEN CYANIDE (Hydrocyanic acid)	74-90-8 *341972-31-4 191234-22-7*	3.4E+02	4/99			9.0E+00	4/00								1
Potassium cyanide	*151-50-8*	*3.4E+02*	*4/99 [8/22]*			*9.0E+00*	*4/00 [8/22]*								*1*
Sodium cyanide	*143-33-9*	*3.4E+02*	*4/99 [8/22]*			*9.0E+00*	*4/00 [8/22]*								*1*
2,4-DIAMINOANISOLE	615-05-4									6.6E-06	2.3E-02	4/99			1
2,4-DIAMINOTOLUENE	95-80-7									1.1E-03	4.0E+00	4/99			1
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8									2.0E-03	7.0E+00	4/99 [1/92]			1
p-DICHLOROBENZENE	106-46-7	8.7E+03	7/25	1.0E+01	7/25	5.0E+00	7/25			1.1E-05	4.0E-02	4/99 [1/91]			1
3,3-DICHLOROBENZIDINE	91-94-1									3.4E-04	1.2E+00	4/99 [1/91]			1
1,1,-DICHLOROETHANE (Ethylidene dichloride)	75-34-3									1.6E-06	5.7E-03	4/99			1
1,1-DICHLOROETHYLENE … (see Vinylidene Chloride)															
DI(2-ETHYLHEXYL)PHTHALATE (DEHP)	117-81-7									2.4E-06	8.4E-03	4/99 [1/92]	8.4E-03	10/00	1
DIESEL EXHAUST … (see Particulate Emissions from Diesel-Fueled Engines)															
DIETHANOLAMINE	111-42-2					3.0E+00	12/01								1
p-DIMETHYLAMINOAZOBENZENE	60-11-7									1.3E-03	4.6E+00	4/99			1
N,N-DIMETHYL FORMAMIDE	68-12-2					8.0E+01	1/01								1
2,4-DINITROTOLUENE	121-14-2									8.9E-05	3.1E-01	4/99			1
2,4-Dinitrotoluene, sulfurized	*1326-41-6*									*8.9E-05*	*3.1E-01*	*4/99 [8/22]*			*1*
1,4-DIOXANE: (1,4-Diethylene dioxide)	123-91-1	3.0E+03	4/99			3.0E+03	4/00			7.7E-06	2.7E-02	4/99 [1/91]			1
EPICHLOROHYDRIN (1-Chloro-2,3-epoxypropane)	106-89-8	1.3E+03	4/99			3.0E+00	1/01			2.3E-05	8.0E-02	4/99 [1/92]			1
1,2-EPOXYBUTANE	106-88-7					2.0E+01	1/01								1
ETHYL BENZENE	100-41-4					2.0E+03	2/00			2.5E-06	8.7E-3	11/07			1
ETHYL CHLORIDE (Chloroethane)	75-00-3					3.0E+04	4/00								1
ETHYLENE DIBROMIDE[TAC] (1,2-Dibromoethane)	106-93-4					8.0E-01	12/01			7.1E-05 TAC	2.5E-01	7/85			1
ETHYLENE DICHLORIDE[TAC] (1,2-Dichloroethane)	107-06-2					4.0E+02	1/01			2.1E-05 TAC	7.2E-02	9/85			1
ETHYLENE GLYCOL	107-21-1					4.0E+02	4/00								1
ETHYLENE GLYCOL BUTYL ETHER … (see Glycol ethers)															

Table 1
CONSOLIDATED TABLE OF OEHHA/ARB APPROVED RISK ASSESSMENT HEALTH VALUES[a]

Substance	Chemical[b] Abstract Number	Noncancer Effects								Cancer Risk					
		Acute Inhalation ($\mu g/m^3$)	Date[c] Value Reviewed [Added]	8-Hour Inhalation ($\mu g/m^3$)	Date[c] Value Reviewed [Added]	Chronic Inhalation ($\mu g/m^3$)	Date[c] Value Reviewed [Added]	Chronic Oral (mg/kg-d)	Date[c] Value Reviewed [Added]	Inhalation[d] Unit Risk $(\mu g/m^3)^{-1}$	Inhalation[d] Cancer Potency Factor $(mg/kg\text{-}d)^{-1}$	Date[c] Value Reviewed [Added]	Oral Slope Factor $(mg/kg\text{-}d)^{-1}$	Date[c] Value Reviewed [Added]	M[e] W A F
ETHYLENE OXIDE[TAC] (1,2-Epoxyethane)	75-21-8					3.0E+01	1/01			8.8E-05 TAC	3.1E-01	11/87			1
ETHYLENE THIOUREA	96-45-7									1.3E-05	4.5E-02	4/99			1
Fluorides and compounds	1101	*2.4E+02*	*4/99*			1.3E+01	8/03	4.0E-02	8/03						*1*
HYDROGEN FLUORIDE (Hydrofluoric acid)	7664-39-3	2.4E+02	4/99			1.4E+01	8/03	4.0E-02	8/03						1
Modified hydrogen fluoride {MHF}	*1141*	*2.4E+02*	*4/99 [8/22]*			*1.4E+01*	*8/03 [8/22]*	*4.0E-02*	*8/03 [8/22]*						*1*
Selenium hexafluoride	*7783-79-1*	*2.4E+02*	*4/99 [8/22]*			*1.4E+01*	*8/03 [8/22]*	*4.0E-02*	*8/03 [8/22]*						*0.5908*
Sodium aluminum fluoride	*15096-52-3*					*1.4E+01*	*8/03 [8/22]*	*4.0E-02*	*8/03 [8/22]*						*0.5429*
Sodium fluoride	*7681-49-4*					*1.4E+01*	*8/03 [8/22]*	*4.0E-02*	*8/03 [8/22]*						*0.4525*
FORMALDEHYDE[TAC]	50-00-0	5.5E+01	12/08	9.0E+00	12/08	9.0E+00	12/08			6.0E-06 TAC	2.1E-02	3/92			1
GLUTARALDEHYDE	111-30-8					8.0E-02	1/01								1
GLYCOL ETHERS	1115														1
ETHYLENE GLYCOL BUTYL ETHER – EGBE	111-76-2	4.7E+03	5/18	1.64E+02	5/18	8.2E+01	5/18								1
ETHYLENE GLYCOL ETHYL ETHER – EGEE	110-80-5	3.7E+02	4/99[1/92]			7.0E+01	2/00								1
ETHYLENE GLYCOL ETHYL ETHER ACETATE – EGEEA	111-15-9	1.4E+02	4/99			3.0E+02	2/00								1
ETHYLENE GLYCOL METHYL ETHER – EGME	109-86-4	9.3E+01	4/99			6.0E+01	2/00								1
ETHYLENE GLYCOL METHYL ETHER ACETATE – EGMEA	110-49-6					9.0E+01	2/00								1
HEXACHLOROBENZENE	118-74-1									5.1E-04	1.8E+00	4/99 [1/91]			1
HEXACHLOROCYCLOHEXANES (mixed or technical grade)	608-73-1									1.1E-03	4.0E+00	4/99 [1/91]	4.0E+00	10/00 [1/92]	1
alpha-HEXACHLOROCYCLOHEXANE	319-84-6									1.1E-03	4.0E+00	4/99 [1/91]	4.0E+00	10/00 [1/92]	1
beta-HEXACHLOROCYCLOHEXANE	319-85-7									1.1E-03	4.0E+00	4/99 [1/91]	4.0E+00	10/00 [1/92]	1
gamma-HEXACHLOROCYCLOHEXANE (Lindane)	58-89-9									3.1E-04	1.1E+00	4/99	1.1E+00	10/00	1

Table 1
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Substance	Chemical[b] Abstract Number	Noncancer Effects								Cancer Risk					
		Acute Inhalation ($\mu g/m^3$)	Date[c] Value Reviewed [Added]	8-Hour Inhalation ($\mu g/m^3$)	Date[c] Value Reviewed [Added]	Chronic Inhalation ($\mu g/m^3$)	Date[c] Value Reviewed [Added]	Chronic Oral (mg/kg-d)	Date[c] Value Reviewed [Added]	Inhalation[d] Unit Risk $(\mu g/m^3)^{-1}$	Inhalation[d] Cancer Potency Factor $(mg/kg\text{-}d)^{-1}$	Date[c] Value Reviewed [Added]	Oral Slope Factor $(mg/kg\text{-}d)^{-1}$	Date[c] Value Reviewed [Added]	M[e] W A F
1,6-HEXAMETHYLENE DIISOCYANATE (monomer)[n]	822-06-0	0.3	9/19	0.06	9/19	0.03	9/19								1
n-HEXANE	110-54-3					7.0E+03	4/00								1
HYDRAZINE	302-01-2					2.0E-01	1/01			4.9E-03	1.7E+01	4/99 [7/90]			1
HYDROCHLORIC ACID (Hydrogen chloride)	7647-01-0	2.1E+03	4/99			9.0E+00	2/00								1
HYDROGEN BROMIDE … (see Bromine & Compounds)															
HYDROGEN CYANIDE … (see Cyanide & Compounds)															
HYDROGEN FLUORIDE … (see Fluorides & Compounds)															
HYDROGEN SELENIDE … (see Selenium & Compounds)															
HYDROGEN SULFIDE	7783-06-4	4.2E+01	4/99[7/90]			1.0E+01	4/00								1
ISOPHORONE	78-59-1					2.0E+03	12/01								1
ISOPRENE	78-79-5									5.4E-06	1.9E-02	[01/25]			1
ISOPROPYL ALCOHOL (Isopropanol)	67-63-0	3.2E+03	4/99			7.0E+03	2/00								1
LEAD AND COMPOUNDS[TAC, h] (inorganic) *values also apply to:*	7439-92-1 1128 [1130]									1.2E-05 TAC	4.2E-02	4/97	8.5E-03	10/00	1
Lead acetate	*301-04-2*									*1.2E-05 TAC*	*4.2E-02*	*4/97*	*8.5E-03*	*10/00*	*0.637*
Lead phosphate	*7446-27-7*									*1.2E-05 TAC*	*4.2E-02*	*4/97*	*8.5E-03*	*10/00*	*0.7659*
Lead subacetate	*1335-32-6*									*1.2E-05 TAC*	*4.2E-02*	*4/97*	*8.5E-03*	*10/00*	*0.7696*
LINDANE ... (see gamma-Hexachlorocyclohexane)															
MALEIC ANHYDRIDE	108-31-6					7.0E-01	12/01								1
MANGANESE AND COMPOUNDS	7439-96-5 [1132]			1.7E-01	12/08	9.0E-02	12/08								1
Manganese cyclopentadienyl tricarbonyl	*12079-65-1*			*1.7E-01*	*12/08 [8/22]*	*9.0E-02*	*12/08 [8/22]*								*0.2694*
2-Methylcyclopentadienyl manganese tricarbonyl	*12108-13-3*			*1.7E-01*	*12/08 [8/22]*	*9.0E-02*	*12/08 [8/22]*								*0.2521*
MERCURY AND COMPOUNDS (INORGANIC)	7439-97-6 [1133]	6.0E-01	12/08	6.0E-02	12/08	3.0E-02	12/08	1.6E-04	12/08						1
Mercuric chloride	*7487-94-7*	*6.0E-01*	*12/08*	*6.0E-02*	*12/08*	*3.0E-02*	*12/08*	*1.6E-04*	*12/08*						*1*
METHANOL	67-56-1	2.8E+04	4/99			4.0E+03	4/00								1
METHYL BROMIDE (Bromomethane)	74-83-9	3.9E+03	4/99			5.0E+00	2/00								1

Table last updated: September 25, 2025

Table 1
CONSOLIDATED TABLE OF OEHHA/ARB APPROVED RISK ASSESSMENT HEALTH VALUES[a]

Substance	Chemical[b] Abstract Number	Noncancer Effects								Cancer Risk					
		Acute Inhalation ($\mu g/m^3$)	Date[c] Value Reviewed [Added]	8-Hour Inhalation ($\mu g/m^3$)	Date[c] Value Reviewed [Added]	Chronic Inhalation ($\mu g/m^3$)	Date[c] Value Reviewed [Added]	Chronic Oral (mg/kg-d)	Date[c] Value Reviewed [Added]	Inhalation[d] Unit Risk $(\mu g/m^3)^{-1}$	Inhalation[d] Cancer Potency Factor $(mg/kg\text{-}d)^{-1}$	Date[c] Value Reviewed [Added]	Oral Slope Factor $(mg/kg\text{-}d)^{-1}$	Date[c] Value Reviewed [Added]	M[e] W A F
METHYL tertiary-BUTYL ETHER	1634-04-4					8.0E+03	2/00			2.6E-07	1.8E-03	11/99			1
METHYL CHLOROFORM (1,1,1-Trichloroethane)	71-55-6	6.8E+04	4/99			1.0E+03	2/00								1
METHYL ETHYL KETONE (2-Butanone)	78-93-3	1.3E+04	4/99												1
METHYL ISOCYANATE	624-83-9					1.0E+00	12/01								1
4,4'-METHYLENE BIS (2-CHLOROANILINE) (MOCA)	101-14-4									4.3E-04	1.5E+00	4/99			1
METHYLENE CHLORIDE[TAC] (Dichloromethane)	75-09-2	1.4E+04	4/99			4.0E+02	2/00			1.0E-06 TAC	3.5E-03	7/89			1
4,4'-METHYLENE DIANILINE (AND ITS DICHLORIDE)	101-77-9					2.0E+01	12/01			4.6E-04	1.6E+00	4/99	1.6E+00	10/00	1
METHYLENE DIPHENYL DIISOCYANATE	101-68-8	1.2E+01	3/16	1.6E-01	3/16	8.0E-02	3/16								1
MICHLER'S KETONE (4,4'-Bis(dimethylamino)benzophenone)	90-94-8									2.5E-04	8.6E-01	4/99			1
N-NITROSODI-n-BUTYLAMINE	924-16-3									3.1E-03	1.1E+01	4/99 [1/92]			1
N-NITROSODI-n-PROPYLAMINE	621-64-7									2.0E-03	7.0E+00	4/99 [1/91]			1
N-NITROSODIETHYLAMINE	55-18-5									1.0E-02	3.6E+01	4/99 [1/91]			1
N-NITROSODIMETHYLAMINE	62-75-9									4.6E-03	1.6E+01	4/99 [1/91]			1
N-NITROSODIPHENYLAMINE	86-30-6									2.6E-06	9.0E-03	4/99			1
N-NITROSO-N-METHYLETHYLAMINE	10595-95-6									6.3E-03	2.2E+01	4/99 [7/90]			1
N-NITROSOMORPHOLINE	59-89-2									1.9E-03	6.7E+00	4/99 [7/92]			1
N-NITROSOPIPERIDINE	100-75-4									2.7E-03	9.4E+00	4/99 [7/92]			1
N-NITROSOPYRROLIDINE	930-55-2									6.0E-04	2.1E+00	4/99 [7/90]			1
NAPHTHALENE ... (see Polycyclic aromatic hydrocarbons)															
NICKEL AND COMPOUNDS[TAC] *values also apply to:*	7440-02-0 [1145]	2.0E-01	3/12	6.0E-02	3/12	1.4E-02	3/12	1.1E-02	3/12	2.6E-04 TAC	9.1E-01	8/91			1
Nickel acetate	*373-02-4*	*2.0E-01*	*3/12*	*6.0E-02*	*3/12*	*1.4E-02*	*3/12*	*1.1E-02*	*3/12*	*2.6E-04 TAC*	*9.1E-01*	*8/91*			*0.3321*
Nickel carbonate	*3333-67-3*	*2.0E-01*	*3/12*	*6.0E-02*	*3/12*	*1.4E-02*	*3/12*	*1.1E-02*	*3/12*	*2.6E-04 TAC*	*9.1E-01*	*8/91*			*0.4945*
Nickel carbonyl	*13463-39-3*	*2.0E-01*	*3/12*	*6.0E-02*	*3/12*	*1.4E-02*	*3/12*	*1.1E-02*	*3/12*	*2.6E-04 TAC*	*9.1E-01*	*8/91*			*0.3438*
Nickel chloride	*7718-54-9*	*2.0E-01*	*3/12 [8/22]*	*6.0E-02*	*3/12 [8/22]*	*1.4E-02*	*3/12 [8/22]*	*1.1E-02*	*3/12 [8/22]*	*2.6E-04 TAC*	*9.1E-01*	*8/91 [8/22]*			*0.4529*

Table last updated: September 25, 2025

Table 1
CONSOLIDATED TABLE OF OEHHA/ARB APPROVED RISK ASSESSMENT HEALTH VALUES[a]

Substance	Chemical[b] Abstract Number	Noncancer Effects								Cancer Risk					
		Acute Inhalation ($\mu g/m^3$)	Date[c] Value Reviewed [Added]	8-Hour Inhalation ($\mu g/m^3$)	Date[c] Value Reviewed [Added]	Chronic Inhalation ($\mu g/m^3$)	Date[c] Value Reviewed [Added]	Chronic Oral (mg/kg-d)	Date[c] Value Reviewed [Added]	Inhalation[d] Unit Risk $(\mu g/m^3)^{-1}$	Inhalation[d] Cancer Potency Factor $(mg/kg\text{-}d)^{-1}$	Date[c] Value Reviewed [Added]	Oral Slope Factor $(mg/kg\text{-}d)^{-1}$	Date[c] Value Reviewed [Added]	M[e] W A F
Nickel hydroxide	*12054-48-7*	*2.0E-01*	*3/12*	*6.0E-02*	*3/12*	*1.4E-02*	*3/12*	*1.1E-02*	*3/12*	*2.6E-04 TAC*	*9.1E-01*	*8/91*			*0.6332*
Nickel nitrate {Nickel (II) nitrate}	*13138-45-9*	*2.0E-01*	*3/12 [8/22]*	*6.0E-02*	*3/12 [8/22]*	*1.4E-02*	*3/12 [8/22]*	*1.1E-02*	*3/12 [8/22]*	*2.6E-04 TAC*	*9.1E-01*	*8/91 [8/22]*			*0.3213*
Nickelocene	*1271-28-9*	*2.0E-01*	*3/12*	*6.0E-02*	*3/12*	*1.4E-02*	*3/12*	*1.1E-02*	*3/12*	*2.6E-04 TAC*	*9.1E-01*	*8/91*			*0.4937*
NICKEL OXIDE	1313-99-1	*2.0E-01*	*3/12*	*6.0E-02*	*3/12*	2.0E-02	3/12	*1.1E-02*	*3/12*	*2.6E-04 TAC*	*9.1E-01*	*8/91*			0.7859
Nickel refinery dust from the pyrometallurgical process	*1146*	*2.0E-01*	*3/12*	*6.0E-02*	*3/12*	*1.4E-02*	*3/12*	*1.1E-02*	*3/12*	*2.6E-04 TAC*	*9.1E-01*	*8/91*			*1*
Nickel subsulfide	*12035-72-2*	*2.0E-01*	*3/12*	*6.0E-02*	*3/12*	*1.4E-02*	*3/12*	*1.1E-02*	*3/12*	*2.6E-04 TAC*	*9.1E-01*	*8/91*			*0.2443*
Nickel sulfate	*7786-81-4*	*2.0E-01*	*3/12 [8/22]*	*6.0E-02*	*3/12 [8/22]*	*1.4E-02*	*3/12 [8/22]*	*1.1E-02*	*3/12 [8/22]*	*2.6E-04 TAC*	*9.1E-01*	*8/91 [8/22]*			*0.3794*
NITRIC ACID	7697-37-2	8.6E+01	4/99												1
NITROGEN DIOXIDE	10102-44-0	4.7E+02	4/99[1/92]												1
p-NITROSODIPHENYLAMINE	156-10-5									6.3E-06	2.2E-02	4/99			1
OZONE	10028-15-6	1.8E+02	4/99[1/92]												1
PARTICULATE EMISSIONS FROM DIESEL-FUELED ENGINES[TAC, i]	9901					5.0E+00 TAC	8/98			3.0E-04 TAC	1.1E+00	8/98			1
PENTACHLOROPHENOL ... (see Chlorophenols)															
PERCHLOROETHYLENE[TAC] (Tetrachloroethylene)	127-18-4	2.0E+04	4/99			3.5E+01 TAC	10/91			6.1E-06 TAC	2.1E-02	10/91			1
PHENOL	108-95-2	5.8E+03	4/99			2.0E+02	4/00								1
PHOSGENE	75-44-5	4.0E+00	4/99												1
PHOSPHINE	7803-51-2					8.0E-01	9/02								1
PHOSPHORIC ACID	7664-38-2					7.0E+00	2/00								1
PHTHALIC ANHYDRIDE	85-44-9					2.0E+01	1/01								1
PCB (POLYCHLORINATED BIPHENYLS) (unspeciated mixture) [j]	1336-36-3									2.0E-05 [lowest risk] 1.1E-04 [low risk] 5.7E-04 [high risk]	7.0E-02 [lowest risk] 4.0E-01 [low risk] 2.0E+00 [high risk]	4/99	7.0E-02 [lowest risk] 4.0E-01 [low risk] 2.0E+00 [high risk]	10/00	1
PCB (POLYCHLORINATED BIPHENYLS (speciated)[k]															
3,3',4,4'-TETRACHLOROBIPHENYL (PCB 77)	32598-13-3					4.0E-01	8/03	1.0E-04	8/03	3.8E-03	1.3E+01	8/03	1.3E+01	8/03	1
3,4,4',5-TETRACHLOROBIPHENYL (PCB 81)	70362-50-4					1.3E-01	1/11	3.3E-05	1/11	1.1E-02	3.9E+01	1/11	3.9E+01	1/11	1

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Substance	Chemical[b] Abstract Number	Noncancer Effects								Cancer Risk					
		Acute Inhalation ($\mu g/m^3$)	Date[c] Value Reviewed [Added]	8-Hour Inhalation ($\mu g/m^3$)	Date[c] Value Reviewed [Added]	Chronic Inhalation ($\mu g/m^3$)	Date[c] Value Reviewed [Added]	Chronic Oral (mg/kg-d)	Date[c] Value Reviewed [Added]	Inhalation[d] Unit Risk $(\mu g/m^3)^{-1}$	Inhalation[d] Cancer Potency Factor $(mg/kg\text{-}d)^{-1}$	Date[c] Value Reviewed [Added]	Oral Slope Factor $(mg/kg\text{-}d)^{-1}$	Date[c] Value Reviewed [Added]	M[e] W A F
2,3,3',4,4'-PENTACHLOROBIPHENYL (PCB 105)	32598-14-4					1.3E+00	1/11	3.3E-04	1/11	1.1E-03	3.9E+00	1/11	3.9E+00	1/11	1
2,3,4,4',5-PENTACHLOROBIPHENYL (PCB 114)	74472-37-0					1.3E+00	1/11	3.3E-04	1/11	1.1E-03	3.9E+00	1/11	3.9E+00	1/11	1
2,3',4,4',5-PENTACHLOROBIPHENYL (PCB 118)	31508-00-6					1.3E+00	1/11	3.3E-04	1/11	1.1E-03	3.9E+00	1/11	3.9E+00	1/11	1
2,3',4,4',5'-PENTACHLOROBIPHENYL (PCB 123)	65510-44-3					1.3E+00	1/11	3.3E-04	1/11	1.1E-03	3.9E+00	1/11	3.9E+00	1/11	1
3,3',4,4',5-PENTACHLOROBIPHENYL (PCB 126)	57465-28-8					4.0E-04	8/03	1.0E-07	8/03	3.8E+00	1.3E+04	8/03	1.3E+04	8/03	1
2,3,3',4,4',5-HEXACHLOROBIPHENYL (PCB 156)	38380-08-4					1.3E+00	1/11	3.3E-04	1/11	1.1E-03	3.9E+00	1/11	3.9E+00	1/11	1
2,3,3',4,4',5'-HEXACHLOROBIPHENYL (PCB 157)	69782-90-7					1.3E+00	1/11	3.3E-04	1/11	1.1E-03	3.9E+00	1/11	3.9E+00	1/11	1
2,3',4,4',5,5'-HEXACHLOROBIPHENYL (PCB 167)	52663-72-6					1.3E+00	1/11	3.3E-04	1/11	1.1E-03	3.9E+00	1/11	3.9E+00	1/11	1
3,3',4,4',5,5'-HEXACHLOROBIPHENYL (PCB 169)	32774-16-6					1.3E-03	1/11	3.3E-07	1/11	1.1E+00	3.9E+03	1/11	3.9E+03	1/11	1
2,3,3',4,4',5,5'-HEPTACHLOROBIPHENYL (PCB 189)	39635-31-9					1.3E+00	1/11	3.3E-04	1/11	1.1E-03	3.9E+00	1/11	3.9E+00	1/11	1
POLYCHLORINATED DIBENZO-*P*-DIOXINS (PCDD) (Treated as 2,3,7,8-TCDD for HRA)[TAC, k]	1085 1086					4.0E-05	2/00	1.0E-08	10/00	3.8E+01 TAC	1.3E+05	8/86	1.3E+05 TAC	8/86	1
2,3,7,8-TETRACHLORODIBENZO-*P*-DIOXIN[TAC]	1746-01-6					4.0E-05	2/00	1.0E-08	10/00	3.8E+01 TAC	1.3E+05	8/86	1.3E+05 TAC	8/86	1
1,2,3,7,8-PENTACHLORODIBENZO-*P*-DIOXIN	40321-76-4					4.0E-05	8/03	1.0E-08	8/03	3.8E+01	1.3E+05	8/03	1.3E+05	8/03	1
1,2,3,4,7,8-HEXACHLORODIBENZO-*P*-DIOXIN	39227-28-6					4.0E-04	2/00	1.0E-07	10/00	3.8E+00	1.3E+04	4/99	1.3E+04	10/00	1
1,2,3,6,7,8-HEXACHLORODIBENZO-*P*-DIOXIN	57653-85-7					4.0E-04	2/00	1.0E-07	10/00	3.8E+00	1.3E+04	4/99	1.3E+04	10/00	1

Table 1
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Substance	Chemical[b] Abstract Number	Noncancer Effects								Cancer Risk					
		Acute Inhalation ($\mu g/m^3$)	Date[c] Value Reviewed [Added]	8-Hour Inhalation ($\mu g/m^3$)	Date[c] Value Reviewed [Added]	Chronic Inhalation ($\mu g/m^3$)	Date[c] Value Reviewed [Added]	Chronic Oral (mg/kg-d)	Date[c] Value Reviewed [Added]	Inhalation[d] Unit Risk $(\mu g/m^3)^{-1}$	Inhalation[d] Cancer Potency Factor $(mg/kg\text{-}d)^{-1}$	Date[c] Value Reviewed [Added]	Oral Slope Factor $(mg/kg\text{-}d)^{-1}$	Date[c] Value Reviewed [Added]	M[e] W A F
1,2,3,7,8,9-HEXACHLORODIBENZO-*P*-DIOXIN	19408-74-3					4.0E-04	2/00	1.0E-07	10/00	3.8E+00	1.3E+04	4/99	1.3E+04	10/00	1
1,2,3,4,6,7,8-HEPTACHLORODIBENZO-*P*-DIOXIN	35822-46-9					4.0E-03	2/00	1.0E-06	10/00	3.8E-01	1.3E+03	4/99	1.3E+03	10/00	1
1,2,3,4,6,7,8,9-OCTACHLORODIBENZO-*P*-DIOXIN	3268-87-9					1.3E-01	1/11	3.3E-05	1/11	1.1E-02	3.9E+01	1/11	3.9E+01	1/11	1
POLYCHLORINATED DIBENZOFURANS (PCDF)[TAC, k] (Treated as 2,3,7,8-TCDD for HRA)	1080					4.0E-05	2/00	1.0E-08	10/00	3.8E+01 TAC	1.3E+05	8/86	1.3E+05 TAC	8/86	1
2,3,7,8-TETRACHLORODIBENZOFURAN	5120-73-19					4.0E-04	2/00	1.0E-07	10/00	3.8E+00	1.3E+04	4/99	1.3E+04	10/00	1
1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6					1.3E-03	1/11	3.3E-07	1/11	1.1E+00	3.9E +03	1/11	3.9E +03	1/11	1
2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4					1.3E-04	1/11	3.3E-08	1/11	1.1E+01	3.9E +04	1/11	3.9E +04	1/11	1
1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9					4.0E-04	2/00	1.0E-07	10/00	3.8E+00	1.3E+04	4/99	1.3E+04	10/00	1
1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9					4.0E-04	2/00	1.0E-07	10/00	3.8E+00	1.3E+04	4/99	1.3E+04	10/00	1
1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9					4.0E-04	2/00	1.0E-07	10/00	3.8E+00	1.3E+04	4/99	1.3E+04	10/00	1
2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5					4.0E-04	2/00	1.0E-07	10/00	3.8E+00	1.3E+04	4/99	1.3E+04	10/00	1
1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4					4.0E-03	2/00	1.0E-06	10/00	3.8E-01	1.3E+03	4/99	1.3E+03	10/00	1
1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7					4.0E-03	2/00	1.0E-06	10/00	3.8E-01	1.3E+03	4/99	1.3E+03	10/00	1
1,2,3,4,6,7,8,9-OCTACHLORODIBENZOFURAN	39001-02-0					1.3E-01	1/11	3.3E-05	1/11	1.1E-02	3.9E +01	1/11	3.9E +01	1/11	1
POLYCYCLIC AROMATIC HYDROCARBON (PAH)[l] [Treated as B(a)P for HRA][l]	1150 1151									1.1E-03	3.9E+00	4/99 [4/94]	1.2E+01	10/00 [4/94]	1
BENZ(A)ANTHRACENE[l]	56-55-3									1.1E-04	3.9E-01	4/99 [4/94]	1.2E+00	10/00 [4/94]	1
BENZO(A)PYRENE[l]	50-32-8									1.1E-03	3.9E+00	4/99 [4/94]	1.2E+01	10/00 [4/94]	1
BENZO(B)FLUORANTHENE[l]	205-99-2									1.1E-04	3.9E-01	4/99 [4/94]	1.2E+00	10/00 [4/94]	1
BENZO(J)FLUORANTHENE[l]	205-82-3									1.1E-04	3.9E-01	4/99 [4/94]	1.2E+00	10/00 [4/94]	1

Table last updated: September 25, 2025

Table 1
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Substance	Chemical[b] Abstract Number	Noncancer Effects								Cancer Risk					
		Acute Inhalation ($\mu g/m^3$)	Date[c] Value Reviewed [Added]	8-Hour Inhalation ($\mu g/m^3$)	Date[c] Value Reviewed [Added]	Chronic Inhalation ($\mu g/m^3$)	Date[c] Value Reviewed [Added]	Chronic Oral (mg/kg-d)	Date[c] Value Reviewed [Added]	Inhalation[d] Unit Risk $(\mu g/m^3)^{-1}$	Inhalation[d] Cancer Potency Factor $(mg/kg\text{-}d)^{-1}$	Date[c] Value Reviewed [Added]	Oral Slope Factor $(mg/kg\text{-}d)^{-1}$	Date[c] Value Reviewed [Added]	M[e] W A F
BENZO(K)FLUORANTHENE[l]	207-08-9									1.1E-04	3.9E-01	4/99 [4/94]	1.2E+00	10/00 [4/94]	1
CHRYSENE[l]	218-01-9									1.1E-05	3.9E-02	4/99 [4/94]	1.2E-01	10/00 [4/94]	1
DIBENZ(A,H)ACRIDINE[l]	226-36-8									1.1E-04	3.9E-01	4/99 [4/94]	1.2E+00	10/00 [4/94]	1
DIBENZ(A,H)ANTHRACENE[l]	53-70-3									1.2E-03	4.1E+00	4/99 [4/94]	4.1E+00	10/00 [4/94]	1
DIBENZ(A,J)ACRIDINE[l]	224-42-0									1.1E-04	3.9E-01	4/99 [4/94]	1.2E+00	10/00 [4/94]	1
DIBENZO(A,E)PYRENE[l]	192-65-4									1.1E-03	3.9E+00	4/99 [4/94]	1.2E+01	10/00 [4/94]	1
DIBENZO(A,H)PYRENE[l]	189-64-0									1.1E-02	3.9E+01	4/99 [4/94]	1.2E+02	10/00 [4/94]	1
DIBENZO(A,I)PYRENE[l]	189-55-9									1.1E-02	3.9E+01	4/99 [4/94]	1.2E+02	10/00 [4/94]	1
DIBENZO(A,L)PYRENE[l]	191-30-0									1.1E-02	3.9E+01	4/99 [4/94]	1.2E+02	10/00 [4/94]	1
7H-DIBENZO(C,G)CARBAZOLE[l]	194-59-2									1.1E-03	3.9E+00	4/99 [4/94]	1.2E+01	10/00 [4/94]	1
7,12-DIMETHYLBENZ(A)ANTHRACENE[l]	57-97-6									7.1E-02	2.5E+02	4/99 [4/94]	2.5E+02	10/00 [4/94]	1
1,6-DINITROPYRENE[l]	42397-64-8									1.1E-02	3.9E+01	4/99 [4/94]	1.2E+02	10/00 [4/94]	1
1,8-DINITROPYRENE[l]	42397-65-9									1.1E-03	3.9E+00	4/99 [4/94]	1.2E+01	10/00 [4/94]	1
INDENO(1,2,3-C,D)PYRENE[l]	193-39-5									1.1E-04	3.9E-01	4/99 [4/94]	1.2E+00	10/00 [4/94]	1
3-METHYLCHOLANTHRENE[l]	56-49-5									6.3E-03	2.2E+01	4/99 [4/94]	2.2E+01	10/00 [4/94]	1
5-METHYLCHRYSENE[l]	3697-24-3									1.1E-03	3.9E+00	4/99 [4/94]	1.2E+01	10/00 [4/94]	1
NAPHTHALENE	91-20-3					9.0E+00	4/00			3.4E-05	1.2E-01	8/04			1
5-NITROACENAPHTHENE[l]	602-87-9									3.7E-05	1.3E-01	4/99 [4/94]	1.3E-01	10/00 [4/94]	1
6-NITROCHRYSENE[l]	7496-02-8									1.1E-02	3.9E+01	4/99 [4/94]	1.2E+02	10/00 [4/94]	1
2-NITROFLUORENE[l]	607-57-8									1.1E-05	3.9E-02	4/99 [4/94]	1.2E-01	10/00 [4/94]	1
1-NITROPYRENE[l]	5522-43-0									1.1E-04	3.9E-01	4/99 [4/94]	1.2E+00	10/00 [4/94]	1

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Substance	Chemical[b] Abstract Number	Noncancer Effects								Cancer Risk					
		Acute Inhalation ($\mu g/m^3$)	Date[c] Value Reviewed [Added]	8-Hour Inhalation ($\mu g/m^3$)	Date[c] Value Reviewed [Added]	Chronic Inhalation ($\mu g/m^3$)	Date[c] Value Reviewed [Added]	Chronic Oral (mg/kg-d)	Date[c] Value Reviewed [Added]	Inhalation[d] Unit Risk $(\mu g/m^3)^{-1}$	Inhalation[d] Cancer Potency Factor $(mg/kg\text{-}d)^{-1}$	Date[c] Value Reviewed [Added]	Oral Slope Factor $(mg/kg\text{-}d)^{-1}$	Date[c] Value Reviewed [Added]	M[e] W A F
4-NITROPYRENE[l]	57835-92-4									1.1E-04	3.9E-01	4/99 [4/94]	1.2E+00	10/00 [4/94]	1
POLYMERIC (OLIGO) HEXAMETHYLENE-1,6-DIISOCYANATE (HDI)	1221	4.5E+00	9/19 [8/22]	8.0E-01	9/19 [8/22]	4.0E-01	9/19 [8/22]								1
ALIPHATIC POLYISOCYANATE	160994-68-3	4.5E+00	8/25	8.0E-01	8/25	4.0E-01	8/25								1
BIURET	108-19-0	4.5E+00	9/19 [8/22]	8.0E-01	9/19 [8/22]	4.0E-01	9/19 [8/22]								1
DIISOCYANURATE	1226	4.5E+00	9/19 [8/22]	8.0E-01	9/19 [8/22]	4.0E-01	9/19 [8/22]								1
HDI PREPOLYMER	1227	4.5E+00	9/19 [8/22]	8.0E-01	9/19 [8/22]	4.0E-01	9/19 [8/22]								1
HEXAMETHYLENE DIISOCYANATE HOMOPOLYMER	28182-81-2	4.5E+00	9/25	8.0E-01	9/25	4.0E-01	9/25								1
HEXAMETHYLENE DIISOCYANATE ISOCYANURATE TRIMER	3779-63-3	4.5E+00	9/25	8.0E-01	9/25	4.0E-01	9/25								1
HEXANE, 1,6-DIISOCYANATO-, HOMOPOLYMER, POLYETHYLENE-POLYPROPYLENE GLYCOL MONOBUTYL ETHER-BLOCKED	125252-47-3	4.5E+00	8/25	8.0E-01	8/25	4.0E-01	8/25								1
ISOCYANURATE	1228	4.5E+00	9/19 [8/22]	8.0E-01	9/19 [8/22]	4.0E-01	9/19 [8/22]								1
URETDIONE (HDI) {URETIDONE}	23501-81-7	4.5E+00	9/19 [8/22]	8.0E-01	9/19 [8/22]	4.0E-01	9/19 [8/22]								1
POTASSIUM BROMATE.... ... (see Bromine & Compounds)															1
1,3-PROPANE SULTONE	1120-71-4									6.9E-04	2.4E+00	4/99			1
PROPYLENE (PROPENE)	115-07-1					3.0E+03	4/00								1
PROPYLENE GLYCOL MONOMETHYL ETHER	107-98-2					7.0E+03	2/00								1
PROPYLENE OXIDE	75-56-9	3.1E+03	4/99			3.0E+01	2/00			3.7E-06	1.3E-02	4/99 [7/90]			1
SELENIUM AND COMPOUNDS[m]	7782-49-2 [1170]					2.0E+01	12/01	5.0E-03	12/01						1
HYDROGEN SELENIDE	7783-07-5	5.0E+00	4/99												1
Selenium sulfide	*7446-34-6*					*2.0E+01*	*12/01*	*5.0E-03*	*12/01*						*1*
Selenium hexafluoride see Fluorides and Compounds															
SILICA [CRYSTALLINE, RESPIRABLE]	1175					3.0E+00	2/05								1
Silica, crystalline (respirable), in the form of cristobalite	*14464-46-1*					*3.0E+00*	*2/05 [8/22]*								*1*
Silica, crystalline (respirable), in the form of quartz	*14808-60-7*					*3.0E+00*	*2/05 [8/22]*								*1*
SODIUM HYDROXIDE	1310-73-2	8.0E+00	4/99												1
STYRENE	100-42-5	2.1E+04	4/99			9.0E+02	4/00								1

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Substance	Chemical[b] Abstract Number	Noncancer Effects								Cancer Risk					
		Acute Inhalation ($\mu g/m^3$)	Date[c] Value Reviewed [Added]	8-Hour Inhalation ($\mu g/m^3$)	Date[c] Value Reviewed [Added]	Chronic Inhalation ($\mu g/m^3$)	Date[c] Value Reviewed [Added]	Chronic Oral (mg/kg-d)	Date[c] Value Reviewed [Added]	Inhalation[d] Unit Risk $(\mu g/m^3)^{-1}$	Inhalation[d] Cancer Potency Factor $(mg/kg\text{-}d)^{-1}$	Date[c] Value Reviewed [Added]	Oral Slope Factor $(mg/kg\text{-}d)^{-1}$	Date[c] Value Reviewed [Added]	M[e] W A F
SULFATES	9960	1.2E+02	4/99												1
SULFUR DIOXIDE	7446-09-5	6.6E+02	4/99 [1/92]												1
SULFURIC ACID	7664-93-9	1.2E+02	4/99			1.0E+00	12/01								1
SULFUR TRIOXIDE	*7446-71-9*	*1.2E+02*	*4/99*			*1.0E+00*	*12/01*								*1*
OLEUM	8014-95-7	1.2E+02	4/99												1
TERTIARY-BUTYL-ACETATE (TBAc)	540-88-5									1.3E-06	4.7E-03	8/18	5.0E-03	8/18	1
1,1,2,2-TETRACHLOROETHANE	79-34-5									5.8E-05	2.0E-01	4/99			1
TETRACHLOROPHENOLS ... (see Chlorophenols)															
2,4,5-TRICHLOROPHENOL ... (see Chlorophenols)															
2,4,6-TRICHLOROPHENOL ... (see Chlorophenols)															
THIOACETAMIDE	62-55-5									1.7E-03	6.1E+00	4/99			1
TOLUENE	108-88-3	5.0E+03	8/20	8.3E+02	8/20	4.2E+02	8/20								1
Toluene diisocyantates	*26471-62-5*	*2.0E+00*	*3/16*	*1.5E-02*	*3/16*	*8.0E-03*	*3/16*			*1.1E-05*	*3.9E-02*	*4/99*			*1*
TOLUENE-2,4-DIISOCYANATE	584-84-9	2.0E+00	3/16	1.5E-02	3/16	8.0E-03	3/16			1.1E-05	3.9E-02	4/99			1
TOLUENE-2,6-DIISOCYANATE	91-08-7	2.0E+00	3/16	1.5E-02	3/16	8.0E-03	3/16			1.1E-05	3.9E-02	4/99			1
1,1,2-TRICHLOROETHANE (Vinyl trichloride)	79-00-5									1.6E-05	5.7E-02	4/99			1
TRICHLOROETHYLENE[TAC]	79-01-6					6.0E+02	4/00			2.0E-06 TAC	7.0E-03	10/90			1
TRIETHYLAMINE	121-44-8	2.8E+03	4/99			2.0E+02	9/02								1
TRIMETHYLBENZENES	25551-13-7	2.4E+03	10/23	8.0E+00	10/23	4.0E+00	10/23								1
1,2,3-TRIMETHYLBENZENE	526-73-8	2.4E+03	10/23	8.0E+00	10/23	4.0E+00	10/23								1
1,2,4-TRIMETHYLBENZENE	95-63-6	2.4E+03	10/23	8.0E+00	10/23	4.0E+00	10/23								1
1,3,5-TRIMETHYLBENZENE	108-67-8	2.4E+03	10/23	8.0E+00	10/23	4.0E+00	10/23								1
URETHANE (Ethyl carbamate)	51-79-6									2.9E-04	1.0E+00	4/99 [7/90]			1
Vanadium Compounds	*N/A*														*1*
Vanadium (fume or dust)	*7440-62-2*	*3.0E+01*	*4/99*												*1*
VANADIUM PENTOXIDE	1314-62-1	3.0E+01	4/99												1
VINYL ACETATE	108-05-4					2.0E+02	12/01								1
VINYL CHLORIDE[TAC] (Chloroethylene)	75-01-4	1.8E+05	4/99							7.8E-05 TAC	2.7E-01	12/90			1
VINYLIDENE CHLORIDE (1,1-Dichloroethylene)	75-35-4					7.0E+01	1/01								1

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XYLENES (mixed isomers)	1330-20-7	2.2E+04	4/99			7.0E+02	4/00								1
m-XYLENE	108-38-3	2.2E+04	4/99			7.0E+02	4/00								1
o-XYLENE	95-47-6	2.2E+04	4/99			7.0E+02	4/00								1
p-XYLENE	106-42-3	2.2E+04	4/99			7.0E+02	4/00								1

Table 1
CONSOLIDATED TABLE OF OEHHA/ARB APPROVED RISK ASSESSMENT HEALTH VALUES[a]

Purpose:	The purpose of this reference table is to provide a quick list of all health values that have been approved by the Office of Environmental Health Hazard Assessment (OEHHA) and the Air Resources Board (ARB) for use in facility health risk assessments conducted for the AB 2588 Air Toxics "Hot Spots" Program. The OEHHA has developed and adopted new risk assessment guidelines that update and replace the California Air Pollution Control Officers Association's (CAPCOA) *Air Toxics "Hot Spots" Program Revised 1992 Risk Assessment Guidelines, October 1993*. The OEHHA has adopted three technical support documents for these guidelines, which can be found on their website (http://www.oehha.ca.gov/air/hot_spots/index.html). This table lists the OEHHA adopted inhalation and oral cancer slope factors, noncancer acute Reference Exposure Levels (RELs), and inhalation and oral noncancer chronic RELs. OEHHA is still in the process of adopting new health values. Therefore, new health values will periodically be added to, or deleted from, this table. Users of this table are advised to monitor the OEHHA website (*www.oehha.ca.gov*) for any updates to the health values. May 2008 update: The Air Resources Board adopted amendments to the AB 2588 Air Toxics "Hot Spots" Emission Inventory Criteria and Guidelines Regulation (Title 17, California Code of Regulations, Section 93300.5) on November 16, 2006. The amendments became effective on September 26, 2007, after approval from the Office of Administrative Law. Under the new amendments, the substances previously listed in Appendix A-I *(Substances for Which Emissions Must Be Quantified*) and Appendix F (*Criteria For Inputs For Risk Assessment Using Screening Air Dispersion Modeling*) of the ARB's *Air Toxics "Hot Spots" Emission Inventory Criteria and Guidelines (EICG) (July 1997)* have been removed from this table. September 2022 update: The Air Resources Board adopted amendments to the AB 2588 Air Toxics "Hot Spots" Emission Inventory Criteria and Guidelines Regulation (Title 17, California Code of Regulations, Section 93300.5) on November 19, 2020. The amendments became effective on March 21, 2022, after approval from the Office of Administrative Law. Under the new amendments a number of pollutants were added to Appendix A-1: *Substances for Which Emissions Must be Quantified*. OEHHA was consulted to determine which existing health values may be applied to these new pollutants. OEHHA applied health values to 61 pollutants. OEHHA also helped determine the appropriate MWAF, if applicable. NOTE ON REPORTING UNDER HOT SPOTS PROGRAM: New chemicals that are reported by a facility due to being covered by one of the chemical "functional group" definitions, which are shown at the end of EICG Appendix A-I (i.e., the functional groups related to isocyanates, halogenated PAHs, and certain types of per/poly fluorinated compounds), should be discussed with CARB and/or OEHHA to determine whether an OEHHA health value may apply to them.
a	The *italic* font used in this table is designed to clarify applicability of OEHHA adopted health effects values to individual or grouped substances listed in the *Air Toxics "Hot Spots" Emission Inventory Criteria and Guidelines*, Appendix A-I list of *"Substances for Which Emissions Must Be Quantified"*.
b	Chemical Abstract Service Number (CAS): For chemical groupings and mixtures where a CAS number is not applicable, the 4-digit code used in the *Air Toxics "Hot Spots" Emission Inventory Criteria and Guidelines (EICG) Report* is listed. The 4-digit codes enclosed in brackets [ ] are codes that have been phased out, but may still appear on previously reported Hot Spots emissions. For information on the origin and use of the 4-digit code, see the EICG report. (https://ww2.arb.ca.gov/our-work/programs/ab-2588-air-toxics-hot-spots/hot-spots-inventory-guidelines)

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C Date Value Reviewed [Added]: These columns list the date that the health value was last reviewed by OEHHA, and/or the Scientific Review Panel, and/or approved for use in the AB 2588 Air Toxics "Hot Spots" Program

- If the health value is unchanged since it was first approved for use in the Hot Spots Program, then the date that the value was first approved for use by CAPCOA is listed within the brackets [ ].
- April 1999 is listed for the cancer potency values and noncancer acute RELs, which have been adopted by the OEHHA as part of the AB 2588 Hot Spot Risk Assessment Guidelines.
- February 2000, April 2000, January 2001, and December 2001 are listed for the first set of 22, the second set of 16, the third set of 22, and the fourth set of 12 noncancer chronic RELs, respectively. The chronic REL for carbon disulfide was adopted in May 2002. Chronic RELs for phosphine and triethylamine were adopted in September 2002. Chronic RELs for fluorides including hydrogen fluoride were adopted August 2003. Chronic REL for silica [crystalline respirable] was adopted February 2005.
- October 2000 is listed for the oral chronic RELs and oral cancer slope factors.
- Cancer potency value adopted for naphthalene in August 2004. The inhalation and oral cancer potency values for ethyl benzene were adopted in November 2007.
- For the substances identified as Toxic Air Contaminants, the Air Resources Board hearing date is listed. The dates for acetaldehyde, benzo[a]pyrene, and methyl tertiary-butyl ether represent the dates the values were approved by the Scientific Review Panel.
- On December 19, 2008, OEHHA adopted new acute, 8-hour, and chronic RELs for acetaldehyde, acrolein, arsenic, formaldehyde, manganese, and mercury. The most current health values can be found at: http://www.oehha.ca.gov/air/allrels.html.

  Note: 1. We present the new oral RELs only in milligrams per kilogram-day (mg/kg-d), although OEHHA has presented them in other tables in either micrograms per kilogram-day (μg/kg-d) or milligrams per kilogram-day.

  2. All acute RELs use a 1-hour averaging period (OEHHA, 2008). RELs which were developed using earlier guidelines and specified a different averaging time are unchanged in concentration value, but now refer to the 1-hour averaging period. As of August 1, 2013, the affected chemicals are: benzene, carbon disulfide, carbon tetrachloride, chloroform, ethylene glycol monoethyl ether, ethylene glycol monoethyl ether acetate, and ethylene glycol monomethyl ether: These may be replaced by updated RELs following the OEHHA (2008) guidelines in due course.

  3. At OEHHA's direction, the chronic oral REL for arsenic does not apply to arsine because arsine is a gas and not particle associated.
- OEHHA's adoption of the World Health Organization's 2005 Toxicity Equivalency Factors for polychlorinated dibenzo-p-dioxins (PCDDs), dibenzofurans (PCDFs), and dioxin-like polychlorinated biphenyls (PCBs) occurred in January 2011. See Appendix C of OEHHA's *Air Toxics Hot Spots Program Technical Support Document for Cancer Potencies* at https://oehha.ca.gov/air/crnr/technical-support-document-cancer-potency-factors-2009 for more information.
- On March 23, 2012, OEHHA adopted revised acute, 8-hour and chronic RELs for nickel and nickel compounds. The values of the RELs are listed in the table at: http://www.oehha.ca.gov/air/chronic_rels/032312CREL.html.
- On July 29, 2013, OEHHA adopted an acute and 8-hour REL, and a revised chronic REL for 1,3-butadiene. The REL values and summary can be found online at: http://www.oehha.ca.gov/air/hot_spots/index.html.
- On October 18, 2013, the following changes were made to the Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values:
  - OEHHA adopted acute, 8-hour, and chronic RELs for caprolactam. The REL values and summary can be found at: https://oehha.ca.gov/media/downloads/crnr/caprolactam2013.pdf.
  - Changes have been made to target organs to the following substances with no change to health factors: Chloroform, Diethanolamine, Fluorides and Hydrogen Fluoride, Methylene Chloride, Styrene, Xylenes. The "date added" in this table reflects the date of the health factor only.
- On June 27, 2014, OEHHA adopted a new 8-hour REL and revised acute and chronic RELs for benzene. The REL values and summary can be found at: http://www.oehha.ca.gov/air/chronic_rels/BenzeneJune2014.html.
- On March 28, 2016, OEHHA adopted new and revised RELs for toluene diisocyanate (TDI) and methylene diphenyl diisocyanate (MDI). The REL values and summaries can be found at: http://www.oehha.ca.gov/air/chronic_rels/032816TDI_MDI_RELs.html. On March 30, 2016, the name of MDI was changed from methylene diphenyl isocyanate to a more accurate name: methylene diphenyl diisocyanate.
- On September 8, 2016, OEHHA adopted an updated inhalation cancer unit risk factor (URF) for perchloroethylene (PCE or tetrachloroethylene). The updated URF and summary can be found at: http://oehha.ca.gov/air/crnr/notice-adoption-inhalation-cancer-unit-risk-factor-perchloroethylene.

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- On February 21, 2017, OEHHA adopted new acute, 8-hour, and chronic inhalation RELs for carbonyl sulfide. The REL values and summary can be found at: http://oehha.ca.gov/air/crnr/notice-adoption-reference-exposure-levels-carbonyl-sulfide.
- On May 4, 2018, OEHHA adopted new 8-hour and chronic inhalation REL, and a revised acute REL for ethylene glycol butyl ether. The REL values and summary can be found at: https://oehha.ca.gov/air/chemicals/ethylene-glycol-monobutyl-ether.
- On August 16, 2018, OEHHA adopted an inhalation URF, inhalation cancer potency factor, and oral cancer potency factor for tertiary-butyl acetate (TBAc). Although OEHHA has adopted an oral cancer potency value for tertiary-butyl acetate, its chemical/biological properties do not fit the multipathway scheme. Therefore, non-inhalation pathway risks calculated from this value will be zero because the transfer factors are set to zero. Please contact OEHHA for more information. The values can be found at: https://oehha.ca.gov/air/crnr/notice-adoption-cancer-inhalation-unit-risk-and-slope-factors-and-cancer-oral-slope-factor
- On September 6, 2019, OEHHA adopted new RELs for hexamethylene diisocyanate. The REL values and summary can be found at: https://oehha.ca.gov/air/crnr/notice-adoption-reference-exposure-levels-hexamethylene-diisocyanate.
- On August 20, 2020, OEHHA adopted new and revised RELs for toluene. The REL values and summary can be found at: https://oehha.ca.gov/air/crnr/notice-adoption-reference-exposure-levels-toluene.
- On October 2, 2020, OEHHA adopted a new inhalation URF for cobalt. The updated URF and summary can be found at: https://oehha.ca.gov/air/crnr/notice-adoption-cancer-inhalation-unit-risk-factors-cobalt-and-cobalt-compounds
- On August 31, 2022, OEHHA adopted new RELs for trivalent chromium (CrIII). The REL values and summary can be found at: https://oehha.ca.gov/air/document/chromium-trivalent-inorganic-water-soluble-compounds-reference-exposure-levels-rels.
- August 2022 [8/22] is listed to reflect the new pollutants that were added to Appendix A-1: Substances for Which Emissions Must be Quantified in the 2022 Emission Inventory Criteria Guidelines (https://ww2.arb.ca.gov/our-work/programs/ab-2588-air-toxics-hot-spots/hot-spots-inventory-guidelines). OEHHA was consulted to determine which existing health values may be applied to these new pollutants. Health values were added for 61 pollutants on August 31, 2022. OEHHA was also consulted on the appropriate MWAF, if applicable.
  - Selenium hexafluoride (7783-79-1): The health values for fluorides were applied to selenium hexafluoride. Selenium also has a set of health values; however, the Hot Spots Analysis and Reporting Program (HARP) software can only apply one set of health values for each pollutant. To account for the additional toxicity of selenium, the MWAF default is 1.
- On December 9, 2022, OEHHA adopted a new inhalation cancer unit risk factor (URF) for 1-bromopropane. The URF and summary can be found at: https://oehha.ca.gov/air/crnr/notice-adoption-cancer-inhalation-unit-risk-and-slope-factors-1-bromopropane.
- On April 28, 2023, OEHHA adopted new RELs for 1-bromopropane. The REL values and summary can be found at: https://oehha.ca.gov/air/crnr/notice-adoption-reference-exposure-levels-1-bromopropane.
- On August 4, 2023, OEHHA adopted a revised cancer URF for cobalt sulfate heptahydrate and water-soluble cobalt compounds. The updated URF and summary can be found at: https://oehha.ca.gov/air/crnr/notice-adoption-revised-cancer-inhalation-unit-risk-factors-cobalt-sulfate-heptahydrate-and
- On October 6, 2023, OEHHA adopted new RELs for trimethylbenzenes. The REL values and summary can be found at: https://oehha.ca.gov/air/crnr/notice-adoption-reference-exposure-levels-trimethylbenzenes
- On January 3, 2025, OEHHA adopted a new inhalation URF for isoprene. The URF and summary can be found at: https://oehha.ca.gov/air/crnr/notice-adoption-cancer-inhalation-unit-risk-factor-isoprene
- On July 18, 2025, OEHHA adopted new acute and 8-hour RELs, and a revised chronic REL for p-dichlorobenzene (i.e., 1,4-Dichlorobenzene). The REL values and summary can be found at: https://oehha.ca.gov/air/crnr/reference-exposure-levels-rels-14-dichlorobenzene.
- In July of 2025, OEHHA evaluated four substances that contain an isocyanate functional group(s); approved the addition of those substances to the consolidated table; and assigned corresponding acute, 8-hour, and chronic REL health values based on their similarity to a previously adopted isocyanate-containing substance (polymeric (oligo) hexamethylene-1,6-diisocyanate (HDI); CAS #1221). On August 15, 2025, those substances, listed below, were added to the table.
  - Aliphatic polyisocyanate;
  - Hexamethylene-1,6-diisocyanate homopolymer;
  - Hexane, 1,6-diisocyanato-, homopolymer; and
  - Hexane, 1,6-diisocyanato-, homopolymer, polyethylene-polypropylene glycol monobutyl ether-blocked.
- In September of 2025, the substance names “Hexamethylene-1,6-diisocyanate homopolymer” (CAS #3779-63-3) and “Hexane, 1,6-diisocyanato-, homopolymer” (CAS #28182-81-2) were updated to “Hexamethylene diisocyanate isocyanurate trimer" and “Hexamethylene diisocyanate homopolymer,” respectively, to reflect the substance names listed in the CAS registry under their associated CAS numbers.

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d	Inhalation cancer potency factor: The "unit risk factor" has been replaced in the new risk assessment algorithms by a factor called the "inhalation cancer potency factor". Inhalation cancer potency factors are expressed as units of inverse dose [i.e., $(mg/kg\text{-}day)^{-1}$]. They were derived from unit risk factors [units = $(ug/m^3)^{-1}$] by assuming that a receptor weighs 70 kilograms and breathes 20 cubic meters of air per day. The inhalation potency factor is used to calculate a potential inhalation cancer risk using the new risk assessment algorithms defined in the OEHHA, *Air Toxics Hot Spots Program; Technical Support Document for Exposure Assessment and Stochastic Analysis (August 2012)*. (https://oehha.ca.gov/media/downloads/crnr/exposureassessment2012tsd.pdf)
e	Molecular Weight Adjustment Factor: For most of the Hot Spots toxic metals, the OEHHA cancer potency factors and noncancer RELs apply to the weight of the toxic metal atom contained in the overall compound. Some of the Hot Spots compounds contain various elements along with the toxic metal atom (e.g., "Nickel hydroxide", CAS number 12054-48-7, has a formula of H2NiO2). Therefore, an adjustment to the reported pounds of the overall compound is needed before applying the OEHHA cancer potency factor and noncancer RELs for "Nickel and compounds" to such a compound. This ensures that the cancer potency factor and noncancer RELs are applied only to the fraction of the overall weight of the emissions that are associated with health effects of the metal. In other cases, the Hot Spots metals are already reported as the metal atom equivalent (e.g., CAS 7440-02-0, "Nickel"), and these cases do not use any further molecular weight adjustment. (Refer to Note [7] in Appendix A, List of Substances in the EICG Report for further information on how the emissions of various Hot Spots metal compounds are reported.) The appropriate molecular weight adjustment factors (MWAF) to be used along with the OEHHA cancer potency factors and noncancer RELs for Hot Spots metals can be found in the MWAF column of this table. So, for example, assume that 100 pounds of "Nickel hydroxide" emissions are reported under CAS number 12054-48-7. To get the Nickel atom equivalent of these emissions, multiply by the listed MWAF (0.6332) for Nickel hydroxide: • 100 pounds x 0.6332 = 63.32 pounds of Nickel atom equivalent. This step should be completed prior to applying the OEHHA cancer potency factor and noncancer RELs for "Nickel and compounds" in a calculation for a prioritization score or risk assessment calculation. (Note -The HARP software automatically applies the appropriate MWAF for each Hot Spots chemical (by CAS number), so the emissions should not be manually adjusted when using HARP. Therefore, if using HARP, you would use 100 pounds for Nickel hydroxide and HARP will make the MWAF adjustment for you. If not using HARP, you would use 63.32 pounds.) For more information on MWAF please refer to Section 4.2.1.1.1 of OEHHA's document *The Air Toxics Hot Spots Program Guidance Manual for the Preparation of Risk Assessments* (Guidance Manual) (February 2015). Note: The value listed in the MWAF column for Asbestos is not a molecular weight adjustment. This is a conversion factor for adjusting mass and fibers or structures. See Appendix C of OEHHA's Guidance Manual (February 2015) for more information on Asbestos reporting and risk assessment information or see the EICG report for reporting guidance. Also see the Asbestos footnote (designated by the letter f).
TAC	Toxic Air Contaminant: The Air Resources Board has identified this substance as a Toxic Air Contaminant. (https://ww2.arb.ca.gov/resources/documents/carb-identified-toxic-air-contaminants)
f	Asbestos: The units for the Inhalation Cancer Potency factor for asbestos are $(100\ PCM\ fibers/m^3)^{-1}$. A conversion factor of 100 fibers/0.003 µg can be multiplied by a receptor concentration of asbestos expressed in $µg/m^3$. Unless other information necessary to estimate the concentration ($fibers/m^3$) of asbestos at receptors of interest is available. A unit risk factor of $1.9\ E\ 10^{-4}$ $(µg/m^3)^{-1}$ and an inhalation cancer potency factor of $2.2\ E\ 10^{+2}$ $(mg/kg\ BW * day)^{-1}$ are available. For more information on asbestos quantity conversion factors, see Appendix F of OEHHA's *The Air Toxics Hot Spots Program Risk Assessment Guidelines; Part II; Technical Support Document for Cancer Potency Factors (May 2009)* (*https://oehha.ca.gov/air/crnr/technical-support-document-cancer-potency-factors-2009*), and Appendix C of OEHHA's Guidance Manual (February 2015) (https://oehha.ca.gov/air/crnr/notice-adoption-air-toxics-hot-spots-program-guidance-manual-preparation-health-risk-0).
g	Chromium 6 (Hexavalent Chromium): In July 2011, OEHHA developed the oral cancer slope factor for chromium 6+ and compounds for the California Public Health Goal in drinking water. As of February 2014, OEHHA states it should also be used for the Hot Spots program.
h	Lead, Inorganic: Inorganic Lead was identified by the Air Resources Board as a Toxic Air Contaminant in April 1997. Since information on noncancer health effects show no identified threshold, no Reference Exposure Level has been developed. The document, *Risk Management Guidelines for New, Modified, and Existing Sources of Lead, March 2001*, has been developed by ARB and OEHHA staff for assessing noncancer health impacts from sources of lead (https://ww2.arb.ca.gov/sites/default/files/classic/toxics/lead/mainandappend.pdf?_ga=2.97130777.765928880.1615842085-992278915.1615253163). See Appendix F of OEHHA's document *The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments (2003)* for an overview of how to evaluate noncancer impacts from exposure to lead using these risk management guidelines (https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf).

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i	Particulate Emissions from Diesel-Fueled Engines: The inhalation cancer potency factor was derived from whole diesel exhaust and should be used only for impacts from the inhalation pathway (based on diesel PM measurements). The inhalation impacts from speciated emissions from diesel-fueled engines are already accounted for in the inhalation cancer potency factor. However, at the discretion of the risk assessor, speciated emissions from diesel-fueled engines may be used to estimate acute noncancer health impacts or the contribution to cancer risk or chronic noncancer health impacts for the non-inhalation exposure pathway. See Appendix D of OEHHA's document *The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments* (2003) for more information. The noncancer chronic REL for diesel exhaust is based on assumptions of contributions of diesel PM to ambient PM. It should be used with diesel PM measurement.
j	Cancer Potency Factors (CPFs) for unspeciated mixtures of Polychlorinated Biphenyls: High Risk: For use in cases where congeners with more than four chlorines comprise more than one-half percent of total polychlorinated biphenyls. Use as default CPF for Tier 1 assessments. Low Risk: This number would not ordinarily be used in the Hot Spots program. Lowest Risk: For use in cases where congeners with more than four chlorines comprise less than one-half percent of total polychlorinated biphenyls. As of February 2014, there is no approved method that can be used to assess the noncancer hazard of an unspeciated PCB mixture. Persons preparing HRAs for the Hot Spots Program should consult with OEHHA and the local Air Pollution Control or Air Quality Management District if an assessment of the noncancer hazard for unspeciated PCB mixtures is needed.
k	Polychlorinated Dibenzo-p-dioxins and Polychlorinated Dibenzofurans (also referred to as chlorinated dioxins and dibenzofurans) and dioxin-like PCB congeners: The OEHHA has adopted the World Health Organization 2005 (WHO-05) Toxicity Equivalency Factor scheme for evaluating the risk due to exposure to samples containing mixtures of polychlorinated dibenzo-p-dioxins (PCDD) and polychlorinated dibenzofurans (PCDF) and a number of dioxin-like PCB congeners. See Appendix A of OEHHA's *Technical Support Document for Describing Available Cancer Potency Factors* for more information about the scheme. See Appendix C (revised January 20, 2011) of OEHHA's Technical Support Document: Methodologies for Derivation, Listing of Available Values, and Adjustments to Allow for Early Life Exposures (2009) online at http://oehha.ca.gov/air/hot_spots/tsd052909.html for more information about the scheme. The two numbers (i.e., 1085 and 1086) in the column listing Chemical Abstracts Numbers are used for reporting and risk assessment purposes. Be sure to input emissions under the proper code when using the HARP software. ID code 1085 has no health values associated with it in the HARP software; therefore, no health impacts will be calculated when using ID 1085. See the Emissions Inventory Criteria and Guidelines for more information on reporting emissions.
l	Polycyclic Aromatic Hydrocarbons (PAHs): These substances are PAH or PAH-derivatives that have OEHHA-developed Potency Equivalency Factors (PEFs) which were approved by the Scientific Review Panel in April 1994 (see ARB document entitled *Benzo[a]pyrene as a Toxic Air Contaminant*). PAH inhalation slope factors listed here have been adjusted by the PEFs. See OEHHA's Technical Support Document: Methodologies for Derivation, Listing of Available Values, and Adjustments to Allow for Early Life Exposures (2009) for more information about the scheme. Section 8.2.3 and Appendix G of OEHHA's *The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments (2003)* also contains information on PAHs. The two numbers (i.e., 1150 and 1151) in the column listing Chemical Abstracts Numbers are used for reporting and risk assessment purposes. Be sure to input emissions under the proper code when using the HARP software. ID code 1150 has no health values associated with it in the HARP software; therefore, no health impacts will be calculated when using ID 1150. See the Emissions Inventory Criteria and Guidelines for more information on reporting emissions.
m	SELENIUM AND COMPOUNDS: In February 2014, an oral REL was added to the consolidated table. The REL was adopted in December 2001 but could not be used by the Hot Spots Program (or HARP software) until transfer factors for the oral and dermal routes were adopted. Transfer factors were included in the OEHHA's *Technical Support Document for Exposure Assessment and Stochastic Analysis* (August 2012) and were added to the HARP software in March 2015.
n	1,6-HEXAMETHYLENE DIISOCYANATE (HDI): On September 19, 2019, acute, 8-hour, and chronic RELs were added to the table and HARP for the HDI (monomer). OEHHA adopted these RELs and others for HDI polyisocyanates on September 6, 2019. The Acute, 8-hour, and chronic RELs for HDI polyisocyanates were added to the consolidated table and HARP on August 31, 2022.
N/A	Not Applicable.
Other Changes:	• 10/18/2010, removed CHLORODIFLUOROMETHANE, which should have been removed in May 2008. February 2014: • Removed applicability of oleum to the sulfuric acid chronic inhalation REL because oleum represents only an acute health hazard. • Removed "METHYL MERCURY (see Mercury & Compounds)" entry because methyl mercury has different chemical properties, potency, and toxicity compared to elemental mercury and mercury salts, and it is not emitted directly from any California facilities. • September 1, 2017, changed the "1101 Fluorides" entry back to "1101 Fluorides and compounds" to keep the consistency with the Emission Inventory Guidelines. The substance name for CAS# 1101 was changed from "Fluorides and compounds" as in 2002 to "Fluorides" in 2003 without footnotes about the change.