Table 3
OEHHA/ARB APPROVED CHRONIC REFERENCE EXPOSURE LEVELS AND TARGET ORGANS[⊕]

Chemical	Chemical[▼] Abstract Number	Chronic Inhalation REL ($\mu g/m^3$)	Chronic Oral REL	Date[◆] Value Reviewed [Added]	Target Organs												
					Alimentary	Bone	Cardiovascular	Developmental	Endocrine	Eye	Hematologic	Immune	Kidney	Nervous	Reproductive	Respiratory	Skin
ACETALDEHYDE	75-07-0	9.0E+00		5/93												X	
ACROLEIN	107-02-8	6.0E-02		1/01						X						X	
ACRYLAMIDE	79-06-1	7.0E-01		1/91										X			
ACRYLIC ACID	79-10-7	1.0E+00[RfC]		1996												X	
ACRYLONITRILE	107-13-1	5.0E+00		12/01												X	
ALLYL CHLORIDE	107-05-1	1.0E+00[RfC]		1996										X			
AMMONIA	7664-41-7	2.0E+02		2/00												X	
ANILINE	62-53-3	1.0E+00[RfC]		1996			X										
Antimony Compounds	*7440-36-0*	*2.0E-01*[RfC]		*1996*												✓	
ANTIMONY TRIOXIDE	1309-64-4	2.0E-01[RfC]		1996												X	
ARSENIC AND COMPOUNDS (INORGANIC)[TAC]	7440-38-2 1016 [1015]	3.0E-02		1/01			X	X						X			
			3.0E-04	10/00			X										X
ARSINE	7784-42-1	5.0E-02[RfC]		1996			X										
BENZENE[TAC]	71-43-2	6.0E+01		2/00				X			X			X			
BENZIDINE (AND ITS SALTS) *values also apply to:*	92-87-5	1.0E+01		1/91	X									X			
Benzidine based dyes	*1020*	*1.0E+01*		*1/91*	✓									✓			
Direct Black 38	*1937-37-7*	*1.0E+01*		*1/91*	✓									✓			
Direct Blue 6	*2602-46-2*	*1.0E+01*		*1/91*	✓									✓			
Direct Brown 95 (technical grade)	*16071-86-6*	*1.0E+01*		*1/91*	✓									✓			
BENZYL CHLORIDE	100-44-7	1.2E+01		1/92												X	
BERYLLIUM AND COMPOUNDS	7440-41-7 [1021]	7.0E-03		12/01								X				X	
			2.0E-03	12/01	X												
BROMINE AND COMPOUNDS	7726-95-6 [1040]	1.7E+00		1/92												X	
BROMINE PENTAFLUORIDE	7789-30-2	1.7E+00		1/92	X								X			X	
HYDROGEN BROMIDE	10035-10-6	2.4E+01		1/92												X	
Potassium Bromate	*7758-01-2*	*1.7E+00*		1/92												✓	
1,3-BUTADIENE[TAC]	106-99-0	2.0E+01		1/01											X		

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OEHHA/ARB APPROVED CHRONIC REFERENCE EXPOSURE LEVELS AND TARGET ORGANS[⊕]

Chemical	Chemical[▼] Abstract Number	Chronic Inhalation REL (µg/m^3)	Chronic Oral REL	Date[◆] Value Reviewed [Added]	Target Organs												
					Alimentary	Bone	Cardiovascular	Developmental	Endocrine	Eye	Hematologic	Immune	Kidney	Nervous	Reproductive	Respiratory	Skin
CADMIUM AND COMPOUNDS[T7AC]	7440-43-9 [1045]	2.0E-02		1/01									X			X	
			5.0E-04	10/00									X				
CARBON DISULFIDE	75-15-0	8.0E+02		5/02										X	X		
CARBON TETRACHLORIDE[TAC] (Tetrachloromethane)	56-23-5	4.0E+01		1/01	X			X						X			
CHLORINE	7782-50-5	2.0E-01		2/00												X	
CHLORINE DIOXIDE	10049-04-4	6.0E-01		1/01												X	
2-CHLOROACETOPHENONE	532-27-4	3.0E-02[RfC]		1996												X	
CHLOROBENZENE	108-90-7	1.0E+03		1/01	X								X		X		
CHLOROFORM[TAC]	67-66-3	3.0E+02		4/00	X			X					X				
Chlorophenols	*1060*																
2-CHLOROPHENOL	95-57-8	1.8E+01		1/91	X			X*							X*		
PENTACHLOROPHENOL	87-86-5	2.0E-01		1/92	X			X*							X*		
TETRACHLOROPHENOLS	25167-83-3	8.8E+01		1/92	X			X*							X*		
2,3,4,6-Tetrachlorophenol	*58-90-2*	*8.8E+01*		*1/92*	✓			✓*							✓*		
CHLOROPICRIN	76-06-2	4.0E-01		12/01												X	
CHLOROPRENE	126-99-8	1.0E+00		192										X			
CHROMIUM 6+[TAC]	18540-29-9	2.0E-01		1/01												X	
			2.0E-02	10/00							X						
Barium chromate	*10294-40-3*	*2.0E-01*		*1/01*												✓	
			2.0E-02	*10/00*							✓						
Calcium chromate	*13765-19-0*	*2.0E-01*		*1/01*												✓	
			2.0E-02	*10/00*							✓						
Lead chromate	*7758-97-6*	*2.0E-01*		*1/01*												✓	
			2.0E-02	*10/00*							✓						
Sodium dichromate	*10588-01-9*	*2.0E-01*		*1/01*												✓	
			2.0E-02	*10/00*							✓						
Strontium chromate	*7789-06-2*	*2.0E-01*		*1/01*												✓	
			2.0E-02	*10/00*							✓						

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Chemical	Chemical[▼] Abstract Number	Chronic Inhalation REL ($\mu g/m^3$)	Chronic Oral REL	Date[◆] Value Reviewed [Added]	Target Organs												
					Alimentary	Bone	Cardiovascular	Developmental	Endocrine	Eye	Hematologic	Immune	Kidney	Nervous	Reproductive	Respiratory	Skin
CHROMIUM TRIOXIDE (as chromic acid mist)	1333-82-0	2.0E-03		1/01												X	
			2.0E-02	*10/00*							✓						
COPPER AND COMPOUNDS	7440-50-8 [1067]	2.4E+00		1/92												X	
CRESOLS (mixtures of)	1319-77-3	6.0E+02		1/01										X			
m-CRESOL	108-39-4	6.0E+02		1/01										X			
o-CRESOL	95-48-7	6.0E+02		1/01										X			
p-CRESOL	106-44-5	6.0E+02		1/01										X			
Cyanide Compounds (inorganic)	*57-12-5 1073*	*9.0E+00*		*4/00*			✓		✓					✓			
HYDROGEN CYANIDE (Hydrocyanic acid)	74-90-8	9.0E+00		4/00			X		X					X			
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	2.0E-01		1/92	X			X*							X*	X	
p-DICHLOROBENZENE	106-46-7	8.0E+02		1/01	X								X	X		X	
1,1,-DICHLOROETHYLENE … (see Vinylidene Chloride)																	
DI(2-ETHYLHEXYL)PHTHALATE (DEHP)	117-81-7	7.0E+01		1/91	X												
DIESEL EXHAUST … (see Particulate Emissions from Diesel-Fueled Engines)																	
DIETHANOLAMINE	111-42-2	3.0E+00		12/01			X							X			
DIMETHYLAMINE	124-40-3	2.0E+00		1/91												X	
N,N-DIMETHYL FORMAMIDE	68-12-2	8.0E+01		1/01	X											X	
1,4-DIOXANE[✣] (1,4-Diethylene dioxide)	123-91-1	3.0E+03		4/00	X		X						X				
EPICHLOROHYDRIN (1-Chloro-2,3-epoxypropane)	106-89-8	3.0E+00		1/01						X						X	
1,2-EPOXYBUTANE	106-88-7	2.0E+01		1/01			X									X	
ETHYL ACRYLATE	140-88-5	4.8E+01		1/92	X								X			X	
ETHYL BENZENE	100-41-4	2.0E+03		2/00	X			X	X				X				
ETHYL CHLORIDE (Chlorethane)	75-00-3	3.0E+04		4/00	X			X									
ETHYLENE DIBROMIDE[TAC] (1,2-Dibromoethane)	106-93-4	8.0E-01		12/01											X		
ETHYLENE DICHLORIDE[TAC] (1,2-Dichloroethane)	107-06-2	4.0E+02		1/01	X												
ETHYLENE GLYCOL	107-21-1	4.0E+02		4/00				X					X			X	
ETHYLENE OXIDE[TAC] (1,2-Epoxyethane)	75-21-8	3.0E+01		1/01										X			

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					Alimentary	Bone	Cardiovascular	Developmental	Endocrine	Eye	Hematologic	Immune	Kidney	Nervous	Reproductive	Respiratory	Skin
Fluorides and Compounds	*1101*	*5.9E+00*		*1/91*						✓*						✓	✓*
HYDROGEN FLUORIDE (Hydrofluoric acid)	7664-39-3	5.9E+00		1/91						X*						X	X*
FLUOROCARBONS (chlorinated)	1104 [1105]	7.0E+02		1/91										X			
Chlorinated fluorocarbon (CFC-113)	*76-13-1*	*7.0E+02*		*1/91*										✓			
CHLORODIFLUOROMETHANE (Freon 22)	75-45-6	5.0E+04[RfC]		1996				X	X				X				
Dichlorofluoromnethane (Freon 12)	*75-43-4*	*7.0E+02*		*1/91*										✓			
Trichlorofluoromethane (Freon 11)	*75-69-4*	*7.0E+02*		*1/91*										✓			
Fluorocarbons (brominated)	*1103*	*7.0E+02*		*1/91*										✓			
FORMALDEHYDE[TAC]	50-00-0	3.0E+00		2/00						X						X	
GASOLINE VAPORS	1110	2.1E+03		1/91										X		X	
GLUTARALDEHYDE	111-30-8	8.0E-02		1/01												X	
GLYCOL ETHERS	1115																
ETHYLENE GLYCOL BUTYL ETHER – EGBE	111-76-2	2.0E+01		1/92				X*							X*	X	
ETHYLENE GLYCOL ETHYL ETHER – EGEE	110-80-5	7.0E+01		2/00							X				X		
ETHYLENE GLYCOL ETHYL ETHER ACETATE - EGEEA	111-15-9	3.0E+02		2/00				X									
ETHYLENE GLYCOL METHYL ETHER – EGME	109-86-4	6.0E+01		2/00											X		
ETHYLENE GLYCOL METHYL ETHER ACETATE - EGMEA	110-49-6	9.0E+01		2/00											X		
HEXACHLOROBENZENE	118-74-1	2.8E+00		7/90	X												
HEXACHLOROCYCLOHEXANES (mixed or technical grade)	608-73-1 1120	1.0E+00		1/91	X								X				
			3.0E-04	1/91	X								X				
alpha-HEXACHLOROCYCLOHEXANE	319-84-6	1.0E+00		1/91	X								X				
			3.0E-04	1/91	X								X				
beta-HEXACHLOROCYCLOHEXANE	319-85-7	1.0E+00		1/91	X								X				
			3.0E-04	1/91	X								X				
gamma-HEXACHLOROCYCLOHEXANE (Lindane)	58-89-9	1.0E+00		1/91	X								X				
			3.0E-04	1/91	X								X				
HEXACHLOROCYCLOPENTADIENE	77-47-4	2.4E-01		1/91	X												

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					Alimentary	Bone	Cardiovascular	Developmental	Endocrine	Eye	Hematologic	Immune	Kidney	Nervous	Reproductive	Respiratory	Skin
n-HEXANE	110-54-3	7.0E+03		4/00										X			
HYDRAZINE	302-01-2	2.0E-01		1/01	X				X								
HYDROCHLORIC ACID (Hydrogen chloride)	7647-01-0	9.0E+00		2/00												X	
HYDROGEN CYANIDE (Hydrocyanic acid) (see Cyanide Compounds)																	
HYDROGEN BROMIDE ... (see Bromine & Compounds)																	
HYDROGEN FLUORIDE (Hydrofluoric acid) (see Fluorides & Compounds)																	
HYDROGEN SULFIDE	7783-06-4	1.0E+01		4/00												X	
ISOPHORONE	78-59-1	2.0E+03		12/01	X			X									
ISOPROPYL ALCOHOL (Isopropanol)	67-63-0	7.0E+03		2/00				X					X				
LINDANE ... (see gamma-Hexachlorocyclohexane)																	
MALEIC ANHYDRIDE	108-31-6	7.0E-01		12/01												X	
MANGANESE AND COMPOUNDS	7439-96-5 [1132]	2.0E-01		4/00										X			
MERCURY AND COMPOUNDS (INORGANIC)	7439-97-6 [1133]	9.0E-02		2/00										X			
			3.0E-04	10/00 [1/92]								X	X				
Mercuric chloride	*7487-94-7*	*9.0E-02*		*2/00*										✓			
			3.0E-04	*10/00 [1/92]*								✓	✓				
MERCURY AND COMPOUNDS (ORGANIC)	N/A																
METHYL MERCURY	593-74-8	1.0E+00		1/91										X			
METHANOL	67-56-1	4.0E+03		4/00				X									
METHYL BROMIDE (Bromomethane)	74-83-9	5.0E+00		2/00				X						X		X	
METHYL tertiary-BUTYL ETHER	1634-04-4	8.0E+03		2/00	X					X			X				
METHYL CHLOROFORM (1,1,1-Trichloroethane)	71-55-6	1.0E+03		2/00										X			
METHYL ETHYL KETONE (2-Butanone)	78-93-3	1.0E+03[RfC]		1996											X		
METHYL ISOCYANATE	624-83-9	1.0E+00		12/01											X	X	
METHYL MERCURY ... (see Mercury & Compounds)																	
METHYL METHACRYLATE	80-62-6	9.8E+02		1/92												X	
METHYLENE CHLORIDE[TAC] (Dichloromethane)	75-09-2	4.0E+02		2/00			X							X			

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Chemical	Chemical[▼] Abstract Number	Chronic Inhalation REL (µg/m^3)	Chronic Oral REL	Date[◆] Value Reviewed [Added]	Target Organs												
					Alimentary	Bone	Cardiovascular	Developmental	Endocrine	Eye	Hematologic	Immune	Kidney	Nervous	Reproductive	Respiratory	Skin
4,4'-METHYLENE DIANILINE (AND ITS DICHLORIDE)	101-77-9	2.0E+01		12/01	X					X							
METHYLENE DIPHENYL ISOCYANATE	101-68-8	7.0E-01		1/01												X	
MINERAL FIBERS (<1% FREE SILICA)	N/A	2.4E+01		1/92												X	
Ceramic fibers (man-made)	*1056*	*2.4E+01*		*1/92*												✓	
Glasswool (man-made fibers)	*1111*	*2.4E+01*		*1/92*												✓	
Mineral fibers (fine: man-made)	*1136*	*2.4E+01*		*1/92*												✓	
Rockwool (man-made fibers)	*1168*	*2.4E+01*		*1/92*												✓	
Slagwool (man-made fibers)	*1181*	*2.4E+01*		*1/92*												✓	
NAPHTHALENE	91-20-3	9.0E+00		4/00												X	
NICKEL AND COMPOUNDS[TAC]	7440-02-0 [1145]	5.0E-02		2/00							X					X	
			5.0E-02	10/00	X												
Nickel acetate	*373-02-4*	*5.0E-02*		*2/00*							✓					✓	
			5.0E-02	*10/00*	✓												
Nickel carbonate	*3333-39-3*	*5.0E-02*		*2/00*							✓					✓	
			5.0E-02	*10/00*	✓												
Nickel carbonyl	*13463-39-3*	*5.0E-02*		*2/00*							✓					✓	
			5.0E-02	*10/00*	✓												
Nickel hydroxide	*12054-48-7*	*5.0E-02*		*2/00*							✓					✓	
			5.0E-02	*10/00*	✓												
Nickelocene	*1271-28-9*	*5.0E-02*		*2/00*							✓					✓	
			5.0E-02	*10/00*	✓												
NICKEL OXIDE	1313-99-1	1.0E-01		2/00							X					X	
			5.0E-02	10/00	X												
Nickel refinery dust from pyrometallurgical process	*1146*	*5.0E-02*		*2/00*							✓					✓	
			5.0E-02	*10/00*	✓												
Nickel subsulfide	*12035-72-2*	*5.0E-02*		*2/00*							✓					✓	
			5.0E-02	*10/00*	✓												
NITROBENZENE	98-95-3	1.7E+00		1/91	X								X				

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					Alimentary	Bone	Cardiovascular	Developmental	Endocrine	Eye	Hematologic	Immune	Kidney	Nervous	Reproductive	Respiratory	Skin
NITROGEN DIOXIDE	10102-44-0	4.7E+02		1/92												X	
2-NITROPROPANE	79-46-9	2.0E+01		1/92	X												
OZONE	10028-15-6	1.8E+02		1/92												X	
PARTICULATE EMISSIONS FROM DIESEL-FUELED ENGINES[TAC]■	9901	5.0E+00[TAC]		8/98												X	
PENTACHLOROPHENOL ... (see Chlorophenols)																	
PERCHLOROETHYLENE[TAC] (Tetrachloroethylene)	127-18-4	3.5E+01[TAC]		10/91	X								X				
PHENOL	108-95-2	2.0E+02		4/00	X		X						X	X			
PHOSPHINE	7803-51-2	8.0E-01		9/02	X						X		X	X		X	
PHOSPHORIC ACID	7664-38-2	7.0E+00		2/00												X	
PHOSPHORUS (WHITE)	7723-14-0	7.0E-02		1/91				X*							X*		
PHTHALIC ANHYDRIDE	85-44-9	2.0E+01		1/01												X	
PCB (POLYCHLORINATED BIPHENYLS) [low and high risk]★	1336-36-3	1.2E+00		1/91	X			X*				X			X*		
			2.0E-05[RfD]	1996	X			X*				X			X*		
POLYCHLORINATED DIBENZO-P-DIOXINS (PCDD) (AS 2,3,7,8-EQUIV)[TAC]●	1085 1086	4.0E-05		2/00	X			X	X		X				X	X	
			1.0E-08	10/00	X			X	X		X				X	X	
2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN[TAC]	1746-01-6	4.0E-05		2/00	X			X	X		X				X	X	
			1.0E-08	10/00	X			X	X		X				X	X	
1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	8.0E-05		2/00	X			X	X		X				X	X	
			2.0E-08	10/00	X			X	X		X				X	X	
1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	4.0E-04		2/00	X			X	X		X				X	X	
			1.0E-07	10/00	X			X	X		X				X	X	
1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	4.0E-04		2/00	X			X	X		X				X	X	
			1.0E-07	10/00	X			X	X		X				X	X	
1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	4.0E-04		2/00	X			X	X		X				X	X	
			1.0E-07	10/00	X			X	X		X				X	X	
1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	4.0E-03		2/00	X			X	X		X				X	X	
			1.0E-06	10/00	X			X	X		X				X	X	
1,2,3,4,6,7,8,9-OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	4.0E-02		2/00	X			X	X		X				X	X	
			1.0E-05	10/00	X			X	X		X				X	X	

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					Alimentary	Bone	Cardiovascular	Developmental	Endocrine	Eye	Hematologic	Immune	Kidney	Nervous	Reproductive	Respiratory	Skin
POLYCHLORINATED DIBENZOFURANS (PCDF) (AS 2,3,7,8-EQUIV) TAC	1080	4.0E-05		2/00	X			X	X		X				X	X	
			1.0E-08	10/00	X			X	X		X				X	X	
2,3,7,8-TETRACHLORODIBENZOFURAN	5120-73-19	4.0E-04		2/00	X			X	X		X				X	X	
			1.0E-07	10/00	X			X	X		X				X	X	
1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	8.0E-04		2/00	X			X	X		X				X	X	
			2.0E-07	10/00	X			X	X		X				X	X	
2,3,4,7,8-PENTACHLORODIBENZOFURN	57117-31-4	8.0E-05		2/00	X			X	X		X				X	X	
			2.0E-08	10/00	X			X	X		X				X	X	
1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	4.0E-04		2/00	X			X	X		X				X	X	
			1.0E-07	10/00	X			X	X		X				X	X	
1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	4.0E-04		2/00	X			X	X		X				X	X	
			1.0E-07	10/00	X			X	X		X				X	X	
1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	4.0E-04		2/00	X			X	X		X				X	X	
			1.0E-07	10/00	X			X	X		X				X	X	
2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	4.0E-04		2/00	X			X	X		X				X	X	
			1.0E-07	10/00	X			X	X		X				X	X	
1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	4.0E-03		2/00	X			X	X		X				X	X	
			1.0E-06	10/00	X			X	X		X				X	X	
1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	4.0E-03		2/00	X			X	X		X				X	X	
			1.0E-06	10/00	X			X	X		X				X	X	
1,2,3,4,6,7,8,9-OCTACHLORODIBENZOFURAN	39001-02-0	4.0E-02		2/00	X			X	X		X				X	X	
			1.0E-05	10/00	X			X	X		X				X	X	
POTASSIUM BROMATE ... (see Bromine & Compounds)																	
PROPYLENE (PROPENE)	115-07-1	3.0E+03		4/00												X	
PROPYLENE GLYCOL MONOMETHYL ETHER	107-98-2	7.0E+03		2/00	X												
PROPYLENE OXIDE	75-56-9	3.0E+01		2/00												X	

Table 3
OEHHA/ARB APPROVED CHRONIC REFERENCE EXPOSURE LEVELS AND TARGET ORGANS[⊕]

Chemical	Chemical[▼] Abstract Number	Chronic Inhalation REL (µg/m^3)	Chronic Oral REL	Date[◆] Value Reviewed [Added]	Target Organs												
					Alimentary	Bone	Cardiovascular	Developmental	Endocrine	Eye	Hematologic	Immune	Kidney	Nervous	Reproductive	Respiratory	Skin
SELENIUM AND COMPOUNDS (other than hydrogen selenide)	7782-49-2 [1170]	2.0E+01		12/01	X		X							X			
Selenium sulfide	*7446-34-6*	*2.0E+01*		*12/01*	✓		✓							✓			
SODIUM HYDROXIDE	1310-73-2	4.8E+00		7/90						X*						X	X*
STYRENE	100-42-5	9.0E+02		4/00										X			
SULFATES	9960	2.5E+01		1/92												X	
SULFUR DIOXIDE	7446-09-5	6.6E+02		1/92												X	
SULFURIC ACID	7664-93-9	1.0E+00		12/01												X	
Sulfuric Acid and Oleum	*7664-93-9*	*1.0E+00*		*12/01*												✓	
Sulfuric Trioxide	*7446-71-9*	*1.0E+00*		*12/01*												✓	
Oleum	*8014-95-7*	*1.0E+00*		*12/01*												✓	
TETRACHLOROPHENOLS ... (see Chlorophenols)																	
TOLUENE	108-88-3	3.0E+02		4/00				X						X		X	
Toluene diisocyanates	*26471-62-5 1204*	*7.0E-02*		*1/01*												✓	
TOLUENE-2,4-DIISOCYANATE	584-84-9	7.0E-02		1/01												X	
TOLUENE-2,6-DIISOCYANATE	91-08-7	7.0E-02		1/01												X	
TRICHLOROETHYLENE[TAC]	79-01-6	6.0E+02		4/00						X				X			
TRIETHYLAMINE	121-44-8	2.0E+02		9/02						X							
VINYL ACETATE	108-05-4	2.0E+02		12/01												X	
VINYL BROMIDE	593-60-2	7.0E+00[RfC]		1996	X												
VINYL CHLORIDE[TAC] (Chloroethylene)	75-01-4	2.6E+01		7/90	X			X*							X*		
VINYLIDENE CHLORIDE (1,1,-Dichloroethylene)	75-35-4	7.0E+01		1/01	X												
XYLENES (mixed isomers)	1330-20-7 1210	7.0E+02		4/00										X		X	
m-XYLENE	108-38-3	7.0E+02		4/00										X		X	
o-XYLENE	95-47-6	7.0E+02		4/00										X		X	
p-XYLENE	106-42-3	7.0E+02		4/00										X		X	

Table 3
OEHHA/ARB APPROVED CHRONIC REFERENCE EXPOSURE LEVELS AND TARGET ORGANS[⊕]

Chemical	Chemical[▼] Abstract Number	Chronic Inhalation REL ($\mu g/m^3$)	Chronic Oral REL	Date[◆] Value Reviewed [Added]	Target Organs												
					Alimentary	Bone	Cardiovascular	Developmental	Endocrine	Eye	Hematologic	Immune	Kidney	Nervous	Reproductive	Respiratory	Skin
ZINC COMPOUNDS	7440-66-6 [1211]	3.5E+01		7/90			X*				X*					X	
Zinc oxide	*1314-13-2*	*3.5E+01*		*7/90*			✓*				✓*					✓	

Table 3
OEHHA/ARB APPROVED CHRONIC REFERENCE EXPOSURE LEVELS AND TARGET ORGANS[◉]

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 four of five technical support documents for these guidelines. This table lists the OEHHA adopted inhalation and oral noncancer chronic RELs. In addition, it lists the substances 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)*. OEHHA is still in the process of adopting new noncancer chronic RELs. 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.
◉	Substances written in *italics* and with a ✓ do not have explicit OEHHA approved health values, but are included in this table to clarify applicability of OEHHA adopted heath 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"*.
▼	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.
✕ *	These are chronic RELs which were approved by CAPCOA for use in the AB 2588 Air Toxics Hot Spots Program. These CAPCOA chronic RELs will eventually be removed or replaced by approved OEHHA chronic RELs. In the CAPCOA Guidelines (1993), these target organ systems were combined (reproductive/developmental; cardiovascular/blood).
◆	Date Value Reviewed [Added]: This column lists the date that the health value was last reviewed by OEHHA and 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 [ ]. • 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. • October 2000 is listed for the oral chronic RELs. 1996 is listed for the U.S. EPA Reference Concentrations. Dates of 1990-1992 are listed for chronic RELs that may eventually be dropped or replaced. • For the substances identified as Toxic Air Contaminants, the Air Resources Board hearing date is listed. The date for acetaldehyde represents the date the value was approved by the Scientific Review Panel.
RfC/RfD	United States Environmental Protection Agency (U.S. EPA) Reference Concentrations (RfCs) and oral Reference Doses (RfDs) from the U.S. EPA Integrated Risk Information System (1996) have been added if the U.S. EPA health value and/or endpoint was different from the 1993 CAPCOA value or endpoint and OEHHA has not adopted a new value as part of the Hot Spot Risk Assessment Guidelines. The RfCs and RfDs listed meet the criteria of Appendix F of the Air Resources Board's Emission Inventory Criteria and Guidelines Report effective July 1, 1997. These RfC/RfDs may be replaced by new OEHHA values.
TAC	Toxic Air Contaminant: The Air Resources Board has identified this substance as a Toxic Air Contaminant.
★	Polychlorinated Biphenyls: Chronic Oral: The chronic oral value is U.S. EPA's 1996 oral Reference Dose for Aroclor-1254.
•	Polychlorinated Dibenzo-*p*-dioxins and Polychlorinated Dibenzofurans (also referred to as chlorinated dioxins and dibenzofurans): The OEHHA has adopted the International Toxicity Equivalency Factor (ITEF) scheme for evaluating the cancer risk due to exposure to samples containing mixtures of polychlorinated dibenzo-*p*-dioxins (PCDD) and polychlorinated dibenzofurans (PCDF). See Appendix A of OEHHA's *Technical Support Document For Describing Available Cancer Potency Factors* for more information about the scheme. See Appendix E of OEHHA's draft document *The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments* for the methodology for calculating 2,3,7,8-equivalents for PCDD and PCDFs.
■	Particulate Emissions from Diesel-Fueled Engines: The inhalation cancer potency factor and chronic REL were derived from whole diesel exhaust and should be used only for impacts from the inhalation pathway. The inhalation impacts from speciated emissions from diesel-fueled engines are already accounted for in the inhalation cancer potency factor and REL. 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 draft document *The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments* for more information.

Table last updated: November 7, 2002