

Table 2-5-1 Toxic Air Contaminant Trigger Levels

Chemical	CAS Number ¹	Acute Inhalation REL (µg/m ³)	Chronic Inhalation REL (µg/m ³)	Chronic Oral REL (mg/kg-day)	Inhalation Cancer Potency Factor (mg/kg-day) ⁻¹	Oral Cancer Potency Factor (mg/kg-day) ⁻¹	Acute (1-hr. max.) Trigger Level ² (lb/hour)	Chronic Trigger Level ² (lb/year)
Acetaldehyde	75-07-0		9.0E+00		1.0E-02			6.4E+01
Acetamide	60-35-5				7.0E-02			9.1E+00
Acrolein	107-02-8	1.9E-01	6.0E-02				4.2E-04	2.3E+00
Acrylamide	79-06-1		7.0E-01		4.5E+00			1.4E-01
Acrylic acid	79-10-7	6.0E+03	1.0E+00				1.3E+01	3.9E+01
Acrylonitrile	107-13-1		5.0E+00		1.0E+00			6.4E-01
Allyl chloride	107-05-1		1.0E+00		2.1E-02			3.0E+01
Aminoanthraquinone, 2-	117-79-3				3.3E-02			1.9E+01
Ammonia	7664-41-7	3.2E+03	2.0E+02				7.1E+00	7.7E+03
Aniline	62-53-3		1.0E+00		5.7E-03			3.9E+01
Antimony compounds	7440-36-0		2.0E-01					7.7E+00
antimony trioxide	1309-64-4		2.0E-01					7.7E+00
Arsenic and compounds (inorganic) ^{3, 4}	7440-38-2	1.9E-01	3.0E-02	3.0E-04	1.2E+01	1.5E+00	4.2E-04	1.2E-02
Arsine	7784-42-1	1.6E+02	5.0E-02				3.5E-01	1.9E+00
Asbestos ⁵	1332-21-4				2.2E+02			2.9E-03
Benzene ³	71-43-2	1.3E+03	6.0E+01		1.0E-01		2.9E+00	6.4E+00
Benzidine (and its salts)	92-87-5		1.0E+01		5.0E+02			1.3E-03
<i>benzidine based dyes</i>			1.0E+01		5.0E+02			1.3E-03
direct black 38	1937-37-7		1.0E+01		5.0E+02			1.3E-03
direct blue 6	2602-46-2		1.0E+01		5.0E+02			1.3E-03
direct brown 95 (technical grade)	16071-86-6		1.0E+01		5.0E+02			1.3E-03
Benzyl chloride	100-44-7	2.4E+02	1.2E+01		1.7E-01		5.3E-01	3.8E+00
Beryllium and compounds ⁴	7440-41-7		7.0E-03	2.0E-03	8.4E+00			8.0E-02
Bis (2-chloroethyl) ether (Dichloroethyl ether)	111-44-4				2.5E+00			2.6E-01
Bis (chloromethyl) ether	542-88-1				4.6E+01			1.4E-02
Bromine and compounds	7726-95-6		1.7E+00					6.6E+01
Bromine pentafluoride	7789-30-2		1.7E+00					6.6E+01
hydrogen bromide	10035-10-6		2.4E+01					9.3E+02
potassium bromate	7758-01-2		1.7E+00		4.9E-01			1.3E+00
Butadiene, 1,3-	106-99-0		2.0E+01		6.0E-01			1.1E+00
Cadmium and compounds ⁴	7440-43-9		2.0E-02	5.0E-04	1.5E+01			4.5E-02

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Carbon disulfide ³	75-15-0	6.2E+03	8.0E+02				1.4E+01	3.1E+04
Carbon tetrachloride ³ (Tetrachloromethane)	56-23-5	1.9E+03	4.0E+01		1.5E-01		4.2E+00	4.3E+00
Chlorinated paraffins	108171-26-2				8.9E-02			7.2E+00
Chlorine	7782-50-5	2.1E+02	2.0E-01				4.6E-01	7.7E+00
Chlorine dioxide	10049-04-4		6.0E-01					2.3E+01
Chloro-o-phenylenediamine, 4-	95-83-0				1.6E-02			4.0E+01
Chloroacetophenone, 2-	532-27-4		3.0E-02					1.2E+00
Chlorobenzene	108-90-7		1.0E+03					3.9E+04
Chlorodifluoromethane (Freon 22) [see Fluorocarbons]								
Chlorofluorocarbons [see Fluorocarbons]								
Chloroform ³	67-66-3	1.5E+02	3.0E+02		1.9E-02		3.3E-01	3.4E+01
Chlorophenol, 2-	95-57-8		1.8E+01					7.0E+02
Chloropicrin	76-06-2	2.9E+01	4.0E-01				6.4E-02	1.5E+01
Chloroprene	126-99-8		1.0E+00					3.9E+01
Chloro-o-toluidine, p-	95-69-2				2.7E-01			2.4E+00
Chromium, (hexavalent, 6+) ⁴	18540-29-9		2.0E-01	2.0E-02	5.1E+02			1.3E-03
barium chromate ⁴	10294-40-3		2.0E-01	2.0E-02	5.1E+02			1.3E-03
calcium chromate ⁴	13765-19-0		2.0E-01	2.0E-02	5.1E+02			1.3E-03
lead chromate ⁴	7758-97-6		2.0E-01	2.0E-02	5.1E+02			1.3E-03
sodium dichromate ⁴	10588-01-9		2.0E-01	2.0E-02	5.1E+02			1.3E-03
strontium chromate ⁴	7789-06-2		2.0E-01	2.0E-02	5.1E+02			1.3E-03
Chromium trioxide (as chromic acid mist) ⁴	1333-82-0		2.0E-03	2.0E-02	5.1E+02			1.3E-03
Copper and compounds	7440-50-8	1.0E+02	2.4E+00				2.2E-01	9.3E+01
Cresidine, p-	120-71-8				1.5E-01			4.3E+00
Cresols (m-, o-, p-)	1319-77-3		6.0E+02					2.3E+04
Cupferron	135-20-6				2.2E-01			2.9E+00
Cyanide and compounds (inorganic)	57-12-5	3.4E+02	9.0E+00				7.5E-01	3.5E+02
hydrogen cyanide (hydrocyanic acid)	74-90-8	3.4E+02	9.0E+00				7.5E-01	3.5E+02
Diaminoanisole, 2,4-	615-05-4				2.3E-02			2.8E+01
Diaminotoluene, 2,4-	95-80-7				4.0E+00			1.6E-01

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Chemical	CAS Number ¹	Acute Inhalation REL (µg/m³)	Chronic Inhalation REL (µg/m³)	Chronic Oral REL (mg/kg-day)	Inhalation Cancer Potency Factor (mg/kg-day)⁻¹	Oral Cancer Potency Factor (mg/kg-day)⁻¹	Acute (1-hr. max.) Trigger Level ² (lb/hour)	Chronic Trigger Level ² (lb/year)
Dibromo-3-chloropropane, 1,2- (DBCP)	96-12-8		2.0E-01		7.0E+00			9.1E-02
Dichlorobenzene, 1,4-	106-46-7		8.0E+02		4.0E-02			1.6E+01
Dichlorobenzidine, 3,3-	91-94-1				1.2E+00			5.3E-01
Dichloroethane, 1,1- (Ethylidene dichloride)	75-34-3				5.7E-03			1.1E+02
Dichloroethylene, 1,1- [see vinylidene chloride]								
Diesel exhaust particulate matter ⁶			5.0E+00		1.1E+00			5.8E-01
Diethanolamine	111-42-2		3.0E+00					1.2E+02
Di(2-ethylhexyl)phthalate (DEHP) ⁴	117-81-7		7.0E+01		8.4E-03	8.4E-03		6.9E+01
Dimethylaminoazobenzene, p-	60-11-7				4.6E+00			1.4E-01
Dimethyl formamide, N,N-	68-12-2		8.0E+01					3.1E+03
Dinitrotoluene, 2,4-	121-14-2				3.1E-01			2.1E+00
Dioxane, 1,4- (1,4-diethylene dioxide)	123-91-1	3.0E+03	3.0E+03		2.7E-02		6.6E+00	2.4E+01
Epichlorohydrin (1-chloro-2,3-epoxypropane)	106-89-8	1.3E+03	3.0E+00		8.0E-02		2.9E+00	8.0E+00
Epoxybutane, 1,2-	106-88-7		2.0E+01					7.7E+02
Ethyl acrylate	140-88-5		4.8E+01					1.9E+03
Ethyl benzene	100-41-4		2.0E+03					7.7E+04
Ethyl chloride (chloroethane)	75-00-3		3.0E+04					1.2E+06
Ethylene dibromide (1,2-dibromoethane)	106-93-4		8.0E-01		2.5E-01			2.6E+00
Ethylene dichloride (1,2-dichloroethane)	107-06-2		4.0E+02		7.2E-02			8.9E+00
Ethylene glycol	107-21-1		4.0E+02					1.5E+04
Ethylene glycol butyl ether – EGBE [see Glycol ethers]								
Ethylene oxide (1,2-epoxyethane)	75-21-8		3.0E+01		3.1E-01			2.1E+00
Ethylene thiourea	96-45-7				4.5E-02			1.4E+01
Fluorides and compounds		2.4E+02	1.3E+01	4.0E-02			5.3E-01	5.0E+02
hydrogen fluoride (hydrofluoric acid)	7664-39-3	2.4E+02	1.4E+01	4.0E-02			5.3E-01	5.4E+02
Fluorocarbons (chlorinated)			7.0E+02					2.7E+04
chlorinated fluorocarbon (CFC-113)	76-13-1		7.0E+02					2.7E+04
chlorodifluoromethane (Freon 22)	75-45-6		5.0E+04					1.9E+06
dichlorofluoromethane (Freon 21)	75-43-4		7.0E+02					2.7E+04
trichlorofluoromethane (Freon 11)	75-69-4		7.0E+02					2.7E+04
fluorocarbons (brominated)			7.0E+02					2.7E+04

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Formaldehyde	50-00-0	9.4E+01	3.0E+00		2.1E-02		2.1E-01	3.0E+01
Freons [see Fluorocarbons]								
Glutaraldehyde	111-30-8		8.0E-02					3.1E+00
Glycol ethers								
ethylene glycol butyl ether – EGBE (2-butoxy ethanol; butyl cellosolve)	111-76-2	1.4E+04	2.0E+01				3.1E+01	7.7E+02
ethylene glycol ethyl ether – EGEE (2-ethoxy ethanol; cellosolve) ³	110-80-5	3.7E+02	7.0E+01				8.2E-01	2.7E+03
ethylene glycol ethyl ether acetate – EGEEA (2-ethoxyethyl acetate; cellosolve acetate) ³	111-15-9	1.4E+02	3.0E+02				3.1E-01	1.2E+04
ethylene glycol methyl ether – EGME (2-methoxy ethanol; methyl cellosolve) ³	109-86-4	9.3E+01	6.0E+01				2.1E-01	2.3E+03
ethylene glycol methyl ether acetate – EGMEA (2-methoxyethyl acetate; methyl cellosolve acetate)	110-49-6		9.0E+01					3.5E+03
Hexachlorobenzene	118-74-1		2.8E+00		1.8E+00			3.6E-01
Hexachlorocyclohexanes (mixed or technical grade) ⁴	608-73-1		1.0E+00	3.0E-04	4.0E+00	4.0E+00		1.2E-01
Hexachlorocyclohexane, alpha- ⁴	319-84-6		1.0E+00	3.0E-04	4.0E+00	4.0E+00		1.2E-01
Hexachlorocyclohexane, beta- ⁴	319-85-7		1.0E+00	3.0E-04	4.0E+00	4.0E+00		1.2E-01
Hexachlorocyclohexane, gamma- (lindane) ⁴	58-89-9		1.0E+00	3.0E-04	1.1E+00	1.1E+00		4.2E-01
Hexachlorocyclopentadiene	77-47-4		2.4E-01					9.3E+00
Hexane, n-	110-54-3		7.0E+03					2.7E+05
Hydrazine	302-01-2		2.0E-01		1.7E+01			3.8E-02
Hydrochloric acid (hydrogen chloride)	7647-01-0	2.1E+03	9.0E+00				4.6E+00	3.5E+02
Hydrogen bromide [see bromine & compounds]								
Hydrogen cyanide (hydrocyanic acid) [see cyanide & compounds]								
Hydrogen fluoride (hydrofluoric acid) [see fluorides & compounds]								
Hydrogen selenide [see selenium compounds]								
Hydrogen sulfide	7783-06-4	4.2E+01	1.0E+01				9.3E-02	3.9E+02
Isophorone	78-59-1		2.0E+03					7.7E+04
Isopropyl alcohol (isopropanol)	67-63-0	3.2E+03	7.0E+03				7.1E+00	2.7E+05
Lead and compounds (inorganic) ⁴	7439-92-1				4.2E-02	8.5E-03		5.4E+00

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lead acetate ⁴	301-04-2				4.2E-02	8.5E-03		5.4E+00
lead phosphate ⁴	7446-27-7				4.2E-02	8.5E-03		5.4E+00
lead subacetate ⁴	1335-32-6				4.2E-02	8.5E-03		5.4E+00
Lindane [see hexachlorocyclohexane, gamma]								
Maleic anhydride	108-31-6		7.0E-01					2.7E+01
Manganese and compounds	7439-96-5		2.0E-01					7.7E+00
Mercury and compounds (inorganic) ⁴	7439-97-6	1.8E+00	9.0E-02	3.0E-04			4.0E-03	5.6E-01
mercuric chloride ⁴	7487-94-7	1.8E+00	9.0E-02	3.0E-04			4.0E-03	5.6E-01
Mercury and compounds (organic)								
methyl mercury	593-74-8		1.0E+00					3.9E+01
Methanol (methyl alcohol)	67-56-1	2.8E+04	4.0E+03				6.2E+01	1.5E+05
Methyl bromide (bromomethane)	74-83-9	3.9E+03	5.0E+00				8.6E+00	1.9E+02
Methyl chloroform (1,1,1-trichloroethane)	71-55-6	6.8E+04	1.0E+03				1.5E+02	3.9E+04
Methyl ethyl ketone (MEK) (2-butanone)	78-93-3	1.3E+04	1.0E+03				2.9E+01	3.9E+04
Methyl isocyanate	624-83-9		1.0E+00					3.9E+01
Methyl mercury [see mercury & compounds]								
Methyl methacrylate	80-62-6		9.8E+02					3.8E+04
Methyl tertiary-butyl ether (MTBE)	1634-04-4		8.0E+03		1.8E-03			3.6E+02
Methylene bis (2-chloroaniline), 4,4'- (MOCA)	101-14-4				1.5E+00			4.3E-01
Methylene chloride (dichloromethane)	75-09-2	1.4E+04	4.0E+02		3.5E-03		3.1E+01	1.8E+02
Methylene dianiline, 4,4'- (and its dichloride) ⁴	101-77-9		2.0E+01		1.6E+00	1.6E+00		4.1E-01
Methylene diphenyl isocyanate	101-68-8		7.0E-01					2.7E+01
Michler's ketone (4,4'-bis(dimethylamino)benzophenone)	90-94-8				8.6E-01			7.4E-01
Mineral fibers (<1% FREE SILICA)			2.4E+01					9.3E+02
ceramic fibers (man-made)			2.4E+01					9.3E+02
glasswool (man-made fibers)			2.4E+01					9.3E+02
mineral fibers (fine: man-made)			2.4E+01					9.3E+02
rockwool (man-made fibers)			2.4E+01					9.3E+02
slagwool (man-made fibers)			2.4E+01					9.3E+02
Naphthalene [see polycyclic aromatic hydrocarbons]								

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Nickel and compounds ⁴ (values also apply to:)	7440-02-0	6.0E+00	5.0E-02	5.0E-02	9.1E-01		1.3E-02	7.3E-01
nickel acetate ⁴	373-02-4	6.0E+00	5.0E-02	5.0E-02	9.1E-01		1.3E-02	7.3E-01
nickel carbonate ⁴	3333-39-3	6.0E+00	5.0E-02	5.0E-02	9.1E-01		1.3E-02	7.3E-01
nickel carbonyl ⁴	13463-39-3	6.0E+00	5.0E-02	5.0E-02	9.1E-01		1.3E-02	7.3E-01
nickel hydroxide ⁴	12054-48-7	6.0E+00	5.0E-02	5.0E-02	9.1E-01		1.3E-02	7.3E-01
Nickelocene ⁴	1271-28-9	6.0E+00	5.0E-02	5.0E-02	9.1E-01		1.3E-02	7.3E-01
nickel oxide ⁴	1313-99-1	6.0E+00	1.0E-01	5.0E-02	9.1E-01		1.3E-02	7.3E-01
nickel refinery dust from the pyrometallurgical process ⁴		6.0E+00	5.0E-02	5.0E-02	9.1E-01		1.3E-02	7.3E-01
nickel subsulfide ⁴	12035-72-2	6.0E+00	5.0E-02	5.0E-02	9.1E-01		1.3E-02	7.3E-01
Nitric acid	7697-37-2	8.6E+01					1.9E-01	
Nitrobenzene	98-95-3		1.7E+00					6.6E+01
Nitropropane, 2-	79-46-9		2.0E+01					7.7E+02
Nitrosodi-n-butylamine, N-	924-16-3				1.1E+01			5.8E-02
Nitrosodi-n-propylamine, N-	621-64-7				7.0E+00			9.1E-02
Nitrosodiethylamine, N-	55-18-5				3.6E+01			1.8E-02
Nitrosodimethylamine, N-	62-75-9				1.6E+01			4.0E-02
Nitrosodiphenylamine, N-	86-30-6				9.0E-03			7.1E+01
Nitroso-n-methylethylamine, N-	10595-95-6				2.2E+01			2.9E-02
Nitrosomorpholine, N-	59-89-2				6.7E+00			9.6E-02
Nitrosopiperidine, N-	100-75-4				9.4E+00			6.8E-02
Nitrosopyrrolidine, N-	930-55-2				2.1E+00			3.0E-01
Nitrosodiphenylamine, p-	156-10-5				2.2E-02			2.9E+01
Ozone	10028-15-6	1.8E+02	1.8E+02				4.0E-01	7.0E+03
Pentachlorophenol	87-86-5		2.0E-01		1.8E-02			7.7E+00
Perchloroethylene (tetrachloroethylene)	127-18-4	2.0E+04	3.5E+01		2.1E-02		4.4E+01	3.0E+01
Phenol	108-95-2	5.8E+03	2.0E+02				1.3E+01	7.7E+03
Phosgene	75-44-5	4.0E+00					8.8E-03	
Phosphine	7803-51-2		8.0E-01					3.1E+01
Phosphoric acid	7664-38-2		7.0E+00					2.7E+02
Phosphorus (white)	7723-14-0		7.0E-02					2.7E+00

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Phthalic anhydride	85-44-9		2.0E+01					7.7E+02
PCBs (polychlorinated biphenyls) [low risk] ^{4,7}	1336-36-3		1.2E+00	2.0E-05	7.0E-02	7.0E-02		8.0E-01
PCBs (polychlorinated biphenyls) [high risk] ^{4,7}	1336-36-3		1.2E+00	2.0E-05	2.0E+00	2.0E+00		2.8E-02
Polychlorinated dibenzo-p-dioxins (PCDDs), polychlorinated dibenzofurans (PCDFs), and dioxin-like polychlorinated biphenyls (PCBs) (as 2,3,7,8-PCDD equivalent) ^{4,8}	See Footnote 8		4.0E-05	1.0E-08	1.3E+05	1.3E+05		5.7E-07
Polycyclic aromatic hydrocarbon (PAH) (as B(a)P-equivalent) ^{4,9}	See Footnote 9				3.9E+00	1.2E+01		1.1E-02
naphthalene	91-20-3		9.0E+00		1.2E-01			5.3E+00
Potassium bromate [see bromine & compounds]								
Propane sultone, 1,3-	1120-71-4				2.4E+00			2.7E-01
Propylene (propene)	115-07-1		3.0E+03					1.2E+05
Propylene glycol monomethyl ether	107-98-2		7.0E+03					2.7E+05
Propylene oxide	75-56-9	3.1E+03	3.0E+01		1.3E-02		6.8E+00	4.9E+01
Selenium and compounds	7782-49-2		2.0E+01					7.7E+02
hydrogen selenide	7783-07-5	5.0E+00					1.1E-02	
selenium sulfide	7446-34-6		2.0E+01					7.7E+02
Sodium hydroxide	1310-73-2	8.0E+00	4.8E+00				1.8E-02	1.9E+02
Styrene	100-42-5	2.1E+04	9.0E+02				4.6E+01	3.5E+04
Sulfates		1.2E+02	2.5E+01				2.6E-01	9.7E+02
Sulfuric acid and oleum	7664-93-9	1.2E+02	1.0E+00				2.6E-01	3.9E+01
<i>sulfuric acid</i>	7664-93-9	1.2E+02	1.0E+00				2.6E-01	3.9E+01
sulfur trioxide	7446-71-9	1.2E+02					2.6E-01	
oleum	8014-95-7	1.2E+02	1.0E+00				2.6E-01	3.9E+01
Tetrachloroethane, 1,1,2,2-	79-34-5				2.0E-01			3.2E+00
Tetrachlorophenols	25167-83-3		8.8E+01					3.4E+03
Thioacetamide	62-55-5				6.1E+00			1.0E-01
Toluene	108-88-3	3.7E+04	3.0E+02				8.2E+01	1.2E+04
Toluene diisocyanates	26471-62-5		7.0E-02		3.9E-02			2.7E+00
toluene-2,4-diisocyanate	584-84-9		7.0E-02		3.9E-02			2.7E+00
toluene-2,6-diisocyanate	91-08-7		7.0E-02		3.9E-02			2.7E+00

Table 2-5-1 Toxic Air Contaminant Trigger Levels

Chemical	CAS Number ¹	Acute Inhalation REL (µg/m³)	Chronic Inhalation REL (µg/m³)	Chronic Oral REL (mg/kg-day)	Inhalation Cancer Potency Factor (mg/kg-day)⁻¹	Oral Cancer Potency Factor (mg/kg-day)⁻¹	Acute (1-hr. max.) Trigger Level ² (lb/hour)	Chronic Trigger Level ² (lb/year)
Trichloroethane, 1,1,1 (see methyl chloroform)								
Trichloroethane, 1,1,2- (vinyl trichloride)	79-00-5				5.7E-02			1.1E+01
Trichloroethylene	79-01-6		6.0E+02		7.0E-03			9.1E+01
Trichlorophenol, 2,4,6-	88-06-2				7.0E-02			9.1E+00
Triethylamine	121-44-8	2.8E+03	2.0E+02				6.2E+00	7.7E+03
Urethane (ethyl carbamate)	51-79-6				1.0E+00			6.4E-01
Vanadium Compounds								
vanadium (fume or dust)	7440-62-2	3.0E+01					6.6E-02	
vanadium pentoxide	1314-62-1	3.0E+01					6.6E-02	
Vinyl acetate	108-05-4		2.0E+02					7.7E+03
Vinyl bromide	593-60-2		7.0E+00					2.7E+02
Vinyl chloride (chloroethylene)	75-01-4	1.8E+05	2.6E+01		2.7E-01		4.0E+02	2.4E+00
Vinylidene chloride (1,1-dichloroethylene)	75-35-4		7.0E+01					2.7E+03
Xylenes (mixed isomers)	1330-20-7	2.2E+04	7.0E+02				4.9E+01	2.7E+04
m-xylene	108-38-3	2.2E+04	7.0E+02				4.9E+01	2.7E+04
o-xylene	95-47-6	2.2E+04	7.0E+02				4.9E+01	2.7E+04
p-xylene	106-42-3	2.2E+04	7.0E+02				4.9E+01	2.7E+04
Zinc and compounds	7440-66-6		3.5E+01					1.4E+03
<i>zinc oxide</i>	1314-13-2		3.5E+01					1.4E+03

Table 2-5-1 Toxic Air Contaminant Trigger Levels

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- ¹ **Chemical Abstract Number (CAS):**
CAS numbers are not available for many chemical groupings and mixtures.
- ² **Trigger Levels:**
All trigger levels are presented in scientific notation (i.e., exponential form based on powers of the based number 10.) For example: 4.9E+01 is equivalent to 4.9×10^1 , or 49; 6.6E-02 is equivalent to 6.6×10^{-2} , or 0.066; and 5.8E+00 is equivalent to 5.8×10^0 , or 5.8.
- ³ **Averaging Period for Non-Cancer Acute Trigger Levels:**
The averaging period for non-cancer acute trigger levels is generally a one-hour exposure. However, some are based on several hours of exposure. The screening levels for the following substances should be compared to estimated emissions occurring over a time period other than maximum one-hour emissions (e.g., a 4-hour trigger level should be compared to the maximum 4-hour average concentration estimated from the maximum emissions occurring in a 4-hour period). However, for conservative screening purposes, a maximum one-hour emission level can be compare to all acute trigger levels.
4-hour: arsenic and inorganic arsenic compounds
6-hour: benzene, carbon disulfide, ethylene glycol ethyl ether, ethylene glycol ethyl ether acetate, ethylene glycol methyl ether
7-hour: carbon tetrachloride, chloroform
- ⁴ **Chemicals for Which Multi-Pathway Risks are Assessed:**
Trigger levels are adjusted to include the impact from default non-inhalation pathways.
- ⁵ **Asbestos:**
The units for the inhalation cancer potency factor for asbestos are $(100 \text{ PCM fibers/m}^3)^{-1}$. A conversion factor of 100 fibers/0.003 μg can be multiplied by a receptor concentration of asbestos expressed in $\mu\text{g/m}^3$. Unless other information necessary to estimate the concentration (fibers/ m^3) of asbestos at receptors of interest is available, an inhalation cancer potency factor of $220 \text{ (mg/kg-day)}^{-1}$ is available.
- ⁶ **Diesel Exhaust Particulate Matter:**
Diesel exhaust particulate matter should be used as a surrogate for all TAC emissions from diesel-fueled compression-ignition internal combustion engines. However, diesel exhaust particulate matter should not be used for other types of diesel-fueled combustion equipment, such as boilers or turbines. For equipment other than diesel-fueled compression-ignition internal combustion engines, emissions should be determined for individual TACs and compared to the appropriate trigger level for each TAC.
- ⁷ **Polychlorinated Biphenyls:**
Low Risk: Use in cases where congeners with more than four chlorines comprise less than one-half percent of total polychlorinated biphenyls.
High Risk: Use in cases where congeners with more than four chlorines do not comprise less than one-half percent of total polychlorinated biphenyls.

Table 2-5-1 Toxic Air Contaminant Trigger Levels

⁸ **Polychlorinated Dibenzo-p-Dioxins (PCDDs), Polychlorinated Dibenzofurans (PCDFs), and Dioxin-like Polychlorinated Biphenyls (PCBs):**
 These substances are PCDDs, PCDFs, and dioxin-like PCBs for which OEHHA has adopted the World Health Organization (WHO₉₇) Toxicity Equivalency Factor (TEF) scheme for evaluating cancer risk due to exposure to samples containing mixtures of PCDDs, PCDFs, and dioxin-like PCBs. PCDDs, PCDFs, and dioxin-like PCBs should be evaluated as PCDD-equivalent. This evaluation process consists of multiplying individual PCDD-, PCDF-, and dioxin-like PCB-specific emission levels with their corresponding TEFs listed below. The sum of these products is the PCDD-equivalent and should be compared to the PCDD-equivalent trigger level.

<u>PCDD</u>	<u>CAS Number</u>	<u>TEF</u>
2,3,7,8-tetrachlorodibenzo-p-dioxin	1746-01-6	1.0
1,2,3,7,8-pentachlorodibenzo-p-dioxin	40321-76-4	1.0
1,2,3,4,7,8-hexachlorodibenzo-p-dioxin	39227-28-6	0.1
1,2,3,6,7,8-hexachlorodibenzo-p-dioxin	57653-85-7	0.1
1,2,3,7,8,9-hexachlorodibenzo-p-dioxin	19408-74-3	0.1
1,2,3,4,6,7,8-heptachlorodibenzo-p-dioxin	35822-46-9	0.01
1,2,3,4,6,7,8,9-octachlorodibenzo-p-dioxin	3268-87-9	0.0001
<u>PCDF</u>	<u>CAS Number</u>	<u>TEF</u>
2,3,7,8-tetrachlorodibenzofuran	5120-73-19	0.1
1,2,3,7,8-pentachlorodibenzofuran	57117-41-6	0.05
2,3,4,7,8-pentachlorodibenzofuran	57117-31-4	0.5
1,2,3,4,7,8-hexachlorodibenzofuran	70648-26-9	0.1
1,2,3,6,7,8-hexachlorodibenzofuran	57117-44-9	0.1
1,2,3,7,8,9-hexachlorodibenzofuran	72918-21-9	0.1
2,3,4,6,7,8-hexachlorodibenzofuran	60851-34-5	0.1
1,2,3,4,6,7,8-heptachlorodibenzofuran	67562-39-4	0.01
1,2,3,4,7,8,9-heptachlorodibenzofuran	55673-89-7	0.01
1,2,3,4,6,7,8,9-octachlorodibenzofuran	39001-02-0	0.0001
<u>Dioxin-like PCBs (coplanar PCBs)</u>	<u>CAS Number</u>	<u>TEF</u>
PCB 77 (3,3',4,4'-tetrachlorobiphenyl)	32598-13-3	0.0001
PCB 81 (3,4,4',5-tetrachlorobiphenyl)	70362-50-4	0.0001
PCB 105 (2,3,3',4,4'-pentachlorobiphenyl)	32598-14-4	0.0001
PCB 114 (2,3,4,4',5-pentachlorobiphenyl)	74472-37-0	0.0005
PCB 118 (2,3',4,4',5-pentachlorobiphenyl)	31508-00-6	0.0001
PCB 123 (2',3,4,4',5-pentachlorobiphenyl)	65510-44-3	0.0001
PCB 126 (3,3',4,4',5-pentachlorobiphenyl)	57465-28-8	0.1
PCB 156 (2,3,3',4,4',5-hexachlorobiphenyl)	38380-08-4	0.0005
PCB 157 (2,3,3',4,4',5'-hexachlorobiphenyl)	69782-90-7	0.0005
PCB 167 (2,3',4,4',5,5'-hexachlorobiphenyl)	52663-72-6	0.00001
PCB 169 (3,3',4,4',5,5'-hexachlorobiphenyl)	32774-16-6	0.01
PCB 170 (2,2',3,3',4,4',5-heptachlorobiphenyl)	35065-30-6	0
PCB 180 (2,2',3,4,4',5,5'-heptachlorobiphenyl)	35065-29-3	0
PCB 189 (2,3,3',4,4',5,5'-heptachlorobiphenyl)	39635-31-9	0.0001

Table 2-5-1 Toxic Air Contaminant Trigger Levels

⁹ **Polycyclic Aromatic Hydrocarbons (PAHs):**

These substances are PAH-derivatives that have OEHHA-developed Potency Equivalency Factors (PEFs). PAHs should be evaluated as benzo(a)pyrene-equivalents. This evaluation process consists of multiplying individual PAH-specific emission levels with their corresponding PEFs listed below. The sum of these products is the benzo(a)pyrene-equivalent level and should be compared to the benzo(a)pyrene equivalent trigger level.

<u>PAH or derivative</u>	<u>CAS Number</u>	<u>PEF</u>
benz(a)anthracene	56-55-3	0.1
benzo(b)fluoranthene	205-99-2	0.1
benzo(j)fluoranthene	205-82-3	0.1
benzo(k)fluoranthene	207-08-9	0.1
benzo(a)pyrene	50-32-8	1.0
chrysene	218-01-9	0.01
dibenz(a,j)acridine	224-42-0	0.1
dibenz(a,h)acridine	226-36-8	0.1
dibenz(a,h)anthracene	53-70-3	1.05
7H-dibenzo(c,g)carbazole	194-59-2	1.0
dibenzo(a,e)pyrene	192-65-4	1.0
dibenzo(a,h)pyrene	189-64-0	10
dibenzo(a,i)pyrene	189-55-9	10
dibenzo(a,l)pyrene	191-30-0	10
7,12-dimethylbenz(a)anthracene	57-97-6	64
indeno(1,2,3-cd)pyrene	193-39-5	0.1
5-methylchrysene	3697-24-3	1.0
3-methylcholanthrene	56-49-5	5.7
5-nitroacenaphthene	602-87-9	0.03
1-nitropyrene	5522-43-0	0.1
4-nitropyrene	57835-92-4	0.1
1,6-dinitropyrene	42397-64-8	10
1,8-dinitropyrene	42397-65-9	1.0
6-nitrocrysene	7496-02-8	10
2-nitrofluorene	607-57-8	0.01