



Occupational Alliance for Risk Science - Workplace Environmental Exposure Levels (WEEL)™

Substance	CAS	Source	8-Hour TWA	Ceiling or Short-Term TWA	Last Revised
Acetone Cyanohydrin	75-86-5	AIHA	2 ppm (skin)	5 ppm (15 min, skin)	1992
Acetophenone	98-86-2	AIHA	10 ppm	—	2007
Aldicarb	116-06-3	AIHA	0.01 mg/m ³ (skin)	—	2009
Allyl Isothiocyanate	57-06-7	AIHA	—	1 ppm (15-min, skin, DSEN)	—
Aminobenzoic Acid, para-	150-13-0	AIHA	5 mg/m ³	—	2001
Aminotri (Methylenephosphonic Acid)	6419-19-8	AIHA	10 mg/m ³	—	2004
Amyl Alcohol, n-	71-41-0	AIHA	100 ppm	—	2001
Benzaldehyde	100-52-7	AIHA	2 ppm	4 ppm (15-min, DSEN)	1998
Benzenesulfonic acid, 5-chloro-2-(2-Hydroxy-1-naphthalenyl)-azo)-4-methyl, barium salt (2:1)	5160-02-1	AIHA	1 mg/m ³	—	2008
Benzophenone	119-61-9	AIHA	0.5 mg/m ³	—	2003
Benzoyl Chloride	98-88-4	AIHA	—	5 ppm (ceiling, skin, DSEN)	2008
Benzyl Alcohol	100-51-6	AIHA	10 ppm	—	2008
Butylcatechol, 4-tert-	98-29-3	AIHA	—	2 mg/m ³ (ceiling, skin, DSEN)	2001
Butyraldehyde	123-72-8	AIHA	25 ppm	—	2004
Chloramphenicol	56-75-7	AIHA	0.5 mg/m ³	—	2008
Chloro-1,1-Difluoroethane, 1-	75-68-3	AIHA	1000 ppm	—	1994
Chloroisopropyl Ether, bis-(2-	39638-92-9	AIHA	3 ppm	—	2009
Chloro-1,1,1,2-Tetrafluoroethane, 2-	2837-89-0	AIHA	1000 ppm	—	2005
Chloropropane, 2-	75-29-6	AIHA	50 ppm	—	2004
Chlorosulfonic Acid	7790-94-5	AIHA	0.1 mg/m ³	—	2002
Chlorotrifluoroethylene	79-38-9	AIHA	5 ppm	—	2010
Cumene Hydroperoxide	80-15-9	AIHA	1 ppm (skin)	—	2009
Decabromodiphenyl Oxide	1163-19-5	AIHA	5 mg/m ³	—	2009
Decene, 1-	872-05-9	AIHA	100 ppm	—	2000
Dehydrolinalool	29171-20-8	AIHA	2 ppm	—	2007
Diallylamine	124-02-7	AIHA	1 ppm (skin)	—	2009
Dibromoneopentyl Glycol	3296-90-0	AIHA	0.2 mg/m ³	—	2010
Dibutylamine	111-92-2	AIHA	—	5 ppm (ceiling, skin)	2003
Dichloro-1-Fluoroethane, 1,1-	1717-00-6	AIHA	500 ppm	3000 ppm (5-min STEL)	2008
Dichlorophenol, 2,4-	120-83-2	AIHA	1 ppm (skin*)	—	2004
Diethylbenzenes, mixed isomers	25340-17-4	AIHA	5 ppm	—	2005
Diethylene Glycol	111-46-6	AIHA	10 mg/m ³	—	1999
Diethylene Glycol Monoethyl Ether	111-90-0	AIHA	25 ppm	—	1991
Difluoroethane, 1,1-	75-37-6	AIHA	1000 ppm	—	2005
Difluoromethane	75-10-5	AIHA	1000 ppm	—	1997
Diisobutylene	25167-70-8	AIHA	75 ppm	—	2000
Dimethyldichlorosilane	75-78-5	AIHA	—	2 ppm (ceiling)	2001
Dimethyl Ether	115-10-6	AIHA	1000 ppm	—	2010
Dimethyl Sulfoxide	67-68-5	AIHA	250 ppm	—	2003
Dimethyl Terephthalate	120-61-6	AIHA	5 mg/m ³ (total)	—	2000
Dimethylethylamine	598-56-1	AIHA	1 ppm	3 ppm	2011
Dimethyl-para-toluidine, n,n-	99-97-8	AIHA	0.5 ppm	—	2009
Dowtherm Q	612-00-0, 68987-42-8	AIHA	7.8 mg/m ³	—	2002
Epoxybutane, 1,2-	106-88-7	AIHA	2 ppm	—	2003
Erythromycin	114-07-8	AIHA	3 mg/m ³	—	2007
Furan	110-00-9	AIHA	Worker exposure by all routes should be minimized to the fullest	—	1993
Glycidyl Methacrylate	106-91-2	AIHA	0.5 ppm (skin, DSEN)	—	2000
Glyoxal	107-22-2	AIHA	0.1 mg/m ³ (DSEN)	—	2000
Hexadiene, 1,4- (mixed cis and trans)	592-45-0	AIHA	10 ppm	—	2009
Hexafluoropropane, 1,1,1,3,3,3-	690-39-1	AIHA	1000 ppm	—	1998
Hexamethylene Glycol	629-11-8	AIHA	10 mg/m ³	—	2011
Hexanediamine, 1,6-	124-09-4	AIHA	1 ppm	—	2004
Hexanediol Diacrylate	13048-33-4	AIHA	1 mg/m ³ (DSEN)	—	1998
Hexyl Alcohol, n-	111-27-3	AIHA	40 ppm (eye irritation)	—	2011
HFE-7100	163702-07-6, 163702-08-7	AIHA	750 ppm	—	1999
Hydroxybenzoic Acid, 4-	99-96-7	AIHA	5 mg/m ³	—	2010
Isobutyraldehyde	78-84-2	AIHA	25 ppm	—	2002
Isocyanuric Acid	108-80-5	AIHA	10 mg/m ³ (total);	—	2005
		AIHA	5 mg/m ³ (respirable)	—	—
Isophthalic Acid	121-91-5	AIHA	10 mg/m ³ (total);	—	1991
		AIHA	5 mg/m ³ (respirable)	—	—
Isoprene	78-79-5	AIHA	2 ppm	—	2004
Limonene, d-	138-86-3	AIHA	30 ppm	—	1993
Lithium Hydroxide	1310-65-2	AIHA	—	1 mg/m ³ (ceiling)	1999
Lithium Oxide	12057-24-8	AIHA	—	1 mg/m ³ (ceiling)	1999
Mancozeb	8018-01-7	AIHA	1 mg/m ³ (total, DSEN)	—	2008
Melamine	108-78-1	AIHA	10 mg/m ³ (inhalable);	—	1999
		AIHA	5 mg/m ³ (respirable)	—	—
Mercaptobenzothiazole, 2-	149-30-4	AIHA	5 mg/m ³ (skin, DSEN)	—	2010
Mercaptoethanol	60-24-2	AIHA	0.2 ppm (skin)	—	2002
Methoxypropylamine, 3-	5332-73-0	AIHA	5 ppm	15 ppm (15 min)	2009
Methyl Ethyl Ketoxime	96-29-7	AIHA	10 ppm (DSEN)	—	1990
Methyl-2-Pyrrolidone, n-	872-50-4	AIHA	10 ppm (skin)	—	2010
Methyltrichlorosilane	75-79-6	AIHA	—	1 ppm (ceiling)	2001
Monochloroacetic Acid	79-11-8	AIHA	0.5 ppm (skin)	—	2004
Octanol, 1-	111-87-5	AIHA	50 ppm	—	2005
Octene, 1-	111-66-0	AIHA	75 ppm	—	2000
Pentaerythritol Triacrylate	3524-68-3	AIHA	1 mg/m ³ (DSEN)	—	1999
Pentafluoroethane, 1,1,1,2,2-	354-33-6	AIHA	1000 ppm	—	2009
Pentafluoropropane, 1,1,1,3,3-	460-73-1	AIHA	300 ppm	—	2001
Phosphono-1,2,4 butanetricarboxylic, 2- acid	37971-36-1	AIHA	10 mg/m ³	—	2006

Picolines	109-06-8, 108-99-6, 108-89-4	AIHA	2 ppm (skin)	5 ppm (15-min, skin)	1988
Piperidine	110-89-4	AIHA	1 ppm (skin)	—	1996
Polyethylene Glycols (MW > 200)	25322-68-3	AIHA	10 mg/m ³	—	2009
Polypropylene Glycols	25322-69-4	AIHA	10 mg/m ³	—	1997
Potassium Bromate	7758-01-2	AIHA	0.1 mg/m ³	—	2004
Propargyl Bromide	106-96-7	AIHA	0.1 ppm (skin)	—	1997
Propenoic Acid, isooctyl ester, 2-	29590-42-9	AIHA	5 ppm	—	2010
Propionaldehyde	123-38-6	AIHA	20 ppm	—	2002
Propylene Glycol	57-55-6	AIHA	10 mg/m ³	—	2004
Propylene Glycol Monomethyl Ether Acetate	108-65-6	AIHA	50 ppm	—	2005
Quinoline	91-22-5	AIHA	0.001 ppm (skin)	—	2006
Sodium Chloroacetate	3926-62-3	AIHA	2.5 mg/m ³	—	2005
Sodium Hypochlorite	7681-52-9	AIHA	—	2 mg/m ³ (15 min)	2010
Tetrachloropyridine, 2,3,5,6-	2402-79-1	AIHA	5 mg/m ³	—	2000
Tetrachlorosilane	10026-04-7	AIHA	—	1 ppm (ceiling)	1999
Tetraethylene Glycol Diacrylate	17831-71-9	AIHA	1 mg/m ³ (skin, DSEN)	—	—
TetraethylenePentamine	112-57-2	AIHA	5 mg/m ³ (skin, DSEN)	—	2004
Tetrafluoroethane, 1,1,1,2-	811-97-2	AIHA	1000 ppm	—	2003
Tetrafluoropropene, 2,3,3,3-	754-12-1	AIHA	500 ppm	—	2009
Tetrafluoropropylene, 1,3,3,3-	1645-83-6	AIHA	800 ppm	—	2011
Tetrahydrofurfuryl Alcohol	97-99-4	AIHA	0.5 ppm (skin)	—	1993
Titanium Tetrachloride	7550-45-0	AIHA	0.5 mg/m ³	—	2009
Toluene Diamine, 2,4- and mixed isomers	95-80-7; 25376-45-8	AIHA	0.005 ppm (skin)	—	2010
Toluenesulfonyl Chloride, para-	98-59-9	AIHA	—	5 mg/m ³ (ceiling)	2009
Trichlorosilane	10025-78-2	AIHA	—	0.5 ppm (ceiling)	1998
Triethoxysilane	998-30-1	AIHA	0.05 ppm	—	2000
Triethylene Glycol Diacrylate	1680-21-3	AIHA	1 mg/m ³ (skin)	—	—
Triethylenetetramine	112-24-3	AIHA	1 ppm (skin)	—	2009
Triethylphosphate	78-40-0	AIHA	7.45 mg/m ³	—	2010
Trifluoro-2,2-Dichloroethane, 1,1,1-	306-83-2	AIHA	50 ppm	—	2001
Trifluoroethane, 1,1,1-	420-46-2	AIHA	1000 ppm	—	1996
Trifluoroethanol, 2,2,2-	75-89-8	AIHA	0.3 ppm	—	1999
Trimethoxysilane	2487-90-3	AIHA	0.05 ppm	—	2010
Trimethylamine	75-50-3	AIHA	1 ppm	—	2005
Trimethylchlorosilane	75-77-4	AIHA	—	5 ppm (ceiling)	2001
Trimethylolpropane Triacrylate	15625-89-5	AIHA	1 mg/m ³ (skin)	—	—
Trimethylolpropane Trimethacrylate	3290-92-4	AIHA	1 mg/m ³ (skin)	—	1981
Trisodium Phosphate	7601-54-9	AIHA	—	5 mg/m ³ (15 min)	2009
Urea	57-13-6	AIHA	10 mg/m ³	—	2007
Vanillin	121-33-5	AIHA	10 mg/m ³	—	2009
Vinylcyclohexene	100-40-3	AIHA	1 ppm	—	2009
Vinyltrichlorosilane	75-94-5	AIHA	—	1 ppm (ceiling)	2002

*Absorbed rapidly through the skin in molten or heated liquid form in amounts that have caused rapid death in humans.
Worker exposure by all routes should be minimized to the fullest extent possible.

Acronyms

AIHA - American Industrial Hygiene Association
DSEN - Potential for Dermal Sensitization
mg/m³ - milligrams per cubic meter
PPM - Parts Per Million
RSEN - Potential for Respiratory Sensitization
STEL - Short Term Exposure Limit
TWA - Time Weighted Average

For information related to AIHA values, please refer directly to <http://www.aiha.org/get-involved/AIHAGuidelineFoundation/WEELs/Pages/default.aspx>.