APPENDIX A

CHEMICALS NOTED FOR SKIN ABSORPTION (OSHA AND ACGIH DESIGNATED ONLY)

TABLE A-1. OSHA PELS AND ACGIH TLVS WITH SKIN DESIGNATIONS/NOTATIONS					
Substance	**CAS Number[1]**	**OSHA PELs[2]**		**ACGIH TLVs[3]**	
		1910	**1926/1915**	**TWA**	**STEL/C[4]**
Acetone cyanohydrin, as CN	75-86-5				C 5 mg/m^3
Acetonitrile	75-05-8			20 ppm	
Acrolein	107-02-8				C 0.1 ppm
Acrylamide	79-06-1	0.3 mg/m^3	SAME	0.03 mg/m^3	
Acrylic acid	79-10-7			2 ppm	
Acrylonitrile; see 1910.1045	107-13-1			2 ppm	
Adiponitrile	111-69-3			2 ppm	
Aldrin	309-00-2	0.25 mg/m^3	SAME	0.05 mg/m^3	
Allyl alcohol	107-18-6	2 ppm; 5 mg/m^3	SAME	0.5 ppm	
Allyl bromide	106-95-6			0.1 ppm	0.2 ppm
Allyl chloride	107-05-1			1 ppm	2 ppm
4-Aminodiphenyl; see 1910.1011	92-67-1			(L)	
Ammonium perfluorooctanoate	3825-26-1			0.01 mg/m^3	
Aniline and homologs	62-53-3	5 ppm; 19 mg/m^3	SAME	2 ppm	
Anisidine (o-, p-isomers)	29191-52-4	0.5 mg/m^3	SAME	0.5 mg/m^3	
ANTU (alpha Naphthylthiourea)	86-88-4			0.3 mg/m^3	
Azinphos-methyl	86-50-0	0.2 mg/m^3	SAME	0.2 mg/m^3 (IFV)	
Benzene; see 1910.1028. See Table Z-2 for the limits applicable in the operations or sectors excluded in 1910.1028(d)	71-43-2			0.5 ppm	2.5 ppm
Benzidine; See 1910.1010	92-87-5			(L)	
Benzotrichloride	98-07-7				C 0.1 ppm
Beryllium and beryllium compounds (as Be)	7440-41-7			0.00005 mg/m^3 I	
Bromoform	75-25-2	0.5 ppm; 5 mg/m^3	SAME	0.5ppm	

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Substance	**CAS Number[1]**	**OSHA PELs[2]**		**ACGIH TLVs[3]**	
		1910	**1926/1915**	**TWA**	**STEL/C[4]**
2-Butoxyethanol	111-76-2	50 ppm; 240 mg/m^3	SAME	20ppm	
n-Butylamine	109-73-9	(C)5 ppm; (C)15 mg/m^3	SAME		C 5ppm
tert-Butyl chromate (as CrO_3); see 1910.1026	1189-85-1				C 0.1 mg/m^3
n-Butyl glycidyl ether (BGE)	2426-08-6			3 ppm	
o-sec-Butylphenol	89-72-5			5 ppm	
Captafol	2425-06-1			0.1 mg/m^3	
Carbaryl (Sevin)	63-25-2			0.5 mg/m^3 (IFV)	
Carbon disulfide	75-15-0		20 ppm; 60 mg/m^3	1 ppm	
Carbon tetrachloride	56-23-5		10 ppm; 65 mg/m^3	5 ppm 31 mg/m^3	10 ppm
Catechol	120-80-9			5 ppm	
Chlordane	57-74-9	0.5 mg/m^3	SAME	0.5 mg/m^3	
Chlorinated camphene	8001-35-2	0.5 mg/m^3	SAME	0.5 mg/m^3	1 mg/m^3
Chloroacetone	78-95-5				C 1 ppm
Chloroacetyl chloride	79-04-9			0.05 ppm	0.15 ppm
o-Chlorobenzylidene malononitrile	2698-41-1				C 0.05 ppm
Chlorodiphenyl (42% Chlorine) (PCB)	53469-21-9	1 mg/m^3	SAME	1 mg/m^3	
Chlorodiphenyl (54% Chlorine) (PCB)	11097-69-1	0.5 mg/m^3	SAME	0.5 mg/m^3	
1-Chloro-2-propanol	127-00-4			1 ppm	
2-Chloro-1-propanol	78-89-7			1 ppm	
beta-Chloroprene	126-99-8	25 ppm; 90 mg/m^3	SAME	10 ppm	
2-Chloropropionic acid	598-78-7			0.1 ppm	
Chlorpyrifos	2921-88-2			0.1 mg/m^3 (IFV)	
Citral	5392-40-5			5 ppm (IFV)	
Coumaphos	56-72-4			0.05 mg/m^3 (IFV)	

TABLE A-1. OSHA PELS AND ACGIH TLVS WITH SKIN DESIGNATIONS/NOTATIONS					
Substance	**CAS Number[1]**	**OSHA PELs[2]**		**ACGIH TLVs[3]**	
		1910	**1926/1915**	**TWA**	**STEL/C[4]**
Cresol, all isomers	1319-77-3	5 ppm; 22 mg/m^3	SAME	20 mg/m^3 (IFV)	
Crotonaldehyde	4170-30-3				C 0.3 ppm
Cumene	98-82-8	50 ppm; 245 mg/m^3	SAME	50ppm	
Cyanides (as CN)	(4)	5 mg/m^3	SAME (1915 no skin designation)		
Cyclohexanol	108-93-0			50 ppm	
Cyclohexanone	108-94-1			20 ppm	50 ppm
Cyclonite	121-82-4		1.5 mg/m^3	0.5 mg/m^3	
2,4-D (Dichlorophen-oxyacetic acid)[5]	94-75-7	10 mg/m^3			
Decaborane	17702-41-9	0.05 ppm; 0.3 mg/m^3	SAME	0.05 ppm	0.15 ppm
Demeton (Systox)	8065-48-3	0.1 mg/m^3	SAME	0.05 mg/m^3 (IFV)	
Demeton-S-methyl	919-86-8			0.05 mg/m^3 (IFV)	
Diazinon	333-41-5			0.01 mg/m^3 (IFV)	
2-N-Dibutylaminoethanol	102-81-8			0.5 ppm	
Dibutyl phenol phosphate	2528-36-1			0.3 ppm	
Dibutyl phosphate	107-66-4			5 mg/m^3 (IFV)	
Dichloroacetic acid	79-43-6			0.5 ppm	
3,3'-Dichlorobenzidine; see 1910.1007	91-94-1			(L)	
1,4-Dichloro-2-butene	764-41-0			0.005 ppm	
Dichlorodiphenyltri-chloroethane (DDT)	50-29-3	1 mg/m^3	SAME		
Dichloroethyl ether	111-44-4	(C)15 ppm; (C)90 mg/m^3	SAME	5 ppm	10 ppm
1,3-Dichloropropene	542-75-6			1 ppm	
Dichlorvos (DDVP)	62-73-7	1 mg/m^3	SAME	0.1 mg/m^3 (IFV)	
Dicrotophos	141-66-2			0.05 mg/m^3 (IFV)	
Dieldrin	60-57-1	0.25 mg/m^3	SAME	0.1 mg/m^3 (IFV)	
Diesel fuel, as total	68334-30-5; 68476-30-2;			100 mg/m^3(IFV)	

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		1910	**1926/1915**	**TWA**	**STEL/C[4]**
hydrocarbons	68476-31-3; 68476-34-6; 77650-28-3				
Diethanolamine	111-42-2			1 mg/m^3 (IFV)	
Diethylamine	109-89-7			5 ppm	15 ppm
2-Diethylaminoethanol	100-37-8	10 ppm; 50 mg/m^3	SAME (1915 no skin designation)	2 ppm	
Diethylene triamine	111-40-0		(C)10 ppm; (C)42 mg/m^3	1 ppm	
Diisopropylamine	108-18-9	5 ppm; 20 mg/m^3	SAME	5 ppm	
Dimethyl acetamide	127-19-5	10 ppm; 35 mg/m^3	SAME	10 ppm	
bis(2-Dimethylaminoethyl)ether (DMAEE)	3033-62-3			0.05 ppm	0.15 ppm
Dimethylaniline (N,N-Dimethylaniline)	121-69-7	5 ppm; 25 mg/m^3	SAME	5 ppm	10 ppm
Dimethyl carbamoyl chloride	79-44-7			0.005 ppm	
Dimethyl-1,2-dibromo-2,2-dichloroethyl phosphate (Naled)	300-76-5			0.1 mg/m^3 (IFV)	
Dimethyl disulfide	624-92-0			0.5 ppm	
Dimethylformamide	68-12-2	10 ppm; 30 mg/m^3	SAME	10 ppm	
1,1-Dimethylhydrazine	57-14-7	0.5 ppm; 1 mg/m^3	SAME	0.01 ppm	
Dimethyl sulfate	77-78-1; 77-78-3	1 ppm; 5 mg/m^3	SAME	0.1 ppm	
Dinitrobenzene (all isomers)	528-29-0; 99-65-0; 100-25-4	1 mg/m^3	SAME	0.15 ppm	
Dinitro-o-cresol	534-52-1	0.2 mg/m^3	SAME	0.2 mg/m^3	
Dinitrotoluene	25321-14-6	1.5 mg/m^3	SAME	0.2 mg/m^3	
Dioxane (Diethylene	123-91-1	100 ppm;	SAME	20 ppm	

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		1910	**1926/1915**	**TWA**	**STEL/C[4]**
dioxide)		360 mg/m^3			
Dioxathion	78-34-2			0.1 mg/m$^{3(IFV)}$	
Dipropylene glycol methyl ether (2-Methoxymethylethoxy)propanol)	34590-94-8	100 ppm; 600 mg/m^3	SAME	100 ppm	150 ppm
Diquat	2764-72-9; 85-00-7; 6385-62-2			0.5 mg/m$^{3\ (I);}$ 0.1 mg/m$^{3(\ R)}$	
Disulfoton	298-04-4			0.05 mg/m$^{3\ (IFV)}$	
Endosulfan	115-29-7		0.1 mg/m^3	0.1 mg/m$^{3(IFV)}$	
Endrin	72-20-8	0.1 mg/m^3	SAME	0.1 mg/m^3	
Epichlorohydrin	106-89-8	5 ppm; 19 mg/m^3	SAME	0.5 ppm	
EPN	2104-64-5	0.5 mg/m^3	SAME	0.1 mg/m$^{3\ (I)}$	
Ethion	563-12-2			0.05 mg/m$^{3\ (IFV)}$	
2-Ethoxyethanol (Cellosolve)	110-80-5	200 ppm; 740 mg/m^3	SAME	5 ppm	
2-Ethoxyethyl acetate (Cellosolve acetate)	111-15-9	100 ppm; 540 mg/m^3	SAME	5 ppm	
Ethyl acrylate	140-88-5	25 ppm; 100 mg/m^3	SAME	5ppm	15ppm
Ethylamine	75-04-7			5 ppm	15 ppm
Ethyl bromide	74-96-4			5 ppm	
Ethyl chloride	75-00-3			100 ppm	
Ethylene chlorohydrin	107-07-3	5 ppm; 16 mg/m^3	SAME		C 1 ppm
Ethylenediamine	107-15-3			10 ppm	
Ethylene dibromide	106-93-4		(C)25 ppm; (C)190 mg/m^3	—	—
Ethylene glycol dinitrate	628-96-6	(C)0.2 ppm; (C)1 mg/m^3	SAME	0.05 ppm	
Ethyleneimine; see 1910.1012	151-56-4			0.05 ppm	0.1 ppm
N-Ethylmorpholine	100-74-3	20 ppm; 94 mg/m^3	SAME	5 ppm	

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Substance	**CAS Number[1]**	**OSHA PELs[2]**		**ACGIH TLVs[3]**	
		1910	**1926/1915**	**TWA**	**STEL/C[4]**
Fenamiphos	22224-92-6			0.05 mg/m^3 (IFV)	
Fensulfothion	115-90-2			0.01 mg/m^3 (IFV)	
Fenthion	55-38-9			0.05 mg/m^3 (IFV)	
Fonofos	944-22-9			0.1 mg/m^3 (IFV)	
Formamide	75-12-7			10 ppm	
Furfural	98-01-1	5 ppm; 20 mg/m^3	SAME	2 ppm	
Furfuryl alcohol	98-00-0			10 ppm	15 ppm
Heptachlor	76-44-8	0.5 mg/m^3	SAME	0.05 mg/m^3	
Heptachlor epoxide	1024-57-3			0.05 mg/m^3	
Hexachlorobenzene	118-74-1			0.002 mg/m^3	
Hexachlorobutadiene	87-68-3			0.02 ppm	
Hexachloroethane	67-72-1	1 ppm; 10 mg/m^3	SAME	1 ppm	
Hexachloronaphthalene	1335-87-1	0.2 mg/m^3	SAME	0.2 mg/m^3	
Hexafluoroacetone	684-16-2			0.1 ppm	
Hexamethyl phosphoramide	680-31-9			—	
n-Hexane	110-54-3			50 ppm	
2-Hexanone (Methyl n-butyl ketone)	591-78-6			5 ppm	10 ppm
Hydrazine	302-01-2	1 ppm; 1.3 mg/m^3	SAME	0.01 ppm	
Hydrogen cyanide[6]	74-90-8	10 ppm; 11 mg/m^3	SAME		C 4.7 ppm
Hydrogen fluoride (as F)	7664-39-3			0.5 ppm	C 2 ppm
2-Hydroxypropryl acrylate	999-61-1			0.5 ppm	
Isooctyl alcohol	26952-21-6			50 ppm	
2-Isopropoxyethanol	109-59-1			25 ppm	
n-Isopropylaniline	768-52-5			2 ppm	
Kerosene/Jet fuels, as total hydrocarbon vapor	8008-20-6; 64742-81-0			200 mg/m^3 P	
Lindane	58-89-9	0.5 mg/m^3	SAME	0.5 mg/m^3	
Malathion Total dust	121-75-5	15 mg/m^3	SAME	1 mg/m^3 (IFV)	

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Substance	**CAS Number[1]**	**OSHA PELs[2]**		**ACGIH TLVs[3]**	
		1910	**1926/1915**	**TWA**	**STEL/C[4]**
Manganese cyclopentadienyl tricarbonyl, as Mn	12079-65-1			0.1 mg/m^3	
Mercury (as Hg)	7439-97-6	0.1mg/m^3	0.1 mg/m^3	0.1 mg/m^3	
Mercury (elemental and inorganic forms)	7439-97-6	0.1mg/m^3	0.1mg/m^3	0.025 mg/m3	
Mercury (organo) alkyl compounds (as Hg)	7439-97-6	0.01mg/m^3	0.01 mg/m^3	0.01 mg/m^3	0.03 mg/m^3
Mercury (vapor) (as Hg)	7439-97-6	0.1mg/m^3	0.1 mg/m^3		
2-Methoxyethanol; (Methyl cellosolve)	109-86-4	25 ppm; 80 mg/m^3	SAME	0.1 ppm	
2-Methoxyethyl acetate (Methyl cellosolve acetate)	110-49-6	25 ppm; 120 mg/m^3	SAME	0.1 ppm	
Methyl acrylate	96-33-3	10 ppm; 35 mg/m^3	SAME	2 ppm	
Methylacrylonitrile	126-98-7			1 ppm	
Methyl alcohol	67-56-1			200 ppm	250 ppm
Methyl bromide	74-83-9	(C)20 ppm; (C)80 mg/m^3	SAME	1 ppm	
Methyl chloride	74-87-3			50 ppm	100 ppm
o-Methylcyclohexanone	583-60-8	100 ppm; 460 mg/m^3	SAME	50 ppm	75 ppm
2-Methylcyclopentadienyl manganese tricarbonyl, as Mn	12108-13-3			0.2 mg/m^3	
Methyl demeton	8022-00-2			0.05 mg/m^3 IFV	
4,4'-Methylene bis(2-chloroaniline)	101-14-4			0.01 ppm	
4,4'-Methylene dianiline	101-77-9			0.1 ppm	
Methyl hydrazine (Monomethyl hydrazine)	60-34-4	(C)0.2 ppm; (C)0.35 mg/m^3	SAME	0.01 ppm	
Methyl iodide	74-88-4	5 ppm; 28 mg/m^3	SAME	2 ppm	
Methyl isobutyl carbinol	108-11-2	25 ppm; 100 mg/m^3	SAME	25 ppm	40 ppm
Methyl isocyanate	624-83-9	0.02 ppm;	SAME	0.02 ppm	

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Substance	**CAS Number[1]**	**OSHA PELs[2]**		**ACGIH TLVs[3]**	
		1910	**1926/1915**	**TWA**	**STEL/C[4]**
		0.05 mg/m^3			
1-Methyl naphthalene	90-12-0			0.5 ppm	
2-Methyl naphthalene	91-57-6			0.5 ppm	
Methyl parathion	298-00-0			0.02 mg/m^3 (IFV)	
Methyl vinyl ketone	78-94-4				C 0.2 ppm
Monochloroacetic acid	79-11-8			0.5 ppm (IFV)	
Monocrotophos	6923-22-4			0.05 mg/m^3 (IFV)	
Monomethyl aniline (N-Methyl aniline)	100-61-8	2 ppm; 9 mg/m^3	SAME	0.5 ppm 2.2 mg/m^3	
Morpholine	110-91-8	20 ppm; 70 mg/m^3	SAME	20 ppm	
Naphthalene[7]	91-20-3			10 ppm	15 ppm
Natural rubber latex, as inhalable allergenic proteins	9006-04-6			0.0001 mg/m^3 I	
Nicotine	54-11-5	0.5 mg/m^3	SAME	0.5 mg/m^3	
p-Nitroaniline	100-01-6	1 ppm; 6 mg/m^3	SAME	3 mg/m^3	
Nitrobenzene	98-95-3	1 ppm; 5 mg/m^3	SAME	1 ppm	
p-Nitrochlorobenzene	100-00-5	1 mg/m^3	SAME	0.1 ppm	
4-Nitrodiphenyl; see 1910.1003	92-93-3			(L)	
Nitroglycerin	55-63-0	(C)0.2 ppm; (C)2 mg/m^3	SAME	0.05 ppm	
N-Nitrosodimethylamine; see 1910.1016	62-75-9			(L)	
Nitrotoluene (all isomers)	88-72-2; 99-08-1; 99-99-0	5 ppm; 30 mg/m^3	SAME	2 ppm	
Octachloronaphthalene	2234-13-1	0.1 mg/m^3	SAME	0.1 mg/m^3	0.3 mg/m^3
Paraquat, respirable dust	4685-14-7; 1910-42-5; 2074-50-2	0.5 mg/m^3 0.1 mg/m3 (R)	SAME		
Parathion	56-38-2	0.1 mg/m^3	SAME (1915 no skin designation)	0.05 mg/m^3 (IFV)	

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Substance	**CAS Number[1]**	**OSHA PELs[2]**		**ACGIH TLVs[3]**	
		1910	**1926/1915**	**TWA**	**STEL/C[4]**
Pentachloronaphthalene	1321-64-8	0.5 mg/m^3	SAME	0.5 mg/m^3	
Pentachlorophenol	87-86-5	0.5 mg/m^3	SAME	0.5 mg/m^3	
2,4-Pentanedione	123-54-6			25 ppm	
Phenol	108-95-2	5 ppm; 19 mg/m^3	SAME	5 ppm	
Phenothiazine	92-84-2			5 mg/m^3	
p-Phenylene diamine	106-50-3	0.1 mg/m^3	SAME	0.1 mg/m^3	
Phenyl glycidyl ether (PGE)	122-60-1			0.1 ppm	
Phenylhydrazine	100-63-0	5 ppm; 22 mg/m^3	SAME	0.1 ppm	
Phenyl mercaptan	108-98-5			0.1 ppm	
Phorate	298-02-2			0.05 mg/m^3 (IFV)	
Phosdrin (Mevinphos)	7786-34-7	0.1 mg/m^3	SAME	0.01 mg/m^3(IFV)	
Picric acid	88-89-1	0.1 mg/m^3	SAME (1915 no skin designation)	0.1mg/m^3	
Propargyl alcohol	107-19-7		1 ppm	1 ppm	
Propylene glycol dinitrate	6423-43-4			0.05 ppm	
Propylene imine	75-55-8	2 ppm; 5 mg/m^3	SAME	0.2 ppm	0.4 ppm
Sodium fluoroacetate	62-74-8	0.05 mg/m^3	SAME	0.05 mg/m^3	
Sulprofos	35400-43-2			0.1 mg/m^3 (IFV)	
TEDP (Sulfotepp)	3689-24-5	0.2 mg/m^3	SAME	0.1 mg/m^3 (IFV)	
Temephos	3383-96-8			1 mg/m^3 (IFV)	
TEPP (Tetraethyl pyrophosphaate)	107-49-3	0.05 mg/m^3	SAME	0.01 mg/m^3 (IFV)	
Terbufos	13071-79-9			0.01 mg/m^3 (IFV)	
1,1,2,2-Tetrachloro-ethane	79-34-5	5 ppm; 35 mg/m^3	SAME	1 ppm	
Tetrachloronaphthalene	1335-88-2	2 mg/m^3	SAME	2 mg/m^3	
Tetraethyl lead (as Pb)	78-00-2	0.075 mg/m^3	0.1 mg/m^3	0.1 mg/m^3	
Tetrahydrofuran	109-99-9			50 ppm	100 ppm
Tetramethyl lead (as Pb)	75-74-1	0.075 mg/m^3	0.15 mg/m^3	0.15 mg/m^3	

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Substance	**CAS Number[1]**	**OSHA PELs[2]**		**ACGIH TLVs[3]**	
		1910	**1926/1915**	**TWA**	**STEL/C[4]**
Tetramethyl succinonitrile	3333-52-6	0.5 ppm; 3 mg/m^3	SAME	0.5 ppm	
Tetryl (2,4,6-Trinitro-phenylmethyl-nitramine)	479-45-8	1.5 mg/m^3	SAME	1.5mg/m^3	
Thallium, soluble compounds (as Tl)	7440-28-0	0.1 mg/m^3	SAME	0.02 mg/m^3 (I)	
Thioglycolic acid	68-11-1			1 ppm	
Tin, organic compounds (as Sn)	7440-31-5			0.1 mg/m^3	0.2 mg/m^3
o-Tolidine	119-93-7			—	
Toluene-2,4-diisocyanate (TDI)[8]	584-84-9	(C)0.02 ppm; (C)0.14 mg/m^3		0.005 ppm	0.02ppm
o-Toluidine	95-53-4	5 ppm; 22 mg/m^3	SAME	2 ppm	
m-Toluidine	108-44-1			2 ppm	
p-Toluidine	106-49-0			2 ppm	
1,1,2-Trichloroethane	79-00-5	10 ppm; 45 mg/m^3	SAME	10 ppm	
Trichloronaphthalene	1321-65-9	5 mg/m^3	SAME	5 mg/m^3	
1,2,3-Trichloropropane[9]	96-18-4			10 ppm	
Triethylamine	121-44-8			1 ppm	3 ppm
Trimellitic anhydride	552-30-7			0.0005 mg/m^3 IFV	0.002 mg/m^3 IFV
2,4,6-Trinitrotoluene (TNT)	118-96-7	1.5 mg/m^3	SAME	0.1 mg/m^3	
Triorthocresyl phosphate	78-30-8			0.1 mg/m^3	
Vinyl cyclohexene dioxide	106-87-6			0.1 ppm	
m-Xylene α,α'-diamine	1477-55-0				C 0.1 mg/m^3
Xylidine	1300-73-8	5 ppm; 25 mg/m^3	SAME	0.5 ppm (IFV)	

[1] The chemical abstracts service (CAS) number is for information only. For an entry covering more than one metal compound measured as the metal, the CAS number for the metal is given - not CAS numbers for the individual compounds.

[2] The OSHA PELs provided under "1910" refer to General Industry, 29 CFR 1910.1000 Table Z-1; "1926" refers to Construction, 29 CFR 1926.55, Appendix A; and "1915" refers to Shipyards, 29 CFR 1915.1000. The PELs are 8-hour time-weighted average (TWA) concentrations unless otherwise noted; a (C) designation denotes a ceiling limit. They are to be determined from breathing-zone air samples. If an entry is only listed in mg/m^3, the value is

exact; when listed with a ppm entry, it is approximate. "SAME" indicates the value for 1926 and 1915 is equal to that listed for 1910 unless otherwise noted.

[3] The ACGIH TLVs are from the ACGIH publication *2012 TLVs® and BEIs® Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices*. "TWA" refers to 8-hour, TWA concentrations; "STEL" refers to "short-term exposure limit," a 15-minute TWA concentration; "C" indicates ceiling limit; a concentration that should not be exceeded during any part of the working exposure; "I" indicates inhalable fraction (particle aerodynamic diameter ranging from 0 to 100 micrometers; "IFV" indicates inhalable fraction and vapor; "(L)" indicates exposures by all routes should be carefully controlled to levels as low as possible; "P" indicates application restricted to conditions in which there are negligible aerosol exposures; and "R" indicates respirable fraction (particle aerodynamic diameter ranging from 0 to 10 micrometers).

[4] Values in this column are STEL values unless noted as ceiling limits with a "C" preceding the value.

[5] See ACGIH 2012 NIC—proposed change to 10 mg/m^3 I (TWA) with skin designation.

[6] ACGIH separates this listing into "hydrogen cyanide" and "cyanide salts," while OSHA does not differentiate between the two. Only the hydrogen cyanide TLV is listed here.

[7] See ACGIH 2012 NIC—proposed change to 5 ppm (TWA) with skin designation, no STEL.

[8] See ACGIH 2012 NIC—proposed change to 0.001 ppm IFV (TWA), 0.003 ppm IFV (STEL), skin designation.

[9] See ACGIH 2012 NIC—proposed change to 0.05 ppm (TWA), removal of skin designation.