

## North Carolina Limits for Air Contaminants

### N. C. Revised Limits Are Generally Stricter than Present Federal OSHA Standards

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More than a year ago, (April 8, 1996), North Carolina passed into law the revised 29 CFR 1910.1000, Table Z-1, *Limits for Air Contaminants*. This new standard incorporated previously revised (1989) OSHA Permissible Exposure Limits into one table. Federal OSHA was forced to rescind their own revised standards following a ruling from the tenth circuit court of appeals which stated that proper legal procedures had not been followed. Therefore, federal OSHA enforces the original list of Limits for Air Contaminants which was first published in the Occupational Safety and Health Standards for General Industry in 1971. "Vertical" standards which have been through the established proposal and comments process were not affected by the North Carolina revision. Examples of vertical standards are asbestos, lead, benzene, and formaldehyde.

The revised N.C. regulations **lowered permissible exposure limits for 194 air contaminants** and **added 153 new contaminants** to the list. (See Table 1.) Since these North Carolina standards are often lower than present federal OSHA Standards, employers must be sure that they are in compliance with the revised limits. The new limits will have a direct effect on most manufacturing industries in North Carolina.

NC OSHA is about to initiate another rulemaking procedure to correct some "inadvertent omissions" in the revised standards but these changes will be minor.

### Actions To Be Taken By Companies Subject to the Regulations

Many companies may wish to evaluate their need for engineering controls, adequate respiratory protection, and employee work practices training in order to ensure that airborne contaminant concentrations are below the North Carolina revised standards. In order to protect your company from OSHA citations and potential workmen's compensation cases, efforts must be made to document airborne contaminant concentrations in employee work areas, and ensure that these concentration levels are within the revised limits. If air contaminant levels exceed the revised limits, OSHA policy is to require installation of "feasible" engineering controls. Respiratory protection is a "second line of defense" and will normally be provided during the interim time period before engineering controls such as ventilation systems are fully operational. Keep in mind that a complete written and fully operational respiratory protection program must be in place. Also note that North Carolina OSHA has expanded their compliance officer staff.

*(A copy of the new standard can be obtained by contacting the N.C. Department of Labor , Division of Occupational Safety and Health, Education and Training at (919) 733-2486 or EI at 1-800-717-3472).*



SUBSTANCE	FORMER PEL	CURRENT PEL	SUBSTANCE	FORMER PEL	CURRENT PEL
Coal dust less than 5% SiO <sub>2</sub>	Table Z-3	2 mg/m <sup>3</sup> TWA	Diquat	No former PEL	0.5 mg/m <sup>3</sup> TWA
Coal dust greater than 5% SiO <sub>2</sub>	Table Z-3	0.1 mg/m <sup>3</sup> TWA	Di-sec octyl phthalate (Di-(2-ethylhexyl) phthalate)	5 mg/m <sup>3</sup> TWA	5 mg/m <sup>3</sup> TWA 10 mg/m <sup>3</sup> STEL
Cobalt	0.1 mg/m <sup>3</sup> TWA	0.05 mg/m <sup>3</sup> TWA	Disulfiram	No former PEL	2 mg/m <sup>3</sup> TWA
Cobalt carbonyl (as Co)	No former PEL	0.1 mg/m <sup>3</sup> TWA	Disulfoton (Antabuse)	No former PEL	0.1 mg/m <sup>3</sup> TWA
Cobalt hydrocarbonyl (as Co)	No former PEL	0.1 mg/m <sup>3</sup> TWA	2,6-Di- <i>tert</i> -butyl- <i>p</i> -cresol	No former PEL	10 mg/m <sup>3</sup> TWA
Crag herbicide(Sesone)			Diuron	No former PEL	10 mg/m <sup>3</sup> TWA
Total dust	15 mg/m <sup>3</sup> TWA	10 mg/m <sup>3</sup> TWA	Divinyl benzene	No former PEL	10 ppm TWA
Respirable fraction	5 mg/m <sup>3</sup> TWA	5 mg/m <sup>3</sup> TWA	Emery		
Crufomate	No former PEL	5 mg/m <sup>3</sup> TWA	Total dust	15 mg/m <sup>3</sup> TWA	10 mg/m <sup>3</sup> TWA
Cyanamide		2 mg/m <sup>3</sup> TWA	Respirable fraction	5 mg/m <sup>3</sup> TWA	5 mg/m <sup>3</sup> TWA
Cyanogen	No former PEL	10 ppm TWA	Epichlorohydrin	5 ppm TWA	2 ppm TWA
Cyanogen chloride	No former PEL	0.3 ppm (C)	Ethanolamine	3 ppm TWA	3 ppm TWA 6 ppm STEL
Cyclohexanone	50 ppm TWA	25 ppm TWA	Ethion	No former PEL	0.4 mg/m <sup>3</sup> TWA
Cyclohexylamine	No former PEL	10 ppm TWA	Ethyl acrylate	25 ppm TWA	5 ppm TWA 25 ppm STEL
Cyclonite	No former PEL	1.5 mg/m <sup>3</sup> TWA	Ethyl benzene	100 ppm TWA	100 ppm TWA
Cyclopentane	No former PEL	600 ppm TWA	Ethyl bromide	200 ppm TWA	200 ppm TWA 250 ppm STEL
Cyhexatin	No former PEL	5 mg/m <sup>3</sup> TWA	Ethyl ether	400 ppm TWA	400 ppm TWA 500 ppm STEL
Decaborane	0.05 ppm TWA	0.05 ppm TWA 0.15 ppm STEL	Ethyl mercaptan	10 ppm (C)	0.5 ppm TWA
Diazinon	No former PEL	0.1 mg/m <sup>3</sup> TWA	Ethyl silicate	100 ppm TWA	10 ppm TWA
2-N-Dibutylaminoethanol	No former PEL	2 ppm TWA	Ethylene chlorohydrin	5 ppm TWA	1 ppm (C)
Dibutyl phosphate	1 ppm TWA	1 ppm TWA 2 ppm STEL	Ethylene dichloride (1,2-dichloroethane)	Table Z-2	1 ppm TWA 2 ppm STEL
Dichloroacetylene	No former PEL	0.1 ppm (C)	Ethylene glycol	No former PEL	50 ppm (C)
<i>p</i> -Dichlorobenzene	75 ppm TWA	75 ppm TWA 110 ppm STEL	Ethylene glycol dinitrate	1 mg/m <sup>3</sup> (C)	0.1 mg/m <sup>3</sup> STEL
1,3-Dichloro-5,5- dimethyl hydantoin	0.2 mg/m <sup>3</sup> TWA	0.2 mg/m <sup>3</sup> TWA 0.4 mg/m <sup>3</sup> STEL	N-Ethylmorpholine	20 ppm TWA	5 ppm TWA
Dichloroethyl ether	15 ppm (C)	5 ppm TWA 10 ppm STEL	Fenamiphos	No former PEL	0.1 mg/m <sup>3</sup> TWA
Dichloromonofluoro- methane	1000 ppm TWA	10 ppm TWA	Fensulfothion	No former PEL	0.1 mg/m <sup>3</sup> TWA
1,1-Dichloro-1- nitroethane	10 ppm (C)	2 ppm TWA	Fenthion	No former PEL	0.2 mg/m <sup>3</sup> TWA
1,3 Dichloropropene	No former PEL	1 ppm TWA	Ferbam		
2,2-Dichloropropionic acid	No former PEL	1 ppm TWA	Total dust	15 mg/m <sup>3</sup> TWA	10 mg/m <sup>3</sup> TWA
Dicrotophos	No former PEL	0.25 mg/m <sup>3</sup> TWA	Respirable Fraction	5 mg/m <sup>3</sup> TWA	5 mg/m <sup>3</sup> TWA
Dicyclopentadiene	No former PEL	5 ppm TWA	Ferrovanadium dust	1 mg/m <sup>3</sup> TWA	1 mg/m <sup>3</sup> TWA 3 mg/m <sup>3</sup> STEL
Dicyclopentadienyl iron			Fluorotrichloromethane (Trichlorofluoromethane)	1000 ppm TWA	1000 ppm TWA(C)
Total dust	15 mg/m <sup>3</sup> TWA	10 mg/m <sup>3</sup> TWA	Fonofos	No former PEL	0.1 mg/m <sup>3</sup> TWA
Respirable fraction	5 mg/m <sup>3</sup> TWA	5 mg/m <sup>3</sup> TWA	Formamide	No former PEL	20 ppm TWA 30 ppm STEL
Diethanolamine	No former PEL	3 ppm TWA	Furfural	5 ppm TWA	2 ppm TWA
Diethylamine	25 ppm TWA	10 ppm TWA 25 ppm STEL	Furfuryl alcohol	50 ppm TWA	10 ppm TWA 15 ppm STEL
Diethyl ketone	No former PEL	200 ppm TWA	Gasoline	No former PEL	300 ppm TWA 500 ppm STEL
Diethyl phthalate	No former PEL	5 mg/m <sup>3</sup> TWA	Germanium tetrahydride	No former PEL	0.2 ppm TWA
Diethylene triamine	No former PEL	1 ppm TWA	Glycerin (mist)	15 mg/m <sup>3</sup> TWA	
Diglycidyl ether (DGE)	0.5 ppm (C)	0.1 ppm TWA	Total dust		10 mg/m <sup>3</sup> TWA
Diisobutyl ketone	50 ppm TWA	25 ppm TWA	Respirable fraction		5 mg/m <sup>3</sup> TWA
Dimethylaniline (N,N-Dimethylaniline)	5 ppm TWA	5 ppm TWA 10 ppm STEL	Glycidol	50 ppm TWA	25 ppm TWA
Dimethyl sulfate	1 ppm TWA	0.1 ppm TWA	Grain dust (oat, wheat, barley)	No former PEL	10 mg/m <sup>3</sup> TWA
Dinitolmide (3,5-Dinitro- <i>o</i> -toluamide)	No former PEL	5 mg/m <sup>3</sup> TWA	Graphite, natural respirable dust	Table Z-3	2.5 mg/m <sup>3</sup> TWA
Dioxane (Diethylene dioxide)	100 ppm TWA	25 ppm TWA	Graphite, synthetic		
Dioxathion	No former PEL	0.2 mg/m <sup>3</sup> TWA	Total dust	15 mg/m <sup>3</sup> TWA	10 mg/m <sup>3</sup> TWA
Diphenylamine	No former PEL	10 mg/m <sup>3</sup> TWA	Respirable fraction	5 mg/m <sup>3</sup> TWA	5 mg/m <sup>3</sup> TWA
Dipropyl ketone	No former PEL	50 ppm TWA	Heptane	500 ppm TWA	400 ppm TWA 500 ppm STEL
Dipropylene glycol methyl ether	100 ppm TWA	100 ppm TWA 150 ppm STEL	Hexachlorobutadiene	No former PEL	0.02 ppm TWA

SUBSTANCE	FORMER PEL	CURRENT PEL	SUBSTANCE	FORMER PEL	CURRENT PEL
Hexafluoroacetone	No former PEL	0.1 ppm TWA	Methacrylic acid	No former PEL	20 ppm TWA
n-Hexane	500 ppm TWA	50 ppm TWA	Methomyl	No former PEL	2.5 mg/m <sup>3</sup> TWA
Hexane isomers	No former PEL	500 ppm TWA	Methoxychlor		
2-Hexanone	100 ppm TWA	1000 ppm TWA	Total dust	15 mg/m <sup>3</sup> TWA	10 mg/m <sup>3</sup> TWA
(Methyl <i>n</i> -butyl ketone)		5 ppm TWA	Respirable fraction	5 mg/m <sup>3</sup> TWA	5 mg/m <sup>3</sup> TWA
Hexone	100 ppm TWA	50 ppm TWA	4-Methoxyphenol	No former PEL	5 mg/m <sup>3</sup> TWA
(Methyl isobutyl ketone)	75 ppm STEL		Methyl acetate	200 ppm TWA	200 ppm TWA
Hexylene glycol	No former PEL	25 ppm (C)			250 ppm TWA
Hydrazine	1 ppm TWA	0.1 ppm TWA	Methyl acetylene propadiene mixture (MAPP)	1000 ppm TWA	1000 ppm TWA
Hydrogen bromide	3 ppm TWA	3 ppm (C)			1250 ppm STEL
Hydrogen cyanide	10 ppm TWA	4.7 ppm STEL	Methylacrylonitrile	No former PEL	1 ppm TWA
Hydrogen fluoride	No former PEL	3 ppm TWA	Methyl alcohol	200 ppm TWA	200 ppm TWA
(as F)		6 ppm STEL			250 ppm STEL
Hydrogen sulfide	Table Z-2	10 ppm TWA	Methyl bromide	20 ppm (C)	5 ppm TWA
		15 ppm STEL	Methyl chloride	100 ppm TWA	50 ppm TWA
Hydrogenated Terphenyls	No former PEL	0.5 ppm TWA		200 ppm (C)	100 ppm STEL
2-Hydroxypropyl acrylate	No former PEL	0.5 ppm TWA	Methyl chloroform	350 ppm TWA	350 ppm TWA
Indene	No former PEL	10 ppm TWA	(1,1,1-Trichloroethane)		450 ppm STEL
Indium & cmpds. (as In)	No former PEL	0.1 mg/m <sup>3</sup> TWA	Methyl 2-cyanoacrylate	No former PEL	2 ppm TWA
Iodoform	No former PEL	0.6 ppm TWA			4 ppm STEL
Iron pentacarbonyl	No former PEL	0.1 ppm TWA	Methylcyclohexane	500 ppm TWA	400 ppm TWA
		0.2 ppm STEL	Methylcyclohexanol	100 ppm TWA	50 ppm TWA
Iron salts (soluble) (as Fe)		No former PEL	<i>o</i> -Methylcyclohexanone	100 ppm TWA	50 ppm TWA
		1 mg/m <sup>3</sup> TWA			75 ppm STEL
Isoamyl alcohol	100 ppm TWA	100 ppm TWA	Methylcyclopentadienyl manganese tricarbonyl (asMn)	No former PEL	0.2 mg/m <sup>3</sup> TWA
(primary & secondary)		125 ppm STEL			
Isobutyl alcohol	100 ppm TWA	50 ppm TWA	Methyl demeton	No former PEL	0.5 mg/m <sup>3</sup> TWA
Isooctyl alcohol	No former PEL	50 ppm TWA	4,4-Methylene bis(2-chloroaniline) (MBOCA)	No former PEL	0.02 ppm TWA
Isophorone	25 ppm TWA	4 ppm TWA			
Isophorone diisocyanate	No former PEL	0.005 ppm TWA	Methyl ethyl ketone peroxide (MEKP)	No former PEL	0.7 ppm (C)
		0.02 ppm STEL	Methyl formate	100 ppm TWA	100 ppm TWA
2-Isopropoxyethanol	No former PEL	25 ppm TWA			150 ppm STEL
Isopropyl acetate	250 ppm TWA	250 ppm TWA	Methyl iodide	5 ppm TWA	2 ppm TWA
		310 ppm STEL	Methyl isoamly ketone	No former PEL	50 ppm TWA
Isopropyl alcohol	400 ppm TWA	400 ppm TWA	Methyl isobutyl carbinol	25 ppm TWA	25 ppm TWA
		500 ppm STEL			40 ppm STEL
Isopropylamine	5 ppm TWA	5 ppm TWA	Methyl isopropyl ketone	No former PEL	200 ppm TWA
		10 ppm STEL	Methyl parathion	No former PEL	0.2 mg/m <sup>3</sup> TWA
<i>N</i> -Isopropylaniline	No former PEL	2 ppm TWA	Methyl silicate	No former PEL	1 ppm TWA
Isopropyl glycidyl ether (IGE)	50 ppm TWA	50 ppm TWA	<i>alpha</i> -Methyl styrene	100 ppm (C)	50 ppm TWA
		75 ppm STEL			100 ppm STEL
Kaolin			Methylene bis(4-cyclohexylisocyanate)	No former PEL	0.01 ppm (C)
Total dust	15 mg/m <sup>3</sup> TWA	10 mg/m <sup>3</sup> TWA			
Respirable fraction	5 mg/m <sup>3</sup> TWA	5 mg/m <sup>3</sup> TWA	Metribuzin	No former PEL	5 mg/m <sup>3</sup> TWA
Ketene	0.5 ppm TWA	0.5 ppm TWA	Monocrotophos	No former PEL	0.25 mg/m <sup>3</sup> TWA
		1.5 ppm STEL	Monomethyl aniline	2 ppm TWA	0.5 ppm TWA
Magnesium oxide fume			Morpholine	20 ppm TWA	20 ppm TWA
Total particulate	15 mg/m <sup>3</sup> TWA	10 mg/m <sup>3</sup> TWA			30 ppm STEL
Respirable fraction	5 mg/m <sup>3</sup> TWA	5 mg/m <sup>3</sup> TWA	Naphthalene	10 ppm TWA	10 ppm TWA
Malathion					15 ppm STEL
Total dust	15 mg/m <sup>3</sup> TWA	10 mg/m <sup>3</sup> TWA	Nickel, soluble compounds (as Ni)	1 mg/m <sup>3</sup> TWA	0.1 mg/m <sup>3</sup> TWA
Respirable fraction	5 mg/m <sup>3</sup> TWA	5 mg/m <sup>3</sup> TWA			
Manganese fume (as Mn)	5 mg/m <sup>3</sup> TWA	1 mg/m <sup>3</sup> TWA	Nitric acid	2 ppm TWA	2 ppm TWA
		3 mg/m <sup>3</sup> STEL			4 ppm STEL
Manganese cyclopentadienyl tricarbonyls (asMn)	No former PEL	0.1 mg/m <sup>3</sup> TWA	<i>p</i> -Nitroaniline	6 mg/m <sup>3</sup> TWA	3 mg/m <sup>3</sup> TWA
Manganese tetroxide	No former PEL	1 mg/m <sup>3</sup> TWA	Nitrogen dioxide	5 ppm (C)	1 ppm STEL
Mercury (aryl & inorganic) (as Hg)	No former PEL	0.1 mg/m <sup>3</sup> TWA	Nitroethane	1 mg/m <sup>3</sup> (C)	0.1 mg/m <sup>3</sup> STEL
Mercury (organo) alkyl compounds (as Hg)	0.01 mg/m <sup>3</sup> TWA	0.01 mg/m <sup>3</sup> TWA	2-Nitropropane	25 ppm TWA	10 ppm TWA
Mercury (vapor) (as Hg)	0.04 mg/m <sup>3</sup> (C)	0.03 mg/m <sup>3</sup> STEL	Nitrotoluene (all isomers)		
Mesityl oxide	0.1 mg/m <sup>3</sup> TWA	0.05 mg/m <sup>3</sup> TWA	<i>o</i> -isomer	5 ppm TWA	2 ppm TWA
	25 ppm TWA	15 ppm TWA	<i>m</i> -isomer	5 ppm TWA	2 ppm TWA
		25 ppm STEL	<i>p</i> -isomer	5 ppm TWA	2 ppm TWA
			Nonane	No former PEL	200 ppm TWA

SUBSTANCE	FORMER PEL	CURRENT PEL	SUBSTANCE	FORMER PEL	CURRENT PEL
Octachloronaphthalene	0.1 mg/m <sup>3</sup> TWA	0.1 mg/m <sup>3</sup> TWA 0.3 mg/m <sup>3</sup> STEL	<i>n</i> -Propyl alcohol	200 ppm TWA	200 ppm TWA 250 ppm STEL
Octane	500 ppm TWA	300 ppm TWA 375 ppm STEL	<i>n</i> -Propyl nitrate	25 ppm TWA	25 ppm TWA 40 ppm STEL
Osmium tetroxide (as Os)	0.002 mg/m <sup>3</sup> TWA	0.002 mg/m <sup>3</sup> TWA 0.006 mg/m <sup>3</sup> STEL	Propylene dichloride	75 ppm TWA	75 ppm TWA 110 ppm STEL
Oxalic acid	1 mg/m <sup>3</sup> TWA	1 mg/m <sup>3</sup> TWA 2 mg/m <sup>3</sup> STEL	Propylene glycol dinitrate	No former PEL	0.05 ppm TWA
Oxygen difluoride	0.05 ppm TWA	0.05 ppm (C)	Propylene glycol monomethyl ether	No former PEL	100 ppm TWA
Ozone	0.1 ppm TWA	0.1 ppm TWA 0.3 ppm STEL	Propylene oxide	100 ppm TWA	20 ppm TWA 10 ppm STEL
Paraffin wax fume	No former PEL	2 mg/m <sup>3</sup> TWA	Resorcinol	No former PEL	20 ppm TWA 20 ppm STEL
Paraquat, respirable dust	0.5 mg/m <sup>3</sup> TWA	0.1 mg/m <sup>3</sup> TWA	Ronnel	15 mg/m <sup>3</sup> TWA	10 mg/m <sup>3</sup> TWA
Pentaborane	0.005 ppm TWA	0.005 ppm TWA 0.015 ppm STEL	Rouge		
Pentacrythritol			Total dust	15 mg/m <sup>3</sup> TWA	10 mg/m <sup>3</sup> TWA
Total dust	15 mg/m <sup>3</sup> TWA	10 mg/m <sup>3</sup> TWA	Respirable fraction	5 mg/m <sup>3</sup> TWA	5 mg/m <sup>3</sup> TWA
Respirable fraction	5 mg/m <sup>3</sup> TWA	5 mg/m <sup>3</sup> TWA	Silica, amorphous, precipitated, & gel	Table Z-3	6 mg/m <sup>3</sup> TWA
Pentane	1000 ppm TWA	600 ppm TWA 750 ppm STEL	Silica, amorphous, diatomaceous earth, with less than 1% crystalline silica	Table Z-3	6 mg/m <sup>3</sup> TWA
2-Pentanone (Methyl propyl ketone)	200 ppm TWA	200 ppm TWA 250 ppm STEL	Silica, crystalline cristobalite, respirable dust	Table Z-3	0.05 mg/m <sup>3</sup> TWA
Perchloroethylene (Tetrachloroethylene)	Table Z-2	25 ppm TWA	Silica, crystalline quartz, respirable dust	Table Z-3	0.1 mg/m <sup>3</sup> TWA
Perchloryl fluoride	3 ppm TWA	3 ppm TWA 6 ppm STEL	Silica, crystalline tripoli (as quartz), respirable dust	Table Z-3	0.1 mg/m <sup>3</sup> TWA
Petroleum distillates (Naptha) (Rubber solvent)	500 ppm TWA	400 ppm TWA	Silica, crystalline tridymite, respirable dust	Table Z-3	0.05 mg/m <sup>3</sup> TWA
Phenothiazine	No former PEL	5 mg/m <sup>3</sup> TWA	Silica, fused respirable dust	Table Z-3	0.1 mg/m <sup>3</sup> TWA
Phenyl glycidyl ether	10 ppm TWA	1 ppm TWA	Silicates (less than 1% crystalline silica)		
Phenylhydrazine	5 ppm TWA	5 ppm TWA 10 ppm STEL	Mica (respirable dust)	Table Z-3	3 mg/m <sup>3</sup> TWA
Phenyl mercaptan	No former PEL	0.5 ppm TWA	Soapstone, total dust	Table Z-3	6 mg/m <sup>3</sup> TWA
Phenylphosphine	No former PEL	0.05 ppm (C)	Soapstone (respirable dust)	Table Z-3	3 mg/m <sup>3</sup> TWA
Phorate (Thimet)	No former PEL	0.05 mg/m <sup>3</sup> TWA 0.2 mg/m <sup>3</sup> STEL	Talc (containing asbestos)	Table Z-3	use asbestos limit
Phosdrin (Mevinphos)	0.1 mg/m <sup>3</sup> TWA	0.1 mg/m <sup>3</sup> TWA 0.3 mg/m <sup>3</sup> STEL	Talc (containing no asbestos) respirable dust	Table Z-3	2 mg/m <sup>3</sup> TWA
Phosphine	0.3 ppm TWA	0.3 ppm TWA 1 ppm STEL	Silicon		
Phosphoric acid	1 mg/m <sup>3</sup> TWA	1 mg/m <sup>3</sup> TWA 3 mg/m <sup>3</sup> STEL	Total dust	15 mg/m <sup>3</sup> TWA	10 mg/m <sup>3</sup> TWA
Phosphorus oxychloride	No former PEL	0.1 ppm TWA	Respirable dust	5 mg/m <sup>3</sup> TWA	5 mg/m <sup>3</sup> TWA
Phosphorus pentasulfide	1 mg/m <sup>3</sup> TWA	1 mg/m <sup>3</sup> TWA 3 mg/m <sup>3</sup> STEL	Silicon carbide		
Phosphorus trichloride	0.5 ppm TWA	0.2 ppm TWA 0.5 ppm STEL	Total dust	15 mg/m <sup>3</sup> TWA	10 mg/m <sup>3</sup> TWA
Phthalic anhydride	2 ppm TWA	1 ppm TWA	Respirable fraction	5 mg/m <sup>3</sup> TWA	5 mg/m <sup>3</sup> TWA
<i>m</i> -Phthalodinitrile	No former PEL	5 mg/m <sup>3</sup> TWA	Sodium azide (as HN <sub>3</sub> ) (as NaN <sub>3</sub> )	No former PEL	0.1 ppm (C) 0.3 mg/m <sup>3</sup> (C)
Picloram			Sodium bisulfite	No former PEL	5 mg/m <sup>3</sup> TWA
Total dust	15 mg/m <sup>3</sup> TWA	10 mg/m <sup>3</sup> TWA	Sodium fluoroacetate	0.05 mg/m <sup>3</sup> TWA	0.05 mg/m <sup>3</sup> TWA 0.15 mg/m <sup>3</sup> STEL
Respirable fraction	5 mg/m <sup>3</sup> TWA	5 mg/m <sup>3</sup> TWA	Sodium hydroxide	2 mg/m <sup>3</sup> TWA	2 mg/m <sup>3</sup> (C)
Piperazine			Stoddard solvent	500 ppm TWA	100 ppm TWA
dihydrochloride	No former PEL	5 mg/m <sup>3</sup> TWA	Styrene	Table Z-2	50 ppm TWA 100 ppm STEL
Platinum (as Pt)			Sulfur dioxide	5 ppm TWA	2 ppm TWA 5 ppm STEL
Metal		1 mg/m <sup>3</sup> TWA	Sulfur monochloride	1 ppm TWA	1 ppm (C)
Soluble salts	0.002 mg/m <sup>3</sup> TWA	0.002 mg/m <sup>3</sup> TWA	Sulfur pentafluoride	0.025 ppm TWA	0.01 ppm (C)
Portland cement			Sulfur tetrafluoride		0.1 ppm (C)
Total dust	15 mg/m <sup>3</sup> TWA	10 mg/m <sup>3</sup> TWA	Sulfuryl fluoride	5 ppm TWA	5 ppm TWA
Respirable fraction	5 mg/m <sup>3</sup> TWA	5 mg/m <sup>3</sup> TWA	Sulprofos	No former PEL	1 mg/m <sup>3</sup> TWA
Propargyl alcohol	No former PEL	1 ppm TWA	Temephos		
Propionic acid	No former PEL	10 ppm TWA	Total dust	15 mg/m <sup>3</sup> TWA	10 mg/m <sup>3</sup> TWA
Propoxur	No former PEL	0.5 mg/m <sup>3</sup> TWA	Respirable fraction	5 mg/m <sup>3</sup> TWA	5 mg/m <sup>3</sup> TWA
<i>n</i> -Propyl acetate	200 ppm TWA	200 ppm TWA 250 ppm STEL			

SUBSTANCE	FORMER PEL	CURRENT PEL	SUBSTANCE	FORMER PEL	CURRENT PEL
TEPP (Tetraethyl pyrophosphaate)	0.05 mg/m <sup>3</sup> TWA	0.05 ppm TWA	Triphenyl amine	No former PEL	5 mg/m <sup>3</sup> TWA
Terphenyls	1 ppm (C)	0.5 ppm (C)	Tungsten compounds (as W) (insoluble)	No former PEL	5 mg/m <sup>3</sup> TWA
1,1,2,2-Tetrachloroethane	5 ppm TWA	1 ppm TWA	(Soluble)		5 mg/m <sup>3</sup> TWA
Tetrahydrofuran	200 ppm TWA	200 ppm TWA			10 mg/m <sup>3</sup> STEL
		250 ppm STEL			1 mg/m <sup>3</sup> TWA
Tetrasodium pyrophosphate		5 mg/m <sup>3</sup> TWA			3 mg/m <sup>3</sup> STEL
Tetryl (2,4,6-Trinitro phenylmethylnitramine)	1.5 mg/m <sup>3</sup> TWA	0.1 mg/m <sup>3</sup> TWA	Uranium (as U) Soluble		0.05 mg/m <sup>3</sup> TWA
4,4-Thiobis(6-tert-Butyl-m-cresol)			Insoluble		0.2 mg/m <sup>3</sup> TWA
Total dust	15 mg/m <sup>3</sup> TWA	10 mg/m <sup>3</sup> TWA			0.6 mg/m <sup>3</sup> STEL
Respirable fraction	5 mg/m <sup>3</sup> TWA	5 mg/m <sup>3</sup> TWA	n-Valeraldehyde	No former PEL	50 ppm TWA
Thioglycolic acid	No former PEL	1 ppm TWA	Vinyl acetate	No former PEL	10 ppm TWA
Thionyl chloride	No former PEL	1 ppm (C)			20 ppm STEL
Tin, inorganic cmpds. (except oxides) (as Sn)	No former PEL	2 mg/m <sup>3</sup> TWA	Vinyl bromide	No former PEL	5 ppm TWA
Tin oxide	No former PEL	2 mg/m <sup>3</sup> TWA	Vinyl cyclohexene dioxide	No former PEL	10 ppm TWA
Titanium dioxide			Vinylidene chloride (1,1-dichloroethylene)	No former PEL	1 ppm TWA
Total dust	15 mg/m <sup>3</sup> TWA	10 mg/m <sup>3</sup> TWA	VM&P Naptha	No former PEL	300 ppm TWA
Respirable fraction	5 mg/m <sup>3</sup> TWA	5 mg/m <sup>3</sup> TWA			400 ppm STEL
Toluene	Table Z-2	100 ppm TWA			5 mg/m <sup>3</sup> TWA
		150 ppm STEL	Welding fumes (Total particulate)	No former PEL	
Toluene-2,4-diisocyanate (TDI)	0.02 ppm (C)	0.005 ppm TWA	Wood dust (except Western Red Cedar)	No former PEL	5 mg/m <sup>3</sup> TWA
m-Toluidine	No former PEL	2 ppm TWA	Wood dust, allergenic (Western Red Cedar)	No former PEL	10 mg/m <sup>3</sup> STEL
o-Toluidine	5 ppm TWA	5 ppm TWA			2.5 mg/m <sup>3</sup> TWA
p-Toluidine	No former PEL	2 ppm TWA	m-Xylene-alpha	No former PEL	0.1 mg/m <sup>3</sup> (C)
Tributyl phosphate	5 mg/m <sup>3</sup> TWA	2.5 mg/m <sup>3</sup> TWA	Xylenes (o-, m-, p-isomers)	100 ppm TWA	100 ppm TWA
Trichloroacetic acid	No former PEL	1 ppm TWA	Xylidine	5 ppm TWA	150 ppm STEL
1,1,2-Trichloroethane	10 ppm TWA	10 ppm TWA	Zinc chloride fume	1 mg/m <sup>3</sup> TWA	2 ppm TWA
Trichloroethylene	Table Z-2	50 ppm TWA			1 mg/m <sup>3</sup> TWA
		200 ppm STEL	Zinc chromate (as CrO <sub>3</sub> )	Table Z-2	2 mg/m <sup>3</sup> STEL
1,2,3-Trichloropropane	50 ppm TWA	10 ppm TWA	Zinc oxide fume	5 mg/m <sup>3</sup> TWA	0.1 mg/m <sup>3</sup> (C)
1,1,2-Trichloro-1,2,2-trifluoroethane	1000 ppm TWA	1000 ppm TWA			5 mg/m <sup>3</sup> TWA
Triethylamine	25 ppm TWA	10 ppm TWA			10 mg/m <sup>3</sup> STEL
		15 ppm STEL	Zinc oxide		
Trimellitic anhydride	No former PEL	0.005 ppm TWA	Total dust	15 mg/m <sup>3</sup> TWA	10 mg/m <sup>3</sup> TWA
Trimethylamine	No former PEL	10 ppm TWA	Respirable dust	5 mg/m <sup>3</sup> TWA	5 mg/m <sup>3</sup> TWA
		15 ppm STEL	Zinc stearate		
Trimethyl benzene	No former PEL	25 ppm TWA	Total dust	15 mg/m <sup>3</sup> TWA	10 mg/m <sup>3</sup> TWA
Trimethyl phosphite	No former PEL	2 ppm TWA	Respirable fraction	5 mg/m <sup>3</sup> TWA	5 mg/m <sup>3</sup> TWA
2,4,6-Trinitrotoluene (TNT)	1.5 mg/m <sup>3</sup> TWA	0.5 mg/m <sup>3</sup> TWA	Zirconium compounds (as Zr)	5 mg/m <sup>3</sup> TWA	5 mg/m <sup>3</sup> TWA
					10 mg/m <sup>3</sup> STEL

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