

Chemical name, structure/formula, CAS and RTECS Nos., and DOT ID and guide Nos.	Synonyms, trade names, and conversion factors	Exposure limits (TWA unless noted otherwise)	IDLH	Physical description	Chemical and physical properties		Incompatibilities and reactivities	Measurement method (See Table 1)
					MW, BP, SOL Fl.P, IP, Sp.Gr, flammability	VP, FRZ UEL, LEL		
tert-Butyl chromate (as CrO ₃) (CH ₃) ₃ CO) ₂ CrO ₂ 1189-85-1 GB2900000	di-tert-Butyl ester of chromic acid	NIOSH Ca See Appendix A 0.001 mg/m ³ OSHA C 0.1 mg/m ³ [skin]	Ca [30 mg/m ³]	Liquid [Note: Solidifies at 32-23°F.]	MW: 230.3 BP: ? Sol: ? Fl.P: ? IP: ?	VP: ? FRZ: 32-23°F UEL: ? LEL: ?	Reducing agents, moisture	None available
	1 ppm = 9.57 mg/m ³							
n-Butyl glycidyl ether C ₇ H ₁₄ O ₂ 2426-08-6 TX4200000	BGE; 1,2-Epoxy-3-butoxypropane	NIOSH C 5.6 ppm (30 mg/m ³) [15-min] OSHA 25 ppm (135 mg/m ³)	3500 ppm	Colorless liquid with an irritating odor.	MW: 130.2 BP: 327°F Sol: 2% Fl.P: 130°F IP: ? Sp.Gr(77°F): 0.91 Class II Combustible Liquid	VP(77°F): 3 mm FRZ: ? UEL: ? LEL: ?	Strong oxidizers, strong caustics	Char; CS ₂ ; GC/FID; II(2) [#S81]
	1 ppm = 5.41 mg/m ³							
Butyl mercaptan CH ₃ CH ₂ CH ₂ CH ₂ SH 109-79-5 EK6300000	Butanethiol, 1-Butanethiol, n-Butanethiol, 1-Mercaptobutane	NIOSH C 0.5 ppm (1.8 mg/m ³) [15-min] OSHA 0.5 ppm (1.5 mg/m ³)	2500 ppm	Colorless liquid with a strong garlic-, cabbage-, or skunk-like odor	MW: 90.2 BP: 209°F Sol: 0.06% Fl.P: 35°F IP: 9.15 eV Sp.Gr: 0.83 Class IB Flammable Liquid	VP: 35 mm FRZ: -176°F UEL: ? LEL: ?	Strong oxidizers (such as dry bleaches), acids	Chrom-104, Acetone, GC/FID; II(4) [#S350]
	1 ppm = 3.75 mg/m ³							
p-tert-Butyltoluene (CH ₃) ₃ CC ₆ H ₄ CH ₃ 98-51-1 XS8400000	1-Methyl-4-tert-butylbenzene	NIOSH/OSHA 10 ppm (60 mg/m ³) ST 20 ppm (120 mg/m ³)	1000 ppm	Colorless liquid with a distinct aromatic odor, somewhat like gasoline.	MW: 148.3 BP: 379°F Sol: Insoluble Fl.P: 155°F IP: 8.28 eV Sp.Gr: 0.86 Class IIIA Combustible Liquid	VP(77°F): 0.7 mm FRZ: -62°F UEL: ? LEL: ?	Oxidizers	Char. CS ₂ ; GC/FID III [#1501, Aromatic Hydro- carbons]
	1 ppm = 6.16 mg/m ³							

Personal protection and sanitation (See Table 3)		Recommendations for respirator selection — maximum concentration for use (MUC) (See Table 4)	Health hazards				
			Route	Symptoms (See Table 5)	First aid (See Table 6)	Target organs (See Table 5)	
Clothing: Any poss Goggles: Any poss Wash: Immed contam/daily Change: N R Remove: Immed non-imperv contam Provide: Eyewash, quick drench	NIOSH Y: SCBAF:PD,PP/SAF:PD,PP ASCBA Escape GMFOVHIE/SCBAE	Inh Abs Ing Con	Lung, sinus cancer; [carc]	Eye: Skin Breath Swallow	Irr immed Soap wash immed Resp support Medical attention immed	Resp sys, skin, eyes, CNS	
Clothing: Any poss Goggles: Reason prob Wash: Prompt contam Change: N R Remove: Prompt non-imperv contam	NIOSH 56 ppm: SA*/SCBA*/CCROV* 140 ppm: SA:CF*/PAPROV* 280 ppm: SCBAF/SAF/CCRFOV/ GMFOV/PAPRTOV* 3500 ppm: SAF:PD,PP §: SCBAF:PD,PP/SAF:PD,PP ASCBA Escape: GMFOV/SCBAE	Inh Ing Con	Irrit eyes, nose, skin irrit, sens; narco	Eye: Skin: Breath: Swallow	Irr immed Soap wash immed Resp support Medical attention immed	Eyes, skin, resp sys, CNS	
Clothing: Repeat Goggles: Reason prob Wash: Prompt wet Change: N.R. Remove: Immed wet (flamm)	NIOSH/OSHA 5 ppm: SA/SCBA/CCROV 12.5 ppm: SA CF/PAPROV 25 ppm: SCBAF/SAF/CCRFOV/ PAPRTOV/GMFOV 500 ppm: SA:PD,PP* 1000 ppm: SAF:PD,PP §: SCBAF:PD,PP/SAF:PD,PP ASCBA Escape: GMFOV/SCBAE	Inh Ing Con	In animals narco, inco, weak, cyan, pulm irrit; liver, kidney damage	Eye Skin Breath Swallow	Irr immed Soap wash prompt Resp support Medical attention immed	Resp sys, in animals CNS, liver, kidneys	
Clothing: Repeat Goggles: Reason prob Wash: Prompt wet Change: N.R. Remove: Prompt non-imperv wet	NIOSH/OSHA 250 ppm: SA:CF*/PAPROV* 500 ppm: CCRFOV/GMFOV/SCBAF/SAF 1000 ppm: SAF:PD,PP §: SCBAF:PD,PP/SAF:PD,PP ASCBA Escape: GMFOV/SCBAE	Inh Ing Con	Irrit eyes, skin, dry nose, throat, head, low BP, tacet, abnormal cardiovascular stress, CNS depres, hemato depres	Eye: Skin: Breath: Swallow	Irr immed Water flush prompt Resp support Medical attention immed	CVS, CNS, skin, bone marrow, eyes, upper resp sys	

p-tert Butyltoluene

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					MW, BP, SOL Fl.P, IP, Sp.Gr, flammability	VP, FRZ UEL, LEL		
Cadmium dust (as Cd) Cd 7440-43-9 EU9800000	Metal: none Synonyms of other compounds vary depending upon the specific compound.	NIOSH Ca See Appendix A Reduce exposure to lowest feasible concentration	Ca [50 mg/m ³]	Metal. Silver-white, blue-tinged lustrous, odorless solid.	MW 112.4 BP: 1409°F Sol. Insoluble Fl.P. NA IP. NA	VP: 0 mm (approx) MLT: 610°F UEL: NA LEL: NA	Strong oxidizers; elemental sulfur, selenium & tellurium	Filter; Acid; AA; III [#7048]
2570 53		OSHA 0.2 mg/m ³ C 0.6 mg/m ³			Sp Gr(77°F) 8.65 Metal. Noncombustible Solid in bulk form, but will burn in powder form.			
Cadmium fume (as Cd) CdO/Cd 1306-19-0 (CdO) EV1930000 (CdO)	CdO. Cadmium monoxide, Cadmium oxide fume Cd. None	NIOSH Ca See Appendix A Reduce exposure to lowest feasible concentration	Ca [9 mg/m ³]	Odorless, yellow-brown, finely divided particulate dispersed in air.	MW 128.4 BP Decomposes Sol. Insoluble Fl.P. NA IP. NA	VP: 0 mm (approx) MLT: 2599°F UEL: NA LEL: NA	Not applicable	Filter; Acid; AA; III [#7048]
		OSHA 0.1 mg/m ³ C 0.3 mg/m ³			[Note See Cadmium dust for properties of Cd] Sp.Gr. 8.15 (crystalline form)/6.95 (amorphous form) Noncombustible Solid			
Calcium arsenate (as As) Ca ₃ (AsO ₄) ₂ 7778-44-1 CG0830000	Calcium salt (2.3) of arsenic acid, Cucumber dust, Tricalcium arsenate, Tricalcium ortho-arsenate	NIOSH Ca See Appendix A C 0.002 mg/m ³ [15-min]	Ca [100 mg/m ³]	Colorless to white, odorless solid. [insecticide/herbicide]	MW: 398.1 BP: Decomposes Sol(77°F) 0.01% Fl.P: NA IP. NA	VP: 0 mm (approx) MLT: ? UEL: NA LEL: NA	None reported [Note: Produces toxic fumes of arsenic when heated to decomposition.]	Filter; Acid; AA; III [#7900, Arsenic]
1573 53		OSHA [1910.1018] 0.010 mg/m ³			Sp.Gr: 3.62 Noncombustible Solid			
Calcium oxide CaO 1305-78-8 EW3100000	Burnt lime, Burnt lime, Lime, Pebble lime, Quick lime, Unslaked lime	NIOSH 2 mg/m ³ OSHA 5 mg/m ³	Unknown	White or gray, odorless lumps or granular powder.	MW: 56.1 BP: 5162°F Sol: Reacts Fl.P: NA IP: NA	VP: 0 mm (approx) MLT 4662°F UEL: NA LEL: NA	Water (liberates heat), fluorine [Note Reacts with water to form calcium hydroxide.]	Filter; Acid; AA; III [#7020]
1910 60					Sp Gr. 3.34 Noncombustible Solid			

Personal protection and sanitation (See Table 3)		Recommendations for respirator selection — maximum concentration for use (MUC) (See Table 4)	Health hazards				
			Route	Symptoms (See Table 5)	First aid (See Table 6)		Target organs (See Table 5)
Clothing:	N.R.	NIOSH ¥ SCBAF PD,PP/SAF,PD,PP:ASCBA Escape: HiEF/SCBAE	Inh	Pulm edema, dysp, cough, chest tight, subs pain, head, chills, musc aches; nau, vomit, diarr; anos, emphy, prot, mild anemia, [carc]	Eye:	Irr immed Soap wash Resp support Medical attention immed	Resp sys, kidneys, prostate, blood
Goggles:	Any poss (CdCl ₂)		Ing		Skin		
Wash:	Daily (reason prob)		Breath:		Swallow:		
Change:	After work if any poss contam						
Remove:	N.R.						
Provide:	Eyewash (CdCl ₂)						
Clothing:	N.R.	NIOSH ¥ SCBAF,PD,PP/SAF,PD,PP:ASCBA Escape: HiEF/SCBAE	Inh	Pulm edema, dysp, cough, tight chest, subs pain; head, chills, musc aches; nau, vomit, diarr; emphy, prot, anos, mild anemia; [carc]	Breath:	Resp support	Resp sys, kidneys, blood
Goggles:	N.R.						
Wash:	N.R.						
Change:	N.R.						
Remove:	N.R.						
Clothing:	Repeat	NIOSH ¥ SCBAF,PD,PP/SAF,PD,PP:ASCBA Escape: HiEF/SCBAE	Inh	Weak; GI dist, peri neur, skin hyperpig, palmar planter hyperkeratoses, dermat; [carc], in animals: liver damage	Eye:	Irr immed Soap wash prompt Resp support Medical attention immed	Eyes, resp sys, liver, skin, lymphatics, CNS
Goggles:	Any poss		Abs				
Wash:	Prompt contam/daily		Ing				
Change:	After work if any poss contam		Con				
Remove:	Prompt non-imperv contam						
Clothing:	Reason prob	NIOSH 10 mg/m ³ : DM 20 mg/m ³ : DMXSO/SA/SCBA 50 mg/m ³ : PAPRHiE/SA:CF 100 mg/m ³ : HiEF/SCBAF/SAF/PAPRTHiE 250 mg/m ³ : SA:PD,PP § SCBAF:PD,PP/SAF,PD,PP:ASCBA Escape: HiEF/SCBAE	Inh	Irrit eyes, upper resp tract; ulcer, perf nasal septum; pneu; dermat	Eye:	Irr immed Water flush immed Resp support Medical attention immed	Resp sys, skin, eyes
Goggles:	Any poss		Ing				
Wash:	Prompt contam/daily		Con				
Change:	After work if reason prob contam						
Remove:	Prompt non-imperv contam						
Provide:	Eyewash, quick drench						

Calcium oxide

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					MW, BP, SOL Fl.P, IP, Sp.Gr, flammability	VP, FRZ UEL, LEL		
Camphor (synthetic) C ₁₀ H ₁₆ O 76-22-2 EX1225000	2-Camphonone, Gum camphor, Laurel camphor, Synthetic camphor	NIOSH/OSHA 2 mg/m ³	200 mg/m ³	Colorless or white crystals with a penetrating, aromatic odor	MW: 152.3 BP: 399°F Sol: Insoluble Fl P: 150°F IP: 8.76 eV	VP: 0.2 mm MLT: 345°F UEL: 3.5% LEL: 0.6%	Oxidizers (especially chromic anhydride)	Char; Methanol/ CS ₂ ; GC/FID; III [#1301, Ketones II]
2717 32					Sp.Gr. 0.99 Combustible Solid			
Carbaryl (Sevin®) C ₁₀ H ₇ OOCNHCH ₃ 63-25-2 FC5950000	alpha-Naphthyl N-methyl-carbamate, 1-Naphthyl N-Methyl-carbamate	NIOSH/OSHA 5 mg/m ³	600 mg/m ³	White or gray odorless solid. [pesticide]	MW: 201.2 BP: Decomposes Sol: 0.01% FL P: NA IP: ?	VP(77°F): 0.00004 mm MLT: 293°F UEL: NA LEL: NA	Strong oxidizers, strongly alkaline pesticides	Filter: Reagent, Vis III [#5006]
2757 55					Sp Gr: 1.23 Noncombustible Solid, but may be dissolved in flammable liquids.			
Carbon black C 1333-86-4 FF5800000	Acetylene black, Channel black, Furnace black, Lamp black, Thermal black	NIOSH/OSHA 3.5 mg/m ³ NIOSH Ca See Appendix A 0.1 mg/m ³ [Carbon black in presence of polycyclic aromatic hydrocarbons]	N.E Ca	Black, odorless solid.	MW: 12.0 BP: Sublimes Sol: Insoluble Fl P: ? IP: NA	VP: 0 mm (approx) MLT: Sublimes UEL: ? LEL: ?	Strong oxidizers such as chlorates, bromates & nitrates	Filter, none, Grav; III [#5000]
Carbon dioxide CO ₂ 124-38-9 FF6400000 1013 12 1845 21 (dry ice) 2187 21 (liquid)	Carbonic acid gas, Dry ice 1 ppm = 1.83 mg/m ³	NIOSH 5,000 ppm (9000 mg/m ³) ST 30,000 ppm (54,000 mg/m ³) OSHA 10,000 ppm (18,000 mg/m ³) ST 30,000 ppm (54,000 mg/m ³)	50,000 ppm	Colorless, odorless gas. [Note: Normal constituent of air (about 3000 ppm) Solid form is utilized as dry ice.]	MW: 44.0 BP: Sublimes Sol(77°F): 0.2% Fl.P: NA IP: 13.77 eV	VP >1 atm MLT: -109°F (Sublimes) UEL: NA LEL: NA	Dusts of various metals such as magnesium, zirconium, titanium, aluminum, chromium & manganese are ignitable and explosive when suspended in carbon dioxide	Bag, none; GC/FID, II(3) [#S249]
					Noncombustible Gas			

Personal protection and sanitation (See Table 3)		Recommendations for respirator selection — maximum concentration for use (MUC) (See Table 4)	Health hazards				
			Route	Symptoms (See Table 5)	First aid (See Table 6)	Target organs (See Table 5)	
Clothing: Goggles: Wash: Change: Remove:	Repeat Reason prob Prompt contam After work if reason prob contam Prompt non-imperv contam	NIOSH/OSHA 50 mg/m ³ SA:CF ⁵ /PAPROVDM ⁶ 100 mg/m ³ : CCRFOVHiE/GMFOVHiE/ PAPRTOVHiE ⁵ /SCBAF/SAF 200 mg/m ³ SAF:PD,PP §: SCBAF PD,PP/SAF-PD,PP.ASCBA Escape GMFOVHiE/SCBAE	Inh Ing Con	Irrit eyes, skin, muc memb, nau, vomit, diarr, head, dizz, excitement, irrational, epileptiform convuls	Eye Skin: Breath Swallow	Irr immed Soap wash immed Resp support Medical attention immed	CNS, eye, skin, resp sys
Clothing: Goggles: Wash: Change: Remove:	Repeat Reason prob Prompt contam After work if reason prob contam Prompt non-imperv contam	NIOSH/OSHA 50 mg/m ³ SA*/SCBA* 125 mg/m ³ SA:CF* 250 mg/m ³ SCBAF/SAF 600 mg/m ³ SAF:PD,PP §: SCBAF:PD,PP/SAF-PD,PP.ASCBA Escape. GMFOVHiE/SCBAE	Inh Abs Ing Con	Miosis, blurred vision, tear, nasal discharge, salv, sweat; abdom cramps, nau, vomit, diarr, tremor; cyan; convuls; skin irrit	Eye: Skin: Breath: Swallow:	Irr immed Soap wash prompt Resp support Medical attention immed	Resp sys, CNS, CVS, skin
Clothing: Goggles: Wash: Change: Remove:	N R. Repeat Daily N R. N R	NIOSH/OSHA 17.5 mg/m ³ DM 35 mg/m ³ : DMXSQ/SA/SCBA 87.5 mg/m ³ PAPRDM/SA:CF 175 mg/m ³ HiEF/PAPRTHiE/SCBAF/SAF 1750 mg/m ³ SA-PD,PP §: SCBAF PD,PP/SAF-PD,PP.ASCBA Escape HiEF/SCBAE	Inh Con	None expected; in presence of polycyclic aromatic hydrocarbons [carb]	Eye.	Irr prompt	None known
Clothing: Goggles: Wash: Change: Remove:	Prevent skin freezing N.R. N.R. N.R. N R	NIOSH 50,000 ppm. SA/SCBA § SCBAF:PD,PP/SAF-PD,PP ASCBA Escape SCBAE	Inh Con	Head, dizz, restless, pares; dysp, sweat, mal; inc heart rate, pulse pressure, elevated BP; coma; asphy; convuls at high concentrations frostbite (dry ice)	Eye. Skin: Breath	Medical attention Medical attention for frostbite Resp support	Lungs, skin, CVS

Carbon dioxide

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					MW, BP, SOL, Fl.P, IP, Sp.Gr, flammability	VP, FRZ, UEL, LEL		
Carbon disulfide CS ₂ 75-15-0 FF6650000 1131 28	Carbon bisulfide	NIOSH 1 ppm (3 mg/m ³) ST 10 ppm (30 mg/m ³) [skin] OSHA 4 ppm (12 mg/m ³) ST 12 ppm (36 mg/m ³) [skin]	500 ppm	Colorless to faint-yellow liquid with a sweet ether-like odor. [Note: Reagent grades are foul smelling.]	MW: 76.1 BP: 116°F Sol: 0.3% Fl.P: -22°F IP: 10.08 eV Sp.Gr: 1.26 Class IB Flammable Liquid	VP: 297 mm FRZ: -169°F UEL: 50.0% LEL: 1.3%	Strong oxidizers; chemically-active metals such as sodium, potassium & zinc; azides; rust; halogens; amines [Note: Vapors may be ignited by contact with ordinary light bulb.]	Char/ Dry tube; Toluene; GC/FPD; III [#1600]
Carbon monoxide CO 630-08-0 FG3500000 1016 18	Carbon oxide, Flue gas, Monoxide	NIOSH/OSHA 35 ppm (40 mg/m ³) C 200 ppm (229 mg/m ³) [Note: On 9/5/89 OSHA stayed the start-up date for the Ceiling limit for the following steel industry operations — blast furnaces, vessel blowing at basic oxygen furnaces, and sinter plants.]	1500 ppm	Colorless, odorless gas. [Note: Shipped as a nonliquefied compressed gas.]	MW: 28.0 BP: -313°F Sol: 2% Fl.P: NA (Gas) IP: 14.01 eV Flammable Gas	VP: >1 atm MLT: -337°F UEL: 74% LEL: 12.5%	Strong oxidizers, bromine trifluoride, chlorine trifluoride, lithium	Bag; none; ECA; II(4) [#S340]
Carbon tetrachloride CCl ₄ 56-23-5 FG4900000 1846 55	Carbon chloride, Carbon tet, Freon [®] 10, Halon [®] 104, Tetrachloromethane	NIOSH Ca See Appendix A ST 2 ppm (12.6 mg/m ³) [60-min] OSHA 2 ppm (12.6 mg/m ³)	Ca [300 ppm]	Colorless liquid with a characteristic ether-like odor.	MW: 153.8 BP: 170°F Sol: 0.05% Fl.P: NA IP: 11.47 eV Sp.Gr: 1.59 Noncombustible Liquid	VP: 91 mm FRZ: -9°F UEL: NA LEL: NA	Chemically-active metals such as sodium, potassium & magnesium; fluorine; aluminum [Note: Forms highly toxic phosgene gas when exposed to flames or welding arcs.]	Char; CS ₂ ; GC/FID; III [#1003, Halogenated Hydrocarbons]
Chlordane C ₁₀ H ₆ Cl ₈ 57-74-9 PB9800000 2762 28	1,2,4,5,6,7,8,8-Octachloro-3a,4,7,7a-tetrahydro-4,7-methanoindane	NIOSH Ca See Appendix A 0.5 mg/m ³ [skin] OSHA 0.5 mg/m ³ [skin]	Ca [500 mg/m ³]	Amber-colored, viscous liquid with a pungent, chlorine-like odor. [insecticide]	MW: 409.8 BP: Decomposes Sol: Insoluble Fl.P: NA IP: ? Sp.Gr(77°F): 1.56 Noncombustible Liquid, but may be utilized in flammable solutions.	VP: 0.00001 mm FRZ: ? UEL: NA LEL: NA	Strong oxidizers, alkaline reagents	Filter/ Chrom-102; Toluene; GC/ECD; III [#5510]

Personal protection and sanitation (See Table 3)		Recommendations for respirator selection — maximum concentration for use (MUC) (See Table 4)	Health hazards				
			Route	Symptoms (See Table 5)	First aid (See Table 6)		Target organs (See Table 5)
Clothing: Goggles: Wash: Change: Remove:	Reason prob Reason prob Prompt contam N.R. Immed wet (flamm)	NIOSH 10 ppm: CCROV/SA/SCBA 25 ppm: SA CF/PAPROV 50 ppm: CCRFOV/PAPRTOV/GMFOV/ SCBAF/SAF 500 ppm: SA/PD,PP §. SCBAF/PD,PP/SAF/PD,PP:ASCBA Escape: GMFOV/SCBAE	Inh Abs Ing Con	Dizz, head, poor sleep, fig, ner, anor, low-wgt; psychosis; polyneur; Parkinson-like syndrome, ocular changes; coronary heart disease; gastritis; kidney, liver damage, eye, skin burns, derm	Eye Skin: Breath Swallow	Irr immed Soap wash immed Resp support Medical attention immed	CNS, PNS, CVS, eyes, kidneys, liver, skin
Clothing Goggles Wash Change Remove:	Prevent skin freezing Reason prob N R N R Immed wet (flamm)	NIOSH/OSHA 350 ppm: SA/SCBA 875 ppm: SA CF 1500 ppm: SCBAF/SAF/GMFS† §: SCBAF/PD,PP/SAF/PD,PP ASCBA Escape: GMFS†/SCBAE	Inh Con (liq)	Head, tachypnea, nau, weak, dizz, conf, halu, cyan; depres S-T segment of electrocardiogram, angina, syncope	Breath	Resp support	CVS, lungs, blood, CNS
Clothing: Goggles: Wash: Change: Remove:	Repeat Reason prob Prompt wet N.R. Prompt non-imperv contam	NIOSH Y SCBAF/PD,PP/SAF/PD,PP ASCBA Escape: GMFOV/SCBAE	Inh Abs Ing Con	CNS depres, nau, vomit; liver, kidney damage; skin irrit; [carc]	Eye: Skin: Breath: Swallow	Irr immed Soap wash immed Resp support Medical attention immed	CNS, eyes, lungs, liver, kidneys, skin
Clothing: Goggles: Wash: Change: Remove: Provide:	Any poss Reason prob Immed contam After work if any poss contam Immed non-imperv contam Quick drench	OSHA Y SCBAF/PD,PP/SAF/PD,PP ASCBA Escape GMFOVHiE/SCBAE	Inh Abs Ing Con	Blurred vision; conf; ataxia, delirium; cough; abdom pain, nau, vomit, diarr; irrity, tremor, convuls, anuria, in animals lung, liver, kidney damage	Eye: Skin: Breath: Swallow:	Irr immed Soap wash immed Resp support Medical attention immed	CNS, eyes, lungs, liver, kidneys, skin

Chlordane

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					MW, BP, SOL Fl.P, IP, Sp.Gr, flammability	VP, FRZ UEL, LEL		
Chlorinated camphene $C_{10}H_{10}Cl_8$ 8001-35-2 XW5250000	Chlorocamphene, Octachlorocamphene, Polychlorocamphene, Toxaphene	NIOSH Ca See Appendix A [skin] OSHA 0.5 mg/m ³ ST 1 mg/m ³ [skin]	Ca [200 mg/m ³]	Amber, waxy solid with a mild chlorine- and camphor-like odor. [insecticide]	MW: 413.8 BP: Decomposes Sol: 0.0003% Fl.P: 275°F IP: ?	VP(77°F): 0.4 mm MLT: 149 to 194°F UEL: ? LEL: ?	Strong oxidizers [Note: Slightly corrosive to metals under moist conditions.]	Filter; Petroleum ether; GC/ECD; II(2) [#S67]
2761 55					Sp.Gr(77°F): 1.65 A Solid that does not burn, or burns with difficulty.			
Chlorinated diphenyl oxide $(C_6H_2Cl_3)_2O$ 55720-99-5 KO0875000	Hexachlorodiphenyl oxide, Hexachlorophenyl ether	NIOSH/OSHA 0.5 mg/m ³	Unknown	Light yellow, very viscous, waxy liquid.	MW: 376.9 BP: 446-500°F Sol: 0.1% Fl.P: NA IP: ?	VP: 0.00006 mm FRZ: ? UEL: NA LEL: NA	Strong oxidizers	Filter; Isocane; GC/EConD; III [#5025, Chlorinated diphenyl ether]
	1 ppm = 15.67 mg/m ³				Sp.Gr: 1.60 Noncombustible Liquid			
Chlorine Cl_2 7782-50-5 FO2100000	Molecular chlorine	NIOSH/OSHA 0.5 ppm (1.5 mg/m ³) ST 1 ppm (3 mg/m ³)	30 ppm	Greenish-yellow gas with a pungent, irritating odor. [Note: Shipped in steel cylinders.]	MW: 70.9 BP: -29°F Sol: 0.7% Fl.P: NA IP: 11.48 eV	VP: >1 atm FRZ: -150°F UEL: NA LEL: NA	Reacts explosively or forms explosive compounds with many common substances such as acetylene, ether, turpentine, ammonia, fuel gas, hydrogen & finely divided metals.	Bub; none; ISE; OSHA [#ID101]
1017 20	1 ppm = 2.95 mg/m ³				Noncombustible Gas, but a strong oxidizer.			
Chlorine dioxide ClO_2 10049-04-4 FO3000000	Chlorine oxide, Chlorine peroxide	NIOSH/OSHA 0.1 ppm (0.3 mg/m ³) ST 0.3 ppm (0.9 mg/m ³)	10 ppm	Yellow to red gas or a red-brown liquid (below 52°F) with an unpleasant odor similar to chlorine and nitric acid.	MW: 67.5 BP: 52°F Sol(77°F): 0.3% Fl.P: NA (Gas) ? (Liquid) IP: 10.36 eV	VP: >1 atm FRZ: -74°F UEL: ? LEL: ?	Organic materials, heat, phosphorus, potassium hydroxide, sulfur [Note: Unstable in light. A powerful oxidizer.]	None available
	1 ppm = 2.81 mg/m ³				Sp.Gr: 1.6 (Liquid at 32°F) Combustible Gas/Liquid			

Personal protection and sanitation (See Table 3)		Recommendations for respirator selection — maximum concentration for use (MUC) (See Table 4)	Health hazards				
			Route	Symptoms (See Table 5)	First aid (See Table 6)	Target organs (See Table 5)	
Clothing	Any poss liq/Repeat sol	NIOSH Y: SCBAF·PD,PP/SAF·PD,PP·ASCBA Escape: GMFOVHiE/SCBAE	Inh Abs Ing Con	Nau, conf, agitation, tremors, convuls, unconscious; dry, red skin; [carc]	Eye Skin Breath: Swallow	Irr immed Soap wash prompt Resp support Medical attention immed	CNS, skin
Goggles	Reason prob	NIOSH/OSHA 5 mg/m ³ , SA/SCBA §: SCBAF·PD,PP/SAF·PD,PP ASCBA Escape: GMFOVAGHiE/SCBAE	Inh Ing Con	Acne-form derm, liver damage	Eye Skin: Breath: Swallow:	Irr immed Soap wash prompt Resp support Medical attention immed	Skin, liver
Wash	Prompt contam						
Change	After work if reason prob contam						
Remove:	Prompt non-imperv contam						
Provide:	Quick drench						
Clothing:	Repeat	NIOSH/OSHA 5 ppm CCRS*/SA*/SCBA* 12.5 ppm: SA·CF*/PAPRS* 25 ppm: SCBAF/SAF/GMFS/PAPRTS*/ CCRFS 30 ppm: SAF·PD,PP §: SCBAF·PD,PP/SAF·PD,PP·ASCBA Escape: GMFS/SCBAE	Inh Con	Burning of eyes, nose, mouth; lac, rin; cough, choking, subs pain; nau, vomit, head, dizz, syncope; pulm edema; pneu; hypox; derm; eye, skin burns	Eye: Skin Breath:	Irr immed Water flush immed Resp support	Resp sys
Goggles:	Any poss						
Wash:	Immed contam						
Change:	N.R.						
Remove:	Immed non-imperv contam						
Provide:	Eyewash, quick drench						
Clothing:	Any poss	NIOSH/OSHA 1 ppm CCRS 2.5 ppm, SA·CF*/PAPRS* 5 ppm CCRFS/GMFS*/SCBAF/SAF 10 ppm SAF·PD,PP § SCBAF PD,PP/SAF·PD,PP ASCBA Escape GMFS*/SCBAE	Inh Ing Con	Irrit eyes, nose, throat; cough, wheez, bron, pulm edema, chronic bron	Eye: Skin: Breath: Swallow:	Irr immed Soap wash immed Resp support Medical attention immed	Resp sys, eyes
Goggles:	Any poss						
Wash:	Immed contam						
Change:	N.R.						
Remove:	Immed contam						
Provide:	Eyewash quick drench						

Chlorine dioxide

Chemical name, structure/formula, CAS and RTECS Nos., and DOT ID and guide Nos.	Synonyms, trade names, and conversion factors	Exposure limits (TWA unless noted otherwise)	IDLH	Physical description	Chemical and physical properties		Incompatibilities and reactivities	Measurement method (See Table 1)
					MW, BP, SOL Fl.P, IP, Sp.Gr, flammability	VP, FRZ UEL, LEL		
Chlorine trifluoride ClF ₃ 7790-91-2 FO2800000	Chlorine fluoride, Chlorotrifluoride	NIOSH/OSHA C 0.1 ppm (0.4 mg/m ³)	20 ppm	Colorless gas or a greenish-yellow liquid (below 53°F) with a somewhat sweet, suffocating odor.	MW: 92.5 BP: 53°F Sol: Reacts Fl.P: NA IP: 13.00 eV	VP: >1 atm FRZ: -105°F UEL: NA LEL: NA	Oxidizers, water, acids, combustible materials, sand, glass [Note: Reacts with water to form chlorine and hydrofluoric acid.]	None available
1749 44	1 ppm = 3.85 mg/m ³				Sp Gr: 1.77 (Liquid at 53°F) Noncombustible Liquid, but contact with organic materials may result in SPONTANEOUS ignition			
Chloroacetaldehyde ClCH ₂ CHO 107-20-0 AB2450000	Chloroacetaldehyde (40% aqueous solution), 2-Chloroacetaldehyde, 2-Chloroethanal	NIOSH/OSHA C 1 ppm (3 mg/m ³)	100 ppm	Colorless liquid with an acrid, penetrating odor.	MW: 78.5 BP: 186°F Sol: Miscible Fl.P: 190°F (40% soln) IP: 10.61 eV	VP: 100 mm FRZ: -3°F (40% soln) UEL: ? LEL: ?	Oxidizers, acids	Si gel, Methanol; GC/ECD; II(5) [#S11]
2232 55	1 ppm = 3.26 mg/m ³				Sp Gr: 1.19 Class IIIA Combustible Liquid			
alpha-Chloroaceto- phenone C ₆ H ₅ COCH ₂ Cl 532-27-4 AM6300000	2-Chloroacetophenone, Chloromethyl phenyl ketone, Mace [®] , Phenacyl chloride, Phenyl chloromethyl ketone, Tear gas	NIOSH/OSHA 0.3 mg/m ³ (0.05 ppm)	100 mg/m ³	Colorless to gray crystalline solid with a sharp, irritating odor.	MW: 154.6 BP: 472°F Sol: Insoluble Fl.P: 244°F IP: 9.44 eV	VP: 0.01 mm MLT: 134°F UEL: ? LEL: ?	Water, steam [Note: Slowly corrodes metals.]	Tenax GC (2), Thermal desorp; GC/FID; II(5) [P&CAM #291]
1697 58					Sp Gr(59°F): 1.32 Combustible Solid			
Chlorobenzene C ₆ H ₅ Cl 108-90-7 CZ0175000	Benzene chloride, Chlorobenzol, MCB, Monochlorobenzene Phenyl chloride	NIOSH See Appendix D OSHA 75 ppm (350 mg/m ³)	2400 ppm	Colorless liquid with an almond- like odor.	MW: 112.6 BP: 270°F Sol: 0.05% Fl.P: 85°F IP: 9.07 eV	VP(77°F): 12 mm FRZ: -50°F UEL: 9.6% LEL: 1.3%	Strong oxidizers	Char; CS ₂ , GC/FID; III [#1003, Haloge- nated Hydro- carbons]
1134 27	1 ppm = 4.68 mg/m ³				Sp.Gr. 1.11 Class IC Flammable Liquid			

Personal protection and sanitation (See Table 3)		Recommendations for respirator selection — maximum concentration for use (MUC) (See Table 4)	Health hazards				
			Route	Symptoms (See Table 5)	First aid (See Table 6)	Target organs (See Table 5)	
Clothing: Goggles: Wash: Change: Remove: Provide:	Any poss Any poss Immed contam N.R. Immed contam Eyewash, quick drench	NIOSH/OSHA 2.5 ppm: SA:CF ^c 5 ppm: SCBAF/SAF 20 ppm: SAF,PD,PP §: SCBAF,PD,PP/SAF,PD,PP,ASCBA Escape: GMFS/SCBAE	Inh Ing Con	Eye, skin burns, in animals: lac, corneal ulcer; pulm edema	Eye: Skin: Breath: Swallow:	Irr immed Water flush immed Resp support Medical attention immed	Skin, eyes
Clothing: Goggles: Wash: Change: Remove: Provide:	Any poss >0.1%/Repeat <0.1% Any poss Immed contam N.R. Immed non-imperv contam Eyewash, quick drench	NIOSH/OSHA 10 ppm: CCRQV*/SA*/SCBA* 25 ppm: SA:CF*/PAPROV* 50 ppm: CCRFOV/GMFOV/SCBAF/SAF 100 ppm: SAF,PD,PP §: SCBAF,PD,PP/SAF,PD,PP,ASCBA Escape: GMFOV/SCBAE	Inh Ing Con	Irrit skin, eyes, muc memb, skin burns, eye damage, pulm edema; skin, resp sys sens; narco, coma	Eye: Skin: Breath: Swallow:	Irr immed Water flush immed Resp support Medical attention immed	Eyes, skin, resp sys
Clothing: Goggles: Wash: Change: Remove: Provide:	Any poss Any poss Immed contam After work if reason prob contam Immed non-imperv contam Eyewash	NIOSH/OSHA 3 mg/m ³ : CCROVDM 7.5 mg/m ³ : SA:CF ^c /PAPROVDM ^c 15 mg/m ³ : CCRFOVHiE/SCBAF/SAF 100 mg/m ³ : SAF,PD,PP §: SCBAF,PD,PP/SAF,PD,PP,ASCBA Escape: GMFOVHiE/SCBAE	Inh Ing Con	Irrit eyes, skin, resp sys; pulm edema	Eye: Skin: Breath: Swallow:	Irr immed Soap wash immed Resp support Medical attention immed	Eyes, skin, resp sys
Clothing: Goggles: Wash: Change: Remove: Provide:	Repeat Reason prob Prompt wet N.R. Immed wet (flamm)	OSHA 1000 ppm: PAPROV ^c /CCRFOV 1875 ppm: SA:CF ^c 2400 ppm: GMFOV/SCBAF/SAF §: SCBAF,PD,PP/SAF,PD,PP,ASCBA Escape: GMFOV/SCBAE	Inh Ing Con	Irrit skin, eyes, nose, drow, inco; in animals: liver, lung, kidney damage	Eye: Skin: Breath: Swallow:	Irr immed Soap wash prompt Resp support Medical attention immed	Resp sys, eyes, skin, CNS, liver

Chlorobenzene

Chemical name, structure/formula, CAS and RTECS Nos., and DOT ID and guide Nos.	Synonyms, trade names, and conversion factors	Exposure limits (TWA unless noted otherwise)	IDLH	Physical description	Chemical and physical properties		Incompatibilities and reactivities	Measurement method (See Table 1)
					MW, BP, SOL Fl.P, IP, Sp.Gr, flammability	VP, FRZ UEL, LEL		
o-Chlorobenzylidene malononitrile <chem>C1C6H4CH=C(CN)2</chem> 2698-41-1 OO3675000	2-Chlorobenzal malonitrile, CS, OCBM	NIOSH/OSHA C 0.05 ppm (0.4 mg/m ³) [skin]	2 mg/m ³	White crystalline solid with a pepper-like odor.	MW: 188.6 BP: 590-599°F Sol: Insoluble Fl.P: ? IP: ?	VP: 1 mm MLT: 199-203°F UEL: ? LEL: ?	Strong oxidizers	Filter/ Tenax GC, Reagent, HPLC/UVD; II(5) [P&CAM #304]
Combustible Solid								
Chlorobromomethane <chem>CH2BrCl</chem> 74-97-5 PA5250000	Bromochloromethane, CB, CBM, Fluorocarbon 1011, Halon ¹ 1011, Methyl chlorobromide	NIOSH/OSHA 200 ppm (1050 mg/m ³)	5000 ppm	Colorless to pale yellow liquid with a chloroform-like odor	MW: 129.4 BP: 155°F Sol: Insoluble Fl.P: NA IP: 10.77 eV	VP(77°F) 160 mm FRZ: -124°F UEL: NA LEL: NA	Chemically-active metals such as calcium, powdered aluminum, zinc & magnesium	Char, CS ₂ ; GC/FID; III [#1003, Halogenated Hydrocarbons]
1887 58	1 ppm = 5.38 mg/m ³				Sp.Gr: 1.93 Noncombustible Liquid			
Chlorodiphenyl (42% chlorine) <chem>C6H4ClC6H3Cl2</chem> (approx) 53469-21-9 TQ1356000	Aroclor [®] 1242, PCB, Polychlorinated biphenyl	NIOSH Ca See Appendix A 0.001 mg/m ³ OSHA 1 mg/m ³ [skin]	Ca [10 mg/m ³]	Colorless to light colored, viscous liquid with a mild hydrocarbon odor	MW: 258(approx) BP: 617-691°F Sol: Insoluble Fl.P: ? IP: ?	VP: 0.001 mm FRZ: -2°F UEL: ? LEL: ?	Strong oxidizers	Filter/ Florisil, Hexane; GC/ECD; III [#5503, PCBs]
2315 31	1 ppm = 10.72 mg/m ³				Sp.Gr(77°F): 1.39 Nonflammable Liquid, but exposure in a fire results in the formation of a black soot containing PCBs, polychlorinated dibenzofurans, and chlorinated benzo-p-dioxins.			
Chlorodiphenyl (54% chlorine) <chem>C6H3Cl2C6H2Cl3</chem> (approx) 11097-69-1 TQ1360000	Aroclor [®] 1254, PCB, Polychlorinated biphenyl	NIOSH Ca See Appendix A 0.001 mg/m ³ OSHA 0.5 mg/m ³ [skin]	Ca [5 mg/m ³]	Colorless to pale yellow, viscous liquid or solid (below 50°F) with a mild, hydrocarbon odor.	MW: 326(approx) BP: 689-734°F Sol: Insoluble Fl.P: ? IP: ?	VP: 0.0006 mm FRZ: 50°F UEL: ? LEL: ?	Strong oxidizers	Filter/ Florisil; Hexane, GC/ECD; III [#5503, PCBs]
2315 31	1 ppm = 13.55 mg/m ³				Sp.Gr(77°F): 1.38 Nonflammable Liquid, but exposure in a fire results in the formation of a black soot containing PCBs, polychlorinated dibenzofurans, and chlorinated benzo-p-dioxins.			

Personal protection and sanitation (See Table 3)		Recommendations for respirator selection — maximum concentration for use (MUC) (See Table 4)	Health hazards				
			Route	Symptoms (See Table 5)	First aid (See Table 6)	Target organs (See Table 5)	
Clothing Goggles Wash: Change Remove	Repeat Reason prob Prompt contam/daily After work any poss contam Prompt non-imperv contam	NIOSH/OSHA 2 mg/m ³ : SA,CF ⁵ /SCBAF/SAF §: SCBAF PD,PP/SAF;PD,PP ASCBA Escape: GMFOVHiE/SCBAE	Inh Abs Ing Con	Pain, burn eyes, lac, conj, eryt eyelids, blepharospasm; irrit throat, cough, chest constrict; head; eryt, vesic skin	Eye: Skin: Breath: Swallow	Irr immed Soap wash immed Resp support Medical attention immed	Resp sys, skin, eyes
Clothing: Goggles: Wash: Change: Remove	Repeat Reason prob Prompt wet N.R. Prompt non-imperv wet	NIOSH/OSHA 1000 ppm: PAPROV ⁵ /CCRFOV 5000 ppm: SA,CF ⁵ /GMFOV/SCBAF/SAF §: SCBAF PD,PP/SAF;PD,PP ASCBA Escape: GMFOV/SCBAE	Inh Ing Con	Disorientation, dizz; irrit eyes, throat, skin; pulm edema	Eye: Skin: Breath: Swallow:	Irr immed Soap wash prompt Resp support Medical attention immed	Skin, liver, kidneys, resp sys, CNS
Clothing: Goggles Wash Change Remove	Any poss Reason prob Prompt contam N.R. Prompt contam non- imperv	NIOSH ¥: SCBAF PD,PP/SAF;PD,PP ASCBA Escape: GMFOVHiE/SCBAE	Inh Abs Ing Con	Irrit eyes; chloracne; liver damage; [carc]	Eye: Skin: Breath: Swallow:	Irr immed Soap wash immed Resp support Medical attention immed	Skin, eyes, liver
Clothing Goggles Wash Change Remove	Any poss Reason prob Immed contam N.R. Prompt non-imperv wet	NIOSH ¥ SCBAF PD,PP/SAF;PD,PP ASCBA Escape: GMFOVHiE/SCBAE	Inh Abs Ing Con	Irrit eyes, skin, acne-form derm, [carc], in animals: liver damage	Eye: Skin: Breath: Swallow	Irr immed Soap wash immed Resp support Medical attention immed	Skin, eyes, liver

Chlorodiphenyl (54% chlorine)

Chemical name, structure/formula, CAS and RTECS Nos., and DOT ID and guide Nos.	Synonyms, trade names, and conversion factors	Exposure limits (TWA unless noted otherwise)	IDLH	Physical description	Chemical and physical properties		Incompatibilities and reactivities	Measurement method (See Table 1)
					MW, BP, SOL Fl.P, IP, Sp.Gr, flammability	VP, FRZ UEL, LEL		
Chloroform CHCl ₃ 67-66-3 FS9100000	Methane trichloride, Trichloromethane	NIOSH Ca See Appendix A ST 2 ppm (9.78 mg/m ³) [60-min]	Ca [1000 ppm]	Colorless liquid with a pleasant odor.	MW: 119.4 BP: 143°F Sol(77°F): 0.5% Fl.P: NA IP: 11.42 eV	VP: 160 mm FRZ: -82°F UEL: NA LEL: NA	Strong caustics; chemically-active metals such as aluminum or mag- nesium powder, sodium & potassium; strong oxidizers [Note: When heated to decomposition, forms phosgene gas.]	Char; CS ₂ ; GC/FID, III [#1003, Haloge- nated Hydro- carbons]
1888 55	1 ppm = 4.96 mg/m ³	OSHA 2 ppm (9.78 mg/m ³)	ACGIH A2		Sp.Gr: 1.48 Noncombustible Liquid			
bis-Chloromethyl ether (CH ₂ Cl) ₂ O 542-88-1 KN1575000	BCME, bis-CME, Chloromethyl ether, Dichloromethyl ether, Dichlorodimethyl ether, Oxybis(chloromethane)	NIOSH Ca See Appendix A OSHA [1910.1008] See Appendix B ACGIH A1, 0.001 ppm (0.005 mg/m ³)	Ca	Colorless liquid with a suffocating odor.	MW: 115.0 BP: 223°F Sol: Reacts Fl.P <66°F IP: ?	VP(72°F), 30 mm FRZ: -43°F UEL: ? LEL: ?	Acids, water [Note: Reacts with water to form hydrochloric acid and formaldehyde]	Imp; Reagent; GC/ECD OSHA [#10]
2249 55	1 ppm = 4.78 mg/m ³				Sp.Gr: 1.32 Class IA Flammable Liquid			
Chloromethyl methyl ether CH ₃ OCH ₂ Cl 107-30-2 KN6650000	Chlorodimethyl ether, Chloromethoxymethane, CMME, Dimethylchloroether, Methylchloromethyl ether	NIOSH Ca See Appendix A OSHA [1910.1006] See Appendix B ACGIH A2	Ca	Colorless liquid with an irritating odor.	MW: 80.5 BP: 138°F Sol: Reacts Fl.P(oc): 32°F IP: 10.25 eV	VP: ? FRZ: -154°F UEL: ? LEL: ?	Water [Note: Reacts with water to form hydrochloric acid and formaldehyde]	Imp Hexane; GC/ECD; II(1) [P&CAM #220]
1239 28	1 ppm = 3.35 mg/m ³				Sp Gr: 1.06 Class IA Flammable Liquid			
1-Chloro-1-nitropropane CH ₃ CH ₂ CHClNO ₂ 600-25-9 TX5075000	Korax, Lanstan*	NIOSH/OSHA 2 ppm (10 mg/m ³)	2000 ppm	Colorless liquid with an unpleasant odor. [fungicide]	MW: 123.6 BP: 289°F Sol: 0.5% Fl.P(oc): 144°F IP: ?	VP(77°F) 6 mm FRZ: ? UEL: ? LEL: ?	Strong oxidizers, acids	Chrom-108, Ethyl Acetate, GC/FID; II(5) [#S211]
	1 ppm = 5.14 mg/m ³				Sp Gr: 1.21 Class IIIA Combustible Liquid			

Personal protection and sanitation (See Table 3)		Recommendations for respirator selection — maximum concentration for use (MUC) (See Table 4)	Health hazards				
			Route	Symptoms (See Table 5)	First aid (See Table 6)	Target organs (See Table 5)	
Clothing Goggles. Wash Change Remove	Reason prob Reason prob Prompt wet N R Prompt non-imperv contam	NIOSH Y SCBAF,PD,PP/SAF PD,PP ASCBA Escape: GMFOV/SCBAE	Inh Ing Con	Dizz, mental dullness, nau, disorientation, head, ftg; anes, hepatomegaly, irrit eyes, skin; [carc]	Eye: Skin Breath. Swallow	Irr immed Soap wash prompt Resp support Medical attention immed	Liver, kidneys, heart, eyes, skin
Clothing Goggles Wash Change Remove Provide	Any poss Any poss Immed contam/daily After work if any poss contam Immed contam Eyewash, quick drench	NIOSH Y SCBAF PD,PP/SAF PD,PP:ASCBA Escape GMFOV/SCBAE	Inh Abs Con	Irrit eyes, skin, muc memb of resp system, pulm congestion, edema, corneal damage, nec reduced pulm function, cough, dysp, wheez; blood-stained sputum, bronchial secretions; [carc]	Eye. Skin Breath Swallow:	Irr immed (15 min) Soap wash immed Resp support Medical attention immed	Lungs, eyes skin
Clothing Goggles Wash Change Remove Provide	Any poss Any poss Immed contam/daily After work if any poss contam Immed contam Eyewash, quick drench	NIOSH Y SCBAF,PD,PP/SAF,PD,PP,ASCBA Escape GMFOV/SCBAE	Inh Abs Con	Irrit eyes, skin, muc memb; pulm edema, pulm congestion, pneu; burns, nec; cough, wheez, pulm congestion; blood stained-sputum, low-wgt, loss, bronchial secretions; [carc]	Eye: Skin Breath: Swallow	Irr immed (15 min) Soap wash immed Resp support Medical attention immed	Resp sys, skin, eyes, muc memb
Clothing Goggles Wash Change Remove	Repeat Reason prob Prompt wet N R Prompt non-imperv wet	NIOSH/OSHA 50 ppm SA CF*/PAPROV* 100 ppm: CCRFOV/GMFOV/SCBAF/SAF 2000 ppm SAF PD,PP § SCBAF PD,PP/SAF PD,PP ASCBA Escape GMFOV/SCBAE	Inh Ing Con	In animals: irrit eyes; pulm edema; liver, kidney, heart damage	Eye. Skin: Breath: Swallow:	Irr immed Soap wash Resp support Medical attention immed	In animals, resp sys, liver, kidneys, CVS

t-Chloro-1-nitropropane

Chemical name, structure/formula, CAS and RTECS Nos., and DOT ID and guide Nos.	Synonyms, trade names, and conversion factors	Exposure limits (TWA unless noted otherwise)	IDLH	Physical description	Chemical and physical properties		Incompatibilities and reactivities	Measurement method (See Table 1)
					MW, BP, SOL Fl.P, IP, Sp.Gr, flammability	VP, FRZ UEL, LEL		
Chloropicrin CCl ₃ NO ₂ 76-06-2 PB6300000 1580 56 2929 52 (flam. mixture) 1583 56 (mixture)	Nitrochloroform, Nitrotrichloromethane, Trichloronitromethane	NIOSH/OSHA 0.1 ppm (0.7 mg/m ³)	4 ppm	Colorless to faint yellow, oily liquid with an intensely irritating odor [pesticide]	MW: 164.4 BP: 234°F Sol: 0.2% Fl.P: NA IP: ?	VP: 20 mm FRZ: -93°F UEL: NA LEL: NA	Strong oxidizers [Note: With strong initiation, the heated material under confinement will detonate.]	None available
	1 ppm = 6.83 mg/m ³				Sp.Gr: 1.66 Noncombustible Liquid			
beta-Chloroprene CH ₂ =CClCH=CH ₂ 126-99-8 E19625000 1991 30 (inhibited)	2-Chloro-1,3-butadiene, Chlorobutadiene, Chloroprene	NIOSH Ca See Appendix A C 1 ppm (3.6 mg/m ³) [15-min] OSHA 10 ppm (35 mg/m ³) [skin]	Ca [400 ppm]	Colorless liquid with a pungent, ether-like odor	MW: 88.5 BP: 139°F Sol: Slight Fl.P: -4°F IP: 8.79 eV	VP: 188 mm FRZ: -153°F UEL: 20.0% LEL: 4.0%	Peroxides & other oxidizers [Note: Polymerizes at room temperature unless inhibited with antioxidants.]	Char; CS ₂ ; GC/FID; III [#1002]
	1 ppm = 3.68 mg/m ³				Sp.Gr: 0.96 Class IA Flammable Liquid			
Chromic acid and chromates (as CrO ₃) H ₂ CrO ₄ (acid) 7738-94-5 (acid) GB2450000 (acid) 1755 60 (acid soln) 1463 42 (acid, solid)	Chromic acid, none Synonyms of chromates (i.e., chromium(VI) compounds) vary depending upon the specific compound.	NIOSH Ca See Appendix A 0.001 mg/m ³ See Appendix C OSHA C 0.1 mg/m ³ See Appendix C ACGIH See Appendix C	Ca [30 mg/m ³]	Appearance and odor vary depending upon the specific compound	Properties vary depending upon the specific compound. Chromic acid is noncombustible, but will accelerate the burning of combustible materials		Chromic acid Combustible, organic, or other readily oxidizable materials (paper, wood, sulfur, aluminum, plastics, etc.), corrosive to metals	Filter, Reagent, Vis. III [#7600, Hexavalent Chromium]
Chromium metal (as Cr) Cr 7440-47-3 GB4200000	Chrome, Chromium	NIOSH 0.5 mg/m ³ See Appendix C OSHA 1 mg/m ³ See Appendix C ACGIH See Appendix C	N E	Blue-white to steel-gray, lustrous, brittle, hard solid	MW: 52.0 BP: 4788°F Sol: Insoluble Fl.P: NA IP: NA	VP: 0 mm (approx) MLT: 3452°F UEL: NA LEL: NA	Strong oxidizers such as hydrogen peroxide, alkalis	Filter, Acid, AA, III [#7024]
					Sp.Gr: 7.14 Noncombustible Solid in bulk form, but finely divided dust burns rapidly if heated in a flame.			

Personal protection and sanitation (See Table 3)		Recommendations for respirator selection — maximum concentration for use (MUC) (See Table 4)	Health hazards					
			Route	Symptoms (See Table 5)	First aid (See Table 6)		Target organs (See Table 5)	
Clothing:	Any poss	NIOSH/OSHA 2.5 ppm: SA:CF ² /PAPROV ² 4 ppm: SCBAF/SAF/CCRFOV/GMFOV § SCBAF PD,PP/SAF PD,PP ASCBA Escape GMFOV/SCBAE	Inh Ing Con	Eye irrit, lac; cough, pulm edema; nau, vomit; skin irrit	Eye: Skin: Breath Swallow	Irr immed Soap wash immed Resp support Medical attention immed	Resp sys, skin, eyes	
Goggles:	Any poss							
Wash:	Immed contam							
Change:	N R.							
Remove:	Immed non-imperv contam							
Provide:	Eyewash, quick drench							
Clothing:	Any poss	NIOSH ¥ SCBAF PD,PP/SAF PD,PP ASCBA Escape GMFOV/SCBAE	Inh Abs Ing Con	Irrit eyes, resp sys; ner, irrity; derm; alopecia; [carc]	Eye: Skin: Breath Swallow	Irr immed Soap wash immed Resp support Medical attention immed	Resp sys, skin, eyes	
Goggles:	Reason prob							
Wash:	Prompt contam							
Change:	N R							
Remove:	Immed wet (flamm)							
Clothing:	Any poss	NIOSH ¥ SCBAF PD,PP/SAF PD,PP ASCBA Escape: HIEF/SCBAE	Inh Ing Con	Resp sys irrit, nasal septum perf; liver, kidney damage; leucyt, leupen, monocy, eosin, eye inj, conj, skin ulcer, sens derm; [carc]	Eye: Skin: Breath Swallow	Irr immed Soap flush immed Resp support Medical attention immed	Blood, resp sys, liver, kidneys, eyes, skin	
Goggles:	Any poss							
Wash:	Immed contam							
Change:	After work if reason prob contam							
Remove:	Immed non-imperv contam							
Provide:	Eyewash, quick drench							
Clothing:	Repeat	NIOSH 2.5 mg/m ³ : DM* 5 mg/m ³ : DMXSQ*/SA*/SCBA* 12.5 mg/m ³ : PAPRDM*/SA/CF* 25 mg/m ³ : HIEF/PAPRTHiE*/SCBAF/SAF 500 mg/m ³ : SAF PD,PP § SCBAF PD,PP/SAF PD,PP ASCBA Escape HIEF/SCBAE	Inh Ing	Histologic fibrosis of lungs	Eye: Skin: Breath Swallow	Irr immed Soap wash Resp support Medical attention immed	Resp sys	
Goggles:	Reason prob							
Wash:	Prompt contam							
Change:	N.R.							
Remove:	Prompt non-imperv contam							

Chromium metal (as Cr)

Chemical name, structure/formula, CAS and RTECS Nos., and DOT ID and guide Nos.	Synonyms, trade names, and conversion factors	Exposure limits (TWA unless noted otherwise)	IDLH	Physical description	Chemical and physical properties		Incompatibilities and reactivities	Measurement method (See Table 1)
					MW, BP, SOL Fl.P, IP, Sp.Gr, flammability	VP, FRZ UEL, LEL		
Chromium(II) and (III) compounds (as Cr)	Synonyms vary depending upon the specific Cr(II) or Cr(III) compound.	NIOSH/OSHA 0.5 mg/m ³ See Appendix C ACGIH See Appendix C	N E.	Appearance and odor vary depending upon the specific compound.	Properties vary depending upon the specific compound.		Water	Filter; Acid; AA, III [#7024]
Coal tar pitch volatiles (benzene-soluble fraction) 65996-93-2 GF8655000	Synonyms vary depending upon the specific compound (e.g., benzo(a)pyrene, phenanthrene, acridine, chrysene, anthracene & pyrene). [Note: NIOSH considers coal tar, coal tar pitch, and creosote to be coal tar products.]	NIOSH Ca See Appendix A 0.1 mg/m ³ (cyclohexane-extractable fraction) See Appendix C OSHA 0.2 mg/m ³	Ca [700 mg/m ³] ACGIH A1	Black or dark-brown amorphous residue	Properties vary depending upon the specific compound Combustible Solid		Strong oxidizers	Filter; Benzene; Grav, III [#5023]
Cobalt metal, dust, and fume (as Co) Co 7440-48-4 (Metal) GF8750000 (Metal)	Metal: none Synonyms of other compounds vary depending upon the specific compound.	NIOSH/OSHA 0.05 mg/m ³	20 mg/m ³	Metal: Odorless, silver-gray to black solid.	MW: 58.9 BP: 5612°F Sol. Insoluble Fl.P: NA IP: NA Sp.Gr: 8.92 (Metal) Metal: Noncombustible Solid in bulk form, but finely divided dust will burn at high temperatures	VP: 0 mm (approx) MLT: 2719°F UEL: NA LEL: NA	Strong oxidizers, ammonium nitrate	Filter; Acid; AA; III [#7027]
Copper dusts and mists (as Cu) Cu 7440-50-8 (Metal) GL5325000 (Metal)	Metal: none Synonyms of other compounds vary depending upon the specific compound	NIOSH/OSHA 1 mg/m ³	N E	Metal: Reddish, lustrous, malleable, odorless solid	MW: 63.5 BP: 4703°F Sol. Insoluble Fl.P: NA IP: NA Sp.Gr: 8.94 (Metal) Metal: Noncombustible Solid in bulk form, but powdered form may ignite	VP: 0 mm (approx) MLT: 1981°F UEL: NA LEL: NA	Oxidizers, alkalis, sodium azide, acetylene	Filter; Acid; AA, III [#7029]

Personal protection and sanitation (See Table 3)		Recommendations for respirator selection — maximum concentration for use (MUC) (See Table 4)	Health hazards				
			Route	Symptoms (See Table 5)	First aid (See Table 6)	Target organs (See Table 5)	
Clothing	Repeat	NIOSH/OSHA 2.5 mg/m ³ , DM* 5 mg/m ³ , DMXSQ*/SA*/SCBA* 12.5 mg/m ³ , PAPRDM*/SA,CF* 25 mg/m ³ , HIEF/PAPRTHIE*/SCBAF/SAF 250 mg/m ³ , SAF,PD,PP §: SCBAF,PD,PP/SAF,PD,PP,ASCBA Escape: HIEF/SCBAE	Inh Con	Sens derm	Eye: Skin: Breath: Swallow	Irr immed Water flush prompt Resp support Medical attention immed	Skin
Goggles	Any poss						
Wash:	Prompt contam						
Change:	N.R.						
Remove	Prompt non-imperv contam						
Clothing	Reason prob	NIOSH ¥: SCBAF,PD,PP/SAF,PD,PP,ASCBA Escape: GMFOVHIE/SCBAE	Inh Con	Derm, bron. [carc]	Eye: Skin: Breath	Irr immed Soap wash Resp support	Resp sys, bladder, kidneys, skin
Goggles	Reason prob						
Wash	Daily (reason prob)						
Change	After work if reason prob contam						
Remove	N.R.						
Clothing	Repeat	NIOSH/OSHA 0.25 mg/m ³ , DM^ 0.5 mg/m ³ , DMXSQ*/DMFu*/SA*/SCBA* 1.25 mg/m ³ , PAPRDM*/SA,CF*/ PAPRDMFu* 2.5 mg/m ³ , HIEF/SCBAF/SAF 20 mg/m ³ , SAF,PD,PP §: SCBAF,PD,PP/SAF,PD,PP,ASCBA Escape: HIEF/SCBAE	Inh Ing Con	Cough, dysp, decrease pulm func, low-wgt; derm; diffuse nodular fibrosis, resp hypersensitivity	Eye: Skin: Breath Swallow	Irr immed Soap wash Resp support Medical attention immed	Resp sys, skin
Goggles	N.R.						
Wash:	Prompt contam						
Change	After work if reason prob contam						
Remove:	Prompt non-imperv contam						
Clothing	Repeat	NIOSH/OSHA 5 mg/m ³ , DM* 10 mg/m ³ , DMXSQ*/SA*/SCBA* 25 mg/m ³ , PAPRDM*/SA,CF* 50 mg/m ³ , HIEF/SCBAF/SAF/PAPRTHIE* 2000 mg/m ³ , SAF,PD,PP §: SCBAF,PD,PP/SAF,PD,PP,ASCBA Escape: HIEF/SCBAE	Inh Ing Con	Irrit nasal muc memb, pharynx; nasal perforation, eye irrit, metallic taste; derm; in animals, lung, liver, kidney damage; anemia	Eye: Skin: Breath: Swallow	Irr immed Soap wash prompt Resp support Medical attention immed	Resp sys, skin, liver, kidneys, inc risk with Wilson's disease
Goggles	Reason prob						
Wash	Prompt contam						
Change:	After work if reason prob contam						
Remove	Prompt contam non- imperv						

Copper dusts and mists (as Cu)

Chemical name, structure/formula, CAS and RTECS Nos., and DOT ID and guide Nos.	Synonyms, trade names, and conversion factors	Exposure limits (TWA unless noted otherwise)	IDLH	Physical description	Chemical and physical properties		Incompatibilities and reactivities	Measurement method (See Table 1)
					MW, BP, SOL, Fl.P, IP, Sp.Gr, flammability	VP, FRZ, UEL, LEL		
Copper fume (as Cu) CuO/Cu 7440-50-8 (Cu) 1317-38-0 (CuO) GL5350000 (Cu)	CuO, Black copper oxide, Copper monoxide, Copper(II) oxide, Cupric oxide Cu: none	NIOSH/OSHA 0.1 mg/m ³	N.E.	Finely divided black particulate dispersed in air [Note: Exposure may occur in copper & brass plants and during the welding of copper alloys]	MW 79.5 BP: Decomposes Sol: Insoluble Fl.P. NA IP: NA [Note: See Copper Sp Gr: 6.4 (CuO) CuO Noncombustible Solid	VP 0 mm (approx) MLT 1879°F (Decomposes) UEL NA LEL NA Dusts & Mists for properties of Cu]	Acetylene	Filter; Acid, AA, III [#7029]
Cotton dust (raw) GN2275000	None	NIOSH 0.200 mg/m ³ See Appendix C OSHA [Z-1-A & 1910.1043] 1 mg/m ³ (waste processing during waste recycling [sorting, blending, cleaning & willowing] & garretting) 0.200 mg/m ³ (textile yarn manufacturing) 0.750 mg/m ³ (textile slashing & weaving) 0.500 mg/m ³ (all other operations) See Appendix C	N.E.	Colorless, odorless solid.	MW ? BP: Decomposes Sol: Insoluble Fl.P. ? IP: NA Combustible Solid	VP 0 mm (approx) MLT Decomposes UEL ? LEL ?	Strong oxidizers	Vertical elut; none; Grav, OSHA [1910.1043]
Crag™ herbicide C ₆ H ₂ Cl ₂ OCH ₂ CH ₂ -OSO ₃ Na 136-78-7 KK4900000	Crag™ herbicide No. 1; Sesone, Sodium-2-(2,4-dichlorophenoxy) ethyl sulfate	NIOSH/OSHA 10 mg/m ³ (total) 5 mg/m ³ (resp)	5000 mg/m ³	Colorless to white crystalline, odorless solid [herbicide]	MW: 309.1 BP: Decomposes Sol(77°F): 26% Fl.P. NA IP: ? Sp Gr: 1.70 Noncombustible Solid	VP 0.1 mm MLT: 473°F (Decomposes) UEL: NA LEL: NA	Strong oxidizers, acids	Filter, Water; Vis; II(5) [#S356]
Cresol (all isomers) CH ₃ C ₆ H ₄ OH 1319-77-3 GO5950000 2076 55	ortho-, meta-, or para-Cresol; Cresylic acid; 2-, 3-, or 4-Methyl phenol	NIOSH 2-3 ppm (10 mg/m ³) OSHA 5 ppm (22 mg/m ³) [skin]	250 ppm	Colorless, yellow, brown, or pinkish, oily liquids or solids with a sweet, tarry odor	MW 108.2 BP 376-397°F Sol: 2% Fl.P 178°F(o) 187°F(m) 187°F(p) IP: 8.93 eV(o) 8.98 eV(m) 8.97 eV(p) Sp Gr(77°F): 1.03	VP(100°F) 1 mm FRZ: 52-95°F UEL: ? LEL(300°F): 1.4%(o) 1.1%(m) 1.1%(p) Class IIIA Combustible Liquids	Strong oxidizers, acids	Sr gel; Acetone; GC/FID, III [#2001]

Personal protection and sanitation (See Table 3)		Recommendations for respirator selection — maximum concentration for use (MUC) (See Table 4)	Health hazards				
			Route	Symptoms (See Table 5)	First aid (See Table 6)		Target organs (See Table 5)
Clothing:	N.R.	NIOSH/OSHA 1 mg/m ³ . DMFu/SA/SCBA 2.5 mg/m ³ . PAPRDMFu/SA:CF 5 mg/m ³ . HiEF/PAPRTHiE/SCBAF/SAF/ SAT.CF 200 mg/m ³ : SAF.PD.PP §: SCBAF.PD.PP/SAF.PD.PP:ASCBA Escape. HiEF/SCBAE	Inh Con	Metal fume fever, chills, muscle ache, nau, fever, dry throat, cough, weak, lass; irrit eyes, upper resp tract: metallic or sweet taste; discoloration skin, hair	Breath	Resp support	Resp sys, skin, eyes, inc risk with Wilson's disease
Goggles:	N.R.						
Wash:	N.R.						
Change:	N.R.						
Remove:	N.R.						
Clothing:	N.R.	NIOSH 1 mg/m ³ . D 2 mg/m ³ . DXSQ/SA/HiE/SCBA 5 mg/m ³ . PAPRD/SA.CF 10 mg/m ³ . HiEF/PAPRTHiE/SCBAF/SAF/ SAT.CF 20 mg/m ³ . SA.PD.PP §: SCBAF.PD.PP/SAF.PD.PP:ASCBA Escape HiEF/SCBAE	Inh	Tight chest, cough, wheez, dysp; decrease FEV; bron, mal, cough, fever, chills, upper resp symptoms after initial exposure	Eye: Breath.	Irr immed Fresh air	Resp sys, CVS
Goggles:	N.R.						
Wash:	N.R.						
Change:	N.R.						
Remove:	N.R.						
Clothing:	Repeat	NIOSH/OSHA 50 mg/m ³ . DM 100 mg/m ³ . DMXSQ/SA/SCBA 250 mg/m ³ . PAPRDM/SA.CF 500 mg/m ³ . HiEF/SCBAF/SAF/ PAPRTHiE*/SAT.CF* 5000 mg/m ³ . SAF.PD.PP §: SCBAF.PD.PP/SAF.PD.PP:ASCBA Escape HiEF/SCBAE	Inh Ing Con	None known	Eye: Skin: Breath: Swallow.	Irr immed Water wash prompt Resp support Medical attention immed	None known
Goggles:	Reason prob						
Wash:	Prompt contam						
Change:	After work if reason prob contam						
Remove:	Prompt non-imperv contam						
Clothing:	Any poss	NIOSH 23 ppm: CCROVDM/SA/SCBA 57.5 ppm: SA.CF/PAPROVDM 115 ppm: CCRFOVHiE/SCBAF/SAF/ GMFOVHiE/PAPRTHiE*/ SAT.CF* 250 ppm: SAF.PD.PP §: SCBAF.PD.PP/SAF.PD.PP:ASCBA Escape. GMFOVHiE/SCBAE	Inh Abs Ing Con	CNS effects, conf, depres, resp fail; dysp, irreg rapid resp, weak pulse, skin, eye burns, derm; lung, liver, kidney damage	Eye: Skin: Breath: Swallow:	Irr immed Soap wash immed Resp support Medical attention immed	CNS, resp sys, liver, kidneys, skin, eyes
Goggles:	Any poss						
Wash:	Immed contam						
Change:	After work if any poss contam						
Remove Provide:	Immed non-imperv contam Eyewash, quick drench						

Cresol (all isomers)

Chemical name, structure/formula, CAS and RTECS Nos., and DOT ID and guide Nos.	Synonyms, trade names, and conversion factors	Exposure limits (TWA unless noted otherwise)	IDLH	Physical description	Chemical and physical properties		Incompatibilities and reactivities	Measurement method (See Table 1)
					MW, BP, SOL Fl.P, IP, Sp.Gr, flammability	VP, FRZ UEL, LEL		
Crotonaldehyde CH ₃ CH=CHCHO 123-73-9 (trans-isomer) GP9625000 (trans isomer)	2-Butenal, beta-Methylacrolein, Propylene aldehyde	NIOSH/OSHA 2 ppm (6 mg/m ³)	400 ppm	Water-white liquid with a suffocating odor. [Note Turns pale-yellow on contact with air]	MW: 70.1 BP: 219°F Sol: 18% Fl P: 45°F IP: 9.73 eV	VP: 19 mm FRZ: -101°F UEL: 15.5% LEL: 2.1%	Caustics, ammonia, strong oxidizers, nitric acid, amines [Note Polymerization may occur at elevated temperatures, such as in fire conditions.]	Bub, none, PLR, II(5) [P&CAM #285]
1143 28 (inhibited)	1 ppm = 2.91 mg/m ³				Sp Gr: 0.87 Class IA Flammable Liquid			
Cumene C ₆ H ₅ CH(CH ₃) ₂ 98-82-8 GR8575000	Cumol, Isopropyl benzene, 2-Phenyl propane	NIOSH/OSHA 50 ppm (245 mg/m ³) [skin]	8000 ppm	Colorless liquid with a sharp, penetrating, aromatic odor.	MW: 120.2 BP: 306°F Sol: Insoluble Fl P: 96°F IP: 8.75 eV	VP(77°F): 5 mm FRZ: -141°F UEL: 6.5% LEL: 0.9%	Oxidizers	Char; CS ₂ , GC/FID; III [#1501, Aromatic Hydrocarbons]
1918 28	1 ppm = 5.00 mg/m ³				Sp.Gr: 0.86 Class IC Flammable Liquid			
Cyanides (as CN) 1 KCN 2 NaCN 1 151-50-8/TS8750000 2 143-33-9/VZ7530000 1680 55 (KCN soln) 1689 55 (NaCN)	1: Potassium cyanide, Potassium salt of hydrocyanic acid 2: Sodium cyanide, Sodium salt of hydrocyanic acid Synonyms of other compounds vary depending upon the specific compound	NIOSH C 5 mg/m ³ (4.7 ppm) [10-min] OSHA 5 mg/m ³	50 mg/m ³	KCN & NaCN are white granular or crystalline solids with a faint almond-like odor.	MW: 65.1/49.0 BP: 2725°F Sol(77°F): 72/58% Fl P: NA/NA IP: NA/NA	VP: 0/0 mm (approx) MLT: 1173/ 1047°F UEL: NA/NA LEL: NA/NA	Strong oxidizers, such as acids, acid salts, chlorates & nitrates	Filter/Bub, KOH; ISE; III [#7904]
Cyclohexane C ₆ H ₁₂ 110-82-7 GU6300000	Benzene hexahydride, Hexahydrobenzene, Hexamethylene, Hexanaphthene	NIOSH/OSHA 300 ppm (1050 mg/m ³)	10,000 ppm	Colorless liquid with a sweet, chloroform-like odor. [Note: A solid below 44°F]	MW: 84.2 BP: 177°F Sol: Insoluble Fl P: 0°F IP: 9.88 eV	VP(77°F): 98 mm FRZ: 44°F UEL: 8% LEL: 1.3%	Oxidizers	Char, CS ₂ , GC/FID, III [#1500, Hydrocarbons]
1145 26	1 ppm = 3.50 mg/m ³				Sp Gr: 0.78 Class IA Flammable Liquid			

Chemical name, structure/formula, CAS and RTECS Nos., and DOT ID and guide Nos.	Synonyms, trade names, and conversion factors	Exposure limits (TWA unless noted otherwise)	IDLH	Physical description	Chemical and physical properties		Incompatibilities and reactivities	Measurement method (See Table 1)
					MW, BP, SOL Fl.P, IP, Sp.Gr, flammability	VP, FRZ UEL, LEL		
Cyclohexanol C ₆ H ₁₁ OH 108-93-0 GV7875000	Anol. Cyclohexyl alcohol, Hexahydrophenol, Hexalin, Hydralin, Hydroxycyclohexane	NIOSH/OSHA 50 ppm (200 mg/m ³) [skin]	3500 ppm	Sticky solid or colorless to light-yellow liquid (above 77°F) with a camphor-like odor	MW: 100.2 BP: 322°F Sol: 4% Fl.P: 154°F IP: 10.00 eV	VP: 1 mm MLT: 77°F UEL: ? LEL: ?	Strong oxidizers	Char; 2-Propanol/ CS ₂ , GC/FID, III [#1402, Alcohols III]
	1 ppm = 4.17 mg/m ³				Sp.Gr: 0.96 Class IIIA Combustible Liquid			
Cyclohexanone C ₆ H ₁₀ O 108-94-1 GW1050000	Cyclohexyl ketone, Pimelic ketone	NIOSH/OSHA 25 ppm (100 mg/m ³) [skin]	5000 ppm	Water-white to pale-yellow liquid with a peppermint- or acetone-like odor.	MW: 98.2 BP: 312°F Sol(50°F): 15% Fl.P: 146°F IP: 9.14 eV	VP(77°F): 5 mm FRZ: -49°F UEL: 9.4% LEL(212°F): 1.1%	Oxidizers, nitric acid	Char, CS ₂ , GC/FID, III [#1300, Ketones I]
1915 26	1 ppm = 4.08 mg/m ³				Sp.Gr: 0.95 Class IIIA Combustible Liquid			
Cyclohexene C ₆ H ₁₀ 110-83-8 GW2500000	Benzene tetrahydride, Tetrahydrobenzene	NIOSH/OSHA 300 ppm (1015 mg/m ³)	10,000 ppm	Colorless liquid with a sweet odor	MW: 82.2 BP: 181°F Sol: Insoluble Fl.P: 11°F IP: 8.95 eV	VP(100°F): 160 mm FRZ: -154°F UEL: ? LEL: ?	Strong oxidizers [Note: Forms explosive peroxides with oxygen upon storage]	Char, CS ₂ , GC/FID, III [#1500, Hydrocarbons]
2256 29	1 ppm = 3.42 mg/m ³				Sp.Gr: 0.81 Class IA Flammable Liquid			
Cyclopentadiene C ₅ H ₆ 542 92-7 GY1000000	1,3-Cyclopentadiene	NIOSH/OSHA 75 ppm (200 mg/m ³)	2000 ppm	Colorless liquid with an irritating, terpene-like odor	MW: 66.1 BP: 107°F Sol: Insoluble Fl.P(oc): 77°F IP: 8.56 eV	VP: ? FRZ: -121°F UEL: ? LEL: ?	Strong oxidizers [Note: Polymerizes to dicyclopentadiene upon standing]	Chrom- 104*; Ethyl acetate; GC/FID, III [#2523]
	1 ppm = 2.75 mg/m ³				Sp.Gr: 0.80 Class IB Flammable Liquid			