

DEPARTMENT OF LABOR AND INDUSTRIAL RELATIONS

Amendments to Chapters 12-50, 12-77.1, 12-83.1,
12-89.1, 12-170 and 12-202
Hawaii Administrative Rules

Date

1. Section 12-50-9, Hawaii Administrative Rules,
is amended to read as follows:

"§12-50-9 Incorporation by reference.

Incorporation of federal standard. Title 29, Code of Federal Regulations, section 1910.6, entitled "Incorporation by reference" published by the Office of the Federal Register, National Archives and Records Administration, on June 27, 1974; and the amendments published on February 10, 1984; March 7, 1996; March 23, 1999; [and] September 13, 2005[,]; and February 14, 2007, are made a part of this section." [Eff 2/14/00; am 12/29/00; am 3/31/06; am] (Auth: HRS §396-4) (Imp: HRS §396-4)

2. Section 12-77.1-1, Hawaii Administrative Rules, is amended to read as follows:

"§12-77.1-1 Incorporation of federal standard.

The following provisions of Title 29, Code of Federal Regulations, published by the Office of the Federal Register, National Archives and Records Administration, are made part of this chapter:

- 1) Section 1910.265, entitled "Sawmills", published on June 27, 1974; and the amendments published on May 28, 1975; October 24, 1978; November 7, 1978; April 12, 1988; August 6, 1990; March 7, 1996; [and] June 18, 1998; and September 13, 2005 [and April 3, 2006;]; and

2) Section 1910.266, entitled "Logging Operations" published on October 12, 1994; and the amendments published on February 8, 1995; August 9, 1995; September 8, 1995; [and] March 7, 1996; and April 3, 2006, except as provided in section 12-77.1-2." [Eff 8/10/95; am 1/16/96; am 11/16/96; am 3/29/99; am 3/31/06; am](Auth: HRS §396-4) (Imp: HRS §396-4)

3. Section 12-83.1-1, Hawaii Administrative Rules, is amended to read as follows:

"§12-83.1-1 Incorporation of federal standard.
Title 29, Code of Federal Regulations, Subpart F, entitled "Powered Platforms, Manlifts and Vehicle-Mounted Work Platforms" published by the Office of the Federal Register, National Archives and Records Administration, on June 27, 1974; and the amendments published on March 26, 1975; October 24, 1978; September 29, 1986; June 7, 1989; July 28, 1989; August 6, 1990; [and] March 7, 1996[,]; and February 14, 2007, are made a part of this chapter." [Eff 12/29/01; am] (Auth: HRS §396-4) (Imp: HRS §396-4)

4. Section 12-89.1-1, Hawaii Administrative Rules, is amended to read as follows:

"§12-89.1-1 Incorporation of federal standard.
Title 29, Code of Federal Regulations, Subpart S, entitled "Electrical" published by the Office of the Federal Register, National Archives and Records Administration, on January 16, 1981; and the amendments published on August 7, 1981; January 16, 1982; April 12, 1988; August 6, 1990; November 1, 1990; [and] January 31, 1994; and February 14, 2007, are made a part of this chapter, except as provided in section 12-89.1-2." [Eff 2/14/00; 12/29/00; am] (Auth: HRS §396-4) (Imp: HRS §396-4)

5. Section 12-170-1, Hawaii Administrative Rules, is amended to read as follows:

"§12-170-1 Incorporation of federal standard.

Title 29, Code of Federal Regulations, Part 1915 entitled "Occupational Safety and Health Standards for Shipyard Employment", published by the Office of the Federal Register, National Archives and Records Administration, on April 20, 1982; and the amendments published on April 30, 1984; July 7, 1986; September 29, 1986; August 24, 1987; April 27, 1988; February 15, 1989; June 7, 1989; September 14, 1992; October 30, 1992; April 23, 1993; January 3, 1994; February 9, 1994; July 19, 1994; July 25, 1994; August 10, 1994; December 22, 1994; February 21, 1995; March 16, 1995; June 28, 1995; June 29, 1995; July 13, 1995; September 29, 1995; February 13, 1996; March 7, 1996; May 24, 1996; June 13, 1996; June 20, 1996; August 23, 1996; November 4, 1996; January 10, 1997; June 20, 1997; March 19, 1998; June 29, 1998; December 1, 1998; March 1, 1999; July 3, 2002; September 15, 2004; January 5, 2005; March 21, 2005; February 28, 2006; April 3, 2006; June 23, 2006; August 24, 2006; and October 17, 2006, are made a part of this chapter." [Eff 3/23/01; am 1/10/03; am 9/01/05; am 3/31/06; am 12/21/2006; am] (Auth: HRS §396-4) (Imp: HRS §396-4)

6. Section 12-202-4.02, Hawaii Administrative Rules, is amended to read as follows:

"TABLE 202-1 Limits for Air Contaminants¹

Substance	CAS No. ^b	Air Contaminant Limits**						
		PEL-TWA*		PEL-STEL ^a		PEL-CEILING		Skin Designation
		ppm ^c	Mg/m ^{3d}	ppm ^c	Mg/m ^{3d}	ppm ^c	Mg/m ^{3d}	
Acetaldehyde	75-07-0	200	180	150	270	-	-	-
Acetic acid	64-19-7	10	25	15	37	-	-	-
Acetic anhydride	108-24-7	-	-	-	-	5	20	-
Acetone	67-64-1	750	1,780	1,000	2,375	-	-	-
Acetonitrile	75-05-8	40	70	60	105	-	-	X
2-Acetylaminofluorene	53-96-3	See §12-202-14.1						

Acetylene dichloride		See 1,2-Dichloroethylene						
Acetylene tetrabromide	79-27-6	1	14	1.5	20	-	-	-
Acetylsalicylic acid (Aspirin)	50-78-2	-	5	-	-	-	-	-
Acrolein	107-02-8	0.1	0.25	0.3	0.8	-	-	-
Acrylamide	79-06-1	-	0.03	-	-	-	-	X
Acrylic acid	79-10-7	2	6	-	-	-	-	X
Acrylonitrile	107-13-1	See §12-202-30						
Aldrin	309-00-2	-	0.25	-	0.75	-	-	X
Allyl alcohol	107-18-6	2	5	4	10	-	-	X
Allyl chloride	107-05-1	1	3	2	6	-	-	-
Allyl glycidyl ether (AGE)	106-92-3	5	22	10	44	-	-	X
Allyl propyl disulfide	2179-59-1	2	12	3	18	-	-	-
∇- Alumina	1344-28-1							
Total dust		-	10	-	20	-	-	-
Respirable fraction		5	-	-	-	-	-	
Aluminum (as Al)								
Metal & oxide								
Total dust		-	10	-	20	-	-	-
Respirable fraction		-	5	-	-	-	-	-
Pyro powders		-	5	-	-	-	-	-
Welding fumes		-	5	-	-	-	-	-
Soluble salts		-	2	-	-	-	-	-
Alkyls		-	2	-	-	-	-	-
4-Aminodiphenyl	92-67-1	See §12-202-14.1						
2-Aminoethanol		See Ethanolamine						
2-Aminopyridine	504-29-0	0.5	2	2	4	-	-	-
Amitrole	61-82-5	-	0.2	-	-	-	-	
Ammonia	7664-41-7	25	18	35	27	-	-	-
Ammonium chloride Fume	12125-02-9	-	10	-	20	-	-	-
Ammonium sulfamate	7773-06-0							
Total dust		-	10	-	20	-	-	-
Respirable fraction		5	-	-	-	-	-	
n-Amyl acetate	628-63-7	100	525	150	800	-	-	-
sec-Amyl acetate	626-38-0	125	650	150	800	-	-	-
Aniline and homologs	62-53-3	2	8	5	20	-	-	X
Anisidine (o-, p-isomers)	29191-52-4	0.1	0.5	-	-	-	X	
Antimony and compounds (as Sb)	7440-36-0	-	0.5	-	-	-	-	-

Antimony trioxide	1309-64-4							
Handling and use, as Sb		-	0.5	-	-	-	-	-
ANTU (Alpha Naphthylthiourea)	86-88-4	-	0.3	-	0.9	-	-	-
Arsenic, organic compounds (as As)	7440-38-2	-	0.2	-	-	-	-	-
Arsenic, inorganic compounds, (as As)	7440-38-2	See §12-202-202-31						
Arsine	7784-42-1	0.05	0.2	-	-	-	-	-
Asbestos	Varies	See §12-206 and 12-145						
Asphalt (petroleum) fumes	8052-42-4	-	5	-	10	-	-	-
Atrazine	1912-24-9	-	5	-	-	-	-	-
Azinphos-methyl	86-50-0	-	0.2	-	0.6	-	-	X
Barium, soluble compounds (as Ba)	7440-39-3	-	0.5	-	-	-	-	-
Barium sulfate	7727-43-7							
Total dust		-	10	-	-	-	-	-
Respirable fraction	-	5	-	-	-	-	-	-
Benomy	117804-35-2							
Total dust		0.8	10	1.3	15	-	-	-
Respirable fraction	-	5	-	-	-	-	-	-
Benzene; see §12-202-36	71-43-2	See Table 202-2 for operations excluded						
Ben-zidine	92-87-5	See §12-202-14.1						
p-Benzoquinone		See Quinone						
Benzo(a)pyrene		See Coal tar pitch volatiles						
Benzoyl peroxide	94-36-0	-	5	-	-	-	-	-
Benzyl chloride	100-44-7	1	5	-	-	-	-	-
Beryllium and beryllium compounds (as Be)	7440-41-7	0.002		0.005		0.025		-
Biphenyl		See Diphenyl						
Bismuth telluride, Undoped	1304-82-1							
Total dust		-	10	-	20	-	-	-
Respirable fraction	-		5	-	-	-	-	-
Bismuth telluride, Se-doped		-	5	-	10	-	-	-
Borates, tetra, sodium salts								
Anhydrous	1330-43-4	-	1	-	-	-	-	-
Decahydrate	1303-96-4	-	5	-	-	-	-	-

Pentahydrate	12179-04-3	-	1	-	-	-	-	-
Boron oxide	1303-86-2							
total dust		-	10	-	20	-	-	-
Respirable fraction	-	-	-	-	-	-	-	
Boron tribromide	10294-33-4	-	-	-	-	1	10	-
Boron trifluoride	7637-07-2	-	-	-	-	1	3	-
Bromacil	314-40-9	1	10	2	20	-	-	-
Bromine	7726-95-6	0.1	0.7	0.3	2	-	-	-
Bromine pentafluoride	7789-30-2	0.1	0.7	0.3	2	-	-	-
Bromoform	75-25-2	0.5	5	-	-	-	-	X
Butadiene (1,3- Butadiene)	106-99-0	See §12-202-40						
Butane	106-97-8	800	1,900	-	-	-	-	-
Butanethiol		See Butyl mercaptan						
2-Butanone (Methyl ethyl ketone) (MEK)	8-93-3	200	590	300	885	-	-	-
2-Butoxyethanol	111-76-2	25	120	75	360	-	-	X
n-Butyl-acetate	123-86-4	150	710	200	950	-	-	-
sec-Butyl acetate	105-46-4	200	950	250	1,190	-	-	-
tert-Butyl acetate	540-88-5	200	950	250	1,190	-	-	-
Butyl acrylate	141-32-2	10	55	-	-	-	-	-
n-Butyl alcohol	71-36-3	-	-	-	-	50	150	X
sec-Butyl alcohol	78-92-2	100	305	150	455	-	-	-
tert-Butyl alcohol	75-65-0	100	300	150	450	-	-	-
Butylamine	109-73-9	-	-	-	-	5	15	X
tert-Butyl chromate (as CrO ₃)	1189-85-1	See [§12-202-42 ⁿ and §12-157-1] §12-202-42 ⁿ and §12-157-1 ⁿ						
n-Butyl glycidyl ether (BGE)	8-6-2426	25	135	-	-	-	-	-
n-Butyl lactate	138-22-7	5	25	-	-	-	-	-
Butyl mercaptan	109-79-5	0.5	1.5	-	-	-	-	-
o-sec Butylphenol	89-72-5	5	30	-	-	-	-	X
p-tert-Butyltoluene	98-51-1	10	60	20	120	-	-	-
Cadmium fume (as Cd)	7440-43-9	-	-	-	-	-	0.05	-
Cadmium dust (as Cd)	7440-43-9	-	0.05	-	-	-	0.2	-
Calcium carbonate	1317-65-3							
Total dust		-	10	-	20	-	-	-
Respirable fraction	-	5	-	-	-	-	-	
Calcium cyanamide	156-62-7	-	0.5	-	1	-	-	-
Calcium hydroxide	1305-62-0	5	-	-	-	-	-	-
Calcium oxide	1305-78-8	-	2	-	-	-	-	-
Calcium silicate	1344-95-2							
Total dust		-	10	-	-	-	-	-

Respirable fraction	-	5	-	-	-	-	-	-
Calcium sulfate	7778-18-9							
Total dust		-	10	-	-	-	-	-
Respirable fraction		-	5	-	-	-	-	-
Camphor, synthetic	76-22-2	0.3	2	-	-	-	-	-
Caprolactam	105-60-2							
Dust		-	1	-	3	-	-	-
Vapor & Aerosol		5	20	-	40	-	-	-
Captafol (DifolatanR)	2425-06-1	-	0.1	-	-	-	-	-
Captan	133-06-2	-	5	-	15	-	-	-
Carbaryl (SevinR)	63-25-2	-	5	-	10	-	-	-
Carbofuran (FuradanR)	1563-66-2	-	0.1	-	-	-	-	-
Carbon black	1333-86-4	-	3.5	-	7	-	-	-
Carbon dioxide	124-38-9	5,000	9,000	15,000	27,000	-	-	-
Carbon disulfide	75-15-0	4	12	12	36	-	-	X
Carbon monoxide	630-08-0	35	40			200	229	-
Carbon tetrabromide	558-13-4	0.1	1.4	0.3	4	-	-	X
Carbon tetrachloride	56-23-5	2	12.6	-	-	-	-	-
Carbonyl fluoride	353-50-4	2	5	5	15	-	-	-
Catechol (Pyrocatechol)	120-80-9	5	20	-	-	-	-	X
Cellulose	9004-34-6							
Total dust		-	10	-	20	-	-	-
Respirable fraction		-	5	-	-	-	-	-
Cesium hydroxide	21351-79-1	-	2	-	-	-	-	-
Chlordane	57-74-9	-	0.5	-	2	-	-	X
Chlorinated camphene	8001-35-2	-	0.5	-	1	-	-	X
Chlorinated diphenyl	55720-99-5	-	0.5	-	2	-	-	-
Oxide								
Chlorine	7782-50-5	0.5	1.5	1	3	-	-	-
Chlorine dioxide	10049-04-4	0.1	0.3	0.3	0.9	-	-	-
Chlorine trifluoride	7790-91-2	-	-	-	-	0.1	0.4	-
Chloroacetaldehyde	107-20-0	-	-	-	-	1	3	-
Chloroacetone	78-95-5	-	-	-	-	1	4	X
α - Chloroacetophenone	532-27-4	0.05	0.3	-	-	-	-	-
(Phenacyl chloride)								
Chloroacetyl chloride	79-04-9	0.05	0.2	-	-	-	-	-
Chlorobenzene	108-90-7	75	350	-	-	-	-	-
O-Chlorobenzylidene	2698-41-1	-	-	-	-	0.05	0.4	X
malononitrile								
Chlorobromomethane	74-97-5	200	1,050	250	1,300	-	-	-
2-Chloro-1,3-Butadiene		See β -Chloroprene						
Chlorodifluoromethane	75-45-6	1,000	3,500	1,250	4,375	-	-	-
Chlorodiphenyl (42%	53469-21-9	-	1	-	2	-	-	X

chlorine) (PCB)								
Chlorodiphenyl (54% Chlorine) (PCB)	11097-69-1	-	0.5	-	1	-	-	X
1-Chloro, 2,3-epoxypropane		See Ephichlorohydrin						
2-Chloroethanol		See Ethylene chlorohydrin						
Chloroethylene		See Vinyl chloride						
Chloroform (Trichloromethane)	67-66-3	2	9.78	-	-	-	-	-
Bis (Chloromethyl) ether	542-88-1	see §12-202-14.1						
Chloromethyl methyl ether	107-30-2	see §12-202-14.1						
1-Chloro-1-nitropropane	600-25-9	2	10	-	-	-	-	-
Chloropentafluoroethane	76-15-3	1,000	6,320	-	-	-	-	-
Chloropicrin	76-06-2	0.1	0.7	0.3	2	-	-	-
β-Chloroprene	126-99-8	10	35	-	-	-	-	X
o-Chlorostyrene	2039-87-4	50	285	75	428	-	-	-
o-Chlorotoluene	95-49-8	50	250	75	375	-	-	X
2-Chloro-6-(trichloromethyl) pyridine	1929-82-4							
Total dust		-	10	-	20	-	-	-
Respirable fraction		-	5	-	-	-	-	-
Chlorpyrifos	2921-88-2	-	0.2	-	0.6	-	-	X
Chromite ore processing (Chromate), (as Cr)		-	0.05	-	-	-	-	-
Chromium (II)	7440-47-3	-	0.5	-	-	-	-	-
Chromium (III) compounds (as Cr)	7440-47-3	-	0.5	-	-	-	-	-
Chromium (VI) compounds [Water soluble & Insoluble]	See [§12-202-42 and §12-157-1] §12-202-42 ^m and §12-157-1 ^m							
Chromium metal (as Cr)	7440-47-3	-	0.5	-	-	-	-	-
Chromyl chloride	14977-61-8	0.025	0.15	-	-	-	-	-
Chrysene		see Coal tar pitch volatiles						
Clopidol	2971-90-6							
Total dust		-	10	-	20	-	-	-
Respirable fraction	-	5	-	-	-	-	-	-
Coal dust (less than 5% SiO ₂), Respirable fraction		-	2	-	-	-	-	-
Coal dust (greater than or equal to 5%		-	0.1	-	-	-	-	-

SiO ₂), Respirable quartz fraction								
Coal tar pitch	65966-93-2	-	0.2f	-	-	-	-	-
volatiles (benzene soluble fraction), anthracene, BaP, phenanthrene, acridine, chrysene, pyrene								
Cobalt metal, dust, and fume (as Co)	7440-48-4	-	0.05	-	-	-	-	-
Cobalt carbonyl (as Co)	10210-68-1	-	0.1	-	-	-	-	-
Cobalt hydrocarbonyl (as Co)	16842-03-8	-	0.1	-	-	-	-	-
Coke oven emissions		see §12-202-9						
Copper	7440-50-8							
Fume (as Cu)		-	0.1	-	-	-	-	-
Dusts and mists (as Cu)		-	1	-	2	-	-	-
Cotton dust (raw)		see §12-202-32						
Crag herbicide (Sesone) (Sodium 2,4-dichlorophenoxyethyl sulfate)	136-78-7							
Total dust		-	10	-	20	-	-	-
Respirable fraction	-	5	-	-	-	-	-	
Cresol, all isomers	1319-77-3	5	22	-	-	-	-	X
Crotonaldehyde	123-73-9	2	6	6	18	-	-	-
	4170-30-3							
Crufomate	299-86-5	-	5	-	20	-	-	-
Cumene	98-82-8	50	245	75	365	-	-	X
Cyanamide	420-04-2	-	2	-	-	-	-	-
Cyanides (as CN)	Varies with compound	-	5	-	-	-	-	X
Cyanogen	460-19-5	10	20	-	-	-	-	-
Cyanogen chloride	506-77-4	-	-	-	-	0.3	0.6	-
Cyclohexane	110-82-7	300	1,050	375	1,300	-	-	-
Cyclohexanol	108-93-0	50	200	-	-	-	-	X
Cyclohexanone	108-94-1	25	100	100	400	-	-	X
Cyclohexene	110-83-8	300	1,015	-	-	-	-	-
Cyclohexylamine	108-91-8	10	40	-	-	-	-	-
Cyclonite 121-82-4		-	1.5	-	3	-	-	X
Cyclopentadiene	542-92-7	75	200	75	200	-	-	-

Cyclopentane	287-92-3	600	1,720	900	2,580	-	-	-
Cyhexatin	13121-70-5	-	5	-	10	-	-	-
2,4-D (Dichloryl- phenoxyacetic acid)	94-75-7	-	10	-	20	-	-	-
DDT (Dichlorodiphenyl- trichloroethane)	50-29-3	-	1	-	3	-	-	X
Decaborane	17702-41-9	0.05	0.3	0.15	0.9	-	-	X
Demeton (SystoxR)	8065-48-3	-	0.1	0.03	0.3	-	-	X
Diacetone alcohol (4-hydroxy-4-methyl- 2-pentanone)	123-42-2	50	240	75	360	-	-	-
1,2-Diaminoethane		See Ethylenediamine						
Diazinon	333-41-5	-	0.1	-	0.3	-	-	X
Diazomethane	334-88-3	0.2	0.4	-	-	-	-	-
Diborane	19287-45-7	0.1	0.1	-	-	-	-	-
1,2-Dibromo- 3-chloropropane	96-12-8	see §12-202-29						
2-N-Dibutylamino- ethanol	102-81-8	2	14	4	28	-	-	X
Dibutyl phosphate	107-66-4	1	5	2	10	-	-	-
Dibutyl phthalate	84-74-2	-	5	-	10	-	-	-
Dichloroacetylene	7572-29-4	-	-	-	-	0.1	0.4	-
o-Dichlorobenzene	95-50-1	-	-	-	-	50	300	-
p-Dichlorobenzene	106-46-7	75	450	110	675	-	-	-
3,3'-Dichlorobenzidine	91-94-1	see §12-202-14.1						
Dichlorodifluoromethane	75-71-8	1,000	4,950	1,250	6,200	-	-	-
1,3-Dichloro-5,5- dimethyl hydantoin	118-52-5	-	0.2	-	0.4	-	-	-
1,1-Dichloroethane	75-34-3	100	400	250	1,010	-	-	-
1,2-Dichloroethylene	540-59-0	200	790	250	1,000	-	-	-
Dichloroethyl ether	111-44-4	5	30	10	60	-	-	X
Dichloromethane		See Methylene chloride						
Dichloromonofluoro- methane	75-43-4	10	40	-	-	-	-	-
1,1-Dichloro-1-nitro- ethane	594-72-9	2	10	10	60	-	-	-
1,2-Dichloropropane		See Propylene dichloride						
1,3-Dichloropropene	542-75-6	1	5	-	-	-	-	X
2,2-Dichloropropionic acid	75-99-0	1	6	-	-	-	-	-
Dichlorotetrafluoro- ethane	76-14-2	1,000	7,000	1,250	8,750	-	-	-
Dichlorvos (DDVP)	62-73-7	0.1	1	0.3	3	-	-	X

Dicrotophos	141-66-2	-	0.25	-	-	-	-	X
Dicyclopentadiene	77-73-6	5	30	-	-	-	-	-
Dicyclopentadienyl iron	102-54-5							
Total dust		-	10	-	20	-	-	-
Respirable fraction	-	5	-	-	-	-	-	
Dieldrin	60-57-1	-	0.25	-	0.75	-	-	X
Diethanolamine	111-42-2	3	15	-	-	-	-	-
Diethylamine	109-89-7	10	30	25	75	-	-	-
2-Diethylaminoethanol	100-37-8	10	50	-	-	-	-	X
Diethylene triamine	111-40-0	1	4	-	-	-	-	-
Diethyl ether		See Ethyl ether						
Diethyl ketone	96-22-0	200	705	-	-	-	-	-
Diethyl phthalate	84-66-2	-	5	-	10	-	-	-
Difluorodibromomethane	75-61-6	100	860	150	1,290	-	-	-
Diglycidyl ether (DGE)	2238-07-5	0.1	0.5	-	-	-	-	-
Dihydroxybenzene		See Hydroquinone						
Diisobutyl ketone	108-83-8	25	150	-	-	-	-	-
Diisopropylamine	108-18-9	5		20	-	-	-	X
4-Dimethylaminoazo-	60-11-7	See §12-202-14.1						
benzene								
Dimethoxymethane		See Methylal						X
Dimethyl acetamide	127-19-5	10	35	15	50	-	-	X
Dimethylamine	124-40-3	10	18	10	50	-	-	-
Dimethylaminobenzene		See Xylidine						
Dimethylaniline	121-69-7	5	25	10	50	-	-	X
(N-Dimethyl-								
aniline								
Dimethylbenzene		See Xylene						
Dimethyl-1, 2-dibromo-	300-76-5	-	3	-	-	-	-	X
2,2-dichloroethyl								
phosphate								
Dimethylformamide	68-12-2	10	30	20	60	-	-	X
2,6-Dimethyl-4-								
heptanone		See Diisobutyl ketone						
1,1-Dimethylhydrazine	57-14-7	0.5	1	1	2	-	-	X
Dimethylphthalate	131-11-3	-	5	-	10	-	-	-
Dimethyl sulfate	77-78-1	0.1	0.5	-	-	-	-	X
Dinitolmide (3,5-	148-01-6	-	5	-	10	-	-	-
Dinitro-o-toluamide)								
Dinitrobenzene (all								
isomers) (alpha-)	528-29-0	0.15	1	0.5	1	-	-	X
(meta-)	99-65-0							
(para-)	100-25-4							

Dinitro-o-cresol	534-52-1	-	0.2	-	0.6	-	-	X
Dinitrotoluene	25321-14-6	-	1.5	-	5	-	-	X
Dioxane (Diethylene dioxide)	123-91-1	25	90	-	-	-	-	X
Dioxathion (Delnav)	78-34-2	-	0.2	-	-	-	-	X
Diphenyl (Biphenyl)	92-52-4	0.2	1.5	0.6	4	-	-	-
Diphenylamine	122-39-4	-	10	-	20	-	-	-
Diphenylmethane diisocyanate		See Methylene bispheny isocyanate						
Dipropylene glycol methyl ether	34590-94-8	100	600	150	900	-	-	X
Dipropyl ketone	123-19-3	50	235	-	-	-	-	-
Diquat	85-00-7	-	0.5	-	1	-	-	-
Di-sec-octyl phthalate (Di-2-ethylhexyl- phthalate)	117-81-7	-	5	-	10	-	-	-
Disulfiram	97-77-8	-	2	-	5	-	-	-
Disulfoton	298-04-4	-	0.1	-	0.3	-	-	X
2,6-Di-tert-butyl-p- cresol	128-37-0	-	10	-	20	-	-	-
Diuron	330-54-1	-	10	-	-	-	-	-
Divinyl benzene	1321-74-0	10	50	-	-	-	-	-
Emery	112-62-9							
Total dust		-	10	-	-	-	-	-
Respirable fraction		-	5	-	-	-	-	-
Endosulfan	115-29-7	-	0.1	-	0.3	-	-	X
Endrin	72-20-8	-	0.1	-	0.3	-	-	X
Epichlorohydrin	106-89-8	2	8	-	-	-	-	X
EPN	2104-64-5	-	0.5	-	2	-	-	X
1,2-Epoxypropane		See Propylene oxide						
2,3-Epoxy-1-propanol		See Glycidol						
Ethanethiol		See Ethyl mercaptan						
Ethanolamine	141-43-5	3	8	6	15	-	-	-
Ethion	563-12-2	-	0.4	-	-	-	-	X
2-Ethoxyethanol	110-80-5	5	19	-	-	-	-	X
2-Ethoxyethyl acetate (Cellosolve acetate)	111-15-9	5	27	-	-	-	-	X
Ethyl acetate	141-78-6	400	1,400	-	-	-	-	-
Ethyl acrylate	140-88-5	5	20	25	100	-	-	X
Ethyl alcohol (Ethanol)	64-17-5	1,000	1,900	-	-	-	-	-
Ethylamine	75-04-7	10	18	-	-	-	-	-
Ethyl amyl ketone (5-	541-85-5	25	130	-	-	-	-	-

Methyl-3-heptanone)								
Ethyl benzene	100-41-4	100	435	125	545	-	-	-
Ethyl bromide	74-96-4	200	890	250	1,110	-	-	-
Ethyl butyl ketone	106-35-4	50	230	75	345	-	-	-
(3-Heptanone)								
Ethyl chloride	75-00-3	1,000	2,600	1,250	3,250	-	-	-
Ethyl ether	60-29-7	400	1,200	500	1,500	-	-	-
Ethyl formate	109-94-4	100	300	-	-	-	-	-
Ethyl mercaptan	75-08-1	0.5	1	-	-	-	-	-
Ethyl silicate	78-10-4	10	85	-	-	-	-	-
Ethylene chlorohydrin	107-07-3	-	-	-	-	1	3	X
Ethylenediamine	107-15-3	10	25	-	-	-	-	-
Ethylene dibromide	106-93-4	20	see §12-202-34				30	X
excluded		See Table 202-2 for operations						
Ethylene dichloride	107-06-2	1	4	2	8	-	-	-
Ethylene glycol, vapor	107-21-1	-	-	-	-	50	125	-
Ethylene glycol	628-96-6	0.05	0.3	-	0.1	-	-	X
dinitrate (EGDN)1								
Ethylene glycol methyl acetate		See Methyl cellosolve acetate						
Ethylene imine	151-56-4	See §12-202-14.1						
Ethylene oxide	75-21-8	See §12-202-35						
Ethylidene chloride		See 1, 1-Dichloroethane						
Ethylidene norbornene	16219-75-3	-	-	-	-	5	25	-
N-Ethylmorpholine	100-74-3	5	23	-	-	-	-	X
Fenamiphos	22224-92-6	-	0.1	-	-	-	-	X
Fensulfothion	115-90-2	-	0.1	-	-	-	-	-
(Dasanit)								
Fenthion	55-38-9	-	0.2	-	-	-	-	X
Ferbam1	4484-64-1							
Total dust		-	10	-	20	-	-	-
Respirable fraction		-	-	-	-	-	-	-
Ferrovandium dust	12604-58-9	-	1	-	3	-	-	-
Fibrous glass dust	-	-	10 ^h	-	-	-	-	-
Fluorides (as F)	Varies with compound	-	2.5	-	-	-	-	-
Fluorine	7782-41-4	0.1	0.2	-	-	-	-	-
Fluorotrichloro-methane (Trichloro-fluoromethane)	75-69-4	-	-	-	-	1,000	5,600	-
Fonofos	944-22-9	-	0.1	-	-	-	-	X
Formaldehyde	50-00-0	See §12-202-37						
Formamide	75-12-7	10	15	-	-	-	-	-

Formic acid	64-18-6	5	9	10	18	-	-	-
Furfural	98-01-1	2	8	-	-	-	-	X
Furfuryl alcohol	98-00-0	10	40	15	60	-	-	X
Gasoline	8006-61-9	300	900	-	-	-	-	-
Germanium tetrahydride	7782-65-2	0.2	0.6	0.6	1.8	-	-	-
Glutaraldehyde	111-30-8	-	-	-	-	0.2	0.7	-
Glycerin (mist)	56-81-5							
Total dust		-	10	-	-	-	-	-
Respirable fraction	-	5	-	-	-	-	-	
Glycidol	556-52-5	25	75	-	-	-	-	-
Glycol monoethyl ether		See 2-Ethoxyethanol						
Grain dust (oat, wheat, barley)	-	-	10	-	-	-	-	-
Graphite, natural respirable dust	7782-42-5	-	2.5	-	-	-	-	-
Graphite, synthetic Total dust		-	10	-	-	-	-	-
Respirable fraction	-	5	-	-	-	-	-	
GuthionR		See Azinphos methyl						
Gypsum	13397-24-5							
Total dust		-	10	-	20	-	-	-
Respirable fraction	-	5	-	-	-	-	-	
Hafnium 7440-58-6		-	0.5	-	1.5	-	-	-
Heptachlor	76-44-8	-	0.5	-	2	-	-	X
Heptane (n-Heptane)	142-82-5	400	1,600	500	2,000	-	-	-
Hexachlorobutadiene	87-68-3	0.02	0.24	-	-	-	-	-
Hexachlorocyclo- pentadiene	77-47-4	0.01	0.1	0.03	0.3	-	-	-
Hexachloroethane	67-72-1	1	10	-	-	-	-	X
Hexachloronaphthalene	1335-87-1	-	0.2	-	0.6	-	-	X
Hexafluoroacetone	684-16-2	0.1	0.7	0.3	2	-	-	X
n-Hexane	110-54-3	50	180	-	-	-	-	-
Hexane isomers	Varies with compound	500	1,800	-	-	-	-	-
2-Hexanone (Methyl n-butyl ketone)	591-78-6	5	20	-	-	-	-	-
Hexone (Methyl isobutyl ketone)	108-10-1	50	205	75	300	-	-	-
sec-Hexyl acetate	108-84-9	50	300	-	-	-	-	-
Hexylene glycol	107-41-5	-	-	-	-	25	125	-
Hydrazine	302-01-2	0.1	0.1	-	-	-	-	X
Hydrogenated Terphenyls	61788-32-7	0.5	5	-	-	-	-	-
Hydrogen bromide	10035-10-6	-	-	-	-	3	10	-

Hydrogen chloride	7647-01-0	-	-	-	-	5	7	-
Hydrogen cyanide	74-90-8	-	-	4.7	5	-	-	X
Hydrogen fluoride	7664-39-3	3	-	6	-	-	-	-
(as F)								
Hydrogen peroxide	7722-84-1	1	1.4	2	3	-	-	-
Hydrogen selenide	7783-07-5	0.05	0.2	-	-	-	-	-
(as Se)								
Hydrogen sulfide	7783-06-4	10	14	15	21	-	-	-
Hydroquinone	123-31-9	-	2	-	4	-	-	-
2-Hydroxypropyl	999-61-1	0.5	3	-	-	-	-	X
acrylate								
Indene	95-13-6	10	45	15	70	-	-	-
Indium and compounds	7440-74-6	-	0.1	-	0.3	-	-	-
(as In)								
Iodine	7553-56-2	-	-	-	-	0.1	1	-
Iodoform	75-47-8	0.6	10	1	20	-	-	-
Iron oxide dust and	1309-37-1							
fume (as Fe)								
Total particulate	-	5	-	10	-	-	-	-
Iron pentacarbonyl		0.1	0.8	0.2	1.6	-	-	-
(as Fe)13463-40-6								
Iron salts (soluble)		-	1	-	2	-	-	-
(as Fe)Varies with								
compound								
Isoamyl acetate	123-92-2	100	525	125	655	-	-	-
Isoamyl alcohol	123-51-3	100	360	125	450	-	-	-
(primary and								
secondary)								
Isobutyl acetate	110-19-0	150	700	187	888	-	-	-
Isobutyl alcohol	78-83-1	50	150	75	225	-	-	-
Isooctyl alcohol	26952-21-6	50	270	-	-	-	-	X
Isophorone	78-59-1	4	23	-	-	5	28	-
Isophorone diiso-	4098-71-9	0.005	0.045	0.02	-	-	-	X
cyanate								
2-Isopropoxyethanol	109-59-1	25	105	75	320	-	-	-
Isopropyl acetate	108-21-4	250	950	310	1,185	-	-	-
Isopropyl alcohol	67-63-0	400	980	500	1,225	-	-	-
Isopropylamine	75-31-0	5	12	10	24	-	-	-
N-Isopropylaniline	768-52-5	2	10	-	-	-	-	X
Isopropyl ether	108-20-3	250	1,050	310	1,320	-	-	-
Isopropyl glycidyl	4016-14-2	50	240	75	360	-	-	-
ether (IGE)								
Kaolin	-							

Total dust		-	10	-	20	-	-	-
Respirable fraction	-	5	-	-	-	-	-	
Ketene	463-51-4	0.5	0.9	1.5	3	-	-	-
Lead chromate, as Cr								
Lead inorganic (as Pb)	7439-92-1	See §12-202-33.1 and 12-148.1						
Limestone	1317-65-3							
Total dust		-	10	-	20	-	-	-
Respirable fraction	-	5	-	-	-	-	-	
Lindane	58-89-9	-	0.5	-	1.5	-	-	X
Lithium hydride	7580-67-8	-	0.025	-	-	-	-	-
L.P.G. (Liquefied petroleum gas)	68476-85-7	1,000	1,800	1,250	2,250	-	-	-
Magnesite	546-93-0							
Total dust		-	10	-	20	-	-	-
Respirable fraction	-	5	-	-	-	-	-	
Magnesium oxide fume	1309-48-4							
Total particulate		-	10	-	-	-	-	-
Malathion	121-75-5							
Total dust		-	10	-	-	-	-	X
Maleic anhydride	108-31-6	0.25	1	-	-	-	-	-
Manganese compounds (as Mn)	7439-96-5	-	-	-	-	-	5	-
Manganese fume (as Mn)	7439-96-5	-	1	-	3	-	-	-
Manganese cyclopenta- dienyl tricarbonyl (as Mn)	12079-65-1	-	0.1	-	0.3	-	-	X
Manganese tetroxide (as Mn)	1317-35-7	-	1	-	-	-	-	-
Marble (Calcium carbonate)	1317-65-3							
Total dust		-	10	-	20	-	-	-
Respirable fraction		-	5	-	-	-	-	-
Mercury (aryl and inorganic) (as Hg)	7439-97-6	-	-	-	-	-	0.1	X
Mercury (organo) alkyl compounds (as Hg)	7439-97-6	-	0.01	-	0.03	-	-	X
Mercury (vapor) (as Hg)	7439-97-6	-	0.05	-	-	-	-	X
Mesityl oxide	141-79-7	15	60	25	100	-	-	-
Methacrylic acid	79-41-4	20	70	-	-	-	-	X

Methanethiol		See Methyl mercaptan						
Methomyl (Lannate)	16752-77-5	-	2.5	-	-	-	-	-
Methoxychlor	72-43-5							
Total dust		-	10	-	-	-	-	-
2-Methoxyethanol	150-76-5	See Methyl cellosolve						
4-Methoxyphenol								
Methyl acetate	79-20-9	200	610	250	760	-	-	-
Methyl acetylene	74-99-7	1,000	1,650	1,250	2,040	-	-	-
(Propyne)								
Methyl acetylene-	-	1,000	1,800	1,250	2,250	-	-	-
propadiene mixture								
(MAPP)								
Methyl acrylate	96-33-3	10	35	-	-	-	-	X
Methylacrylonitrile	126-98-7	1	3	2	6	-	-	X
Methylal (Dimethoxy-	109-87-5	1,000	3,100	1,250	3,875	-	-	-
methane)								
Methyl alcohol	67-56-1	200	260	250	325	-	-	X
(methanol)								
Methylamine	74-89-5	10	12	-	-	-	-	-
Methyl amyl alcohol		See Methyl isobutyl carbinol						
Methyl n-amyl ketone	110-43-0	50	235	-	-	-	-	-
N-Methyl aniline	100-61-8	0.5	2	1	5	-	-	X
Methyl bromide	74-83-9	5	20	15	60	-	-	X
Methyl n-butyl ketone		See 2 - Hexanone						
Methyl cellosolve	109-86-4	5	16	-	-	-	-	X
(2-Methoxyethanol)								
Methyl cellosolve	110-49-6	5	24	-	-	-	-	X
acetate								
(2-Methoxyethyl								
acetate)								
Methyl chloride	74-87-3	50	105	106	205	200	-	-
Methyl chloroform	71-55-6	350	1,900	450	2,450	-	-	-
(1,1,1-Trichloro-								
ethane)								
Methyl 2-cyanoacrylate	137-05-3	2	8	4	16	-	-	-
Methylcyclohexane	108-87-2	400	1,600	500	2,000	-	-	-
Methylcyclohexanol	25639-42-3	50	235	75	350	-	-	-
o-Methylcyclohexanone	538-60-8	50	230	75	345	-	-	X
2-Methylcyclo-	12108-13-3	-	0.2	-	0.6	-	-	X
pentadienyl								
manganese								
tricarbonyl (as Mn)								
Methyl demeton	8022-00-2	-	0.5	-	1.5	-	-	X

4,4'-Methylene bis (2-chloroaniline) (MBOCA)	101-14-4	0.02	0.22	-	-	-	-	X
Methylene bis (4- cyclohexyliso- cyanate)	5124-30-1	-	-	-	-	0.01	0.11	-
Methylene chloride	75-09-2	See §12-202-41						
4,4'-Methylene dianiline;	101-77-9	See §12-202-38 and 12-146						
Methyl ethyl ketone (MEK)		See 2-Butanone						
Methyl ethyl ketone peroxide (MEKP)	1338-23-4	-	-	-	-	0.2	1.5	-
Methyl formate	107-31-3	100	250	150	375	-	-	-
Methyl hydrazine (Mono-methyl hydrazine)	60-34-4	-	-	-	-	0.2	0.35	X
Methyl iodide	74-88-4	2	10	-	-	-	-	X
Methyl isoamyl ketone	110-12-3	50	240	-	-	-	-	-
Methyl isobutyl carbinol	108-11-2	25	100	-	-	-	-	X
Methyl isobutyl ketone			See Hexone					
Methyl isocyanate	624-83-9	0.02	0.05	-	-	-	-	X
Methyl isopropyl Ketone	563-80-4	200	705	-	-	-	-	-
Methyl mercaptan	74-93-1	0.5	1	-	-	-	-	-
Methyl methacrylate	80-62-6	100	410	-	-	-	-	-
Methyl parathion	298-00-0	-	0.2	-	0.6	-	-	X
Methyl propyl ketone		See 2-Pentanone						
Methyl silicate	681-84-5	1	6	-	-	-	-	-
α- Methyl styrene	98-83-9	50	240	100	485	-	-	-
Methylene bisphenyl isocyanate (MDI)	101-68-8	-	-	-	-	0.02	0.2	-
Metribuzin	21087-64-9	-	5	-	-	-	-	-
MevinphosR		See Phosdrin						
Mica		See Silicates						
Molybdenum (as Mo) Soluble compounds	7439-98-7	-	5	-	10	-	-	-
Insoluble compounds								
Total dust		-	10	-	20	-	-	-
Monocrotophos (AzodrinR)	6923-22-4	-	0.25	-	-	-	-	-

Monomethyl aniline (N-Methylaniline)	100-61-8	0.5	2	-	-	-	-	X
Morpholine	110-91-8	20	70	30	105	-	-	X
Naled 300-76-5		-	3	-	6	-	-	X
Naphtha (Coal tar)	8030-30-6	100	400	-	-	-	-	-
Naphthalene	91-20-3	10	50	15	75	-	-	-
α -Naphthylamine	134-32-7	See §12-202-14.1						
β -naphthylamine	91-59-8	See §12-202-14.1						
Nickel carbonyl (as Ni)	13463-39-3	0.001	0.007	-	-	-	-	-
Nickel, metal and insoluble compounds (as Ni) 7440-02-0		-	1	-	-	-	-	-
Nickel, soluble compounds (as Ni)	7440-02-0	-	0.1	-	0.3	-	-	-
Nickel sulfide roasting, fume & dust, (as Ni)	-	-	1	-	-	-	-	-
Nicotine	54-11-5	-	0.5	-	1.5	-	-	X
Nitrapyrin	1929-82-4	-	10	-	20	-	-	-
Nitric acid	7697-37-2	2	5	4	10	-	-	-
Nitric oxide	10102-43-9	25	30	35	45	-	-	-
p-Nitroaniline	100-01-6	-	3	-	-	-	-	X
Nitrobenzene	98-95-3	1	5	2	10	-	-	X
p-Nitrochlorobenzene	100-00-5	0.1	0.6	-	-	-	-	X
4-Nitrodiphenyl	92-93-3	See §12-202-14.1						
Nitroethane	79-24-3	100	310	150	465	-	-	-
Nitrogen dioxide	10102-44-0	3	6	5	9.4	-	-	-
Nitrogen trifluoride	7783-54-2	10	29	15	45	-	-	-
Nitroglycerin (NG) ⁺	55-63-0	-	-	-	0.1	-	-	X
Nitromethane	75-52-5	100	250	150	375	-	-	-
1-Nitropropane	108-03-2	25	90	35	135	-	-	-
2-Nitropropane	79-46-9	10	35	-	-	-	-	-
N-Nitrosodi- methylamine	62-79-9	See §12-202-14.1						
Nitrotoluene o-isomer	88-72-2;	2	11	-	-	-	-	X
m-isomer	99-08-1;	2	11	-	-	-	-	X
p-isomer	99-99-0	2	11	-	-	-	-	X
Nitrotrichloromethane		See Chloropicrin						
Nitrous oxide	10024-97-2	50	91	-	-	-	-	-
Nonane	111-84-2	200	1,050	250	1,300	-	-	-
Octachloronaphthalene	2234-13-1	-	0.1	-	0.3	-	-	X

Octane	111-65-9	300	1,450	375	1,800	-	-	-
Oil mist, mineral	8012-95-1	- 5i	-	10i	-	-	-	-
Osmium tetroxide (as Os)	20816-12-0	0.0002	0.002	0.0006	0.006	-	-	-
Oxalic acid	144-62-7	-	1	-	2	-	-	-
Oxygen difluoride	7783-41-7	-	-	-	-	0.05	0.11	-
Ozone	10028-15-6	0.1	0.2	0.3	0.6	-	-	-
Paraffin wax fume	8002-74-2	-	2	-	6	-	-	-
Paraquat, respirable dust	1910-42-5 2074-50-2	- -	0.1 0.1	- -	- -	- -	- -	X X
	4685-14-7	-	0.1	-	-	-	-	X
Parathion	56-38-2	-	0.1	-	0.3	-	-	X
Particulates not other wise regulated	-							
Total dust	-	-	10	-	-	-	-	-
Respirable fraction	-	-	5	-	-	-	-	-
Pentaborane	19624-22-7	0.005	0.01	0.015	0.03	-	-	-
Pentachloronaphthalene	1321-64-8	-	0.5	-	2	-	-	X
Pentachlorophenol	87-86-5	-	0.5	-	1.5	-	-	X
Pentaerythritol	115-77-5							
Total dust	-	-	10	-	20	-	-	-
Respirable fraction	-	5	-	-	-	-	-	-
Pentane	109-66-0	600	1,800	750	2,250	-	-	-
2-Pentanone (Methyl propyl ketone)	107-87-9	200	700	250	875	-	-	-
Perchloroethylene (Tetrachloro- ethylene)	127-18-4	25	170	200	1,340	-	-	-
Perchloromethyl mercaptan	594-42-3	0.1	0.8	-	-	-	-	-
Perchloryl fluoride	7616-94-6	3	14	6	28	-	-	-
Perlite	-							
Total dust	-	-	10	-	-	-	-	-
Respirable fraction	-	5	-	-	-	-	-	-
Petroleum distillates (Naphtha)	8002-05-9	400	1,600	-	-	-	-	-
Phenol	108-95-2	5	19	10	38	-	-	X
Phenothiazine	92-84-2	-	5	-	10	-	-	X
p-Phenylene diamine	106-50-3	-	0.1	-	-	-	-	X
Phenyl ether, vapor	101-84-8	1	7	2	14	-	-	-
Phenyl ether-biphenyl	-	1	7	-	-	-	-	-

mixture, vapor								
Phenylethylene		See Styrene						
Phenyl glycidyl ether (PGE)	122-60-1	1	6	-	-	-	-	-
Phenylhydrazine	100-63-0	5	20	10	45	-	-	X
Phenyl mercaptan	108-98-5	0.5	2	-	-	-	-	-
Phenylphosphine	638-21-1	-	-	-	-	0.05	0.25	-
Phorate	298-02-2	-	0.05	-	0.2	-	-	X
Phosdrin (Mevinphos [®])	7786-34-7	0.01	0.1	0.03	0.3	-	-	X
Phosgene (Carbonyl chloride)	75-44-5	0.1	0.4	-	-	-	-	-
Phosphine	7803-51-2	0.3	0.4	1	1.4	-	-	-
Phosphoric acid	7664-38-2	-	1	-	3	-	-	-
Phosphorus (yellow)	7723-14-0	-	0.1	-	0.3	-	-	-
Phosphorus oxychloride	10025-87-3	0.1	0.6	0.5	3	-	-	-
Phosphorus penta- Chloride	10026-13-8	-	1	-	3	-	-	-
Phosphorus penta- sulfide 1314-80-3	-	1	-	3	-	-	-	-
Phosphorus trichloride	7719-12-2	0.2	1.5	0.5	3	-	-	-
Phthalic anhydride	85-44-9	1	6	-	-	-	-	-
m-Phthalodinitrile	626-17-5	5	-	-	-	-	-	-
Picloram	1918-02-1							
Total dust		-	10	-	20	-	-	-
Respirable fraction		5	-	-	-	-	-	-
Picric acid	88-89-1	-	0.1	-	0.3	-	-	X
Pindone (2-Pivalyl- 1,3-indandione)	83-26-1	-	0.1	-	0.3	-	-	-
Piperazine dihydro- chloride	142-64-3	5	-	-	-	-	-	-
Plaster of Paris	26499-65-0							
Total dust		-	10	-	-	-	-	-
Respirable fraction		-	5	-	-	-	-	-
Platinum (as Pt)	7440-06-4							
Metal		-	1	-	-	-	-	-
Soluble salts		-	0.002	-	-	-	-	-
Portland cement	65997-15-1							
Total dust		-	10	-	-	-	-	-
Respirable fraction		5	-	-	-	-	-	-
Potassium hydroxide	1310-58-3	-	-	-	-	-	2	-
Propane	74-98-6	1,000	1,800	-	-	-	-	-
Propargyl alcohol	107-19-7	1	2	3	6	-	-	X
β-Propranololactone	57-57-8	See §12-202-14.1						

Propionic acid	79-09-4	10	30	15	45	-	-	-
Propoxur (Baygon)	114-26-1	-	0.5	-	2	-	-	-
n-Propyl acetate	109-60-4	200	840	250	1,050	-	-	-
n-Propyl alcohol	71-23-8	200	500	250	625	-	-	X
n-Propyl Nitrate	627-13-4	25	105	40	170	-	-	-
Propylene dichloride	78-87-5	75	350	110	510	-	-	-
Propylene glycol dinitrate (PGDN)	6423-43-4	0.05	0.3	0.1	0.6	-	-	X
Propylene glycol mono- methyl ether	107-98-2	100	360	150	540	-	-	-
Propylene imine	75-55-8	2	5	-	-	-	-	X
Propylene oxide	75-56-9	20	50	-	-	-	-	-
n-Propyl nitrate	627-13-4	25	105	40	170	-	-	-
Propyne		See Methyl acetylene						
Pyrethrum	8003-34-7	-	5	-	10	-	-	-
Pyridine	110-86-1	5	15	10	30	-	-	-
Quinone	106-51-4	0.1	0.4	0.3	1	-	-	-
Resorcinol	108-46-3	10	45	20	90	-	-	-
Rhodium (as Rh), metal fume and insoluble compounds	7440-16-6	-	0.1	-	-	-	-	-
Rhodium (as Rh), soluble compounds	7440-16-6	-	0.001	-	-	-	-	-
Ronnel	299-84-3	-	10	-	-	-	-	-
Rosin core solder pyrolysis products, as formaldehyde	-	-	0.1	-	0.3	-	-	-
Rotenone (commercial)	83-79-4	-	5	-	10	-	-	-
Rouge Total dust	-	-	10	-	20	-	-	-
Respirable fraction	-	5	-	-	-	-	-	-
Rubber solvent (Naphtha)	-	400	1,600	-	-	-	-	-
Selenium compounds (as Se) 7782-49-2	-	0.2	-	-	-	-	-	-
Selenium hexafluoride (as Se)	7783-79-1	0.05	0.2	-	-	-	-	-
Sesone (Sodium 2,4- dichloro-phenoxy- ethyl sulfate)		See Crag herbicide						
Silane		See Silicone tetrahydride						
Silica, amorphous, precipitated and gel	-	-	6	-	-	-	-	-

Silica, amorphous, diatomaceous earth containing less than 1% crystalline silica61790-53-2	-	6	-	-	-	-	-	-
Silica, crystalline cristobalite (as quartz), respirable dust	14464-46-1	-	0.05	-	-	-	-	-
Silica, crystalline quartz (as quartz), respirable dust	14808-60-7	-	0.1	-	-	-	-	-
Silica, crystalline tripoli (as quartz), respirable dust	1317-95-9	-	0.1	-	-	-	-	-
Silica, crystalline tridymite (as quartz), respirable dust	15468-32-3	-	0.05	-	-	-	-	-
Silica, fused, respirable dust	60676-86-0	-	0.1	-	-	-	-	-
Silicates (less than 1% crystalline silica)								
Mica (respirable dust	12001-26-2	-	3	-	-	-	-	-
Soapstone, total dust	-	-	6	-	-	-	-	-
Soapstone, respirable dust	-	-	3	-	-	-	-	-
Talc (containing asbestos): use asbestos limit	-	See §12-202-13						
Talc (containing no asbestos), respirable dust	14807-96-6	-	2	-	-	-	-	-
Tremolite		See §12-202-13						
Silicon Total dust	7440-21-3	-	10	-	20	-	-	-
Respirable fraction	-	5	-	-	-	-	-	
Silicon carbide Total dust	409-21-2	-	10	-	20	-	-	-
Respirable fraction	-	5	-	-	-	-	-	

Silicon tetrahydride	7803-62-5	5	7	-	-	-	-	-
(Silane)								
Silver, metal and soluble compounds	7440-22-4	-	0.01	-	-	-	-	-
(as Ag)								
Soapstone		See Silicates						
Sodium azide	26628-22-8							
(as HN ₃)		-	-	-	-	0.1	-	X
(as NaN ₃)		-	-	-	-	-	0.3	X
Sodium bisulfite	7631-90-5	-	5	-	-	-	-	-
Sodium 2,4-dichlorophenoxyethyl sulfate		See Crag herbicide (see sessone)						
Sodium fluoroacetate	62-74-8	-	0.05	-	0.15	-	-	X
Sodium hydroxide	1310-73-2	-	-	-	-	-	2	-
Sodium metabisulfite	7681-57-4	-	5	-	-	-	-	-
Starch	9005-25-8							
Total dust		-	10	-	20	-	-	-
Respirable fraction		-	5	-	-	-	-	-
Stibine	7803-52-3	0.1	0.5	0.3	1.5	-	-	-
Stoddard solvent	8052-41-3	100	525	-	-	-	-	-
Strychnine	57-24-9	-	0.15	-	0.45	-	-	-
Styrene, monomer	100-42-5	50	215	100	425	-	-	-
Subtilisins (Proteolytic enzymes)	9014-01-1	-	-	-	0.00006 (60 min) ³	-	-	-
Sucrose	57-50-1							
Total dust		-	10	-	20	-	-	-
Respirable fraction		-	5	-	-	-	-	-
Sulfotep;		See TEDP						
Sulfur dioxide	7446-09-5	2	5	5	10	-	-	-
Sulfur hexafluoride	2551-62-4	1,000	6,000	1,250	7,500	-	-	-
Sulfuric acid	7664-93-9	-	1	-	3	-	-	-
Sulfur monochloride	10025-67-9	-	-	3	18	1	6	-
Sulfur pentafluoride	5714-22-7	-	-	0.075	0.75	0.01	0.1	-
Sulfur tetrafluoride	7783-60-0	-	-	0.3	1	0.1	0.4	-
Sulfuryl fluoride	2699-79-8	5	20	10	40	-	-	-
Sulprofos	35400-43-2	-	1	-	-	-	-	-
SystoxR		See Demeton 2,4,5-T						
Talc		See Silicates						
Tantalum, metal and oxide dust	7440-25-7	-	5	-	10	-	-	-
TEDP (Sulfotep)	3689-24-5	-	0.2	-	0.6	-	-	X
Tellurium and	13494-80-9	-	0.1	-	-	-	-	-

compounds (as Te)								
Tellurium hexafluoride	7783-80-4	0.02	0.2	-	-	-	-	-
(as Te)								
Temephos	3383-96-8							
Total dust		-	10	-	20	-	-	-
Respirable fraction			5	-	-	-	-	-
TEPP	107-49-3	0.004	0.05	0.01	0.2	-	-	X
Terphenyls	26140-60-3	-	-	-	-	0.5	5	-
1,1,1,2-Tetrachloro- 2,2-difluoroethane	76-11-9	500	4,170	625	5,210	-	-	-
1,1,2,2-Tetrachloro- 1,2-difluoroethane	76-12-0	500	4,170	625	5,210	-	-	-
1,1,2,2-Tetrachloro- ethane	79-34-5	1	7	-	-	-	-	X
Tetrachoroethylene		See Perchloroethylene						
Tetrachloromethane		See Carbon tetrachloride						
Tetrachloronaphthalene	1335-88-2	-	2	-	4	-	-	X
Tetraethyl lead (as Pb)	78-00-2	-	0.075k	-	0.3k	-	-	X
Tetrahydrofuran	109-99-9	200	590	250	735	-	-	-
Tetramethyl lead, (as Pb)	75-74-1	-	0.075k	-	0.5k	-	-	X
Tetramethyl succino- nitrile	3333-52-6	0.5	3	2	9	-	-	X
Tetranitromethane	509-14-8	1	8	-	-	-	-	-
Tetrasodium pyro- phosphate	7722-88-5	-	5	-	-	-	-	-
Tetryl (2,4,6- Trinitrophenyl- methyl-nitramine)	479-45-8	-	1.5	-	-	-	-	X
Thallium, soluble compounds (as Tl)	7440-28-0	-	0.1	-	-	-	-	X
4,4'-Thiobis (6-tert, butyl-m-cresol)	96-69-5							
Total dust		-	10	-	20	-	-	-
Respirable fraction		-	5	-	-	-	-	-
Thioglycolic acid	68-11-1	1	4	-	-	-	-	X
Thionyl chloride	7719-09-7	-	-	-	-	1	5	-
Thiram	137-26-8	-	1	-	-	-	-	-
Tin, inorganic compounds (except oxides) (as Sn)	7440-31-5	-	2	-	4	-	-	-

Tin, organic compounds (as Sn)	7440-31-5	-	0.1	-	0.2	-	-	X
Tin oxide (as Sn)	21651-19-4	-	2	-	4	-	-	-
Titanium dioxide	13463-67-7							
Total dust		-	10	-	20	-	-	-
Toluene (Toluol)	108-88-3	100	375	150	560	-	-	X
Toluene diisocyanate (TDI)	584-84-9	0.005	0.04	0.02	0.15	-	-	-
m-Toluidine	108-44-1	2	9	-	-	-	-	X
o-Toluidine	95-53-4	5	22	-	-	-	-	X
p-Toluidine	106-49-0	2	9	-	-	-	X	
Toxaphene		See Chlorinated camphene						
Tremolite		See Silicates						
Tributyl phosphate	126-73-8	0.2	2.5	0.4	5	-	-	-
Trichloroacetic acid	76-03-9	1	5	-	-	-	-	-
1,2,4-Trichlorobenzene	120-82-1	-	-	-	-	5	40	-
1,1,1-Trichloroethane		See Methyl chloroform						
1,1,2-Trichloroethane	79-00-5	10	45	20	90	-	-	X
Trichloroethylene	79-01-6	50	270	200	1,080	-	-	-
Trichloromethane								
Trichloronaphthalene	1321-65-9	-	5	-	10	-	-	X
1,2,3-Trichloropropane	96-18-4	10	60	75	450	-	-	X
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	1,000	7,600	1,250	9,500	-	-	-
Triethylamine	121-44-8	10	40	15	60	-	-	-
Trifluorobromomethane	75-63-8	1,000	6,100	1,200	7,300	-	-	
Trimellitic anhydride	552-30-7	0.005	0.04	-	-	-	-	-
Trimethylamine	75-50-3	10	24	15	36	-	-	-
Trimethyl benzene	25551-13-7	25	125	35	170	-	-	-
Trimethyl phosphite	121-45-9	2	10	5	25	-	-	-
2,4,6-Trinitrophenyl		See Picric acid						
2,4,6-Trinitrophenylmethyl nitramine		See Tetryl						
2,4,6-Trinitrotoluene (TNT)	118-96-7	-	0.5	-	-	-	-	X
Triorthocresyl phosphate	78-30-8	-	0.1	-	-	-	-	X
Triphenyl amine	603-34-9	-	5	-	-	-	-	-
Triphenyl phosphate	115-86-6	-	3	-	6	-	-	X
Tungsten (as W)	7440-33-7							
Insoluble compounds		-	5	-	10	-	-	-
Soluble compounds		-	1	-	3	-	-	-
Turpentine	8006-64-2	100	560	150	840	-	-	-

Uranium (as U)	7440-61-1							
Soluble compounds		-	0.05	-	-	-	-	-
Insoluble compounds		0.2	-	0.6	-	-	-	-
n-Valeraldehyde	110-62-3	50	175	-	-	-	-	-
Vanadium	1314-62-1							
Respirable dust (as V2O5)		0.05	-	-	-	-	-	-
Fume (as V2O5)		0.05	-	-	-	-	-	-
Vegetable oil mist								
Total dust		-	10	-	-	-	-	-
Respirable fraction		5		-	-	-	-	-
Vinyl acetate	108-05-4	10	30	20	60	-	-	-
Vinyl benzene		See Styrene						
Vinyl bromide	593-60-2	5	20	-	-	-	-	-
Vinyl chloride	75-01-4	See §12-202-28						
Vinylcyanide		See Acrylonitrile						
Vinyl cyclohexene dioxide	106-87-6	10	60	-	-	-	-	X
Vinylidene chloride (1,1-Dichloro- ethylene)	75-35-4	1	4	-	-	-	-	-
Vinyl toluene	25013-15-4	50	240	100	485	-	-	-
VM & P Naphtha	8032-32-4	300	1,350	400	1,800	-	-	-
Warfarin	81-81-2	-	0.1	-	0.3	-	-	-
Welding fumes (total particulate)		-	5	-	-	-	-	-
Wood dust:								
Certain hardwoods as beech & oak		-	1	-	-	-	-	-
All soft woods, (except Western red cedar)		-	5	-	10	-	-	-
Wood dust, Western red cedar		-	2.5	-	-	-	-	-
Xylenes (o-, m-, p- isomers)	1330-20-7	100	435	150	655	-	-	X
m-Xylene α , α' - diamine	1477-55-0	-	-	-	-	-	0.1	X
Xylidine	1300-73-8	0.5	2.5	-	-	-	-	X
Yttrium	7440-65-5	-	1	-	3	-	-	-
Zinc chloride fume	7646-85-7	-	1	-	2	-	-	-
Zinc chromate (as CrO ₃)	Varies with Compound	-	0.01	-	-	-	0.1	-

Zinc oxide fume	1314-13-2	-	5	-	10	-	-	-
Zinc oxide	1314-13-2							
Total dust		-	10	-	-	-	-	-
Respirable fraction	-	5	-	-	-	-	-	
Zinc stearate	557-05-1							
Total dust		-	10	-	20	-	-	-
Respirable fraction	-	5	-	-	-	-	-	
Zirconium compounds	7440-67-2	-	5	-	10	-	-	-
(as Zr)								

Footnotes to Table 202-1:

Air Contaminant Rule Limits are the most restrictive of the federal limits, ACGIH limits and existing DOSH limits.

- * The PEL-TWA's are 7- to 8-hour TWA's, unless otherwise noted.
- ** Unless otherwise noted, employers in General Industry (i.e., those covered by Part 2 of the DOSH standards) may use any combination of controls to achieve these limits, until December 31, 1992.
 - a. STEL duration is for 15 minutes, unless otherwise noted.
 - b. The CAS number is for information only. Enforcement is based on the substance name. For an entry covering more than one metal compound measured as the metal, the CAS number for the metal is given--not the CAS numbers for the individual compounds.
 - c. Ppm are in parts of vapor or gas per million parts of contaminated air by volume at 25°C and 760 torr.
 - d. Mg/m³ are approximate milligrams of substance per cubic meter of air.
 - e. The final benzene standard in section 12-202-36 applies to all occupational exposures to benzene except some sub segments of industry where exposures are consistently under the action level (e.g., distribution and sale of fuels, sealed containers and pipelines, coke production, oil and gas drilling and production, natural gas processing, and the percentage exclusion for liquid mixtures); for the excepted sub segments, the benzene limits in Table 202-2 apply.
 - f. Coal tar pitch volatiles mean the fused polycyclic hydrocarbons that volatilize from the distillation residues of coal, petroleum, (excluding asphalt,

- CAS 8052-42-4 and CAS 64742-93-4), wood, and other organic matter.
- g. Cotton dust refers to lint-free dust as measured by the vertical elutriator, cotton-dust sampler described in the Transactions of the National Conference on Dust, p. 33 by J.R. Lynch, (May 2, 1970). The PEL-TWA in the table applies to respirable dust as measured by a vertical elutriator cotton dust sampler or equivalent instrument. The time-weighted average applies to the cotton waste processing operations of waste cycling (sorting, blending, cleaning, and willowing) and garreting. See also section 12-202-32.
 - h. Fibrous glass dust means particles <7µm in diameter.
 - i. Oil mist as sampled by a method that does not collect vapor.
 - j. Compliance with the Subtilisins PEL-TWA is assessed by sampling with a high volume sampler (600-800 liters per minute) for at least 60 minutes.
 - k. For control of tetraethyl lead and tetramethyl lead in general room air, biologic monitoring is essential for personnel monitoring.
 - l. Most Occupational exposures to EGDN actually involve mixtures of EGDN and nitroglycerin (NG). This EGDN:NG mixture has a PEL-STEL of 0.1 mg/m³.
 - m. See Table Z-2 from the exposure [limits] limit for any operations or sectors where the exposure [limits] limit in §1910.1026 [are] is stayed or is otherwise not in effect.
 - n. If the exposure limit in §1910.1026 is stayed or is otherwise not in effect, the exposure limit is a ceiling of 0.1 mg/m³.

TABLE 202-2

Material	Industry Segments	Skin Designation	8-hour time-Weighted average	Ceiling Concentration
Benzene	(Z37.40-1969) ¹	-	10 ppm	25ppm
Beryllium and				

Beryllium compounds	(Z37.29-1970)	-	2 µg/m ³	5 µg/m ³
Chromic acid and Chromates(as CrO ₃) ²	(Z37.7-1971)			1mg/10m ³
Ethylene dibromide	(Z37.31-1970)	X	20 ppm	30 ppm
Methyl chloride	(Z37.18-1969)		100 ppm	200 ppm

¹This standard applies to the industry segments exempt from the 1 ppm 8-hour TWA and 5 ppm STEL of the benzene standard at section 12-202-36. This standard also applies to any industry for which section 12-202-36 is stayed or otherwise not in effect.

²This standard applies to any operations or sectors for which the [Hexavalent Chromium] exposure limit in the Chromium (VI) standard, §1910.1026 is stayed or is otherwise [is] not in effect." [Eff 3/22/91; am 6/8/92; am 5/2/97; am 4/11/98; am 12/21/06; am] (Auth: HRS §396-4) (Imp: HRS §396-4)

7. Material, except source notes, to be repealed is bracketed. New material is underscored.

8. Additions to update source notes to reflect these amendments are not underscored.

9. These amendments to chapters 12-50, 12-77.1, 12-83.1, 12-89.1, 12-170 and 12-202, Hawaii Administrative Rules, shall take effect ten days after filing with the Office of the Lieutenant Governor.

I certify that the foregoing are copies of the rules, drafted in the Ramseyer format pursuant to the requirements of section 91-4.1, Hawaii Revised Statutes, which were adopted on _____, and filed with the Office of the Lieutenant Governor.

NELSON B. BEFITEL, DIRECTOR
Department of Labor and
Industrial Relations

APPROVED AS TO FORM:

Deputy Attorney General