SKC Active Air Sampling Guide

The Essential Reference – In Print, Online, and Mobile

Welcome to the SKC Active Air Sampling Guide! Sampling information based on OSHA/NIOSH/ASTM/EPA/HSE methods for over 2500 compounds is now at your fingertips.

- **Easy to use**
  - Locate the chemical hazard of interest in the alphabetic listing to view:
    - Agency reference method
    - Method sampling parameters (agency standard, volume, flow rate, and time)
    - Analytical method
    - Collecting equipment listing and page reference
    - Reference number for online access to method summaries
- **Environmental methods are displayed in blue**
- **For Passive Samplers, see pages 68-86**
- **Available anywhere you are**
  - **Print:** See pages 144-211 in this catalog
  - **Online:** Access searchable guides at www.skcinc.com

Introduction

This guide includes most hazardous substances, including their current Workplace Exposure Limits at the time of printing (where applicable). For the most up-to-date version of this guide, please visit our website at www.skcltd.com. For a full list of Workplace Exposure Limits, please consult EH40, available from HSE books or www.hse.gov.uk. This guide should not be used as an alternative to obtaining a copy of EH40 and reading the full supplementary data it contains.

The following statements are taken directly from EH40 Workplace Exposure Limits.

Workplace Exposure Limits (WELs)

WELs are British occupational exposure limits and are set in order to help protect the health of workers. WELs are concentrations of hazardous substances in the air, averaged over a specified period of time, referred to as a time-weighted average (TWA). Two time periods are used: long-term (**8 hours**) and short-term (**15 minutes**).

Short-term exposure limits (STELs) are set to help prevent effects such as eye irritation, which may occur following exposure for a few minutes.

WELs and the Control of Substances Hazardous to Health Regulations 2002 (COSHH)

Substances that have been assigned a WEL are subject to the requirements of COSHH. These regulations require employers to prevent or control exposure to hazardous substances. For further information, go to www.hse.gov.uk/coshh. Under COSHH, control is defined as adequate only if a) the principles of good control practice are applied, b) any WEL is not exceeded, and c) exposure to asthmagens, carcinogens, and mutagens are reduced as low as is reasonably practicable.

The absence of a substance from the list of WELs does not indicate that it is safe. For these substances, exposure should be controlled to a level to which nearly all the working population could be exposed, day after day at work, without any adverse effects on health.

As part of the assessment required under regulation 6 of COSHH, employers should determine their own working practices and in-house standards for control of exposure. In some cases, there may be sufficient information available for employers to set an 'in-house' working standard, e.g., from manufacturers and suppliers of the substances, publications of industry associations, occupational medicine and hygiene journals, and other agencies such as NIOSH and OSHA.

		SAMPLING									
		WEL		Vol. (liter)		Rate (ml/min)		Time			
Chemical Hazard	Agency Reference	TWA (ppm)	STEL (ppm)	TWA	STEL	TWA	STEL	TWA (hr)	STEL (min)	Analytical Method	SKC Collecting Equipment and Page No.
Acetaldehyde	MDHS 102	20 ppm (37 mg/m³)	50 ppm (92 mg/m³)			1000		8	15	HPLC	CF/CST 225-9003 or ST 226-119 or ST 226-120 40
Acetaldehyde	MDHS 102	20 ppm (37 mg/m³)	50 ppm (92 mg/m³)	diffusive	diffusive	diffusive	diffusive			HPLC	PS 500-100 84
Acetic acid	MDHS 96			24		50		8		GC-FID	ST 226-01 38
Acetic anhydride	OSHA 102	0.5 ppm (2.5 mg/m³)	2 ppm (10 mg/m³)	7.5	7.5	50	500	2.5	15	GC-NPD	CF/CST 225-9010 64 C/HLD 225-1 102
Acetic anhydride	OSHA 82	0.5 ppm (2.5 mg/m³)	2 ppm (10 mg/m³)	0.75		50		15 min		GC-NPD	CF/CST 225-9009 C/HLD 225-1 102
Acetone	MDHS 88	500 pm (1210 mg/m³)	1500 ppm (3620 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 75
Acetone	MDHS 96	500 pm (1210 mg/m³)	1500 ppm (3620 mg/m³)	2	0.75	20	50	100 min	15	GC-FID	ST 226-01 38
Acetonitrile	MDHS 88	40 ppm (68 mg/m³)	60 ppm (102 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 75
Acetonitrile	MDHS 96	40 ppm (68 mg/m³)	60 ppm (102 mg/m³)	10		20 (50)		8 (3.3)		GC-FID	ST 226-09 38
o-Acetylsalicylic acid	MDHS 14/4	5 mg/m³		120		2000		8		GR	IOM 225-70A 108 FLT 225-58F 96
Acrolein (acrylaldehyde)	NIOSH 2501	0.1 ppm (0.23 mg/m³)	0.3 ppm (0.7 mg/m³)	24	3	50	200	8	15	GC-NPD	ST 226-118 40
Acrolein (acrylaldehyde)	OSHA 52	0.1 ppm (0.23 mg/m³)		48	3	100	200	8	15	GC-NPD	ST 226-117 40
Acrylamide	MDHS 57/2	0.3 mg/m³		50	3	100	200	8	15	HPLC-UV	IMP 225-36-1 67 IT 225-22 67
Acrylonitrile	MDHS 88	2 ppm (4.4 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 75
Acrylonitrile	MDHS 96	2 ppm (4.4 mg/m³)		24		50		8		GC-FID	ST 226-01 38
Allyl alcohol	MDHS 88	2 ppm (4.8 mg/m³)	4 ppm (9.7 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 75
Allyl alcohol	MDHS 96	2 ppm (4.8 mg/m³)	4 ppm (9.7 mg/m³)	10	3	20 (50)	200	8 (3.3)	15	GC-FID	ST 226-01 38
Aluminium alkyl compounds	OSHA ID-121	2 ppm		960		2000		8		AAS	F/CST 225-3-01 88 C/HLD 225-1 102
Aluminium metal (inhalable dust)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 108 FLT 225-58F 96
Aluminium metal (respirable dust)	MDHS 14/4	4 mg/m³		1056		2200		8		GR	IOM 225-70A 108 FOAM 225-772 or CYC 225-69 111 FLT 225-58F 96
Aluminium oxides (inhalable dust)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 108 FLT 225-58F 96
Aluminium oxides (respirable dust)	MDHS 14/4	4 mg/m³		1056		2000 (2200)		8		GR	IOM 225-70A 108 FOAM 225-772 or CYC 225-69 111 FLT 225-58F 96
Aluminium salts, soluble	OSHA ID-121	2 mg/m³		960		2000		8		AA or AES	F/CST 225-3-01 88 C/HLD 225-1 102
2-Aminoethanol	MDHS 96	1 ppm (2.5 mg/m³)	3 ppm (7.6 mg/m³)	10		20		8		GC-FID	ST 226-10-04 38
Ammonia, anhydrous	NIOSH 6015	25 ppm (18 mg/m³)	35 ppm (25 mg/m³)	72	3	150	200	8	15	VAS	ST 226-10-06 38 F/CST 225-3-01 88
Ammonia, anhydrous	NIOSH 6016	25 ppm (18 mg/m³)	35 ppm (25 mg/m³)	48	3	100	200	8	15	IC	ST 226-10-06 38 F/CST 225-3-01 88
Ammonium chloride (fume)	MDHS 14/4	10 mg/m³	20 mg/m³	960	30	2000	2000	8	15	GR, IC-ECN	IOM 225-70A 108 FLT 225-1930 93
Ammonium sulphamate	MDHS 14/4	10 mg/m³	20 mg/m³	960	30	2000	2000	8	15	GR	IOM 225-70A 108 FLT 225-1930 93
Aniline	MDHS 96	1 ppm (4 mg/m³)		200		20	200		100	GC-FID	ST 226-10 38
Antimony & compounds (as Sb)	MDHS 91/2	0.5 mg/m³				2000		8		XRF	IOM 225-70A 108 FLT 225-1930 88
p-Aramid respirable fibres	MDHS 87	0.5 fibres/ml		Refer to method						PCM	FLT/CL 225-54A 102 FLT 225-1913 88
Aromatic carboxylic acid anhydrides *(see individual compounds)*	MDHS 62/2									HPLC	IOM 225-70A 108 FLT 225-58F 96 ST 226-35 38

See page 212 for abbreviations.

Chemical Hazard	Agency Reference	SAMPLING WEL TWA (ppm)	WEL STEL (ppm)	Vol. (liter) TWA	Vol. (liter) STEL	Rate (ml/min) TWA	Rate (ml/min) STEL	Time TWA (hr)	Time STEL (min)	Analytical Method	SKC Collecting Equipment and Page No.
Arsenic & compounds (except arsine) as As	MDHS 91/2	0.1 mg/m³		240		2000		2		XRF	IOM 225-70A 108 FLT 225-1930 88
Arsine	NIOSH 6001	0.05 ppm (0.16 mg/m³)		10	3	20	200	8	15	AA-GF	ST 226-01 38
Asbestos (chrysotile alone)	MDHS *See HSG 248*		0.1	240	40	1000	4000	4	10	PCM	FLT/CL 225-54A 102 FLT 225-60F or FLT 225-1913 88
Asbestos, with crocidolite/amosite/mixtures	MDHS *See HSG 248*		0.1	240	40	1000	4000	4	10	PCM	FLT/CL 225-54A 102 FLT 225-60F or FLT 225-1913 88
Asphalt (petroleum fumes)	NIOSH 5042	5 mg/m³	10 mg/m³	360	60	1000	4000	6	15	GR	FLT 225-27-07 94 SP 225-27 103 F/CST 225-2LF 97
Azodicarbonamide	MDHS 92/2	1 mg/m³	3 mg/m³	960	30	2000	2000	8	15	HPLC	IOM 225-79A 108 FLT 225-58F 96 FLT 225-2708 94
Barium compounds (soluble) (as Ba)	MDHS 91/2	0.5 mg/m³		960		2000		8		XRF	IOM 225-70A 108 FLT 225-1930 88
Barium sulphate (inhalable dust)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 108 FLT 225-58F 96
Barium sulphate (respirable dust)	MDHS 14/4	4 mg/m³		1056		2200		8		GR	CYC 225-69 111 FLT 225-58F 96
Benzene	MDHS 72	1 ppm (3.25mg/m³)		2.5		5		8		TD, GC	ST 226-357 42
Benzene	MDHS 80	1 ppm (3.25mg/m³)		24		50		8		GC-ECD	ST 226-357 42
Benzene	MDHS 88	1 ppm (3.25mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 75
Benzene	MDHS 96	1 ppm (3.25mg/m³)		10	3	20	200	8	15	GC-FID	ST 226-01 38
Benzyl butyl phthalate	MDHS 96	5 mg/m³		50		10		8		GC-FID	ST 226-35 √ 38
Benzyl chloride	MDHS 88	0.5 ppm (2.6 mg/m³)	1.5 ppm (7.9 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 75
Benzyl chloride	MDHS 96	0.5 ppm (2.6 mg/m³)	1.5 ppm (7.9 mg/m³)	10	3	20	200	8	15	GC-FID	ST 226-01 38
Beryllium & compounds (as Be)	Contact SKC	0.002 mg/m³		960	120	2000	2000	8	60	AA	IOM 225-70A 108 FLT 225-1930 88
Bisphenol A	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 108 FLT 225-58F 96
Bornan-2-one	MDHS 88	2 ppm (13 mg/m³)	3 ppm (19 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 75
Bornan-2-one	MDHS 96	2 ppm (13 mg/m³)	3 ppm (19 mg/m³)	10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Boron tribromide	OSHA CSI		1 ppm (10 mg/m³)		5		1000		5	IC	IMP 225-36-2 or IMP 225-36-5 67 IT 225-22 67
Bromacil (ISO)	OSHA CSI	1 ppm (11 mg/m³)	2 ppm (22 mg/m³)	50		1000		50		HPLC-UV	IMP 225-36-1 67 IT 225-22 67
Bromine	NIOSH 6011	0.1 ppm (0.66 mg/m³)	0.2 ppm (1.3 mg/m³)	250	15	1000	1000	4	15	IC	CF/CST 225-9006 64 C/HLD 225-1 102
Bromomethane	OSHA PV2040	5 ppm (20 mg/m³)	15 ppm (59 mg/m³)	3		50		1		GC-FID	ST 226-83 § 40
1,3-Butadiene	MDHS 53/2	10 ppm (22 mg/m³)		5	7.5	10	500	8	15	GC-FID	ST 900 mg 13X MOLECULAR SIEVE
1,3-Butadiene	MDHS 80	10 ppm (22 mg/m³)		24		50		8		GC-ECD	ST 226-358 42
1,3-Butadiene	MDHS 88	10 ppm (22 mg/m³)		diffusive	diffusive	diffusive	diffusive	8	15	GC-FID	PS 575-001 75
1,3-Butadiene	MDHS 96	10 ppm (22 mg/m³)		10		20		8		GC-FID	ST 226-09 38
Butan-1-ol	MDHS 72		50 ppm (154 mg/m³)	24		50		8		TD, GC	ST 226-358 42
Butan-1-ol	MDHS 80		50 ppm (154 mg/m³)	24		50		8		GC-ECD	ST 226-358 42
Butan-1-ol	MDHS 88		50 ppm (154 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 75
Butan-1-ol	MDHS 96		50 ppm (154 mg/m³)	10	3	20-50	200	8	15	GC-FID	ST 226-01 38
Butan-2-ol	MDHS 72	100 ppm (308 mg/m³)	150 ppm (462 mg/m³)	24		50		8		TD, GC	ST 226-357 or ST 226-358 42
Butan-2-ol	MDHS 88	100 ppm (308 mg/m³)	150 ppm (462 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 75
Butan-2-ol	MDHS 96	100 ppm (308 mg/m³)	150 ppm (462 mg/m³)	10	3	20-50	200	8(3.3)	15	GC-FID	ST 226-01 38
Butan-2-one (MEK)	MDHS 88	200 ppm (600 mg/m³)	300 ppm (899 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 75
Butan-2-one (MEK)	MDHS 96	200 ppm (600 mg/m³)	300 ppm (899 mg/m³)	10	3	20-50	200	8(3.3)	15	GC-FID	ST 226-81A 39
Butane	OSHA CSI	600 ppm (1450 mg/m³)	750 ppm (1810 mg/m³)	10		20		8		TD, GC	ST 226-01 38
2-Butoxyethanol	MDHS 72	25 ppm	50 ppm	24		50		8		TD, GC	ST 226-358 42
2-Butoxyethanol	MDHS 80	25 ppm	50 ppm	24		50		8		GC-ECD	ST 226-358 42
2-Butoxyethanol acetate	MDHS 88	20 ppm (133 mg/m³)	50 ppm (332 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 or PS 575-002 75
n-Butyl acetate	MDHS 72	150 ppm (724 mg/m³)	200 ppm (966 mg/m³)	10	3	20	200	8	15	TD, GC	ST 226-358 38
n-Butyl acetate	MDHS 80	150 ppm (724 mg/m³)	200 ppm (966 mg/m³)	24		50		8		GC-ECD	ST 226-358 42
n-Butyl acetate	MDHS 88	150 ppm (724 mg/m³)	200 ppm (966 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 75
n-Butyl acetate	MDHS 96	150 ppm (724 mg/m³)	200 ppm (966 mg/m³)	10	3	20	200	8	15	GC-FID	ST 226-01 38
sec-Butyl acetate	MDHS 88	200 ppm (966 mg/m³)	250 ppm (1210 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 75
sec-Butyl acetate	MDHS 96	200 ppm (966 mg/m³)	250 ppm (1210 mg/m³)	10	0.75	20	50	8	15	GC-FID	ST 226-01 38
t-Butyl acetate	MDHS 72	200 ppm (966 mg/m³)	250 ppm (1210 mg/m³)	10	3	20	200	8	15	TD, GC	ST 226-358 38
t-Butyl acetate	MDHS 88	200 ppm (966 mg/m³)	250 ppm (1210 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 75
n-Butyl acrylate	MDHS 88	1 ppm (5 mg/m³)	5 ppm (26 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 75
Butyl carbitol	OSHA PV2095	10 ppm (67.5 mg/m³)	15 ppm (101.2 mg/m³)	10		200		50 min		GC-FID	ST 226-01 38
n-Butyl chloroformate	ASTM D6209	1 ppm (5.7 mg/m³)		varies		225		varies		GC-MS	ST 226-131 45
Butyl lactate	OSHA PV2080	5 ppm (30 mg/m³)		10		200		8		GC-FID	ST 226-01 38
2-sec-Butylphenol	OSHA PV2128	5 ppm (31 mg/m³)		20		200		100 min		HPLC-UV	ST 226-95 40
Cadmium & compounds (except oxide fume & sulphide pigments)	MDHS 91/2	0.025 mg/m³		960	30	2000	2000	8	15	XRF	IOM 225-70A 108 FLT 225-1930 88
Cadmium oxide fume (as Cd)	MDHS 91/2	0.025 mg/m³	0.05 mg/m³	960		2000		8		XRF	IOM 225-70A 108 FLT 225-1930 88
Cadmium sulphide & pigments (as Cd)	MDHS 91/2	0.03 mg/m³		960		2000		8		XRF	IOM 225-70A 108 FLT 225-1930 88
Caesium hydroxide	MDHS 91/2	2 mg/m³		960		2000		8		XRF	IOM 225-70A 108 FLT 225-1930 88

See page 212 for abbreviations.

Chemical Hazard	Agency Reference	SAMPLING								Analytical Method	SKC Collecting Equipment and Page No.
		WEL		Vol. (liter)		Rate (ml/min)		Time			
		TWA (ppm)	STEL (ppm)	TWA	STEL	TWA	STEL	TWA (hr)	STEL (min)		
Calcium carbonate (inhalable)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 108 FLT 225-58F 96
Calcium carbonate (respirable)	MDHS 14/4	4 mg/m³		1056		2000 (2200)		8		GR	IOM 225-70A 108 FOAM 225-772 or CYC 225-69 111 FLT 225-58F 96
Calcium cyanamide	OSHA ID-121	0.05 mg/m³	1 mg/m³	960		2000		8		AA or AES	F/CST 225-3-01 or F/CST 225-3100 88 C/HLD 225-1 102
Calcium hydroxide	NIOSH 7020	5 mg/m³		240		1000		4		AA-F	F/CST 225-3-01 or F/CST 225-3100 88 C/HLD 225-1 102
Calcium oxide	NIOSH 7020	2 mg/m³		240		1000		4		AA-F	F/CST 225-3-01 or F/CST 225-3100 88 C/HLD 225-1 102
Calcium silicate (inhalable)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 108 FLT 225-58F 96
Calcium silicate (respirable)	MDHS 14/4	4 mg/m³		1056		2000 (2200)		8		GR	IOM 225-70A 108 FOAM 225-772 or CYC 225-69 111 FLT 225-58F 96
Captan (ISO)	MDHS 94/2	5 mg/m³	15 mg/m³	240		2000 (500)		8		HPLC-UV	IOM 225-70A 108 FLT 225-58F 96 ST 226-35 38
Carbon black	MDHS 14/4	3.5 mg/m³	7 mg/m³	960		2000		8		GR	IOM 225-70A 108 FLT 225-58F 96
Carbon dioxide	OSHA ID-172	5000 ppm (9150 mg/m³)	30000 ppm (54000 mg/m³)	2-5	2-5	10-50	300	4-8	15	GC	SB 263-Series or SB 253-Series 56
Carbon dioxide (by portable GC)	NIOSH 6603	5000 ppm (9150 mg/m³)	30000 ppm (54000 mg/m³)							GC	SB 232-Series 55
Carbon disulphide	MDHS 96	5 ppm (15 mg/m³)		10	3	20 (50)	200	8 (3.3)	15	GC	ST 226-01 or ST 226-44 39
Carbon monoxide	OSHA ID-210	30 ppm (35 mg/m³)	200 ppm (232 mg/m³)	2-5	2-5	10-50	1000	varies	varies	GC	SB 252-Series or SB 253-Series or SB 262-Series or SB 263-Series 52
Carbon tetrachloride	MDHS 72	2 ppm (13 mg/m³)			12		200		60	TD, GC	ST 226-358 38
Carbon tetrachloride	MDHS 80	2 ppm (13 mg/m³)		24		50		8		TD, GC	ST 226-358 38
Carbon tetrachloride	MDHS 88	2 ppm (13 mg/m³)		diffusive	diffusive	diffusive	diffusive	5	15	GC-FID	ST 575-001 75
Carbon tetrachloride	MDHS 96	2 ppm (13 mg/m³)		10		20-50		8		GC-FID	ST 226-01 38
Cellulose (inhalable dust)	MDHS 14/4	10 mg/m³	20 mg/m³	960		2000		8		GR	IOM 225-70A 108 FLT 225-58F 96
Cellulose (respirable dust)	MDHS 14/4	4 mg/m³		1056		2000 (2200)		8		GR	IOM 225-70A 108 FOAM 225-772 or CYC 225-69 111 FLT 225-58F 96
Chlorine	NIOSH 6011		0.5 ppm (1.5 mg/m³)	90	15	1000	1000	1.5	15	IC	CF/CST 225-9006 65
Chlorine dioxide	OSHA ID-202	0.1 ppm (0.28 mg/m³)	0.3 ppm (0.84 mg/m³)	120	7.5	500	500	4	15	IC-ECN	IMP 225-36-2 or IMP 225-36-5 67 IT 225-22 67
1-Chloro-2,3-epoxypropane (epichlorohydrin)	MDHS 72, 80	0.5 ppm (1.9 mg.m³)	1.5 ppm (5.8 mg/m³)	24		50		8		TD, GC	ST 226-358 42
1-Chloro-2,3-epoxypropane (epichlorohydrin)	MDHS 88	0.5 ppm (1.9 mg/m³)	1.5 ppm (5.8 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 75
1-Chloro-2,3-epoxypropane (epichlorohydrin)	MDHS 96	0.5 ppm (1.9 mg/m³)	1.5 ppm (5.8 mg/m³)	10		20-50		8		GC-FID	ST 226-01 38
1-Chloro-4-nitrobenzene	NIOSH 2005	1 mg/m³	2 mg/m³	96		200		8		GC-FID	ST 226-10 38
Chloroacetaldehyde	NIOSH 2015		1 ppm (3.3 mg/m³)		3		200		15	GC-ECD	ST 226-15GWS 38
2-Chloroacetophenone	OSHA CSI	0.05 ppm (0.32 mg/m³)		12		200		1		HPLC-UV	ST 226-47-01 38
Chlorobenzene	MDHS 72	1 ppm (4.7 mg/m³)	3 ppm (14 mg/m³)	10		20(50)		8(3.3)		TD, GC	ST 226-358 38
Chlorobenzene	MDHS 88	1 ppm (4.7 mg/m³)	3 ppm (14 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 75
Chlorobenzene	MDHS 96	1 ppm (4.7 mg/m³)	3 ppm (14 mg/m³)	10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Chlorodifluoromethane	MDHS 96	1000 ppm (3590 mg/m³)		varies		varies		varies		GC-FID	ST 226-01 38
Chloroethane	MDHS 96	50 ppm (134 mg/m³)		3		50		1		GC-FID	ST 226-09 38
2-Chloroethanol	MDHS 96		1 ppm (3.4 mg/m³)	10	3	20(50)	200	8(3.3)	15	GC-FID	ST 226-81A 39
Chloroform	MDHS 80	2 ppm (9.9 mg/m³)		24		50		8		GC-ECD	ST 226-357 42
Chloroform	MDHS 88	2 ppm (9.9 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 75
Chloroform	MDHS 96	2 ppm (9.9 mg/m³)		10		200		8		GC-FID	ST 226-01 38
Chloromethane	MDHS 96	50 ppm (105 mg/m³)	100 ppm (210 mg/m³)		0.5		100		5	GC-FID	ST 226-09 or ST 226-01 38
bis-Chloromethyl ether	OSHA 10	0.001 ppm (0.005 mg/m³)		50		500		100 min		GC-ECD	IMP 225-36-2 67 IT 225-22 67
Chloropyrifos (ISO)	MDHS 94/2	0.2 mg/m³	0.6 mg/m³	240		500		8		HPLC-UV	IOM 225-70A 108 FLT 225-58F 96 ST 226-35 38
Chromium & inorganic compounds	MDHS 91/2	0.5 mg/m³		960		2000		8		XRF	IOM 225-70A 108 FLT 225-1930 88
Chromium (VI) in chromium plating mist	MDHS 52/4	0.05 mg/m³		960	120	2000	2000	8	60	CLR	Chromic acid test kit 510-2000 and IOM 225-70A 108 FLT 225-9026
Chromium II & III compounds (as Cr)	MDHS 91/2	0.5 mg/m³		960		2000		8		XRF	IOM 225-70A 108 FLT 225-1930 88
Chromium VI compounds (as Cr)	MDHS 52/4	0.05 mg/m³		240	30	2000	2000	2	15	CLR	IOM 225-70A 108 FLT 225-9026
Cobalt & cobalt compounds (as Co)	MDHS 91/2	0.1 mg/m³		240		2000		2		XRF	IOM 225-70A 108 FLT 225-1930 88
Colophony	MDHS 83/3			960	30	2000	2000	8	15	GC-FID	CST 225-8050K (kit)
Copper dust & mists (as Cu)	MDHS 91/2	1 mg/m³	2 mg/m³	960		2000		8		XRF	IOM 225-70A 108 FLT 225-1930 88
Copper fume	MDHS 91/2	0.2 mg/m³		960		2000		8		XRF	IOM 225-70A 108 FLT 225-1930 88
Cotton dust	MDHS 14/4	2.5 mg/m³		960		2000		8		GR	IOM 225-70A 108 FLT 225-58F 96
Cryofluorane (INN)	MDHS 96	1000 ppm (7110 mg/m³)	1250 ppm (8890 mg/m³)	3		20		2.5		GC-FID	ST 226-01 or ST 226-09 38
Cumene	MDHS 72, 80	25 ppm (125 mg/m³)	50 ppm (250 mg/m³)	24		50		8		TD, GC	ST 226-358 42
Cumene	MDHS 88	25 ppm (125 mg/m³)	50 ppm (250 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 75
Cumene	MDHS 96	25 ppm (125 mg/m³)	50 ppm (250 mg/m³)	10		20	50	8	15	GC-FID	ST 226-01 38
Cyanamide	OSHA CSI	0.58 ppm (1 mg/m³)		10		100		100 min		HPLC-UV	ST 226-30-18 38

See page 212 for abbreviations.

Chemical Hazard	Agency Reference	SAMPLING								Analytical Method	SKC Collecting Equipment and Page No.
		WEL		Vol. (liter)		Rate (ml/min)		Time			
		TWA (ppm)	STEL (ppm)	TWA	STEL	TWA	STEL	TWA (hr)	STEL (min)		
Cyanides (except HCN, cyanogen & cyanogen chloride	NIOSH 7904	5 mg/m³		120		500		4		ISE	FLT 225-2705 94 CST 225-2LF 97 IMP 225-36-2 67 IT 225-22 67 C/HLD 225-1 102
Cyanogen chloride	OSHA CSI		0.3 ppm (0.77 mg/m³)		1		200		5	GC-NPD	ST 226-117 40
Cyclohexane	MDHS 88	100 ppm (350 mg/m³)	300 ppm (1050 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 75
Cyclohexane	MDHS 96	100 ppm (350 mg/m³)	300 ppm (1050 mg/m³)	10		20		8		GC-FID	ST 226-01 38
Cyclohexanol	MDHS 88	50 ppm (208 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 75
Cyclohexanol	MDHS 96	50 ppm (208 mg/m³)		10		20-50		8(3.3)		GC-FID	ST 226-01 38
Cyclohexanone	MDHS 88	10 ppm (41 mg/m³)	20 ppm (82 mh/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 75
Cyclohexanone	MDHS 96	10 ppm (41 mg/m³)	20 ppm (82 mh/m³)	10		20	50	8	15	GC-FID	ST 226-01 38
Cyclohexylamine	OSHA PV2016	10 ppm (41 mg/m³)		20		200		100 min		GC-FID	ST 226-98 40
2,4-D (ISO)	NIOSH 5602	10 mg/m³	20 mg/m³	480		1000		8		GC-ECD	ST 226-58 39
Dialkyl phthalate C7-C9	OSHA 104	5 mg/m³		240		1000		4		GC-FID	ST 226-56 39
Diallyl phthalate	OSHA CSI	5 mg/m³		60		1000		1		GC-FID	ST 226-30-16 38
Diatomaceous earth (natural respirable dust)	MDHS 14/4	1.2 mg/m³		960 (1056)		2000 (2200)		8		GR	IOM 225-70A 108 FOAM 225-772 or CYC 225-69 111 FLT 225-58F 96
Dibenzoyl peroxide	NIOSH 5009	5 mg/m³		90		1500		1		HPLC-UV	F/CST 225-3-01 88
Dibismuth tritelluride	MDHS 91/2	10 mg/m³	20 mg/m³	960		2000		8		XRF	IOM 225-70A 108 FLT 225-1930 88
Diboron trioxide	MDHS 14/4	10 mg/m³	20 mg/m³	960 (1056)		2000 (2200)		8		GR	IOM 225-70A 108 FOAM 225-772 or CYC 225-69 111 FLT 225-58F 96
1,2-Dibromoethane	MDHS 88	0.5 ppm (3.9 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 75
1,2-Dibromoethane	MDHS 96	0.5 ppm (3.9 mg/m³)		10	3	20	200	8	15	GC-ECD	ST 226-01 38
Dibutyl hydrogen phosphate	NIOSH 5017	1 ppm (8.7 mg/m³)	2 ppm (17 mg/m³)	240		2000		2		GC-FPD	FLT 225-17-01 94 CST 225-2LF 97 C/HLD 225-1 102
Dibutyl phthalate	OSHA 104	5 mg/m³		240		1000		4		GC-FID	ST 226-56 38
2,2'-Dichloro-4,4'-methylene dianiline (MbOCA)	MDHS 75/2	0.005 mg/m³		100		1000		100 min		GC-ECD	CF/CST 225-9004 64 C/HLD 225-1 102
2,2-Dichloro-4,4'-methylene dianiline (MbOCA)	MDHS 75/2	0.005 mg/m³			200		2000		each 100 min	HPLC	IOM 225-70A 108 FLT 225-58F 96
1,3-Dichloro-5,5-dimethylhydantion			0.2 mg/m³	0.4 mg/m³							
Dichloroacetylene	OSHA CSI		0.1 ppm (0.39 mg/m³)		1		200		5	GC-FID	ST 226-01 38
1,2-Dichlorobenzene (ortho-dichlorobenzene)	MDHS 88	25 ppm (153 mg/m³)	50 ppm (306 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 75
1,2-Dichlorobenzene (ortho-dichlorobenzene)	MDHS 96	25 ppm (153 mg/m³)	50 ppm (306 mg/m³)	10	3	20	200	8	15	GC-FID	ST 226-01 38
1,4-Dichlorobenzene (para-dichlorobenzene)	MDHS 88	25 ppm (153 mg/m³)	50 ppm (306 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 75
1,4-Dichlorobenzene (para-dichlorobenzene)	MDHS 96	25 ppm (153 mg/m³)	50 ppm (306 mg/m³)	3		20		2.5		GC-FID	ST 226-01 38
1,1-Dichloroethane	MDHS 96	100 ppm		10	3	200	200	8	15	GC-FID	ST 226-01 38
1,2-Dichloroethane (ethylene dichloride)	MDHS 72, 80	5 ppm (21 mg/m³)		24		50		8		TD, GC	ST 226-358 42
1,2-Dichloroethane (ethylene dichloride)	MDHS 88	5 ppm (21 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 75
1,2-Dichloroethane (ethylene dichloride)	MDHS 96	5 ppm (21 mg/m³)		10	3	20	200	8	15	GC-FID	ST 226-01 38
1,2-Dichloroethylene cis:trans isomers 60:40	MDHS 88	200 ppm (806 mg/m³)	250 ppm (1010 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 75
1,2-Dichloroethylene cis:trans isomers 60:40	MDHS 96	200 ppm (806 mg/m³)	250 ppm (1010 mg/m³)	5		50		100 min		GC-FID	ST 226-01 38
Dichlorofluoromethane	MDHS 96	10 ppm (43 mg/m³)		3		20		2.5		GC-FID	ST 226-01 38
Dichloromethane	MDHS 72, 80	100 ppm (350 mg/m³)	300 ppm (1060 mg/m³)	24		50		8		TD, GC	ST 226-358 42
Dichloromethane	MDHS 88	100 ppm (350 mg/m³)	300 ppm (1060 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 75
Dichloromethane	MDHS 96	100 ppm (350 mg/m³)	300 ppm (1060 mg/m³)	2	1.5	20	100	1.6	15	GC-FID	ST 226-01 38
Dicylopentadiene	MDHS 88	5 ppm (27 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 75
Diethyl ether	MDHS 88	100 ppm (310 mg/m³)	200 ppm (620 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 75
Diethyl ether	MDHS 96	100 ppm (310 mg/m³)	200 ppm (620 mg/m³)	3		20		2.5		GC-FID	ST 226-01 38
Diethyl phthalate	OSHA 104			240		1000		4		GC-FID	ST 226-56 38
Diethyl sulphate	MDHS 89	0.05 ppm (0.32 mg/m³)								GC-MS	ST 226-357 42
Diethylamine	MDHS 96	5 ppm (15 mg/m³)	10 ppm (30 mg/m³)	24	3	50	200	8	15	GC-FID	ST 226-10 38
Dihydrogen selenide (as Se)	OSHA CSI	0.02 ppm (0.07 mg/m³)	0.05 ppm (0.17 mg/m³)	480		1000		8		AA	IMP 225-36-2 or IMP 225-36-5 67 IT 225-22 67
Diisopropyl ether	MDHS 88	250 ppm (1060 mg/m³)	310 ppm (1310 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 75
Diisopropyl ether	MDHS 96	250 ppm (1060 mg/m³)	310 ppm (1310 mg/m³)	3		20		2.5		GC-FID	ST 226-01 38
Diisopropylamine	OSHA CSI	5 ppm (21 mg/m³)		120		1000		1		GC-ECD	IMP 225-36-2 or IMP 225-36-1 67 IT 225-22 67
Dimethoxymethane	MDHS 88	1000 ppm (3160 mg/m³)	1250 ppm (3950 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 75
Dimethoxymethane	MDHS 96	1000 ppm (3160 mg/m³)	1250 ppm (3950 mg/m³)	2		20		1.5		GC-FID	ST 226-01 38
Dimethyl ether		400 ppm (766 mg/m³)	500 ppm (958 mg/m³)							CLR	DT 810-161
Dimethyl phthalate	OSHA 104	5 mg/m³		240		1000		4		GC-FID	ST 226-56 38
Dimethyl phthalate	OSHA 104	5 mg/m³	10 mg/m³	240		1000		4		GC-FID	ST 226-56 39

See page 212 for abbreviations.

Chemical Hazard	Agency Reference	SAMPLING								Analytical Method	SKC Collecting Equipment and Page No.
		WEL		Vol. (liter)		Rate (ml/min)		Time			
		TWA (ppm)	STEL (ppm)	TWA	STEL	TWA	STEL	TWA (hr)	STEL (min)		
Dimethyl sulphate	MDHS 89	0.05 ppm (0.32 mg/m³)								GC-MS	ST 226-357 42
Dimethyl sulphate	MDHS 96	0.05 ppm (0.26 mg/m³)		12		50		4		GC-ECN	ST 226-114 40
N,N-Dimethylacetamide	MDHS 96	10 ppm (36 mg/m³)	20 ppm (72 mg/m³)	48		100		8		GC-FID	ST 226-10 38
Dimethylamine	MDHS 96	2 ppm (3.8 mg/m³)	6 ppm (11 mg/m³)							GC-FID	ST 226-10 38
2-Dimethylaminoethanol	OSHA CSI	2 ppm (7.4 mg/m³)	6 ppm (22 mg/m³)	24		200		8		GC-FID	ST 226-10-04 38
N,N-Dimethylaniline	MDHS 88	5 ppm (25 mg/m³)	10 ppm (50 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 75
N,N-Dimethylaniline	MDHS 96	5 ppm (25 mg/m³)	10 ppm (50 mg/m³)	24	3	50	200	8	15	GC-FID	ST 226-10 38
N,N-Dimethylethylamine	OSHA PV2096	10 ppm (30 mg/m³)	15 ppm (46 mg/m³)	40		100		40 min		GC-NPD	ST 226-18 38
Dimethylformamide	MDHS 88	5 ppm (15 mg/m³)	10 ppm (30 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 75
2,6-Dimethylheptan-4-one	MDHS 88	25 ppm (148 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 75
2,6-Dimethylheptan-4-one	MDHS 96	25 ppm (148 mg/m³)		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Dinitrobenzene (all isomers)	OSHA CSI	0.15 ppm (1 mg/m³)	0.5 ppm (3.5 mg/m³)	60		1000		1		HPLC-UV	ST 226-30-16 38
1,4-Dioxane	MDHS 88	20 ppm (73 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 75
1,4-Dioxane	MDHS 96	20 ppm (73 mg/m³)		10		20		8		GC-FID	ST 226-01 38
Diphenyl ether (vapour)	MDHS 88	1 ppm (7.1 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 75
Diphenyl ether (vapour)	MDHS 96	1 ppm (7.1 mg/m³)		30		100		5		GC-FID	ST 226-35-01 38
Diphenylamine	OSHA 78	10 mg/m³	20 mg/m³	100		1000		100 min		HPLC-UV	CF/CST 225-9004 64 C/HLD 225-1 102
Diphosphorus pentasulphide	OSHA ID-128SG	1 mg/m³	2 mg/m³	960	30	2000	2000	8	15	IC	F/CST 225-802 93 C/HLD 225-1 102
Diphosphorus pentoxide	OSHA ID-111	1 mg/m³	2 mg/m³	480		1000		8		IC	F/CST 225-3-01 88 C/HLD 225-1 102
Dipropylene glycol methyl ether	MDHS 72	50 ppm (308 mg/m³)		24		50		8		TD, GC	ST 226-357 or ST 226-358 42
Dipropylene glycol methyl ether	MDHS 88	50 ppm (308 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 75
Diquat dibromide (ISO)	OSHA CSI	0.5 mg/m³	1 mg/m³	120		1000		8		HPLC/UV	IOM 225-70A 108 FLT 225-58F 96
Disodium disulphite	OSHA ID-121	5 mg/m³		960		2000		8		AA or AES	F/CST 225-3-01 88 C/HLD 225-1 102
Disodium tetraborate (anhydrous)	OSHA ID-125G	1 mg/m³		480		2000		4		ICP-AES	F/CST 225-3-01 or F/CST 225-3100 88 C/HLD 225-1 102
Disodium tetraborate (decahydrate)	OSHA ID-125G	5 mg/m³		480		2000		4		ICP-AES	F/CST 225-3-01 or F/CST 225-3100 88 C/HLD 225-1 102
Disodium tetraborate (pentahydrate)	OSHA ID-125G	1 mg/m³		480		2000		4		ICP-AES	F/CST 225-3-01 or F/CST 225-3100 88 C/HLD 225-1 102
Disulphur dichloride	OSHA CSI		1 ppm (5.6 mg/m³)	480		1000		8		CLR	IMP 225-36-2 67 IT 225-22 67
6,6'-Di-tert-butyl-4,4'-thiodi-m-cresol	OSHA CSI	10 mg/m³	20 mg/m³	varies		varies		varies		HPLC-UV	F/CST 225-706 or CYC 225-69-35 111 FLT 225-7 96
2,6-Di-tert-butyl-p-cresol	OSHA PV2108	10 mg/m³		100		1000		100 min		GC-FID	ST 226-57 39
Diuron (ISO)	NIOSH 5601	10 mg/m³		240		1000		4		HPLC-UV	ST 226-58 or ST 226-30-16 38
Dusts (Inhalable)	MDHS 14/4			960		2000		8		GR	IOM 225-70A 108 FLT 225-58F 96
Dusts (Respirable)	MDHS 14/4			1056		2000 (2200)		8		GR	IOM 225-70A 108 FLT 225-58F 96 FOAM 225-772 or CYC 225-69 111 FLT 225-58F 96
Emery (inhalable dust)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 108 FLT 225-58F 96
Emery (respirable dust)	MDHS 14/4	4 mg/m³		1056		2200		8		GR	CYC 225-69 111 FLT 225-58F or IOM 225-70A 108 FOAM 225-772 108 FLT 225-58F 96
Endosulfan (ISO)	MDHS 94/2	0.1 mg/m³	0.3 mg/m³	240		500		8		HPLC-UV	IOM 225-70A 108 FLT 225-58F 96 ST 226-35 38
Enflurane	MDHS 80	50 ppm (383 mg/m³)		24		50		8		GC-ECD	ST 226-357 42
Enflurane	MDHS 88	50 ppm (383 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 75
Ethane-1,2-diol (particulate)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 108 FLT 225-58F 96
Ethane-1,2-diol (vapour)	MDHS 88	20 ppm (52 mg/m³)	40 ppm (104 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 75
Ethanethiol	NIOSH 2542	0.5 ppm (1.3 mg/m³)	2 ppm (5.2 mg/m³)	48	12	100	200	8	60	GC-FPD	F/CST 225-9007 65
Ethanol	MDHS 72	1000 ppm (1920 mg/m³)		24		50		8		TD, GC	ST 226-358 42
Ethanol	MDHS 88	1000 ppm (1920 mg/m³)		diffusive	diffusive	diffusive	diffusive	8	15	GC-FID	PS 575-002 75
Ethanol	MDHS 96	1000 ppm (1920 mg/m³)		1		50		20 min		GC-FID	ST 226-01 38
2-(Methoxyethoxy)ethanol	OSHA CSI	10 ppm (50.1 mg/m³)		6		100		1		GC-FID	ST 226-01 38
2-Ethoxyethanol	MDHS 72	2 ppm (8 mg/m³)		24		50		8		TD, GC	ST 226-357 42
2-Ethoxyethanol	MDHS 80	2 ppm (8 mg/m³)		24		50		8		GC-ECD	ST 226-357 42
2-Ethoxyethanol	MDHS 88	2 ppm (8 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 75
2-Ethoxyethanol	MDHS 96	2 ppm (8 mg/m³)		5		20		4		GC-FID	ST 226-01 38
2-Ethoxyethyl acetate	MDHS 72	2 ppm (11 mg/m³)		24		50		8		TD, GC	ST 226-357 42
2-Ethoxyethyl acetate	MDHS 80	2 ppm (11 mg/m³)		24		50		8		GC-ECD	ST 226-357 or ST 226-358 42
2-Ethoxyethyl acetate	MDHS 88	2 ppm (11 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 75
Ethyl acetate	MDHS 72, 80	200 ppm	400 ppm	24		50		8		TD, GC	ST 226-357 or ST 226-358 42
Ethyl acetate	MDHS 88	200 ppm	400 ppm	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 75
Ethyl acetate	MDHS 96	200 ppm	400 ppm	10		20		8		GC-FID	ST 226-01 38
Ethyl acrylate	MDHS 72	5 ppm (21 mg/m³)	10 ppm (42 mg/m³)	24		50		8		TD, GC	ST 226-357 42
Ethyl acrylate	MDHS 88	5 ppm (21 mg/m³)	10 ppm (42 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 75
Ethyl acrylate	MDHS 96	5 ppm (21 mg/m³)	10 ppm (42 mg/m³)	10		20		8		GC-FID	ST 226-01 38
Ethyl benzene	MDHS 72	100 ppm (441 mg/m³)	125 ppm (552 mg/m³)	24		50		8		TD, GC	ST 226-357 42

See page 212 for abbreviations.

Chemical Hazard	Agency Reference	SAMPLING WEL TWA (ppm)	WEL STEL (ppm)	Vol. (liter) TWA	Vol. (liter) STEL	Rate (ml/min) TWA	Rate (ml/min) STEL	Time TWA (hr)	Time STEL (min)	Analytical Method	SKC Collecting Equipment and Page No.
Ethyl benzene	MDHS 80	100 ppm (441 mg/m³)	125 ppm (552 mg/m³)	24		50		8		GC-ECD	ST 226-357 42
Ethyl benzene	MDHS 88	100 ppm (441 mg/m³)	125 ppm (552 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 75
Ethyl benzene	MDHS 96	100 ppm (441 mg/m³)	125 ppm (552 mg/m³)	12		50		4		GC-FID	ST 226-01 38
Ethyl cyanoacrylate	OSHA 55		0.3 ppm (1.5 mg/m³)	12		100		2		HPLC-UV	ST 226-98 40
Ethyl formate	MDHS 96	100 ppm (308 mg/m³)	150 ppm (462 mg/m³)	10		20		8		GC-FID	ST 226-01 38
Ethylamine	OSHA 36	2 ppm (3.8 mg/m³)	6 ppm (11 mg/m³)	10		200		50 min		HPLC-UV	ST 226-96 40
Ethylene oxide	MDHS 88	5 ppm (9.2 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-005 75
Ethylene oxide	MDHS 96	5 ppm (9.2 mg/m³)								GC-FID	ST 226-01 38
Ethylenediamine	NIOSH 2540	1 ppm (4.3 mg/m³)		10		100		1.7		HPLC-UV	ST 226-30-18 38
2-Ethylhexyl chloroformate			1 ppm (8 mg/m³)								
bis-2-Ethylhexyl phthalate (dioctyl phthalate)	MDHS 96	5 mg/m³	10 mg/m³	50		10		8		GC-FID	ST 226-36 ¶ 39
bis-2-Ethylhexyl phthalate (dioctyl phthalate)	OSHA 104	5 mg/m³		240		1000		4		GC-FID	ST 226-56 38
4-Ethylmorpholine	OSHA CSI	5 ppm (24 mg/m³)	20 ppm (96 mg/m³)	10		20		8		GC-FID	ST 226-10 38
Ferrous foundary particulate (inhalable)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 108 FLT 225-58F 96
Ferrous foundary particulate (respirable)	MDHS 14/4	4 mg/m³		1056		2200 (2000)		8		GR	CYC 225-69 111 FLT 225-58F or IOM 225-70A 108 FOAM 225-772 108 FLT 225-58F 96
Flour dust	MDHS 14/4	10 mg/m³	30 mg/m³			2000	2000	8	15	GR	IOM 225-70A 108 FLT 225-58F 96
Fluoride (inorganic as F)	Contact SKC	2.5 mg/m³		960	30	2000	2000	8	15	IC	IOM 225-70A 108 FLT 225-1930 88
Fluorine	OSHA CSI	1 ppm (1.6 mg/m³)	1 ppm (1.6 mg/m³)	480		1000		8		CLR	IMP 225-36-2 or IMP 225-36-5 67 IT 225-22 67
Formaldehyde	MDHS 102	2 ppm (2.5 mg/m³)	2 ppm (2.5 mg/m³)	varies		varies		varies		HPLC	CF/CST 225-9003 or ST 226-119 or ST 226-120 40
Formamide	OSHA CSI	20 ppm (37 mg/m³)	30 ppm (56 mg/m³)	10	1.5	100	100	100 min	100 min	GC-NPD	ST 226-10 38
Formic acid	NIOSH 2011	5 ppm (9.6 mg/m³)		24		200		2		IC-ECN	FLT 225-2708 94 CST 225-3-25LF 97 ST 226-10-03 38 C/HLD 225-1 102
2-Furaldehyde (furfural)	MDHS 72	2 ppm (8 mg/m³)	5 ppm (20 mg/m³)	24		50		8		TD, GC	ST 226-357 42
2-Furaldehyde (furfural)	NIOSH 2529	5 ppm (20 mg/m³)		5		20		4		GC-FID	ST 226-118 40
2-Furaldehyde (furfural)	OSHA 72	5 ppm (20 mg/m³)		180		1000		3		TD, GC	ST 226-81A 40
Glutaraldehyde	MDHS 102	0.05 ppm (0.2 mg/m³)	0.05 ppm (0.2 mg/m³)	varies		varies		varies		HPLC	CF/CST 225-9003 or ST 226-119 or ST 226-120 40
Glutaraldehyde	MDHS 102	0.05 ppm (0.2 mg/m³)	0.05 ppm (0.2 mg/m³)	diffusive	diffusive	diffusive	diffusive			HPLC	PS 500-100 84
Glycerol mist	NIOSH 600	10 mg/m³		375		2500		2.5		GR	CYC 225-01-02 111 FLT 225-5-37-P 93 CST 225-3LF 97 C/HLD 225-1 102
Grain dust	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 108 FLT 225-58F 96
Graphite (inhalable dust)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 108 FLT 225-58F 96
Graphite (respirable dust)	MDHS 14/4	4 mg/m³		1056		2200		8		GR	CYC 225-69 111 FLT 225-58F or IOM 225-70A 108 FOAM 225-772 108 FLT 225-58F 96
Gypsum (inhalable dust)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 108 FLT 225-58F 96
Gypsum (respirable dust)	MDHS 14/4	4 mg/m³		1056		2200		8		GR	CYC 225-69 111 FLT 225-58F or IOM 225-70A 108 FOAM 225-772 108 FLT 225-58F 96
Halogeno platinum compounds as Pt	MDHS 91/2	0.002 mg/m³		30		50		8		AAS	IOM 225-70A 108 FLT 225-1930 88
Halothane	MDHS 80	10 ppm (82 mg/m³)		24		50		8		GC-ECD	ST 226-357 or ST 226-358 42
Halothane	MDHS 88	10 ppm (82 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 75
Hardwood dust	MDHS 14/4	5 mg/m³								GR	IOM 225-70A 108 FLT 225-58F 96
Heptan-2-one	MDHS 88	50 ppm (237 mg/m³)	100 ppm (475 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 75
Heptan-2-one	MDHS 96	50 ppm (237 mg/m³)	100 ppm (475 mg/m³)							GC-FID	ST 226-01 38
Heptan-3-one	MDHS 88	35 ppm (166 mg/m³)	100 ppm (475 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 or PS 575-002 75
Heptan-3-one	MDHS 96	35 ppm (166 mg/m³)	100 ppm (475 mg/m³)							GC-FID	ST 226-01 38
n-Heptane	MDHS 72, 80	500 ppm (2085 mg/m³)								TD, GC	ST 226-357 42
n-Heptane	MDHS 88	500 ppm (2085 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 75
n-Heptane	MDHS 96	500 ppm (2085 mg/m³)								GC-FID	ST 226-01 38
Hexan-2-one	MDHS 88	5ppm (21 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 75
Hexan-2-one	MDHS 96	5 ppm (21 mg/m³)		10		20		8		GC-FID	ST 226-01 38
n-Hexane	MDHS 72	20 ppm (72 mg/m³)		24		50		8		TD, GC	ST 226-357 42
n-Hexane	MDHS 80	20 ppm (72 mg/m³)		24		50		8		GC-ECD	ST 226-358 42
n-Hexane	MDHS 88	20 ppm (72 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 75
n-Hexane	MDHS 96	20 ppm (72 mg/m³)		4		20		3.3		GC-FID	ST 226-01 38
1,6-Hexanolactam (dust & vapour)	OSHA PV2012	10 mg/m³	20 mg/m³	100	15	1000	1000	8	15	HPLC-UV	ST 226-57 39
1,6-Hexanolactam (dust only)	MDHS 14/4	1 mg/m³	3 mg/m³	1056		2000 (2200)		8		GR	IOM 225-70A 108 FOAM 225-772 or CYC 225-69 111 FLT 225-58F 96
Hydrazine	MDHS 86/2	0.02 ppm (0.03 mg/m³)	0.1 ppm (0.13 mg/m³)	240		1000		4		IC-UV	CF/CST 225-9012 64 C/HLD 225-1 102
Hydrogen bromide	OSHA ID-165SG		3 ppm (10 mg/m³)	48	4.5	200	300	4	15	IC	ST 226-10-03 38
Hydrogen chloride (gas & aerosol mists)	OSHA ID-174SG	1 ppm (2 mg/m³)	5 ppm (8 mg/m³)	48	4.5	200	300	4	15	IC	ST 226-10-03 38

See page 212 for abbreviations.

Chemical Hazard	Agency Reference	SAMPLING								Analytical Method	SKC Collecting Equipment and Page No.						
		WEL		Vol. (liter)		Rate (ml/min)		Time									
		TWA (ppm)	STEL (ppm)	TWA	STEL	TWA	STEL	TWA (hr)	STEL (min)								
Hydrogen cyanide	MDHS 56/3		10 ppm (11 mg/m³)	40	15	200	1000	3	15	ISE	IMP IOM	225-36-2 225-70A	67 108	IT FLT	225-22 225-1930£	67 88
Hydrogen fluoride (as F)	Contact SKC	1.8 ppm (1.5 mg/m³)	3 ppm (2.5 mg/m³)		30		2000		15	ISE	IOM	225-70A	108	FLT	225-1930†	88
Hydrogen peroxide	OSHA ID-126SG	1 ppm (1.4 mg/m³)	2 ppm (2.8 mg/m³)	100		1000		100 min		DPP	IMP IT	225-36-2 225-22	or 67	IMP	225-36-5	67
Hydrogen sulphide	OSHA 1008	5 ppm (7 mg/m³)	10 ppm (14 mg/m³)							IC	ST	226-177	41			
Hydroquinone	MDHS 98/3	0.5 mg/m³			30		2000		15	HPLC-UV	IOM ST	225-70A 226-35-03	108 39	FLT	225-58F	96
4-Hydroxy-4-methylpentan-2-one	MDHS 88	50 ppm (241 mg/m³)	75 ppm (362 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS	575-002	75			
4-Hydroxy-4-methylpentan-2-one	MDHS 96	50 ppm (241 mg/m³)	75 ppm (362 mg/m³)	10		20		8		GC-FID	ST	226-01	38			
2-Hydroxypropyl acrylate	OSHA PV2078	0.5 ppm (2.7 mg/m³)		10		100		100 min		GC-FID	ST	226-73	39			
Indene	OSHA CSI	10 ppm (48 mg/m³)	15 ppm (72 mg/m³)	10		20		8		GC-FID	ST	226-110	40			
Indium & compounds (as In)	MDHS 91/2	0.1 mg/m³	0.3 mg/m³	960		2000		8		XRF	IOM	225-70A	108	FLT	225-1930	88
Iodine	NIOSH 6005		0.1 ppm (1.1 mg/m³)	15		1000		15		IC	ST	226-67	39			
Iodoform	OSHA CSI	0.6 ppm (9.8 mg/m³)	1 ppm (16 mg/m³)	10		100		100 min		GC-ECD	F/CST ST	225-706 226-93	96 40	C/HLD	225-1	102
Iodomethane	MDHS 88	2 ppm (12 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS	575-001	75			
Iodomethane	MDHS 96	2 ppm (12 mg/m³)		10		20		8		GC-FID	ST	226-01	38			
Iron oxide (fume) (as Fe)	MDHS 91/2	5 mg/m³	10 mg/m³	960		2000		8		XRF	IOM	225-70A	108	FLT	225-1930	88
Iron salts (as Fe)	MDHS 91/2	1 mg/m³	2 mg/m³	960		2000		8		XRF	IOM	225-70A	108	FLT	225-1930	88
Isobutyl acetate	MDHS 72	150 ppm (724 mg/m³)	187 ppm (903 mg/m³)	24		50		8		TD, GC	ST	226-357	42			
Isobutyl acetate	MDHS 88	150 ppm (724 mg/m³)	187 ppm (903 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS	575-002	75			
Isobutyl acetate	MDHS 96	150 ppm (724 mg/m³)	187 ppm (903 mg/m³)	10		20		8		GC-FID	ST	226-01	38			
Isocyanates (all) (as -NCO)	MDHS 25/4	0.02 mg/m³	0.07 mg/m³	960		2000		8		HPLC	IOM	225-79A	108	FLT	225-9011	64
Isoflurane	MDHS 80	50 ppm (383 mg/m³)		24		50		8		GC-ECD	ST	226-357	42			
Isoflurane	MDHS 88	50 ppm (383 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS	575-002	75			
Isooctyl alcohol (mixed isomers)	MDHS 88	50 ppm (271 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS	575-002	75			
Isopentane	MDHS 88	600 ppm (1800 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS	575-002	75			
Isopentane	MDHS 96	600 ppm (1800 mg/m³)		varies		varies		varies		GC-FID	ST	226-01	38			
Isopropyl acetate	MDHS 72		200 ppm (849 mg/m³)	24		50		8		TD, GC	ST	226-357	42			
Isopropyl acetate	MDHS 88		200 ppm (849 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS	575-001	75			
Isopropyl acetate	MDHS 96		200 ppm (849 mg/m³)	9		50		3		GC-FID	ST	226-01	38			
Isopropyl chloroformate			1 ppm (5.1 mg/m³)													
Kaolin (respirable dust)	MDHS 14/4	2 mg/m³		1056		varies		8		GR	CYC IOM FLT	225-69 225-70A 225-58F	111 108 96	FLT FOAM	225-58F 225-772	or 108
Ketene	OSHA CSI	0.5 ppm (0.87 mg/m³)	1.5 ppm (2.6 mg/m³)	50	15	1000	1000	50 min	15	CLR	IMP IT	225-36-2 225-22	or 67	IMP	225-36-5	67
Lead & inorganic compounds	MDHS 91/2			960	30	2000	2000	8	15	XRF	IOM	225-70A	108	FLT	225-1930	88
Limestone (inhalable dust)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM	225-70A	108	FLT	225-58F	96
Limestone (respirable dust)	MDHS 14/4	4 mg/m³		1056		2200		8		GR	CYC IOM FLT	225-69 225-70A 225-58F	111 108 96	FLT FOAM	225-58F 225-772	or 108
Liquified petroleum gas	OSHA CSI	1000 ppm (1750 mg/m³)	1250 ppm (2180 mg/m³)							DET TB	DT	810-100A				
Lithium hydride	MDHS 14/4	0.025 mg/m³		1056		2200		8		GR	CYC IOM FLT	225-69 225-70A 225-58F	111 108 96	FLT FOAM	225-58F 225-772	or 108
Lithium hydroxide	OSHA ID-121		1 mg/m³	960		2000		8		AA or AES	F/CST	225-3-01	88	C/HLD	225-1	102
Machine made mineral fibre (MMMF) (except for ceramic refractory)	MDHS 59/2	5 mg/m³ & 2 fibres/ml		240		1000		8		GR + PCM	FLT/CL	225-54A	102	FLT	225-1913	88
Magnesite (inhalable dust)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM	225-70A	108	FLT	225-58F	96
Magnesite (respirable dust)	MDHS 14/4	4 mg/m³		1056		2200		8		GR	CYC IOM FLT	225-69 225-70A 225-58F	111 108 96	FLT FOAM	225-58F 225-772	or 108
Magnesium oxide (as Mg) (inhalable dust)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM	225-70A	108	FLT	225-58F	96
Magnesium oxide (as Mg) (respirable dust)	MDHS 14/4	4 mg/m³		1056		2200		8		GR	CYC IOM FLT	225-69 225-70A 225-58F	111 108 96	FLT FOAM	225-58F 225-772	or 108
Malathion	OSHA 62	10 mg/m³		60		1000		1		GC-FPD	ST	226-30-16	38			
Maleic anhydride	MDHS 72	1 mg/m³	3 mg/m³	24		50		8		TD, GC	ST	226-357	42			
Manganese & inorganic compounds	MDHS 91/2	0.5 mg/m³		960		2000		8		XRF	IOM	225-70A	108	FLT	225-1930	88
Manganese in welding fume	ISO 10882-1	0.5 mg/m³				750				GR	H/SET CAL	225-6200 225-6202		MINI FLT	225-6201 225-8050	
Marble (total inhalable)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM	225-70A	108	FLT	225-58F	96
Marble (total respirable)	MDHS 14/4	4 mg/m³		1056		2200		8		GR	CYC IOM FLT	225-69 225-70A 225-58F	111 108 96	FLT FOAM	225-58F 225-772	or 108
Mercaptoacetic acid	OSHA CSI	1 ppm (3.8 mg/m³)		120		1000		2		HPLC-UV	IMP	225-36-1	67	IT	225-22	67
Mercury & compounds (except alkyl compounds)	NIOSH 6009	0.02 mg/m³		48		200		4		AA	ST	226-17-1A	38	F/CST	225-3-01	88
Methacrylic acid	OSHA PV2005	20 ppm (72 mg/m³)	40 ppm (143 mg/m³)	24		100		4		HPLC-UV	ST	226-30-08	38			

See page 212 for abbreviations.

Chemical Hazard	Agency Reference	SAMPLING								Analytical Method	SKC Collecting Equipment and Page No.
		WEL		Vol. (liter)		Rate (ml/min)		Time			
		TWA (ppm)	STEL (ppm)	TWA	STEL	TWA	STEL	TWA (hr)	STEL (min)		
Methanethiol	OSHA 26	0.5 ppm (1 mg/m³)		20		200		100 min		GC-FPD	F/CST 225-9007 67 C/HLD 225-1 102
Methanol	MDHS 72	200 ppm (266 mg/m³)	250 ppm (333 mg/m³)	24		50		8		TD, GC	ST 226-358 42
Methanol	MDHS 80	200 ppm (266 mg/m³)	250 ppm (333 mg/m³)	24		50		8		GC-ECD	ST 226-357 42
Methanol	MDHS 96	200 ppm (266 mg/m³)	250 ppm (333 mg/m³)	5	3	20	200	4	15	GC-FID	ST 226-51 39
2-Methoxyethanol	MDHS 72, 80	1 ppm (3 mg/m³)		24		50		8		TD, GC	ST 226-358 42
2-Methoxyethanol	MDHS 88	1 ppm (3 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 75
2-Methoxyethanol	MDHS 96	1 ppm (3 mg/m³)		10		20		8		GC-FID	ST 226-01 38
2-Methoxyethyl acetate	MDHS 72	1 ppm (5 mg/m³)		8		15		8		TD, GC	ST 226-37 39
2-Methoxyethyl acetate	MDHS 88	1 ppm (5 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 or PS 575-001 75
2-Methoxyethyl acetate	MDHS 96	1 ppm (5 mg/m³)		10	7.5	20	500	8	15	GC-FID	ST 226-01 38
1-Methoxypropan-2-ol	MDHS 72	100 ppm (375 mg/m³)	150 ppm (560 mg/m³)							TD, GC	ST 226-357 42
1-Methoxypropan-2-ol	MDHS 88	100 ppm (375 mg/m³)	150 ppm (560 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 75
1-Methoxypropyl acetate	MDHS 72	50 ppm (274 mg/m³)	100 ppm (548 mg/m³)							TD, GC	ST 226-358 38
1-Methoxypropyl acetate	MDHS 88	50 ppm (274 mg/m³)	100 ppm (548 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 75
1-Methoxypropyl acetate	MDHS 96	50 ppm (274 mg/m³)	100 ppm (548 mg/m³)							GC-FID	ST 226-01 38
Methyl acetate	MDHS 72, 80	200 ppm (616 mg/m³)	250 ppm (770 mg/m³)	24		50		8		TD, GC	ST 226-358 42
Methyl acetate	MDHS 88	200 ppm (616 mg/m³)	250 ppm (770 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 75
Methyl acetate	MDHS 96	200 ppm (616 mg/m³)	250 ppm (770 mg/m³)	5	3	20	200	4	15	GC-FID	ST 226-01 38
Methyl acrylate	MDHS 72	5 ppm (18 mg/m³)	10 ppm (36 mg/m³)	24		50		8		TD, GC	ST 226-357 42
Methyl acrylate	MDHS 88	5 ppm (18 mg/m³)	10 ppm (36 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 75
Methyl acrylate	MDHS 96	5 ppm (18 mg/m³)	10 ppm (36 mg/m³)	varies		varies		varies		GC-FID	ST 226-01 38
Methyl cyanoacrylate	OSHA 55		0.3 ppm (1.4 mg/m³)	12	3	100	200	8	15	HPLC-UV	ST 226-98 40
Methyl ethyl ketone peroxide (MEKP)	OSHA 77		0.2 ppm (1.5 mg/m³)		15		1000		15	HPLC-UV	ST 226-93 40
Methyl isocyanate	OSHA 54		0.02 ppm	15		50		5		HPLC-FD	ST NA SKC
Methyl methacrylate	MDHS 72	50 ppm (208 mg/m³)	100 ppm (416 mg/m³)	24		50		8		TD, GC	ST 226-357 42
Methyl methacrylate	MDHS 80	50 ppm (208 mg/m³)	100 ppm (416 mg/m³)	25		50		8		GC-ECD	ST 226-115 40
Methyl methacrylate	MDHS 88	50 ppm (208 mg/m³)	100 ppm (416 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 75
Methyl methacrylate	MDHS 96	50 ppm (208 mg/m³)	100 ppm (416 mg/m³)	5		20		4		GC-FID	ST 226-30-06 38
1-Methyl-2-pyrrolidone	MDHS 72	25 pm (103 mg/m³)	75 ppm (309 mg/m³)	24		50		8		TD, GC	ST 226-357 42
1-Methyl-2-pyrrolidone	MDHS 96	25 pm (103 mg/m³)	75 ppm (309 mg/m³)	10		200		8		GC-FID	ST 226-01 38
N-Methyl-2-pyrrolidone	MDHS 72, 80	10 ppm (40 mg/m³)	20 ppm (80 mg/m³)	24		50		8		TD, GC	ST 226-357 42
N-Methyl-2-pyrrolidone	MDHS 96	10 ppm (40 mg/m³)	20 ppm (80 mg/m³)	10		200		8		GC-FID	ST 226-01 38
Methylacryonitrile	OSHA 37	1 ppm (2.8 mg/m³)		20		200		100 min		GC-NPD	ST 226-01 38
N-Methylaniline	NIOSH 3511	0.5 ppm (2.2 mg/m³)		100		1000		100 min		GC-FID	IMP 225-36-2 or IMP 225-36-5 67 IT 225-22 67
3-Methylbutan-1-ol	MDHS 88	100 ppm (366 mg/m³)	125 ppm (458 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 75
3-Methylbutan-1-ol	MDHS 96	100 ppm (366 mg/m³)	125 ppm (458 mg/m³)	10	3	20(50)	200	8(3.3)	15	GC-FID	ST 226-01 38
Methylcyclohexanol	MDHS 88	50 ppm (237 mg/m³)	75 ppm (356 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 75
Methylcyclohexanol	MDHS 96	50 ppm (237 mg/m³)	75 ppm (356 mg/m³)	12		25		8		GC-FID	ST 226-01 38
2-Methylcyclohexanone	MDHS 72, 80	50 ppm (233 mg/m³)	75 ppm (350 mg/m³)	24		50		8		TD, GC	ST 226-357 42
2-Methylcyclohexanone	MDHS 96	50 ppm (233 mg/m³)	75 ppm (350 mg/m³)	4		20		3.3		GC-FID	ST 226-01 38
4,4-Methylenebis(orthochloroaniline) (MbOCA)	MDHS 75/2			200		500				HPLC	IOM 225-70A 108 FLT 225-58F or F/CST 225-9004 65
4,4'-Methylenedianiline (MDA)	MDHS 75/2	0.01 ppm (0.08 mg/m³)		200		2000			100 min	HPLC	IOM 225-70A 108 FLT 225-58F or F/CST 225-9004 65
5-Methylheptane-3-one	MDHS 88	10 ppm (53 mg/m³)	20 ppm (107 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 or PS 575-002 75
5-Methylheptane-3-one	MDHS 96	10 ppm (53 mg/m³)	20 ppm (107 mg/m³)	10	3	20	200	8	15	GC-FID	ST 226-01 38
5-Methylhexan-2-one	MDHS 72	20 ppm (95 mg/m³)	100 ppm (475 mg/m³)	24		50		8		TD, GC	ST 226-357 42
5-Methylhexan-2-one	MDHS 88	20 ppm (95 mg/m³)	100 ppm (475 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 75
4-Methylpentan-2-ol	MDHS 88	25 ppm (106 mg/m³)	40 ppm (170 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 75
4-Methylpentan-2-ol	MDHS 96	25 ppm (106 mg/m³)	40 ppm (170 mg/m³)	10	3	20	200	8	15	GC-FID	ST 226-01 38
4-Methylpentan-2-one	MDHS 72, 80	50 ppm (208 mg/m³)	100 ppm (416 mg/m³)	24		50		8		TD, GC	ST 226-357 42
4-Methylpentan-2-one	MDHS 88	50 ppm (208 mg/m³)	100 ppm (416 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 75
4-Methylpentan-2-one	MDHS 96	50 ppm (208 mg/m³)	100 ppm (416 mg/m³)	10	3	20	200	8	15	GC-FID	ST 226-01 38
2-Methylpentane-2,4-diol	OSHA PV2101	25 ppm (123 mg/m³)	25 ppm (123 mg/m³)		3		200		15	GC-FID	ST 226-01 38
2-Methylpropan-1-ol	MDHS 72	50 ppm (154 mg/m³)	75 ppm (231 mg/m³)	24		50		8		TD, GC	ST 226-357 42
2-Methylpropan-1-ol	MDHS 88	50 ppm (154 mg/m³)	75 ppm (231 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 75
2-Methylpropan-1-ol	MDHS 96	50 ppm (154 mg/m³)	75 ppm (231 mg/m³)	10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Methyl-tert-butyl-ether	MDHS 88	50 ppm (183.5 mg/m³)	100 ppm (367 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 75
Methyl-tert-butyl-ether	MDHS 96	50 ppm (183.5 mg/m³)	100 ppm (367 mg/m³)	96		200		8		GC-FID	ST 226-09 38
Mica (total inhalable)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 108 FLT 225-58F 96
Mica (total respirable)	MDHS 14/4	0.8 mg/m³		1056		2200		8		GR	CYC 225-69 111 FLT 225-58F or IOM 225-70A 108 FOAM 225-772 108 FLT 225-58F 96
Molybdenum compounds (insoluble) (as Mo)	MDHS 91/2	10 mg/m³	20 mg/m³	240		1000		8		XRF	IOM 225-70A 108 FLT 225-1930 88
Molybdenum compounds (soluble) (as Mo)	MDHS 91/2	5 mg/m³	10mg/m³	240		1000		8		XRF	IOM 225-70A 108 FLT 225-1930 88
Monochloroacetic acid	NIOSH 2008	0.3 ppm (1.2 mg/m³)		48		100		8		IC-ECN	ST 226-47-01 39
Nickel (insoluble compounds except nickel tetracarbonyl) (as Ni)	MDHS 91/2	0.5 mg/m³		960		2000		8		XRF	IOM 225-70A 108 FLT 225-1930 88
Nickel (soluble compounds except nickel tetracarbonyl) (as Ni)	MDHS 91/2	0.1 mg/m³		960		2000		8		XRF	IOM 225-70A 108 FLT 225-1930 88

See page 212 for abbreviations.

Chemical Hazard	Agency Reference	SAMPLING								Analytical Method	SKC Collecting Equipment and Page No.
		WEL		Vol. (liter)		Rate (ml/min)		Time			
		TWA (ppm)	STEL (ppm)	TWA	STEL	TWA	STEL	TWA (hr)	STEL (min)		
Nicotine	MDHS 96	0.5 mg/m³	1.5 mg/m³	360		1000		6		GC-NPD	ST 226-30-04 38
Nitric acid	NIOSH 7903		1 ppm (2.6 mg/m³)	48	3	200	200	4	15	IC	ST 226-10-03 38
Nitrobenzene	MDHS 72	0.2 ppm (1 mg/m³)		24		50		8		TD, GC	ST 226-357 42
Nitrobenzene	MDHS 96	0.2 ppm (1 mg/m³)		48		100		8		GC-FID	ST 226-10 38
Nitrogen oxides	NIOSH 6014			1.5-6		25		1-4		VIS	ST 226-40 39
Nitromethane	NIOSH 2527	100 ppm (254 mg/m³)	150 ppm (381 mg/m³)	2.4		20		2		GC-NSD	ST 226-111A 40
2-Nitropropane	MDHS 96	5 ppm (19 mg/m³)				20		1.5		GC-FID	ST 226-110 40
di-n-Octyl phthalate	OSHA 104			240		1000		4		GC-FID	ST 226-56 38
Oil mist	MDHS 84/2			960	30	2000	2000	8	15	GR	IOM 225-70A 108 FLT 225-1930 88
Orthophosphoric acid	NIOSH 7903	1 mg/m³	2 mg/m³	48	3	200	200	4	15	IC	ST 226-10-03 38
Orthotoluidine	MDHS 75/2			200		500				HPLC	IOM 225-70A 108 FLT 225-58F 96 ST 226-35 38
Osmium tetraoxide (as Os)	MDHS 91/2	0.0002 ppm (0.002 mg/m³)	0.0006 ppm (0.006 mg/m³)	960		2000		8		XRF	IOM 225-70A 108 FLT 225-1930 88
Oxalic acid	OSHA PV2115	1 mg/m³	2 mg/m³	100		1000		100 min		IC	FLT 225-701 88 CST 225-3LF 97 C/HLD 225-1 102
2,2'-Oxydiethanol	NIOSH 5523	23 ppm (101 mg/m³)		60		1000		1		GC-FID	ST 226-57 39
Ozone	OSHA ID-214		0.2 ppm (0.4 mg/m³)	90		500		3		IC	CF/CST 225-9014 64 C/HLD 225-1 102
Paracetamol (inhalable dust)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 108 FLT 225-58F 96
Paraffin wax (fume)	OSHA PV2047	2 mg/m³	6 mg/m³	100		1000		100 min		GC-FID	F/CST 225-706 96 C/HLD 225-1 102
Paraquat dichloride (ISO) (respirable dust)	MDHS 14/4	0.08 mg/m³		1056		2200		8		GR	CYC 225-69 111 FLT 225-58F or IOM 225-70A 108 FOAM 225-772 108 FLT 225-58F
Pentacarbonyliron (as Fe)	OSHA CSI	0.01 ppm (0.08 mg/m³)		480	30	2000	2000	4	15	CLR	IMP 225-36-2 or IMP 225-36-5 67 IT 225-22 67
Pentaerythritol (inhalable dust)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 108 FLT 225-58F 96
Pentaerythritol (respirable dust)	MDHS 14/4	4 mg/m³		1056		2200 (2000)		8		GR	CYC 225-69 111 FLT 225-58F or IOM 225-70A 108 FOAM 225-772 108 FLT 225-58F
Pentan-2-one	MDHS 88	200 ppm (716 mg/m³)	250 ppm (895 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 75
Pentan-2-one	MDHS 96	200 ppm (716 mg/m³)	250 ppm (895 mg/m³)	10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Pentan-3-one	MDHS 88	200 ppm (716 mg/m³)	250 ppm (895 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 75
Pentane	MDHS 72, 80	600 ppm (1800 mg/m³)		varies		varies		varies		TD, GC	ST 226-358 42
Pentane	MDHS 88	600 ppm (1800 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 75
Pentane	MDHS 96	600 ppm (1800 mg/m³)		varies		varies		varies		GC-FID	ST 226-01 38
Pentyl acetates (all isomers)	MDHS 88	50 ppm (270 mg/m³)	100 ppm (541 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 75
Pentyl acetates (all isomers)	MDHS 96	50 ppm (270 mg/m³)	100 ppm (541 mg/m³)	varies		varies		varies		GC-FID	ST 226-01 38
Peroxodisulphate salts	MDHS 79/2			960	30	2000	2000	8	15	IC	IOM 225-70A 108 FLT 225-1930 88
Phenol	MDHS 96	2 ppm (7.8 mg/m³)	4 ppm (16 mg/m³)	24	3	100	200	4	15	GC-FID	ST 226-95 40
p-Phenyldiamine	OSHA 87	0.1 mg/m³		100		1000		100 min		HPLC-UV	CF/CST 225-9004 64 C/HLD 225-1 102
2-Phenylpropene (alpha-methyl styrene)	MDHS 72	50 ppm (246 mg/m³)	100 ppm (491 mg/m³)	24		50		8		TD, GC	ST 226-357 42
2-Phenylpropene (alpha-methyl styrene)	MDHS 88	50 ppm (246 mg/m³)	100 ppm (491 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 75
2-Phenylpropene (alpha-methyl styrene)	MDHS 96	50 ppm (246 mg/m³)	100 ppm (491 mg/m³)	10	3	20	200	8	15	GC-FID	ST 226-01 38
Phorate (ISO)	NIOSH 5600	0.05 mg/m³	0.2 mg/m³	240		1000		4		GC-FPD	ST 226-58 39
Phosgene	OSHA 61	0.02 ppm (0.08 mg/m³)	0.06 ppm (0.25 mg/m³)	240		1000		4		GC-NPD	ST 226-117 40
Phosphine	NIOSH 6002	0.1 ppm (0.14 mg/m³)	0.2 ppm (0.28 mg/m³)	12	3	100	200	2	15	UV-VIS	ST 226-165A 41
Phosphorus pentachloride	OSHA CSI	0.1 ppm (0.87 mg/m³)	0.2 ppm (2 mg/m³)	48		200		4		CLR	F/CST 225-803 93 IMP 225-36-1 67 IT 225-22 67 SCN 225-26 102
Phosphorus trichloride	OSHA CSI	0.2 ppm (1.1 mg/m³)	0.5 ppm (2.9 mg/m³)	240		1000		4		IC	IMP 225-36-2 or IMP 225-36-5 67 IT 225-22 67
Phosphorus yellow	OSHA CSI	0.1 mg/m³	0.3 mg/m³	96		200		8		GC-FPD	ST 226-35-03 39
Phthalic anhydride	MDHS 62/2	4 mg/m³	12 mg/m³	960	30	2000	2000	8	15	HPLC	IOM 225-70A 108 FLT 225-58F 96 ST 226-35 38
Picloram (ISO)	OSHA PV2049	10 mg/m³	20 mg/m³	60		1000		1		GR	FLT 225-5-37-P 93 CST 225-3LF 97
Picric acid	OSHA CSI	0.1 mg/m³	0.3 mg/m³	180		1500		2		HPLC-UV	IOM 225-70A 108 FLT 225-1930 88
Piperazine	OSHA CSI	0.1 mg/m³	0.3 mg/m³	10		100		8		HPLC-UV	ST 226-30-18 38
Piperazine dihydrochloride	MDHS 14/4	0.1 mg/m³	0.3 mg/m³	120		1000		8		GC-NPD	IOM 225-70A 108 FLT 225-58F 96
Piperidine	OSHA CSI	1 ppm (3.5 mg/m³)		6		200		30 min		GC-FID	ST 226-01 38
Plaster of Paris (inhalable dust)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 108 FLT 225-58F 96
Plaster of Paris (respirable dust)	MDHS 14/4	4 mg/m³		1056		2200		8		GR	CYC 225-69 111 FLT 225-58F or IOM 225-70A 108 FOAM 225-772 108 FLT 225-58F 96
Polychlorinated biphenyls (PCB)	ASTM 4861	0.1 mg/m³		960		2000		8		GC-ECD	PUF 226-124 41 PUF 226-92 40
Polychlorinated biphenyls (PCB)	OSHA PV2088	0.1 mg/m³		60		1000		1		GC-ECD	ST 226-30-16 38
Polyvinylchloride (inhalable dust)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 108 FLT 225-58F 96
Polyvinylchloride (respirable dust)	MDHS 14/4	4 mg/m³		1056		2200		8		GR	CYC 225-69 111 FLT 225-58F or IOM 225-70A 108 FOAM 225-772 108 FLT 225-58F 96

See page 212 for abbreviations.

Chemical Hazard	Agency Reference	SAMPLING								Analytical Method	SKC Collecting Equipment and Page No.
		WEL		Vol. (liter)		Rate (ml/min)		Time			
		TWA (ppm)	STEL (ppm)	TWA	STEL	TWA	STEL	TWA (hr)	STEL (min)		
Portland cement (inhalable dust)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 108 FLT 225-58F 96
Portland cement (respirable dust)	MDHS 14/4	4 mg/m³		1056		2200		8		GR	CYC 225-69 111 FLT 225-58F or IOM 225-70A 108 FOAM 225-772 FLT 225-58F 96
Potassium hydroxide	MDHS 14/4		2 mg/m³	10		2000		5		AA or AES	IOM 225-70A 108 FLT 225-1930 88
Prop-2-yn-1-ol	OSHA 97	1 ppm (2.3 mg/m³)	3 ppm (7 mg/m³)	6		50		2		GC-ECD	ST 226-178 41
Propan-1-ol	MDHS 72	200 ppm (500 mg/m³)	250 ppm (625 mg/m³)	24		50		8		TD, GC	ST 226-358 42
Propan-1-ol	MDHS 72	200 ppm (500 mg/m³)	250 ppm (625 mg/m³)	24		50		8		TD, GC	ST 226-358 42
Propan-1-ol	MDHS 88	200 ppm (500 mg/m³)	250 ppm (625 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 or PS 575-002 75
Propan-1-ol	MDHS 88	200 ppm (500 mg/m³)	250 ppm (625 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 or PS 575-002 75
Propan-1-ol	MDHS 96	200 ppm (500 mg/m³)	250 ppm (625 mg/m³)	varies		varies		varies		GC-FID	ST 226-01 38
Propan-1-ol	MDHS 96	200 ppm (500 mg/m³)	250 ppm (625 mg/m³)	10	3	20(50)	200	8(3.3)	15	GC-FID	ST 226-01 38
Propan-2-ol	MDHS 72	400 ppm (999 mg/m³)	500 ppm (1250 mg/m³)	24		50		8		TD, GC	ST 226-358 42
Propan-2-ol	MDHS 88	400 ppm (999 mg/m³)	500 ppm (1250 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 75
Propan-2-ol	MDHS 96	400 ppm (999 mg/m³)	500 ppm (1250 mg/m³)	3	3	20	200	2.5	15	GC-FID	ST 226-01 38
Propane-1,2-diol (particulates)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 108 FLT 225-58F 96
Propane-1,2-diol (total vapour & particulates)	OSHA PV2051	150 ppm (474 mg/m³)		60	15	1000	1000	1	15	GC-FID	ST 226-57 39
Propionic acid	OSHA CSI	10 ppm (31 mg/m³)	15 ppm (46 mg/m³)	10		20		8		GC-FID	ST 226-15 38
Propoxur (ISO)	NIOSH 5601	0.5 mg/m³	2 mg/m³	240		1000		4		HPLC-UV	ST 226-58 or ST 226-30-16 39
Propranolol	MDHS 14/4	2 mg/m³	6 mg/m³	960		2000		8		GR	IOM 225-70A 108 FLT 225-58F 96
n-Propyl acetate	MDHS 72	200 ppm (849 mg/m³)	250 ppm (1060 mg/m³)	24		50		8		TD, GC	ST 226-357 42
n-Propyl acetate	MDHS 88	200 ppm (849 mg/m³)	250 ppm (1060 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 75
n-Propyl acetate	MDHS 96	200 ppm (849 mg/m³)	250 ppm (1060 mg/m³)	10	3	20(50)	200	8(3.3)	15	GC-FID	ST 226-01 38
Propylene oxide	MDHS 72	5 ppm (12 mg/m³)		24		50		8		TD, GC	ST 226-357 42
Propylene oxide	MDHS 80, 88	5 ppm (12 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 75
Propylene oxide	MDHS 96	5 ppm (12 mg/m³)		5		20		4.2		GC-FID	ST 226-01 38
Pulverized fuel ash (inhalable)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 108 FLT 225-58F 96
Pulverized fuel ash (respirable)	MDHS 14/4	4 mg/m³		1056		2200 (2000)		8		GR	CYC 225-69 111 FLT 225-58F or IOM 225-70A 108 FOAM 225-772 FLT 225-58F 96
Pyrethrum	OSHA 70	1 mg/m³		60		1000		1		GC-ECD	ST 226-30-16 38
Pyridine	MDHS 72	5 ppm (16 mg/m³)	10 ppm (33 mg/m³)	24		50		8		TD, GC	ST 226-357 42
Pyridine	MDHS 88	5 ppm (16 mg/m³)	10 ppm (33 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 75
Pyridine	MDHS 96	5 ppm (16 mg/m³)	10 ppm (33 mg/m³)	40		100		8		GC-FID	ST 226-01 38
2-Pyridylamine	OSHA PV2143	0.5 ppm (2 mg/m³)	2 ppm (7.8 mg/m³)	240		1000		4		GC-NPD	F/CST 225-9004 65
Pyrocatechol	OSHA PV2014	5 ppm (23 mg/m³)		100		1000		100 min		HPLC-UV	ST 226-57 39
Refractory ceramic & special purpose fibres		5 mg/m³ (1 fibre/mm)		240		1000		8		PCM	FLT/CL 225-54A 102 FLT 225-1913 88
Rhodium (metal fume & dust) as Rh	MDHS 91/2	0.1 mg/m³	0.3 mg/m³	960	30	2000	2000	8	15	XRF	IOM 225-70A 108 FLT 225-1930 88
Rhodium (soluble salts) as Rh	MDHS 91/2	0.001 mg/m³	0.003 mg/m³	960	30	2000	2000	8	15	XRF	IOM 225-70A 108 FLT 225-1930 88
Rosin-based solder flux fume	MDHS 83/3	0.05 mg/m³	0.15 mg/m³	960	30	2000	2000	8	15	GC-FID	CST 225-8050K (kit) FLT 225-8050 96
Rotenone (ISO)	NIOSH 5007	5 mg/m³	10 mg/m³	120		1000		2		HPLC-UV	FLT 225-17-01 94 CST 225-2LF 97 C/HLD 225-1 102
Rouge (total inhalable)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 108 FLT 225-58F 96
Rouge (total respirable)	MDHS 14/4	4 mg/m³		1056		2200 (2000)		8		GR	CYC 225-69 111 FLT 225-58F or IOM 225-70A 108 FOAM 225-772 108 FLT 225-58F
Rubber fume	MDHS 47/3	0.6 mg/m³		960	500	2000	2000	8		GR + SE	IOM 225-70A 108 FLT 225-58F 96
Rubber process dust	MDHS 14/4	6 mg/m³		960	30	2000	2000	8	15	GR	IOM 225-70A 108 FLT 225-58F 96
Selenium & compounds (except hydrogen selenide) (as Se)	MDHS 91/2	0.1 mg/m³		960		2000		8		XRF	IOM 225-70A 108 FLT 225-1930 88
Silane		0.5 ppm (0.67 mg/m³)	1 ppm (1.3 mg/m³)	480		1000		4		AAS-GF	IMP 225-36-2 67 IMP 225-36-5 67 IT 225-22 67
Silica amorphous (inhalable dust)	MDHS 14/4	6 mg/m³		960	30	2000	2000	8	15	GR	IOM 225-70A 108 FLT 225-5-25 93
Silica amorphous (respirable dust)	MDHS 14/4	2.4 mg/m³		1056	30	2200 (2000)	2200/ 2000	8	15	GR	CYC 225-69 111 FLT 225-5-25 93 IOM 225-70A 108 FOAM 225-772 108 FLT 225-5-25 93
Silica fused (respirable dust)	MDHS 14/4	0.08 mg/m³		1056	33	2200	2200/ 2000	8	15	GR	CYC 225-69 111 FLT 225-5-25 93 IOM 225-70A 108 FOAM 225-772 108 FLT 225-5-25 93
Silica, crystalline (respirable)	MDHS 101	0.1 mg/m³		1056		2200 (2000)		8		IR / XRD	CYC 225-69 111 FLT 225-5-25 or IOM 225-70A 108 FOAM 225-772 108 FLT 225-5-25
Silica, crystalline (respirable)	MDHS 14/4	0.1 mg/m³		1056		2200 (2000)		8		GR	CYC 225-69 111 FLT 225-5-25 93 IOM 225-70A 108 FOAM 225-772 108 FLT 225-5-25 93
Silicone carbide (not whiskers) (total inhalable)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 108 FLT 225-58F 96

See page 212 for abbreviations.

Chemical Hazard	Agency Reference	SAMPLING								Analytical Method	SKC Collecting Equipment and Page No.
		WEL		Vol. (liter)		Rate (ml/min)		Time			
		TWA (ppm)	STEL (ppm)	TWA	STEL	TWA	STEL	TWA (hr)	STEL (min)		
Silicone carbide (not whiskers) (total respirable)	MDHS 14/4	4 mg/m³		1056		2200		8		GR	CYC 225-69 111 FLT 225-58F or IOM 225-70A 108 FOAM 225-772 108 FLT 225-58F 96
Silver (soluble compounds as Ag)	MDHS 91/2	0.01 mg/m³		960	30	2000	2000	8	15	XRF	IOM 225-70A 108 FLT 225-1930 88
Silver, metallic	MDHS 91/2	0.1 mg/m³		240	60	2000	2000	0.5	2	XRF	IOM 225-70A 108 FLT 225-1930 88
Sodium azide (as NaN_3)	OSHA ID-211	0.1 mg/m³	0.3 mg/m³		5		1000		5 min	IC-UV	ST 226-55 39 FLT 225-5-37-P 93 CST 225-2LF 97 SPC 225-23 102 C/HLD 225-1 102
Sodium hydrogen sulphite	OSHA ID-121	5 mg/m³		960		2000		8		AA or AES	F/CST 225-3-01 88 C/HLD 225-1 102
Sodium hydroxide	MDHS 14/4		2 mg/m³	960		2000		8		GR	IOM 225-70A 108 FLT 225-58F 96
Sodium-2-(2,4-dichlorophenoxy) ethyl sulphate	OSHA CSI	10 mg/m³	20 mg/m³	varies	varies	varies	varies			CLR	IOM 225-70A 108 FLT 225-1930 88
Softwood dust	MDHS 14/4	5 mg/m³		960	30	2000	2000	8	15	GR	IOM 225-70A 108 FLT 225-58F 96
Starch (respirable)	MDHS 14/4	4 mg/m³		1056		2200 (2000)		8		GR	CYC 225-69 111 FLT 225-58F or IOM 225-70A 108 FOAM 225-772 108 FLT 225-58F 96
Starch (total inhalable)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 108 FLT 225-58F 96
Styrene	MDHS 72, 80	100 ppm (430 mg/m³)	250 ppm (1080 mg/m³)	24		50		8		TD, GC	ST 226-357 42
Styrene	MDHS 88	100 ppm (430 mg/m³)	250 ppm (1080 mg/m³)	diffusive	diffusive	diffusive	diffusive	8	15	GC-FID	PS 575-006 75
Styrene	MDHS 96	100 ppm (430 mg/m³)	250 ppm (1080 mg/m³)	10	5	20(50)	330	8(3.3)	15	GC-FID	ST 226-01 38
Subtilisins (Bacillus subtilis BPN & Carlsberg)	OSHA CSI	0.00004 mg/m³						Bulk		Bulk	Bulk
Sucrose	MDHS 14/4	10 mg/m³	20 mg/m³	960		2000		8		GR	IOM 225-70A 108 FLT 225-58F 96
Sulfotep (tetraethyl dithisopyrophosphate, TEPD)	OSHA CSI Σ	0.1 mg/m³		480		1000		100 min		GC-FPD	ST 226-30-16 38
Sulphuric acid	NIOSH 7903	0.05 mg/m³		48		200		4		IC	ST 226-10-03 38
Sulphuric acid	OSHA 113	0.05 mg/m³		480		2000		4		IC	PPI 225-3861 FLT 225-5 93 IS 225-388 SP 225-27 103
Sulphuryl difluoride	NIOSH 6012	5 ppm (21 mg/m³)	10 ppm (42 mg/m³)	10		20		8		IC-ECN	ST 226-16 38
Talc (respirable dust)	MDHS 14/4	1 mg/m³		1056	33	2200	2200	8	15	GR	CYC 225-69 111 FLT 225-58F or IOM 225-70A 108 FOAM 225-772 108 FLT 225-58F 96
Tantalum	MDHS 91/2	5 mg/m³	10 mg/m³	240	6	2000	2000	0.5	2	XRF	IOM 225-70A 108 FLT 225-1930 88
Tellurium & compounds (except hydrogen telluride) as Te	MDHS 91/2	0.1 mg/m³		960		2000		8		XRF	IOM 225-70A 108 FLT 225-1930 88
Terphenyls (all isomers)	OSHA CSI		0.5 ppm (4.8 mg/m³)		8.5		1700		5	HPLC-FD	F/CST 225-709 96 C/HLD 225-1 102
1,1,2,2-Tetrabromomethane	MDHS 96	0.5 ppm (7.2 mg/m³)		96		200		8		GC-FID	ST 226-10 38
Tetracarbonylnickel	OSHA CSI		0.1 ppm (0.24 mg/m³)	480		1000		8		AA-GF	F/CST 225-709 96 C/HLD 225-1 102 IMP 225-36-2 67 IT 225-22 67
1,1,2,2-Tetrachloroethane	MDHS 88			diffusive	diffusive	diffusive	diffusive	8	15	GC-FID	PS 575-001 75
1,1,2,2-Tetrachloroethane	MDHS 96			10	3	20	200	8	15	GC-FID	ST 226-01 38
Tetrachloroethylene	MDHS 72, 80	50 ppm (345 mg/m³)	100 ppm (689 mg/m³)	24		50		8		TD, GC	ST 226-357 42
Tetrachloroethylene	MDHS 88	50 ppm (345 mg/m³)	100 ppm (689 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 75
Tetrachloroethylene	MDHS 96	50 ppm (345 mg/m³)	100 ppm (689 mg/m³)	3		20		2.5		GC-FID	ST 226-01 38
Tetrachlorophthalic anhydride	MDHS 62/2			240	7.5	500	500	8	15	HPLC	IOM 225-70A 108 FLT 225-58F 96 ST 226-35 38
Tetraethyl lead (as Pb)				960	120	2000	2000	8	60	AA	IOM 225-70A 108 FLT 225-1930 88
Tetrahydrofuran	MDHS 88	50 ppm (150 mg/m³)	100 ppm (300 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 75
Tetrahydrofuran	MDHS 96	50 ppm (150 mg/m³)	100 ppm (300 mg/m³)	9	1.5	20(50)	100	7(3)	15	GC-FID	ST 226-01 38
Tetrasodium pyrophosphate	OSHA ID-111	5 mg/m³		960		2000		8		GR IC	FLT 225-5-37-P 93 CST 225-2LF 97 C/HLD 225-1 102
Thallium (soluble compounds) (as Tl)	MDHS 91/2	0.1 mg/m³		960		2000		8		XRF	IOM 225-70A 108 FLT 225-1930 88
Thionyl chloride	OSHA CSI		1 ppm (4.9 mg/m³)		15		1000		15	IC	IMP 225-36-2 or IMP 225-36-5 67 IT 225-22 67
Tin compounds (inorganic except SnH_4) (as Sn)	MDHS 91/2	2 mg/m³	4 mg/m³	960		2000		8		XRF	IOM 225-70A 108 FLT 225-1930 88
Tin compounds (organic except cyhexatin) (ISO) (as Sn)	NIOSH 5504	0.1 mg/m³	0.2 mg/m³	480		1000		8		HPLC AA-GF	ST 226-30 38 F/CST 225-706 96 C/HLD 225-1 102
Titanium dioxide - respirable	MDHS 14/4	4 mg/m³		1056		2200 (2000)		8		GR	CYC 225-69 111 FLT 225-58F or IOM 225-70A 108 FOAM 225-772 108 FLT 225-58F
Titanium dioxide (inhalable)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 108 FLT 225-58F 96
Toluene	MDHS 72	50 ppm (191 mg/m³)	100 ppm (384 mg/m³)	24		50		8		TD, GC	ST 226-357 42
Toluene	MDHS 80	50 ppm (191 mg/m³)	100 ppm (384 mg/m³)	24		50		8		GC-ECD	ST 226-357 or ST 226-358 42
Toluene	MDHS 88	50 ppm (191 mg/m³)	100 ppm (384 mg/m³)	diffusive	diffusive	diffusive	diffusive	8	15	GC-FID	PS 575-001 75
Toluene	MDHS 96	50 ppm (191 mg/m³)	100 ppm (384 mg/m³)	6	3	100	200	1	15	GC-FID	ST 226-01 38
o-Toluidine	MDHS 75/2	0.2 ppm (0.89 mg/m³)		200		500				HPLC	IOM 225-70A 108 FLT 225-58F 96 ST 226-35
o-Toluidine	MDHS 96	0.2 ppm (0.89 mg/m³)		48		100		8		GC-FID	ST 226-10 38
o-Toluidine	MDHS 96			48		100		8		GC-FID	ST 226-10 38
Tributyl phosphate (all isomers)	NIOSH 5034	5 mg/m³	5 mg/m³	90		1500		1		GC-FPD	F/CST 225-3-01 88 C/HLD 225-1 102
1,2,4-Trichlorobenzene	MDHS 80	1 ppm	5 ppm	varies		varies		varies		GC-ECD	FLT 225-17-03 94 ST 226-30-04 38 CST Special order C/HLD 225-1 102

See page 212 for abbreviations.

Chemical Hazard	Agency Reference	SAMPLING								Analytical Method	SKC Collecting Equipment and Page No.
		WEL		Vol. (liter)		Rate (ml/min)		Time			
		TWA (ppm)	STEL (ppm)	TWA	STEL	TWA	STEL	TWA (hr)	STEL (min)		
1,1,1-Trichloroethane	MDHS 72, 80	100 ppm (555 mg/m³)	200 ppm (1110 mg/m³)	24		50		8		TD, GC	ST 226-358 42
1,1,1-Trichloroethane	MDHS 88	100 ppm (555 mg/m³)	200 ppm (1110 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 75
1,1,1-Trichloroethane	MDHS 96	100 ppm (555 mg/m³)	200 ppm (1110 mg/m³)		3		200		15	GC-FID	ST 226-01 38
1,1,2-Trichloroethane	MDHS 72			24		50		8		TD, GC	ST 226-358 42
1,1,2-Trichloroethane	MDHS 88			diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 75
1,1,2-Trichloroethane	MDHS 96			10	3	20	200	8	15	GC-FID	ST 226-01 38
Trichloroethylene	MDHS 72, 80	100 ppm (550 mg/m³)	150 ppm (820 mg/m³)	24		50		8		TD, GC	ST 226-357 42
Trichloroethylene	MDHS 88	100 ppm (550 mg/m³)	150 ppm (820 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 75
Trichloroethylene	MDHS 96	100 ppm (550 mg/m³)	150 ppm (820 mg/m³)	10	3	20(50)	200	8(3.3)	15	GC-FID	ST 226-01 38
Trichloronitromethane	OSHA PV2103	0.1 ppm (0.68 mg/m³)	0.3 ppm (2.1 mg/m³)	3		200		15 min		GC-ECD	ST 226-93 40
Triethylamine	OSHA PV2060	2 ppm (8 mg/m³)	4 ppm (17 mg/m³)	5	3	100	200	50	15	GC-FID	ST 226-98 40
Triglycidyl isocyanurate (TGIC)	MDHS 85/2	0.1 mg/m³		960	30	2000	2000	8	15	HPLC	IOM 225-70A 108 FLT 225-58F 96
Trimellitic anhydride	MDHS 62/2	0.04 mg/m³	0.12 mg/m³	240	7.5	500	500	8	15	HPLC	IOM 225-70A 108 FLT 225-58F 96 ST 226-35 38
Trimethylbenzenes (all isomers or mixtures)	MDHS 72, 80	25 ppm (125 mg/m³)		24		50		8		TD, GC	ST 226-357 42
Trimethylbenzenes (all isomers or mixtures)	MDHS 88	25 ppm (125 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 75
3,5,5-Trimethylcyclohex-2-enone	MDHS 72		5 ppm (29 mg/m³)	24		50		8		TD, GC	ST 226-357 42
3,5,5-Trimethylcyclohex-2-enone	MDHS 88		5 ppm (29 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 75
3,5,5-Trimethylcyclohex-2-enone	MDHS 96		5 ppm (29 mg/m³)	10		20(50)		8(3.3)		GC-FID	ST 226-01 38
2,4,6-Trinitrotoluene	OSHA 44	0.5 mg/m³		60		1000		1		GC-TEA-EAP	ST 226-56 39
Tri-o-tolyl phosphate	NIOSH 5037	0.1 mg/m³	0.3 mg/m³	90		1000		1.5		GC-FPD	F/CST 225-3-01 88 C/HLD 225-1 102
Triphenyl phosphate	NIOSH 5038	3 mg/m³	6 mg/m³	240		1000		4		GC-FPD	F/CST 225-3-01 88 C/HLD 225-1 102
Tungsten & insoluble compounds (as W) & others	MDHS 91/2	5 mg/m³	10 mg/m³	960		2000		8		XRF	IOM 225-70A 108 FLT 225-1930 88
Tungsten & soluble compounds (as W)	MDHS 91/2	1 mg/m³	3 mg/m³	960		2000		8		XRF	IOM 225-70A 108 FLT 225-1930 88
Turpentine	NIOSH 1551	100 ppm (566 mg/m³)	150 ppm (850 mg/m³)	10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Vanadium pentoxide	MDHS 91/2	0.05 mg/m³		960		2000		8		XRF	IOM 225-70A 108 FLT 225-1930 88
Vanadium pentoxide	NIOSH 7504	0.05 mg/m³		600		2600		4		XRD	F/CST 225-803 93 CYC 225-01-02 111 C/HLD 225-1 102
Vinyl chloride	MDHS 96	3 ppm (7.8 mg/m³)		5		50		1.6		GC-FID	ST 226-01 38
Vinylidene chloride	MDHS 88	10 ppm (40 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 75
Vinylidene chloride	MDHS 96	10 ppm (40 mg/m³)		5		20		4		GC-FID	ST 226-01 38
Welding fume	ISO 10882-1					750				GR	H/SET 225-6200 MINI 225-6201 CAL 225-6202 FLT 225-8050
Wood dust (inhalable)	MDHS 14/4			1056		2000		8		GR	IOM 225-70A 108 FLT 225-58F 96
Wood dust (respirable)	MDHS 14/4			1056		2200		8		GR	CYC 225-69 111 FLT 225-58F or IOM 225-70A 108 FOAM 225-772 108 FLT 225-58F 96
Wool process dust	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 108 FLT 225-58F 96
Xylene (o-,m-,p-, or mixed isomers)	MDHS 72, 80	50 ppm (220 mg/m³)	100 ppm (441 mg/m³)	24		50		8		TD, GC	ST 226-357 42
Xylene (o-,m-,p-, or mixed isomers)	MDHS 88	50 ppm (220 mg/m³)	100 ppm (441 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 75
Xylene (o-,m-,p-, or mixed isomers)	MDHS 96	50 ppm (220 mg/m³)	100 ppm (441 mg/m³)	21	3	50	200	7	15	GC-FID	ST 226-01 38
Yttrium	MDHS 91/2	1 mg/m³	3 mg/m³	960		2000		8		XRF	IOM 225-70A 108 FLT 225-1930 88
Zinc chloride (fume)	MDHS 91/2	1 mg/m³	2 mg/m³	960		2000		8		XRF	IOM 225-70A 108 FLT 225-1930 88
Zinc distearate (inhalable dust)	MDHS 91/2	10 mg/m³	20 mg/m³	960		2000		8		XRF	IOM 225-70A 108 FLT 225-1930 88
Zinc distearate (respirable dust)	MDHS 91/2	4 mg/m³		1056		2200 (2000)		8		XRF	CYC 225-69 111 FLT 225-1930 or IOM 225-70A 108 FOAM 225-772 108 FLT 225-1930 88
Zinc oxide	MDHS 14/4			960		2000		8		GR	IOM 225-70A 108 FLT 225-58F 96
Zirconium compounds (as Zr)	MDHS 91/2	5 mg/m³	10 mg/m³	960		2000		8		XRF	IOM 225-70A 108 FLT 225-1930 88

√ *Use two Cat. No. 226-35 tubes.*

¶ *Use two Cat. No. 226-36 tubes.*

§ *Use Cat. No. 226-44-02 if RH is 50% or greater.*

† *Filter requires coating.*

£ *The filter is not analysed.*

Σ *Contact HSE for more details on sampling and analysis.*

See page 212 for abbreviations.

A

Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	CLG/STEL (ppm)	Vol. (liter) TWA	CLG/STEL Sample Time or Air Volume	Rate (ml/min) TWA	CLG/STEL Flow/Sampling Rate	Time TWA (hrs)	CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
Abietic acid	OSHA CSI				200		2000		1.6		HPLC-UV	F/CST 225-709 96 225-32 102 C/HLD 225-1 102
Absidia species (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST 225-3-01 90 C/HLD 225-1 102
Absidia species (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI 225-9611 120
Acenaphthene (Polynuclear Aromatic Hydrocarbons by GC-MS)	ASTM D 6209				350 m^3 (max)		225 L/min		1-24		GC-MS	PUF 226-131 45 FLT 225-1808 95
Acenaphthene (Polynuclear Aromatic Hydrocarbons by GC)	NIOSH 5515				480		2000		4		GC-FID	F/CST C/HLD 225-1713 94 225-1 102 ST 226-30-04 38
Acenaphthene (Polynuclear Aromatic Hydrocarbons by HPLC)	NIOSH 5506				480		2000		4		HPLC-UV	F/CST C/HLD 225-1713 94 225-1 102 ST 226-30-04 38
Acenaphthylene (Polynuclear Aromatic Hydrocarbons by GC)	NIOSH 5515				480		2000		4		GC-FID	F/CST C/HLD 225-1713 94 225-1 102 ST 226-30-04 38
Acenaphthylene (Polynuclear Aromatic Hydrocarbons by GC-MS)	ASTM D 6209				350 m^3 (max)		225 L/min		1-24		GC-MS	PUF 226-131 45 FLT 225-1808 95
Acenaphthylene (Polynuclear Aromatic Hydrocarbons by HPLC)	NIOSH 5506				480		2000		4		HPLC-UV	F/CST C/HLD 225-1713 94 225-1 102 ST 226-30-04 38
Acetaldehyde	ASTM D 5197				varies		500-1200		5 min-24 hrs		HPLC-UV	ST 226-120 ° or ST 226-119 40
Acetaldehyde	NIOSH 2538		LFC		10		20		8		GC-FID	ST 226-27 38
Acetaldehyde	NIOSH 3507		LFC		60		125		8		HPLC	IMP 225-36-2 67 IT 225-22 67
Acetaldehyde	OSHA 68	1007	200		3	0.75	50	50	1	15	GC-NPD	ST 226-27 38
Acetaldehyde (Aldehydes, Screening)	NIOSH 2539		LFC		5		10		8		GC-FID & GC-MS	ST 226-118 40
Acetamide	OSHA PV2084				10		20(50)		8(3.3)		GC-NPD	ST 226-10 38
Acetates (screening)	NIOSH 2549				5		20		4		GC-MS	ST 226-330 42
Acetic acid	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST CPC 226-300 Series 224-26-CPC 42 51 TH 224-26-02 51
Acetic acid	NIOSH 1603		10	15	24		50		8		GC-FID	ST 226-01 38
Acetic acid	OSHA ID 186SG		10		48		200		4		IC or GC-FID	ST 226-01 38
Acetic acid	OSHA PV2119				48		200		4		IC or GC-FID	ST 226-01 38
Acetic anhydride	NIOSH 3506			5	90		1000		1.5		VAS	IMP 225-36-2 67 IT 225-22 67
Acetic anhydride	OSHA 102	1392	5		7.5	7.5	50	500	2.5	15	GC-NPD	CF/CST 225-9010 †† 64 C/HLD 225-1 102
Acetic anhydride	OSHA 82	1391	5		0.75		50		15 min		GC-NPD	CF/CST 225-9009 64 C/HLD 225-1 102
Acetoin	NIOSH 2558				1-10		10-200		varies		GC-FID	ST NA SKC
Acetoin (acetyl methyl carbinol)	OSHA 1012		0.05		9	3	50	200	3	15	GC-FID	ST 226-183 41
Acetoin (acetyl methyl carbinol)	OSHA 1013		0.05		9	3	50	200	3	15	GC-FID	ST 226-183 41
Acetone	ASTM D 5197				varies		500-1200		5 min-24 hrs		HPLC-UV	ST 226-120 ° or ST 226-119 40
Acetone	OSHA 69		1000		3		50		1		GC-FID	ST NA SKC
Acetone (Ketones I)	NIOSH 1300		250		2	0.75	20	50	100 min	15	GC-FID	ST 226-01 38
Acetone (Ketones I)	NIOSH 2555				0.5 - 3		10-200		varies		GC-FID	ST NA SKC
Acetonitrile	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST CPC 226-300 Series 224-26-CPC 42 51 TH 224-26-02 51
Acetonitrile	NIOSH 1606		20		10		20(50)		8(3.3)		GC-FID	ST 226-09 38
Acetophenone	OSHA PV2003				12		100		2		GC-FID	ST 226-35 38
Acetyl methyl carbinol (acetoin)	NIOSH 2558				1-10		10-200		varies		GC-FID	ST NA SKC
2-Acetylaminofluorene	OSHA CSI				240		1000		4		HPLC-UV	F/CST 225-706 96 C/HLD 225-1 102
Acetylene tetrabromide	OSHA CSI		1		96		200		8		GC-FID	ST 226-10 38
Acetylene tetrabromide (1,1,2,2-tetrabromoethane)	NIOSH 2003				96		200		8		GC-FID	ST 226-10 38
Acetylsalicylic acid	OSHA CSI				120		1000		2		HPLC-UV	F/CST 225-709 96 C/HLD 225-1 102
Acid black 128	OSHA CSI				200		1000		3.3		HPLC-UV	F/CST 225-706 96 C/HLD 225-1 102
Acid blue 9	OSHA CSI				100		1000		100 min		HPLC-UV	F/CST 225-706 96 C/HLD 225-1 102
Acid orange 74	OSHA CSI				200		1000		3.3		HPLC-UV	F/CST 225-706 96 C/HLD 225-1 102
Acid red 114	OSHA CSI				120		1000		2		HPLC-UV	F/CST 225-709 96 C/HLD 225-1 102
Acid yellow 34	OSHA CSI				100		1000		100 min		HPLC-UV	F/CST 225-706 96 C/HLD 225-1 102
Acid yellow 42	OSHA CSI				100		1000		100 min		HPLC-FD	F/CST 225-706 96 C/HLD 225-1 102
Acremonium species (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST 225-3-01 90 C/HLD 225-1 102
Acremonium species (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI 225-9611 120
Acridine	OSHA 58	1077	0.2 mg/m^3		960		2000		8		GR & HPLC-FD, or GR & HPLC-UV	FLT C/HLD 225-7 225-1 96 102 CST 225-2LF 97
Acrolein	NIOSH 2501		0.1	0.3	24	3	50	200	8	15	GC-NPD	ST 226-118 40
Acrolein	OSHA 52		0.1		48	3	100	200	8	15	GC-NPD	ST 226-117 40

Agency standards for OSHA listings represent the OSHA PELs reported in the 29 CFR 1910.1000 Part 1910, Section 1000.

References and abbreviations are found on pages 212-213.

Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	CLG/STEL (ppm)	Vol. (liter) TWA	CLG/STEL Sample Time or Air Volume	Rate (ml/min) TWA	CLG/STEL Flow/Sampling Rate	Time TWA (hrs)	CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
Acrolein (Aldehydes, Screening)	NIOSH 2539		0.1	0.3	5		10		8		GC-FID & GC-MS	ST 226-118 40
Acrylamide	OSHA 21		0.3 mg/m³		120		1000		2		GC-NPD	ST 226-10 38 FLT 225-16 96 CST 225-32 102
Acrylamide	OSHA PV2004		0.3 mg/m³		120		1000		2		HPLC-UV	ST 226-57 39
Acrylic acid	NON 10				48		100		8		GC	ST 226-70A 39
Acrylic acid	OSHA 28				24		100		4		HPLC-UV	ST 226-30-08 38
Acrylonitrile	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
Acrylonitrile	NIOSH 1604	1266	1	10 (15 min)	10	3	20(50)	200	8(3.3)	15	GC-FID	ST 226-01 38
Acrylonitrile	OSHA 37	1265	2	10	20	6	200	400	100 min	15	GC-NPD	ST 226-01 38
Actinomycetes, thermophilic	NIOSH 0800				varies		28300		varies		varies	BI 225-9611 120
Adipic acid	OSHA CSI				96		200		8		GC-FID	ST 226-30-16 38
Adiponitrile	OSHA CSI				10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Aerobic bacteria (by GC-FAME)	NIOSH 0801				50-300		28300		varies		GC-FID	BI 225-9611 120
Alcohols (screening)	NIOSH 2549				5		20		4		GC-MS	ST 226-330 42
Alcohols combined	NIOSH 1405		varies	varies	varies	varies	10-200	10-200	varies	varies	GC-FID	ST 226-01 38
Alcohols I *(see specific compounds)*	NIOSH 1400		varies		varies		varies		varies		GC-FID	ST 226-01 38
Alcohols II *(see specific compounds)*	NIOSH 1401		varies		varies		varies		8		GC-FID	ST 226-01 38
Alcohols III *(see specific compounds)*	NIOSH 1402		varies		varies		varies		8		GC-FID	ST 226-01 38
Alcohols IV *(see specific alcohol)*	NIOSH 1403		varies		varies		varies		varies		GC-FID	ST 226-01 38
Aldehydes	EPA TO-5	1671			< 80 L		100-1000 ml/min				HPLC-UV	IMP 225-36-1 67 IT 225-22 67
Aldehydes (screening)	NIOSH 2539		varies		5		20		4		GC-FID & GC-MS	ST 226-118 40
Aldehydes (screening)	NIOSH 2549				5		20		4		GC-MS	ST 226-330 42
Aldicarb (Organonitrogen Pesticides)	NIOSH 5601				240		1000		4		HPLC-UV	ST 226-58 or ST 226-30-16 38
Aldicarb (Temik)	OSHA 74	1399			480		1000		8		GC-NPD	ST 226-30-16 38
Aldrin	ASTM D 4861				240-7200		1000-5000		4-24		GC-ECD	PUF 226-92 44
Aldrin	NIOSH 5502		0.25 mg/m³		240		500		8		GC-ECN	F/CST 225-709 96 IMP 225-36-2 67 IT 225-22 67 C/HLD 225-1 102
Aldrin	OSHA CSI		0.25 mg/m³		240		1000		4		GC-ECN	F/CST 225-709 96 IMP 225-36-2 67 IT 225-22 67 C/HLD 225-1 102
Aliphatic hydrocarbons (screening)	NIOSH 2549				5		20		4		GC-MS	ST 226-330 42
Alkaline dusts	NIOSH 7401					30		2000		15	TITRA	F/CST 225-1715 94 C/HLD 225-1 102
Allethrin	ASTM D 4861				240-7200		1000-5000		4-24		HPLC-UV	PUF 226-92 44
Allyl alcohol	OSHA CSI		2		10	3	20(50)	200	8(3.3)	15	GC-FID	ST 226-01 38
Allyl alcohol	OSHA PV2140		2 (skin)		10		50		200 min		GC-FID	ST 226-01 38
Allyl alcohol (Alcohols Combined)	NIOSH 1405		2	4 (skin)	1-10	1-10	10-200	10-200	varies	varies	GC-FID	ST 226-01 38
Allyl alcohol (Alcohols III)	NIOSH 1402		2	4	10	3	20(50)	200	8(3.3)	15	GC-FID	ST 226-01 38
Allyl chloride	NIOSH 1000		1	2		15		1000		15	GC-FID	ST 226-01 38
Allyl chloride	OSHA 07	1126	1		10	3	20(50)	200	8(3.3)	15	GC-FID	ST 226-01 38
Allyl glycidyl ether	NIOSH 2545		5	10	6	3	50	200	2	15	GC-FID	ST 226-35-03 39
Allyl propyl disulfide	OSHA PV2086		2		10		20(50)		8(3.3)		GC-FPD	ST 226-110 40
Alternaria species (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST 225-3-01 90 C/HLD 225-1 102
Alternaria species (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI 225-9611 120
Alumina (aluminum & compounds [total dust as Al])	NIOSH 7013		10 mg/m³		360		1000		6		AA-F	F/CST 225-3-01 90 C/HLD 225-1 102
Alumina (particulates, respirable)	NIOSH 0600	1038			375		2500		2.5		GR	CYC 225-01-02 111 C/HLD 225-1 102 F/CST 225-803 93
Alumina (particulates, total)	NIOSH 0500	1035			120		2000		1		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CST 225-2LF 97
alpha-Alumina (respirable fraction)	OSHA CSI		5 mg/m³		varies		varies		varies		GR	CYC 225-105 110 F/CST 225-803 93 C/HLD 225-1 102
alpha-Alumina (total dust)	OSHA CSI		15 mg/m³		960		2000		8		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CST 225-2LF 97
Aluminum (Elements by Cellulosic Internal Capsule Sampler)	NIOSH 7306		10 mg/m³ (total dust)	5 mg/m³ (respirable)	1-330		1000-4000		Varies		ICP-AES	SC 225-8517 90 C/HLD 225-1 102
Aluminum & compounds (total dust as Al)	NIOSH 7013		10 mg/m³		360		1000		6		AA-F	F/CST 225-3-01 90 C/HLD 225-1 102
Aluminum (Elements by ICP Aqua Regia Ashing)	NIOSH 7301		10 mg/m³ (total dust)		5-100		1000-4000		varies		ICP-AES	F/CST 225-3-01 or F/CST 225-803 93 C/HLD 225-1 102
Aluminum (Elements by ICP HNO_3 Digestion)	NIOSH 7303		10 mg/m³ (total dust) 5 mg/m³ (respirable fume)		2-10,000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102

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Agency standards for OSHA listings represent the OSHA PELs reported in the 29 CFR 1910.1000 Part 1910, Section 1000.

References and abbreviations are found on pages 212-213.

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Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	CLG/STEL (ppm)	Vol. (liter) TWA Sample Time or Air Volume	CLG/STEL	Rate (ml/min) TWA Flow/Sampling Rate	CLG/STEL	Time TWA (hrs)	CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
Aluminum (Elements by ICP $HNO_3/HClO_4$ Ashing)	NIOSH 7300	1455	10 mg/m³ (total dust) 5 mg/m³ (respirable dust)		5-100		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Aluminum (respirable fraction)	OSHA CSI		5 mg/m³		varies		varies		varies		GR	F/CST 225-803 93 C/HLD 225-1 102 CYC 225-105 110
Aluminum (total dust)	OSHA CSI		15 mg/m³		960		2000		8		GR	FLT 225-5-37-P 93 CST 225-2LF 97 C/HLD 225-1 102
Aluminum soluble salts	OSHA ID 121				960		2000		8		AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Aluminum welding fumes	OSHA CSI				960		2000		8		GR	FLT 225-5-37-P 93 CST 225-2LF 97 C/HLD 225-1 102
Aluminum, pyro powders	OSHA CSI				960		2000		8		GR	FLT 225-5-37-P 93 CST 225-2LF 97 C/HLD 225-1 102
Alupent	OSHA CSI				720		2000		6		HPLC-UV	F/CST 225-709 96 C/HLD 225-1 102
Amiben	OSHA CSI				240		1000		4		HPLC-UV	F/CST 225-709 96 C/HLD 225-1 102
Amines	NIOSH 2002		varies		20		40		8		GC-FID or GC-NSD	ST 226-10 38
Amines, aliphatic	NIOSH 2010		varies		24		50		8		GC-FID	ST 226-10 38
2-Amino-2-methy-1-propanol	OSHA CSI				9		100		90 min		GC-NPD	ST 226-10 38
2-Amino-2-methy-1-propanol	OSHA PV2145				10		100		100 min		HPLC-UV	ST 226-30-16 38
4-Aminobiphenyl	OSHA 93	1233			100		1000		100 min		GC-ECD	CF/CST 225-9004 64 C/HLD 225-1 102
2-Aminoethanol	NIOSH 2007		3	6	10		20		8		GC-FID	ST 226-10-04 38
2-Aminoethanol	NIOSH 3509		3	6	240		1000		4		IC	IMP 225-36-1 67 IT 225-22 67
2-Aminoethanol	OSHA PV2111		3		10	1.5	100	100	100 min	15	HPLC-UV	ST 226-30-18 38
Aminoethanol compounds I *(see specific compounds)*	NIOSH 2007		varies		varies		varies		8		GC-FID	ST 226-10-04 38
Aminoethanol compounds II *(see specific compounds)*	NIOSH 3509		varies		240		1000		4		IC	IMP 225-36-1 67 IT 225-22 67
Aminoethylethanolamine	OSHA PV2116				10		100				HPLC-UV	ST 226-30-18 38
N-Aminoethylpiperazine	OSHA CSI				9		100		90 min		GC-NPD	ST 226-98 40
p-Aminophenylarsonic acid (arsenic, organo-)	NIOSH 5022				960		2000		8		IC-AA	FLT 225-17-01 94 C/HLD 225-1 102 CST 225-3LF 97
2-Aminopyridine	OSHA CSI		0.5		12		200		1		GC-FID	ST 226-35-02 38
2-Aminopyridine	OSHA PV2143		0.5		240		1000		4		GC-NPD	CF/CST 225-9004 64 C/HLD 225-1 102
3-Aminopyridine	OSHA PV2143				240		1000		4		GC-NPD	CF/CST 225-9004 64 C/HLD 225-1 102
4-Aminopyridine	OSHA PV2143				240		1000		4		GC-NPD	CF/CST 225-9004 64 C/HLD 225-1 102
Amitrole	OSHA PV2006				60		1000		1		HPLC-UV	IMP 225-36-1 67 IT 225-22 67
Ammonia	NIOSH 6015		25	35	72	3	150	200	8	15	VAS	ST 226-10-06 38 F/CST 225-3-01** 90
Ammonia	NON 41				18	5	75	500	4	10	CLR	ST 226-61 39
Ammonia	OSHA ID 188	1008	50		24	7.5	100	500	4	15	IC-CD	ST 226-29 38
Ammonia (by IC)	NIOSH 6016		25	35	48	3	100	200	8	15	IC	ST 226-10-06 38 F/CST 225-3-01 90
Ammonium chloride (fume)	OSHA ID 188				960	30	2000	2000	8	15	IC-CD	F/CST 225-3-01 90 C/HLD 225-1 102
Ammonium hydroxide *(see ammonia)*												
Ammonium metavanadate *(see vanadium oxides)*	NIOSH 7504											
Ammonium nitrate	OSHA CSI				960		2000		8		GR	FLT 225-5-37-P 93 CST 225-2LF 97 C/HLD 225-1 102
Ammonium sulfamate (respirable dust)	OSHA CSI		5 mg/m³		varies		varies		varies		GR	CYC 225-105 110 F/CST 225-803 93 C/HLD 225-1 102
Ammonium sulfamate (total dust)	OSHA CSI		15 mg/m³		960		2000		8		GR	FLT 225-5-37-P 93 CST 225-2LF 97 C/HLD 225-1 102
Ammonium sulfamate (total dust)	OSHA ID 188		15 mg/m³		960		2000		8		GR & IC-ECN	F/CST 225-3-01 90 C/HLD 225-1 102
n-Amyl acetate	OSHA 07		100		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
sec-Amyl acetate (2-pentyl acetate)	OSHA 07		125		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
n-Amyl acetate (Esters I)	NIOSH 1450		100		1-10		10-200		varies		GC-FID	ST 226-01 38
Amyl nitrite	OSHA CSI				8		50		2.5		HPLC-UV	ST 226-01 38
Aniline	NIOSH 2017		LFC		24		200		2		GC-FID	CF/CST 225-9004 64 ST 226-15 38
Aniline	OSHA PV2079		5		24		50		8		GC-FID	ST 226-98 40
Aniline (Amines, Aromatic)	NIOSH 2002	1058	LFC		24		50		8		GC-FID or GC-NSD	ST 226-10 38
o-Anisaldehyde	OSHA CSI				96		200		8		HPLC-UV	ST 226-30 38
Anisidine	NIOSH 2514		0.5 mg/m³		240		1000		4		HPLC-UV	ST 226-30-05 38
Anisidine (o- & p-isomers)	OSHA CSI		0.5 mg/m³		240		1000		4		HPLC-UV	ST 226-30-05 38
Anthophyllite fibers *(see asbestos fibers)*	NIOSH 7400											
Anthracene	OSHA 58	1075	0.2 mg/m³		960		2000		8		GR & HPLC-FD, or GR & HPLC-UV	FLT 225-7 96 C/HLD 225-1 102 CST 225-2LF 97

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References and abbreviations are found on pages 212-213.

Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	Agency Standard CLG/STEL (ppm)	Vol. (liter) TWA Sample Time or Air Volume	Vol. (liter) CLG/STEL Sample Time or Air Volume	Rate (ml/min) TWA Flow/Sampling Rate	Rate (ml/min) CLG/STEL Flow/Sampling Rate	Time TWA (hrs)	Time CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
Anthracene (Polynuclear Aromatic Hydrocarbons by GC-MS)	ASTM D 6209				350 m^3 (max)		225 L/min		1-24		GC-MS	PUF 226-131 45; FLT 225-1808 95
Anthracene (Polynuclear Aromatic Hydrocarbons by GC)	NIOSH 5515				480		2000		4		GC-FID	F/CST 225-1713 94; C/HLD 225-1 102; ST 226-30-04 38
Anthracene (Polynuclear Aromatic Hydrocarbons by HPLC)	NIOSH 5506				480		2000		4		HPLC-UV	F/CST 225-1713 94; C/HLD 225-1 102; ST 226-30-04 38
Antimony & compounds (as Sb)	OSHA ID 121		0.5 mg/m^3		960		2000		8		AA or AES	F/CST 225-3-01 90; C/HLD 225-1 102
Antimony & compounds (as Sb)	OSHA ID 125G		0.5 mg/m^3		480		2000		4		ICP-AES	F/CST 225-3-01 or F/CST 225-803 or C/HLD 225-1 102; F/CST 225-3100 or F/CST 225-8215 or 93
Antimony (Elements by Cellulosic Internal Capsule Sampler)	NIOSH 7306		0.05 mg/m^3		1-2000		1000-4000		Varies		ICP-AES	SC 225-8517 90; C/HLD 225-1 102
Antimony (Elements by ICP Aqua Regia Ashing)	NIOSH 7301		0.5 mg/m^3		50-2000		1000-4000		varies		ICP-AES	F/CST 225-3-01 or C/HLD 225-1 102; F/CST 225-803 ¥ 93
Antimony (Elements by ICP HNO_3 Digestion)	NIOSH 7303		0.5 mg/m^3		3-100,000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90; C/HLD 225-1 102
Antimony (Elements by ICP HNO_3/$HClO_4$ Ashing)	NIOSH 7300	1455	0.5 mg/m^3		50-2000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90; C/HLD 225-1 102
Antimony (ICP Analysis of Metal/metalloid Particulates from Solder Operations)	OSHA ID 206		0.5 mg/m^3		480		2000		4		ICP-AES	F/CST 225-3-01 90; C/HLD 225-1 102
ANTU (alphanaphthyl thiourea)	OSHA CSI		0.3 mg/m^3		480		2000		4		HPLC-UV	FLT 225-17-01 94; C/HLD 225-1 102; CST 225-2LF 97
Apron	OSHA PV2102				60		1000		1		HPLC-UV	F/CST 225-709 96; C/HLD 225-1 102
Aroclor	ASTM D 4861				240-7200		1000-5000		4-24		GC-ECD	PUF 226-92 44
Aroclor	NIOSH 5602				480		1000		8		GC-ECD	ST 226-58 39
Aroclor 1242	ASTM D 4861				240-7200		1000-5000		4-24		GC-ECD	PUF 226-92 44
Aroclor 1242 (42% Cl) *(see polychlorobiphenyls)*	NIOSH 5503											
Aroclor 1254	ASTM D 4861				240-7200		1000-5000		4-24		GC-ECD	PUF 226-92 44
Aroclor 1254 (54% Cl) *(see polychlorobiphenyls)*	NIOSH 5503											
Aroclor 1260	ASTM D 4861				240-7200		1000-5000		4-24		GC-ECD	PUF 226-92 44
Aromatic hydrocarbons (screening)	NIOSH 2549				5		20		4		GC-MS	ST 226-330 42
Arsenic (Elements by Cellulosic Internal Capsule Sampler)	NIOSH 7306		0.002 mg/m^3		32-2000		1000-4000		Varies		ICP-AES	SC 225-8517 90; C/HLD 225-1 102
Arsenic & compounds (as As)	NIOSH 7900		2 µg/m^3 (15 min)		30		2000		15		AA-F	F/CST 225-3-01 90; C/HLD 225-1 102
Arsenic (Elements by ICP Aqua Regia Ashing)	NIOSH 7301		0.002 mg/m^3		5-2000		1000-4000		varies		ICP-AES	F/CST 225-3-01 or C/HLD 225-1 102; F/CST 225-803 ¥ 93
Arsenic (Elements by ICP HNO_3 Digestion)	NIOSH 7303		0.002 mg/m^3		8-5,000,000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90; C/HLD 225-1 102
Arsenic (Elements by ICP HNO_3/$HClO_4$ Ashing)	NIOSH 7300	1040	0.002 mg/m^3 (C)		5-2000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90; C/HLD 225-1 102
Arsenic (Elements on Wipes)	NIOSH 9102				wipe						ICP-AES	W 225-2414 140; TMP 225-2415 140; TMP 225-2403 or
Arsenic (inorganic compounds as As)	OSHA ID 105		0.01 mg/m^3		960		2000		8		AAS-HGA	F/CST 225-3-01 90; C/HLD 225-1 102
Arsenic trioxide as AS	NIOSH 7901		2 mg/m^3 (15 min)		30		2000		15		AAS-GF	FLT 225-5 ‡ 88; C/HLD 225-1 102; CST 225-2LF 97
Arsenic, inorganic (volatile compounds as As)	OSHA ID 105		0.01 mg/m^3		960		2000		8		AAS-HGA	CF/CST 225-9001 64; C/HLD 225-1 102
Arsenic, organo-	NIOSH 5022				960		2000		8		IC-AA	FLT 225-17-01 94; C/HLD 225-1 102; CST 225-2LF 97
Arsine	NIOSH 6001	1278	2 µg/m^3 (15 min)		10	3	20	200	8	15	AAS-GF	ST 226-01 38
Arylam *(see carbaryl)*												
Asbestos	OSHA ID 160	1301	0.1 fbr/cc	1 fbr/cc EL	25-1200	25-1200	500-2500	500-2500	varies	varies	PCM	FLT/CL 225-321 or FLT/CL 225-321A or; FLT/CL 225-326 or FLT/CL 225-327 90
Asbestos ((bulk) by PLM)	NIOSH 9002		1% (bulk)		bulk						PLM	
Asbestos (by TEM)	NIOSH 7402		0.1 fbr/cc/400L		960		2000		8		TEM	FLT/CL 225-327 90
Asbestos (chrysotile)	NIOSH 9000				bulk						XRD	
Asbestos (mass concentrations)	ASTM D 5756	1440			varies		2000		2 min (minimum)		TEM	MVC 225-322 142
Asbestos (structure number concentrations)	ASTM D 5755	1440			varies		2000		2 min (minimum)		TEM	MVC 225-322 142
Asbestos fibers	NIOSH 7400	1033	0.1 fbr/cc/400L		varies		varies		varies		PCM	FLT/CL 225-321 or FLT/CL 225-321A or; FLT/CL 225-326 or FLT/CL 225-327 90
Aspartame	NIOSH 5031				480		1000		8		HPLC-UV	FLT 225-17-01 94; C/HLD 225-1 102; CST 225-2LF 97
Aspergillus flavipes species (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST 225-3-01 90; C/HLD 225-1 102
Aspergillus flavipes species (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI 225-9611 120
Aspergillus flavus species (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST 225-3-01 90; C/HLD 225-1 102
Aspergillus flavus species (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI 225-9611 120
Aspergillus fumigatus species (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST 225-3-01 90; C/HLD 225-1 102
Aspergillus fumigatus species (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI 225-9611 120

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References and abbreviations are found on pages 212-213.

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Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	Agency Standard CLG/STEL (ppm)	Vol. (liter) TWA Sample Time or Air Volume	Vol. (liter) CLG/STEL Sample Time or Air Volume	Rate (ml/min) TWA Flow/Sampling Rate	Rate (ml/min) CLG/STEL Flow/Sampling Rate	Time TWA (hrs)	Time CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
Aspergillus glaucus species (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST 225-3-01 90 C/HLD 225-1 102
Aspergillus glaucus species (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI 225-9611 120
Aspergillus nidulans species (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST 225-3-01 90 C/HLD 225-1 102
Aspergillus nidulans species (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI 225-9611 120
Aspergillus niger species (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST 225-3-01 90 C/HLD 225-1 102
Aspergillus niger species (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI 225-9611 120
Aspergillus ochraceus (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST 225-3-01 90 C/HLD 225-1 102
Aspergillus ochraceus (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI 225-9611 120
Aspergillus versicolor (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST 225-3-01 90 C/HLD 225-1 102
Aspergillus versicolor (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI 225-9611 120
Asphalt fume (benzene-soluble & total particulate)	NIOSH 5042			5 mg/m³ (15 min) (C)	360	60	1000	4000	6	15	GR	FLT 225-27-07 94 SP 225-27 103 CST 225-2LF 97
Asphalt fume particulate	ASTM D 6494				960		2000		8		GR	F/CST 225-1713 94 C/HLD 225-1 102
Asphalt fumes (petroleum)	OSHA 58	1078			960		2000		8		GR & HPLC-FD, or GR & HPLC-UV	FLT 225-7 96 CST 225-2LF 97 C/HLD 225-1 102
Atrazine	ASTM D 4861				240-7200		1000-5000		4-24		GC-NPD	PUF 226-92 44
Atrazine	NIOSH 5602		5		480		1000		8		GC-ECD	ST 226-58 39
Atrazine	OSHA CSI				240		1000		4		HPLC-UV	F/CST 225-706 96 C/HLD 225-1 102
Auramine	OSHA CSI				100		1000		100 min		HPLC-UV	F/CST 225-709 96 C/HLD 225-1 102
Aureobasidium pullulans (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST 225-3-01 90 C/HLD 225-1 102
Aureobasidium pullulans (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI 225-9611 120
Aureobasidium species (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST 225-3-01 90 C/HLD 225-1 102
Aureobasidium species (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI 225-9611 120
Azelaic acid	NIOSH 5019				960		2000		8		GC-FID	F/CST 225-803 93 C/HLD 225-1 102
Azinphos-ethyl	OSHA CSI				480		1000		8		GC-FPD	ST 226-30-16 38
Azinphos-methyl	OSHA PV2087		0.2 mg/m³		480		1000		8		GC-FPD	ST 226-30-16 38
Azinphos-methyl (Organophosphorus Pesticides)	NIOSH 5600		0.2 mg/m³		240		1000		4		GC-FPD	ST 226-58 39
1,1'-Azobisformamide	OSHA CSI				90		1000		1.5		HPLC-UV	ST 226-30-16 38
Bacteria	NIOSH 0800				varies		28300		varies		varies	BI 225-9611 120
Bacteria (by GC-FAME)	NIOSH 0801				50-300		28300		varies		GC-FID	BI 225-9611 120
Bacteria (in air)	NON 48				62.5-375		12500 +		5-30		varies	BS 225-9595 122 VT 225-9598A◊ 122
Barium (Elements by Cellulosic Internal Capsule Sampler)	NIOSH 7306				3-2000		1000-4000		Varies		ICP-AES	SC 225-8517 90 C/HLD 225-1 102
Barium (Elements by ICP Aqua Regia Ashing)	NIOSH 7301		0.5 mg/m³		50-2000		1000-4000		varies		ICP-AES	F/CST 225-3-01 or 102 C/HLD 225-1 F/CST 225-803 ¥ 93
Barium (Elements by ICP HNO_3 Digestion))	NIOSH 7303				1-100,000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Barium (Elements on Wipes)	NIOSH 9102				wipe						ICP-AES	W 225-2414 140 TMP 225-2415 140 TMP 225-2403 or
Barium (insoluble compounds)	OSHA ID 121				960		2000		8		AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Barium (soluble compounds)	NIOSH 7056		0.5 mg/m³		960		2000		8		AA	F/CST 225-3-01 90 C/HLD 225-1 102
Barium (soluble compounds)	OSHA ID 121		0.5 mg/m³		960		2000		8		AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Barium chloride (barium, soluble compounds)	NIOSH 7056		0.5 mg/m³		960		2000		8		AA	F/CST 225-3-01 90 C/HLD 225-1 102
Barium sulfate (respirable fraction)	OSHA ID 204	1216	5 mg/m³		varies		varies		varies		GR & XRF	CYC 225-105 110 C/HLD 225-1 102 F/CST 225-3-01 90
Barium sulfate (total dust)	OSHA ID 121	1217	15 mg/m³		960		2000		8		AA or AES	F/CST 225-802 93 C/HLD 225-1 102
Baygon (propoxur)	ASTM D 4861				240-7200		1000-5000		4-24		HPLC-UV	PUF 226-92 44
Baygon (propoxur)	OSHA PV2007				48		100		8		HPLC-UV	ST 226-30-16 38
Bendiocarb	ASTM D 4861				240-7200		1000-5000		4-24		HPLC-UV	PUF 226-92 44
Bendiocarb (Ficam)	OSHA PV2008				240		1000		4		HPLC-UV	ST 226-30-16 38
Benomyl (Organonitrogen Pesticides)	NIOSH 5601				240		1000		4		HPLC-UV	ST 226-58 or ST 226-30-16 38
Benomyl (respirable dust)	OSHA CSI		5 mg/m³		varies		varies		varies		HPLC-UV	ST 226-30-16 38 CYC 225-105 110
Benomyl (total dust)	OSHA PV2107		15 mg/m³		60		1000		1		HPLC-UV	ST 226-30-16 38
Bentonite *(see dust, total and respirable nuisance)*												
Benz(a)anthracene	OSHA CSI				960		2000		8		HPLC-UV	F/CST 225-709 96 C/HLD 225-1 102
Benz(a)anthracene (Polynuclear Aromatic Hydrocarbons by GC-MS)	ASTM D 6209				350 m³ (max)		225 L/min		1-24		GC-MS	PUF 226-131 45 FLT 225-1808 95
Benz(a)anthracene (Polynuclear Aromatic Hydrocarbons by GC)	NIOSH 5515				480		2000		4		GC-FID	F/CST 225-1713 94 ST 226-30-04 38 C/HLD 225-1 102
Benz(a)anthracene (Polynuclear Aromatic Hydrocarbons by HPLC)	NIOSH 5506				480		2000		4		HPLC-FD	F/CST 225-1713 94 ST 226-30-04 38 C/HLD 225-1 102
Benzaldehyde	ASTM D 5197				varies		500-1200		5 min-24 hrs		HPLC-UV	ST 226-120 ° or ST 226-119 40
Benzene	ASTM D 5466				6		varies		varies		GC-MS	CAN 228 Series PK 228 Series

Agency standards for OSHA listings represent the OSHA PELs reported in the 29 CFR 1910.1000 Part 1910, Section 1000.

References and abbreviations are found on pages 212-213.

Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	Agency Standard CLG/STEL (ppm)	Vol. (liter) TWA Sample Time or Air Volume	Vol. (liter) CLG/STEL Sample Time or Air Volume	Rate (ml/min) TWA Flow/Sampling Rate	Rate (ml/min) CLG/STEL Flow/Sampling Rate	Time TWA (hrs)	Time CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
Benzene	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
Benzene	OSHA 1005	1749	1	5	12	0.75	50	50	4	15	GC-FID	ST 226-01 38
Benzene	OSHA 1005	1749	1	5					8	15	GC-FID	PS 575-002 75
Benzene	OSHA 12	1009	1	5	10	3	200	200	50 min	15	GC-FID	ST 226-01 38
Benzene (by portable GC)	NIOSH 3700	1029	0.1	1 (15 min)	varies		20-5000		varies		P GC-PID	SB 232 Series 55
Benzene (Hydrocarbons, Aromatic)	NIOSH 1501		0.1	1	5-30	5-30	10-200	10-200	varies	varies	GC-FID	ST 226-01 38
alpha-Benzene hexachloride	ASTM D 4861				240-7200		1000-5000		4-24		GC-ECD	PUF 226-92 44
beta-Benzene hexachloride	ASTM D 4861				240-7200		1000-5000		4-24		GC-ECD	PUF 226-92 44
gamma-Benzene hexachloride	ASTM D 4861				240-7200		1000-5000		4-24		GC-ECD	PUF 226-92 44
1,2-Benzenedicarboxylic acid	OSHA CSI				240		1000		4		GC-FID	ST 226-56 39
Benzene-soluble & total particulate (asphalt fume)	NIOSH 5042			5 mg/m³ (15 min) (C)	360	60	1000	4000	6	15	GR	FLT 225-27-07 94 SP 225-27 103 CST 225-2LF 97
Benzene-soluble particulate matter	ASTM D 4600	1416			960		2000		8		GR	FLT 225-7 96 SP 225-27 103 CST 225-2LF 97 C/HLD 225-1 102
Benzidine	NIOSH 5509		LFC		96		200		8		HPLC-UV	FLT 225-16 96 CST 225-32 102
Benzidine	OSHA 65	1239			100		1000		100 min		GC-ECD	CF/CST 225-9004 64 C/HLD 225-1 102
Benzidine dyes (dyes, benzidine)	NIOSH 5013		LFC		480		1000		8		HPLC	FLT 225-17A 94 CST 225-3LF 97 C/HLD 225-1 102
Benzidine-based dyes	OSHA CSI				480		1000		8		HPLC-UV	FLT 225-17-04 94 CST 225-3LF 97 C/HLD 225-1 102
Benzo(a)pyrene (Polynuclear Aromatic Hydrocarbons by GC)	NIOSH 5515		0.1 mg/m³		480		2000		4		GC-FID	F/CST 225-1713 94 ST 226-30-04 38 C/HLD 225-1 102
Benzo(a)pyrene (Polynuclear Aromatic Hydrocarbons by GC-MS)	ASTM D 6209				350 m³ (max)		225 L/min		1-24		GC-MS	PUF 226-131 45 FLT 225-1808 95 PEM 761-200B 114 FLT 225-1709 94
Benzo(a)pyrene (Polynuclear Aromatic Hydrocarbons by HPLC)	NIOSH 5506				480		2000		4		HPLC-FD	F/CST 225-1713 94 ST 226-30-04 38 C/HLD 225-1 102
Benzo(b)fluoranthene (Polynuclear Aromatic Hydrocarbons by GC-MS)	ASTM D 6209				350 m³ (max)		225 L/min		1-24		GC-MS	PUF 226-131 45 FLT 225-1808 95 PEM 761-203B 114 FLT 225-1709 94
Benzo(b)fluoranthene (Polynuclear Aromatic Hydrocarbons by GC)	NIOSH 5515				480		2000		4		GC-FID	F/CST 225-1713 94 ST 226-30-04 38 C/HLD 225-1 102
Benzo(b)fluoranthene (Polynuclear Aromatic Hydrocarbons by HPLC)	NIOSH 5506				480		2000		4		HPLC-FD	F/CST 225-1713 94 ST 226-30-04 38 C/HLD 225-1 102
Benzo(e)pyrene	OSHA CSI				960		2000		8		HPLC-UV	F/CST 225-706 96 C/HLD 225-1 102
Benzo(e)pyrene (Polynuclear Aromatic Hydrocarbons by GC)	NIOSH 5515				480		2000		4		GC-FID	F/CST 225-1713 94 ST 226-30-04 38 C/HLD 225-1 102
Benzo(e)pyrene (Polynuclear Aromatic Hydrocarbons by GC-MS)	ASTM D 6209				350 m³ (max)		225 L/min		1-24		GC-MS	PUF 226-131 45 FLT 225-1808 95
Benzo(e)pyrene (Polynuclear Aromatic Hydrocarbons by HPLC)	NIOSH 5506				480		2000		4		HPLC-FD	F/CST 225-1713 94 ST 226-30-04 38 C/HLD 225-1 102
Benzo(g,h,i)perylene (Polynuclear Aromatic Hydrocarbons by GC-MS)	ASTM D 6209				350 m³ (max)		225 L/min		1-24		GC-MS	PUF 226-131 45 FLT 225-1808 95
Benzo(g,h,i)perylene (Polynuclear Aromatic Hydrocarbons by GC)	NIOSH 5515				480		2000		4		GC-FID	F/CST 225-1713 94 ST 226-30-04 38 C/HLD 225-1 102
Benzo(g,h,i)perylene (Polynuclear Aromatic Hydrocarbons by HPLC)	NIOSH 5506				480		2000		4		HPLC-FD	F/CST 225-1713 94 ST 226-30-04 38 C/HLD 225-1 102
Benzo(k)fluoranthene (Polynuclear Aromatic Hydrocarbons by GC)	NIOSH 5515				480		2000		4		GC-FID	F/CST 225-1713 94 ST 226-30-04 38 C/HLD 225-1 102
Benzo(k)fluoranthene (Polynuclear Aromatic Hydrocarbons by HPLC)	NIOSH 5506				480		2000		4		HPLC-FD	F/CST 225-1713 94 ST 226-30-04 38 C/HLD 225-1 102
Benzoalphapyrene	OSHA 58		0.2 mg/m³		960		2000		8		GR & HPLC-FD, or GR & HPLC-UV	FLT 225-7 96 CST 225-2LF 97 C/HLD 225-1 102
2,3-Benzofuran	OSHA CSI				96		200		8		HPLC-UV	ST 226-30 38
Benzoic acid	OSHA CSI				24		100		4		GC-FID	ST 226-115 40
Benzophenone	NON 39				480		1000		8		GC-FID	ST 226-56 39
Benzophenone	OSHA PV2130		0.5 mg/m³		48		200		4		GC-FID	ST 226-110 40
Benzophenonetetracarboxylic acid dianhydride	OSHA CSI				100		1000		100 min		HPLC	FLT 225-17-04 94 CST 225-2LF 97 C/HLD 225-1 102
Benzothiazole in asphalt fume	NIOSH 2550				480		1000		8		GC-SCD	F/CST 225-1713 94 ST 226-30-04 38 C/HLD 225-1 102
2-Benzothiazolethiol	OSHA CSI				240		2000		2		HPLC-UV	F/CST 225-706 96 C/HLD 225-1 102
Benzotrichloride	OSHA ID 216SG				12		200		1		GC-FID	ST 226-35-03 39
Benzoyl chloride	OSHA CSI				90		1000		1.5		GC-ECD	IMP 225-36-1 67 IT 225-22 67
Benzoyl peroxide	NIOSH 5009		5 mg/m³		90		1500		1		HPLC-UV	F/CST 225-3-01 90 C/HLD 225-1 102
Benzyl acetate	OSHA PV2124				10		100		100 min		GC-FID	ST 226-73 39

Agency standards for OSHA listings represent the OSHA PELs reported in the 29 CFR 1910.1000 Part 1910, Section 1000.

References and abbreviations are found on pages 212-213.

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Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	Agency Standard CLG/STEL (ppm)	Vol. (liter) TWA Sample Time or Air Volume	Vol. (liter) CLG/STEL Sample Time or Air Volume	Rate (ml/min) TWA Flow/Sampling Rate	Rate (ml/min) CLG/STEL Flow/Sampling Rate	Time TWA (hrs)	Time CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
Benzyl alcohol	OSHA PV2009				24		100		4		GC-FID	ST 226-95 40
Benzyl chloride	ASTM D 5466				6		varies		varies		GC-MS	CAN 228 Series PK 228 Series
Benzyl chloride	OSHA 07	1187	1		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Benzyl chloride (hydrocarbons, halogenated)	NIOSH 1003		1		10		10-200		varies		GC-FID	ST 226-01 38
Beryllium & compounds	OSHA ID 125G		2 µg/m³	5 µg/m³	480	60	2000	2000	4	15	ICP-AES	F/CST 225-3-01 or F/CST 225-3100 or F/CST 225-803 or F/CST 225-8215 or C/HLD 225-1 102 93
Beryllium & compounds (as Be)	NIOSH 7102			0. 5 µg/m³	960		2000		8		AA-GF	F/CST 225-3-01 90 C/HLD 225-1 102
Beryllium (Elements by Cellulosic Internal Capsule Sampler)	NIOSH 7306		0.0005 mg/m³	0.005 mg/m³	10-2000		1000-4000		Varies		ICP-AES	SC 225-8517 90 C/HLD 225-1 102
Beryllium (Elements by ICP Aqua Regia Ashing)	NIOSH 7301		0.0005 mg/m³		1250-2000		1000-4000		varies		ICP-AES	F/CST 225-3-01 or F/CST 225-803 ¥ 93 C/HLD 225-1 102
Beryllium (Elements by ICP HNO_3 Digestion))	NIOSH 7303				35-25,000,000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Beryllium (Elements by ICP HNO_3/$HClO_4$ Ashing)	NIOSH 7300	1455	0.0005 mg/m³		1250-2000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Beryllium (Elements on Wipes)	NIOSH 9102				wipe						ICP-AES	W 225-2414 140 TMP 225-2403 or TMP 225-2415 140
Beryllium (ICP analysis of metal/metalloid particulates from solder operations)	OSHA ID 206		2 mg/m³	5 mg/m³ (C)	480	10	2000	2000	4	5	ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Beryllium (in air by portable fluorometry)	NIOSH 7704		2 mg/m³	5 mg/m³ (C)	240-2000		1000-4000				P FLUOR UV/VIS	F/CST 225-3-01 or F/CST 225-3100 90 C/HLD 225-1 102
Betasan	OSHA CSI				480		1000		8		GC-FPD	ST 226-30-16 38
BHC (alpha-, beta-, gamma-)	ASTM D 4861				240-7200		1000-5000		4-24		GC-ECD	PUF 226-92 44
Bioaerosol sampling	NIOSH 0800				varies		28300		varies		varies	BI 225-9611 120
Bioaerosols					15-150		15000		1-10 min		varies	STC 225-9820 101
Bioaerosols	NON 48				62.5-375		12500 +		5-30		varies	BS 225-9595 122 VT 225-9598A◊ 122
Biphenyl (diphenyl)	NIOSH 2530		0.2		10		20(50)		8(3.3)		GC-FID	ST 226-35-01 38
Bipolaris species (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST 225-3-01 90 C/HLD 225-1 102
Bipolaris species (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI 225-9611 120
4,4'-Bipyridine (vapor & aerosol)	NON 26				96	2	200	200	8	10	HPLC	ST 226-30-05 38 F/CST 225-706 96 C/HLD 225-1 102
Bis (tributyltin) oxide (tin, organic compounds [as Sn])	OSHA CSI				960		2000		8		AA-GF	F/CST 225-709 96 C/HLD 225-1 102
Bismuth	OSHA CSI				960		2000		8		AA	F/CST 225-3-01 90 C/HLD 225-1 102
Bismuth (Elements by ICP HNO_3 Digestion))	NIOSH 7303				1-10,000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Bismuth telluride, Se-doped	OSHA ID 121		5 mg/m³		960		2000		8		AA or AES	FLT 225-5-37-P 93 C/HLD 225-1 102 CST 225-2LF 97
Bismuth telluride, undoped (respirable dust)	OSHA ID 121		5 mg/m³		varies		varies		varies		GR & AA or GR & AES	CYC 225-105 110 C/HLD 225-1 102 F/CST 225-803 93
Bismuth telluride, undoped (total dust)	OSHA CSI		15 mg/m³		960		2000		8		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CST 225-2LF 97
Bisphenol A	OSHA 1018				240		1000		240 (min)		HPLC-UV/ PDA	F/CST 225-709 96 C/HLD 225-1 102
Bladex	OSHA CSI				100		1000		100 min		HPLC-UV	IMP 225-36-1 67 IT 225-22 67
Borates tetrasodium salts (anhydrous, decahydrate & pentahydrate)	OSHA ID 125G				480		2000		4		ICP-AES	F/CST 225-3-01 or F/CST 225-3100 or F/CST 225-803 or F/CST 225-8215 93 C/HLD 225-1 102
Boric acid (total dust)	OSHA CSI				960		2000		8		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CST 225-2LF 97
Boron (Elements by ICP HNO_3 Digestion))	NIOSH 7303				1-3300		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Boron (total dust)	OSHA CSI				960		2000		8		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CST 225-2LF 97
Boron carbide	NIOSH 7506				600		2500		4		XRD	F/CST 225-803 93 C/HLD 225-1 102 CYC 225-01-02 111
Boron oxide (particulates, respirable)	NIOSH 0600	1038			375		2500		2.5		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CYC 225-01-02 111 CST 225-3LF 97
Boron oxide (particulates, total)	NIOSH 0500	1035			120		2000		1		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CST 225-2LF 97
Boron oxide (total dust)	OSHA CSI		15 mg/m³		480		2000		4		ICP-AES	FLT 225-5-37-P 93 C/HLD 225-1 102 CST 225-2LF 97
Boron tribromide	OSHA CSI					5		1000		5	IC	IMP 225-36-2 67 IT 225-22 67
Boron trifluoride	OSHA CSI			1 (C)		15		1000		15	ISE	IMP 225-36-2 67 IT 225-22 67
Botran	OSHA CSI				400		1000		6.7		HPLC-UV	F/CST 225-706 96 C/HLD 225-1 102
Bromacil	OSHA CSI				50		1000		50 min		HPLC-UV	IMP 225-36-1 67 IT 225-22 67
Bromine	NIOSH 6011	1329	0.1	0.3	240	15	1000	1000	4	15	IC	CF/CST 225-9006 64 C/HLD 225-1 102
Bromine	OSHA ID 108		0.1		120	7.5	500	500	4	15	IC	IMP 225-36-2 67 IT 225-22 67
Bromine pentafluoride	OSHA CSI				48		200		4		IC	ST 226-10-03 38
Bromoethane (ethyl bromide)	NIOSH 1011				4		20(50)		3.3(1.3)		GC-FID	ST 226-01 38

Agency standards for OSHA listings represent the OSHA PELs reported in the 29 CFR 1910.1000 Part 1910, Section 1000.

References and abbreviations are found on pages 212-213.

Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	CLG/STEL (ppm)	Vol. (liter) TWA	CLG/STEL Sample Time or Air Volume	Rate (ml/min) TWA	CLG/STEL Flow/Sampling Rate	Time TWA (hrs)	CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
Bromoform	OSHA 07	1127	0.5		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Bromoform (hydrocarbons, halogenated)	NIOSH 1003		0.5 (skin)		10		10-200		varies		GC-FID	ST 226-01 38
1-Bromopropane	NIOSH 1025				0.1-12		10-200		varies		GC-FID	ST 226-01 38
1-Bromopropane	OSHA 1017				12		50		240 (min)		GC-FID	ST 226-01 38
1-Bromopropane	OSHA PV2061				12		100		2		GC-FID	ST 226-01 38
2-Bromopropane	NIOSH 1025				0.1-12		10-200		varies		GC-FID	ST 226-01 38
2-Bromopropane	OSHA 1017				12		50		240 (min)		GC-FID	ST 226-01 38
2-Bromopropane	OSHA PV2062				12		100		2		GC-FID	ST 226-01 38
Bromotrifluoromethane (trifluorobromomethane)	NIOSH 1017		1000		0.3		20		15 min		GC-FID	ST 226-09 38 ST 226-01 38
Bromoxynil	NIOSH 5010				240		1000		4		HPLC-UV	F/CST 225-1713 94 C/HLD 225-1 102
Bromoxynil octanoate	NIOSH 5010				240		1000		4		HPLC-UV	F/CST 225-1713 94 C/HLD 225-1 102
Bronkosol	OSHA CSI				480		1000		8		HPLC	F/CST 225-706 96 C/HLD 225-1 102
Brucine	OSHA CSI				180		1000		3		HPLC-UV	F/CST 225-706 96 C/HLD 225-1 102
BTEX (hydrocarbons, aromatic. *See benzene, toluene, ethylbenzene, and xylene)*	NIOSH 1501		varies		varies		varies		varies		GC-FID	ST 226-01 38
1,3-Butadiene	NIOSH 1024	1010	LFC		10		20		8		GC-FID	ST 226-37 39
1,3-Butadiene	OSHA 56	1011	1	5	3		50		1		GC-FID	ST 226-73 39
Butane	OSHA CSI				10		20(50)		8(3.3)		GC-FID	ST 226-01 38
1,3-Butanediol	OSHA CSI				60		2000		30 min		GC-FID	ST 226-57 39
1-Butanethiol (butyl mercaptan)	NIOSH 2525			0.5	1		50		15		GC-FPD	ST 226-109 40
n-Butanol (alcohols combined)	NIOSH 1405		50 (skin)		2-10		10-200		varies		GC-FID	ST 226-01 38
2-Butanone	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
2-Butanone	OSHA 1004		200		12		50		4		GC-FID	ST NA SKC
2-Butanone (Ketones I)	NIOSH 2555				1-10		10-200		varies		GC-FID	ST NA SKC
2-Butanone (methyl ethyl ketone)	NIOSH 2500	1012	200	300	10	3	20(50)	200	8(3.3)	15	GC-FID	ST 226-81A 39
2-Butanone (methyl ethyl ketone)	OSHA 1004		200				16.88		8		GC-FID	PS 575-002 75
2-Butanone (methyl ethyl ketone)	OSHA 16	1282	200		3	1.5	100	100	30 min	15	GC-FID	ST 226-10 38
2-Butanone (methyl ethyl ketone)	OSHA 84		200		3	0.75	50	50	1	15	GC-FID	ST NA SKC
Butene	OSHA CSI				1		20		50 min		GC-FID	ST 226-01 38
2-Butoxyethanol (alcohols IV)	NIOSH 1403	1275	5 (skin)		2-10		10-50		varies		GC-FID	ST 226-01 38
2-Butoxyethanol (butyl CELLOSOLVE solvent)	OSHA 83		50		48		100		8		GC-FID	ST 226-01 38
2-Butoxyethanol acetate	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
2-Butoxyethanol acetate (butyl CELLOSOLVE acetate)	OSHA 83				48		100		8		GC-FID	ST 226-01 38
n-Butyl acetate	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
n-Butyl acetate	OSHA 07		150		10	3	20(50)	200	8(3.3)	15	GC-FID	ST 226-01 38
n-Butyl acetate	OSHA 1009	1750	150		12	0.75	50	50	4	15	GC-FID	ST 226-01 38
n-Butyl acetate	OSHA 1009	1750	150				13.07	13.07	8	15	GC-FID	PS 575-002 75
sec-Butyl acetate	OSHA 07		200		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
sec-Butyl acetate	OSHA 1009	1750	200		12	0.75	50	50	4	15	GC-FID	ST 226-01 38
sec-Butyl acetate	OSHA 1009	1750	200				12.74	12.74	8	15	GC-FID	PS 575-002 75
t-Butyl acetate	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
t-Butyl acetate	OSHA 07		200		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
t-Butyl acetate	OSHA 1009	1750	200		12	0.75	50	50	4	15	GC-FID	ST 226-01 38
t-Butyl acetate	OSHA 1009	1750	200				13.09	13.09	8	15	GC-FID	PS 575-002 75
n-Butyl acetate (Esters I)	NIOSH 1450	1272	150	200	1-10	1-10	10-200	10-200	varies	varies	GC-FID	ST 226-01 38
sec-Butyl acetate (Esters I)	NIOSH 1450		200		1-10		10-200		varies		GC-FID	ST 226-01 38
t-Butyl acetate (Esters I)	NIOSH 1450		200		1-10		10-200		varies		GC-FID	ST 226-01 38
Butyl acrylate	OSHA PV2011				12		50		4		GC-FID	ST 226-73 39
n-Butyl acrylate	NON 54		5	15	10	3	20	200	8	15	GC-FID	ST 226-81A 39
n-Butyl alcohol	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
n-Butyl alcohol	OSHA 07		100		10	1	20	200	8	5	GC-FID	ST 226-01 38
sec-Butyl alcohol	OSHA 07		150		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
t-Butyl alcohol	OSHA 07		100		10	3	20(50)	200	8(3.3)	15	GC-FID	ST 226-01 38
n-Butyl alcohol (alcohols combined)	NIOSH 1405		50 (skin)		2-10		10-200		varies		GC-FID	ST 226-01 38
sec-Butyl alcohol (alcohols combined)	NIOSH 1405		100	150	2-10	2-10	10-200	10-200	varies	varies	GC-FID	ST 226-01 38
t-Butyl alcohol (Alcohols I)	NIOSH 1400		100	150	10		20(50)		8(3.3)		GC-FID	ST 226-01 38

Agency standards for OSHA listings represent the OSHA PELs reported in the 29 CFR 1910.1000 Part 1910, Section 1000.

References and abbreviations are found on pages 212-213.

B

Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	Agency Standard CLG/STEL (ppm)	Vol. (liter) TWA Sample Time or Air Volume	Vol. (liter) CLG/STEL Sample Time or Air Volume	Rate (ml/min) TWA Flow/Sampling Rate	Rate (ml/min) CLG/STEL Flow/Sampling Rate	Time TWA (hrs)	Time CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
n-Butyl alcohol (alcohols II)	NIOSH 1401			50	10	3	20(50)	200	8(3.3)	15	GC-FID	ST 226-01 38
sec-Butyl alcohol (alcohols II)	NIOSH 1401		100	150	10	3	20(50)	200	8(3.3)	15	GC-FID	ST 226-01 38
Butyl benzyl phthalate	OSHA CSI				180		1000		3		HPLC-UV	F/CST 225-706 96 C/HLD 225-1 102
Butyl butryrate	OSHA PV2090				10		200		50 min		GC-FID	ST 226-01 38
Butyl carbitol (diethylene glycol monobutyl ether)	OSHA PV2095				10		200		50 min		GC-FID	ST 226-01 38
Butyl carbitol acetate	OSHA PV2095				10		200		50 min		GC-FID	ST 226-01 38
Butyl CELLOSOLVE acetate *(see 2-butoxyethanol acetate)*	OSHA 83											
Butyl CELLOSOLVE solvent *(see 2-butoxyethanol)*	OSHA 83											
t-Butyl chromate (as CrO_3)	OSHA ID 215 (V2)	1439	0.005 mg/m³		960		2000			15	IC-UV	F/CST 225-802 93 C/HLD 225-1 102
n-Butyl glycidyl ether	NIOSH 1616			5.6 (15 min)		3		200		15	GC-FID	ST 226-01 38
n-Butyl glycidyl ether	OSHA 07	1125	50		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
t-Butyl glycidyl ether	OSHA CSI				10		200		50 min		GC-FID	ST 226-01 38
Butyl isocyanate	OSHA CSI				15		50		5		HPLC-UV	ST NA SKC
n-Butyl lactate	OSHA PV2080				10		200		50 min		GC-FID	ST 226-01 38
n-Butyl mercaptan	NIOSH 2525			0.5		1		50		15	GC-FPD	ST 226-109 40
Butyl mercaptan (butanethiol)	OSHA CSI		10		1.5		25		1		GC-FPD	ST 226-109 40
n-Butyl mercaptan (mercaptans)	NIOSH 2542	1330		0.5 (15 min)	48	12	100	200	8	60	GC-FPD	CF/CST 225-9007 64 C/HLD 225-1 102
t-Butyl methyl ether	OSHA CSI				96		200		8		GC-FID	ST 226-37 39
t-Butyl methyl ether (MTBE)	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 CPC 224-26-CPC 51 TH 224-26-02 51
Butyl ziram	OSHA PV2065				180		1000		3		HPLC-UV	ST 226-30-16 38
N-t-Butyl-2-benzothiazolesulfenamide	OSHA CSI				120		1000		2		HPLC-UV	F/CST 225-709 96 C/HLD 225-1 102
Butylamine	OSHA CSI			5 (C)		5		1000		5	GC-FID	ST 226-53 39
n-Butylamine	NIOSH 2012			5		15		1000		15	GC-FID	ST 226-53 39
Butylated hydroxytoluene	OSHA PV2108				100		1000		100 min		GC-FID	ST 226-57 39
sec-Butylbenzene	OSHA CSI				6		100		1		GC-FID	ST 226-01 38
1,3-Butylene glycol (glycols)	NIOSH 5523	1404			60		1000		1		GC-FID	ST 226-57 39
o-sec-Butylphenol	OSHA PV 2128				20		200		1.6		HPLC-UV	ST 226-95 40
p-tert-Butylphenol	OSHA PV2085				20		200		100 min		GC-FID	ST 226-95 40
Butyltin trichloride	OSHA ID 217SG				240		1000		4		AA-GF	ST 226-30-16 38
p-tert-Butyltoluene	OSHA 07	1129	10		10	3	20(50)	200	8(3.3)	15	GC-FID	ST 226-01 38
p-tert-Butyltoluene (Hydrocarbons, Aromatic)	NIOSH 1501		10	20	1-29	1-29	10-200	10-200	varies	varies	GC-FID	ST 226-01 38
Butyraldehyde	ASTM D 5197				varies		500-1200		5 min-24 hrs		HPLC-UV	ST 226-120 ° or ST 226-119 40
Butyraldehyde (Aldehydes, Screening)	NIOSH 2539				5		20		4		GC-FID & GC-MS	ST 226-118 40
Butyric acid	OSHA CSI				18		100		3		GC-FID	ST 226-15 38
beta-Butyrolactone	OSHA CSI				9.6		20		8		GC-FID	ST 226-01 38
gamma-Butyrolactone	OSHA CSI				10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Cadmium	OSHA ID 189	1456	5 µg/m³		960		2000		8		AA	F/CST 225-3-01 90 C/HLD 225-1 102
Cadmium & compounds (as Cd)	NIOSH 7048	1467	LFC		480	30	1000	2000	8	15	AA-F	F/CST 225-3-01 90 C/HLD 225-1 102
Cadmium (Elements by Cellulosic Internal Capsule Sampler)	NIOSH 7306		LFC		3-2000		1000-4000		Varies		ICP-AES	SC 225-8517 90 C/HLD 225-1 102
Cadmium (Elements by ICP Aqua Regia Ashing)	NIOSH 7301		LFC		13-2000		1000-4000		varies		ICP-AES	F/CST C/HLD 225-3-01 225-1 or 102 F/CST 225-803 ¥ 93
Cadmium (Elements by ICP HNO_3 Digestion))	NIOSH 7303				3-500,000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Cadmium (Elements by ICP HNO_3/$HClO_4$ Ashing)	NIOSH 7300	1280	LFC		13-2000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Cadmium (Elements on Wipes)	NIOSH 9102				wipe						ICP-AES	W 225-2414 140 TMP 225-2415 140 TMP 225-2403 or
Cadmium dust (as Cd)	OSHA ID 121		0.2 mg/m³	0.5 mg/m³	960	30	2000	2000	8	15	AA	F/CST 225-3-01 90 C/HLD 225-1 102
Cadmium dust (as Cd)	OSHA ID 206		0.2 mg/m³	0.5 mg/m³	960	30	2000	2000	8	15	ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Cadmium fume (ICP analysis of metal/metalloid particulates from solder operations)	OSHA ID 206		0.1 mg/m³	0.3 mg/m³ (C)	480		2000		4		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Calcium & compounds (as Ca)	NIOSH 7020		varies		240		1000		4		AA-F	F/CST 225-3-01 90 C/HLD 225-1 102
Calcium (Elements by Cellulosic Internal Capsule Sampler)	NIOSH 7306				Varies		1000-4000		Varies		ICP-AES	SC 225-8517 90 C/HLD 225-1 102
Calcium (Elements by ICP Aqua Regia Ashing)	NIOSH 7301		varies		5-200		1000-4000		varies		ICP-AES	F/CST C/HLD 225-3-01 225-1 or 102 F/CST 225-803 ¥ 93
Calcium (Elements by ICP HNO_3 Digestion))	NIOSH 7303				2-10,000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Calcium (Elements by ICP HNO_3/$HClO_4$ Ashing)	NIOSH 7300	1455	varies		5-200		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Calcium *(see specific compounds)*	NIOSH 7020		varies		varies		varies		varies		AA-F	F/CST 225-3-01 90 C/HLD 225-1 102

Agency standards for OSHA listings represent the OSHA PELs reported in the 29 CFR 1910.1000 Part 1910, Section 1000.

References and abbreviations are found on pages 212-213.

Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	CLG/STEL (ppm)	Vol. (liter) TWA	CLG/STEL	Rate (ml/min) TWA	CLG/STEL	Time TWA (hrs)	CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
					Sample Time or Air Volume		Flow/Sampling Rate					
Calcium arsenate (as As)	OSHA CSI				600		2000		5		AA-GF	F/CST 225-3-01 90 C/HLD 225-1 102
Calcium bromide *(see dust, total & respirable nuisance)*	OSHA CSI											
Calcium carbonate	OSHA ID 121		15 mg/m³		960		2000		8		AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Calcium carbonate (calcium)	NIOSH 7020		2 mg/m³		240		1000		4		AA-F	F/CST 225-3-01 90 C/HLD 225-1 102
Calcium carbonate (particulates, respirable)	NIOSH 0600	1038			375		2500		2.5		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CYC 225-01-02 111 CST 225-3LF 97
Calcium carbonate (particulates, total)	NIOSH 0500	1035			120		2000		1		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CST 225-2LF 97
Calcium carbonate *(see dust, total & respirable nuisance)*												
Calcium cyanamide	OSHA ID 121				960		2000		8		AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Calcium hydroxide	OSHA ID 121		5 mg/m³		960		2000		8		AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Calcium hydroxide (calcium)	NIOSH 7020		2 mg/m³		240		1000		4		AA-F	F/CST 225-3-01 90 C/HLD 225-1 102
Calcium hydroxide *(see dust, total & respirable nuisance)*												
Calcium oxide	OSHA ID 121		5 mg/m³		960		2000		8		AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Calcium oxide (calcium)	NIOSH 7020		2 mg/m³		240		1000		4		AA-F	F/CST 225-3-01 90 C/HLD 225-1 102
Calcium oxide (Elements by ICP HNO_3 Digestion))	NIOSH 7303		2 mg/m³		3-10,000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Calcium silicate (particulates, respirable)	NIOSH 0600	1038			375		2500		2.5		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CYC 225-01-02 111 CST 225-3LF 97
Calcium silicate (particulates, total)	NIOSH 0500	1035			120		2000		1		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CST 225-2LF 97
Calcium sulfate *(see dust, total & respirable nuisance)*												
Camphor	OSHA 07	1130	2 mg/m³		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Camphor (Ketones II)	NIOSH 2553		2		1-25		10-200		varies		GC-FID	ST NA SKC
Camphor (Ketones II)	NIOSH 1301		2		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Caprolactam	OSHA PV2012				100		1000		100 min		HPLC-UV	ST 226-57 39
Capsaicin	NIOSH 5041				480	15	1000	1000	8	15	HPLC-FD	FLT 225-16 96 CST 225-32 102
Captafol (difolatan)	OSHA CSI				240		1000		4		GC-ECD	ST 226-30-16 38
Captan	ASTM D 4861				240-7200		1000-5000		4-24		GC-ECD	PUF 226-92 44
Captan	OSHA PV2093				60		1000		1		HPLC-UV	ST 226-30-16 38
Captan (Organonitrogen Pesticides)	NIOSH 5601		5 mg/m³		240		1000		4		HPLC-UV	ST 226-58 or ST 226-30-16 38
Carbadox	OSHA CSI				120		1000		2		HPLC-UV	F/CST 225-706 96 C/HLD 225-1 102
Carbaryl	ASTM D 4861				240-7200		1000-5000		4-24		HPLC-UV	PUF 226-92 44
Carbaryl (Organonitrogen Pesticides)	NIOSH 5601		5 mg/m³		240		1000		4		HPLC-UV	ST 226-58 or ST 226-30-16 38
Carbaryl (Sevin)	NIOSH 5006		5 mg/m³		240		1000		4		VAS	F/CST 225-706 96 C/HLD 225-1 102
Carbaryl (Sevin)	OSHA 63		5 mg/m³		60		1000		1		HPLC-UV	ST 226-30-16 38
Carbazol	OSHA CSI				120		1000		2		GC-FID	ST 226-56 39
Carbendazim (Organonitrogen Pesticides)	NIOSH 5601				240		1000		4		HPLC-UV	ST 226-58 or ST 226-30-16 38
Carbitol	OSHA PV2013				10		200		50 min		GC-FID	ST 226-01 38
Carbitol acetate	OSHA PV2013				10		200		50 min		GC-FID	ST 226-01 38
Carbofuran	ASTM D 4861				240-7200		1000-5000		4-24		HPLC-UV	PUF 226-92 44
Carbofuran (Organonitrogen Pesticides)	NIOSH 5601		0.1 mg/m³		240		1000		4		HPLC-UV	ST 226-58 or ST 226-30-16 38
Carbon black	NIOSH 5000		3.5 mg/m³		360		1500		4		GR	FLT 225-5-37-P 93 CST 225-3LF 97 SCN 225-26 103 C/HLD 225-1 102
Carbon black	OSHA ID 196		3.5 mg/m³		960		2000		8		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CST 225-2LF 97
Carbon dioxide	OSHA ID 172	1026	5000	30,000	2-5	2-5	10-50	300	4-8	15	GC-TCD	SB 253 Series or SB 263 Series 56
Carbon dioxide (by portable GC)	NIOSH 6603	1027	5000	30,000	varies	varies	20-100	20-100	varies	varies	P GC-TCD	SB 232 Series 55
Carbon disulfide	NIOSH 1600		1	10	10	3	20(50)	200	8(3.3)	15	GC-FPD	ST 226-01 38 DRT 226-44 39
Carbon monoxide	OSHA ID 209		50								DRI	DRI 805-18970
Carbon monoxide	OSHA ID 210	1021	50		2-5	2-5	10-50	1000	varies	varies	GC-DID	SB 252 Series or SB 253 Series or SB 262 Series or SB 263 Series 56
Carbon tetrabromide	OSHA CSI				9	3	50	200	3	15	GC-ECD	ST 226-93 40
Carbon tetrachloride	ASTM D 5466				6		varies		varies		GC-MS	CAN 228 Series PK 228 Series
Carbon tetrachloride	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
Carbon tetrachloride	OSHA 07	1131	10	25	15	3	50	200	5	15	GC-FID	ST 226-01 38
Carbon tetrachloride (hydrocarbons, halogenated)	NIOSH 1003			2 (1 hr)		15		10-200		varies	GC-FID	ST 226-01 38
Carbon, activated *(see dust, total nuisance)*												
Carbonyl fluoride	OSHA CSI				480		2000		4		ISE	IMP 225-36-2 67 IT 225-22 67

C

Agency standards for OSHA listings represent the OSHA PELs reported in the 29 CFR 1910.1000 Part 1910, Section 1000.

References and abbreviations are found on pages 212-213.

C

Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	Agency Standard CLG/STEL (ppm)	Vol. (liter) TWA Sample Time or Air Volume	Vol. (liter) CLG/STEL Sample Time or Air Volume	Rate (ml/min) TWA Flow/Sampling Rate	Rate (ml/min) CLG/STEL Flow/Sampling Rate	Time TWA (hrs)	Time CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
Carboxin	OSHA CSI				200		1000		3.3		HPLC-UV	F/CST 225-709 96 C/HLD 225-1 102
3-Carene (terpenes)	NIOSH 1552				24		50		8		GC-FID	ST 226-01 38
Catechol (pyrocatechol)	OSHA PV2014				100		1000		100 min		HPLC-UV	ST 226-57 39
Cell fragments (bioaerosols)					15-150		15000		1-10 min		varies	STC 225-9820 101
CELLOSOLVE acetate *(see 2-ethoxyethyl acetate)*												
CELLOSOLVE solvent *(see 2-ethoxyethanol)* (alcohols IV)	NIOSH 1403	1273										
Cellulose (paper fiber) (particulates, respirable)	NIOSH 0600	1038			375		2500		2.5		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CYC 225-01-02 111 CST 225-3LF 97
Cellulose (paper fiber) (particulates, total)	NIOSH 0500	1035			120		2000		1		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CST 225-2LF 97
Cellulose *(see dust, total or respirable nuisance)*												
Cellulose insulation	NIOSH 7404				varies		1000		varies		SEM	FLT/CL 225-1604 93
Cerium	OSHA ID 121				960		2000		8		AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Cesium hydroxide	OSHA CSI				960		2000		8		AA	F/CST 225-3-01 90 C/HLD 225-1 102
Chaetomium species (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST 225-3-01 90 C/HLD 225-1 102
Chaetomium species (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI 225-9611 120
Chloramphenicol	OSHA CSI				60		1000		1		HPLC-UV	F/CST 225-709 96 C/HLD 225-1 102
Chlordane	NIOSH 5510		0.5 mg/m³		150		1000		2.5		GC-ECD	ST 226-107 40 FLT 225-5 88 CST 225-2LF 97 SCN 225-26 103 C/HLD 225-1 102
Chlordane	OSHA 67	1013	0.5 mg/m³		480		1000		8		GC-ECD	ST 226-30-16 38
Chlordane (non-occupational exposure)	ASTM D 4947	1417			240-7200		1000-5000		4-24		GC-ECD	PUF 226-92 44
Chlordane (technical)	ASTM D 4861				240-7200		1000-5000		4-24		GC-ECD	PUF 226-92 44
Chlorinated & organonitrogen herbicides	NIOSH 5602				480		1000		8		GC-ECD	ST 226-58 39
Chlorinated & organonitrogen herbicides (hand wash)	NIOSH 9200										GC-ECD	NA SKC
Chlorinated camphene (Toxaphene)	NIOSH 5039		LFC		30	15	1000	1000	0.5	15	GC-ECD	F/CST 225-3-01 90 C/HLD 225-1 102
Chlorinated diphenyl ether (chlorinated diphenyl oxide)	NIOSH 5025		0.5 mg/m³		180		1000		3		GC-ECD	F/CST 225-3-01 90 C/HLD 225-1 102
Chlorinated diphenyl oxide	NIOSH 5025		0.5 mg/m³		90		1000		1.5		GC-ECD	F/CST 225-3-01 90 C/HLD 225-1 102
Chlorinated hydrocarbons (screening)	NIOSH 2549				5		20		4		GC-MS	ST 226-330 42
Chlorinated terphenyl (60% chlorine)	NIOSH 5014				720		1500		8		GC-ECD	F/CST 225-706 96 C/HLD 225-1 102
Chlorine	NIOSH 6011	1332	0.5	1	90	15	1000	1000	1.5	15	IC	CF/CST 225-9006 64 C/HLD 225-1 102
Chlorine	OSHA ID 101	1052		1 (C)	240	15	1000	1000	4	15	ISE	IMP 225-36-2 67 IT 225-22 67
Chlorine (prefiltered)	OSHA ID 101	1289		1 (C)	240	15	1000	1000	4	15	ISE	IMP 225-36-2 67 IT 225-22 67 CST 225-3-23 97 SP 225-2901 103 FLT 225-2708 94
Chlorine dioxide	OSHA ID 202	1462	0.1		120	7.5	500	500	4	15	IC-CD	IMP 225-36-2 67 IT 225-22 67
Chlorine trifluoride	OSHA CSI			0.1		15		1000		15	ISE	IMP 225-36-2 67 IT 225-22 67
1-Chloro-1-nitropropane	OSHA CSI		20		12		50		4		GC-FID	ST NA SKC
5-Chloro-2-methyl-4-isothiazolin-3-one (Kathon 886)	NON 55		0.75 mg/m³	0.23 mg/m³	50	7.5	200	500	4	15	HPLC-UV	ST 226-99 40
1-Chloro-4-(trifluoromethyl)benzene (parachlorobenzotrifluoride)	OSHA CSI				6		100		1		GC-FID	ST 226-01 38
2-Chloro-6-trichloromethyl pyridine (respirable dust)	OSHA CSI		15 mg/m³		480		1000		8		HPLC-UV	ST 226-30-16 38 CYC 225-105 110
2-Chloro-6-trichloromethyl pyridine (total dust)	OSHA CSI		5 mg/m³		varies		varies		varies		HPLC-UV	ST 226-30-16 38
Chloroacetaldehyde	NIOSH 2015			1		3		200		15	GC-ECD	ST 226-15GWS 38
Chloroacetaldehyde	OSHA 76			1 (C)		2.5		500		5	GC-ECD	ST 226-15GWS 38
Chloroacetic acid	NIOSH 2008				48		100		8		IC-CD	ST 226-47-01 39
alpha-Chloroacetophenone (phenacylchloride)	OSHA CSI		0.05		12		200		1		HPLC-UV	ST 226-35-02 38
Chloroacetyl chloride	OSHA CSI				10		50		3.3		HPLC-UV	ST NA SKC
o-Chloroaniline	OSHA CSI				5		20		4		HPLC-UV	ST 226-10 38
p-Chloroaniline	OSHA PV2109				6		100		1		HPLC-UV	ST 226-10 38
Chlorobenzene	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
Chlorobenzene (monochlorobenzene)	ASTM D 5466				6		varies		varies		GC-MS	CAN 228 Series PK 228 Series
Chlorobenzene (monochlorobenzene)	OSHA 07	1132	75		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Chlorobenzene (monochlorobenzene) (hydrocarbons, halogenated)	NIOSH 1003				10		10-200		varies		GC-FID	ST 226-01 38
4-Chlorobenzotrifluoride	NIOSH 1026				0.1-10.0		10-200		varies		GC-FID	ST 226-01 38
4-Chlorobenzotrifluoride	OSHA CSI				6		100		1		GC-FID	ST 226-01 38
p-Chlorobenzotrifluoride	NIOSH 1026				0.1-10.0		10-200		varies		GC-FID	ST 226-01 38
p-Chlorobenzotrifluoride	OSHA CSI				6		100		1		GC-FID	ST 226-01 38
Chlorobiphenyl	NIOSH 5503		0.001 mg/m³ (10 hr)		48		100(200)		8(4)		GC-ECD	FLT 225-16 96 CST 225-32 102 ST 226-39 39

Agency standards for OSHA listings represent the OSHA PELs reported in the 29 CFR 1910.1000 Part 1910, Section 1000.

References and abbreviations are found on pages 212-213.

Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	Agency Standard CLG/STEL (ppm)	Vol. (liter) TWA Sample Time or Air Volume	Vol. (liter) CLG/STEL Sample Time or Air Volume	Rate (ml/min) TWA Flow/Sampling Rate	Rate (ml/min) CLG/STEL Flow/Sampling Rate	Time TWA (hrs)	Time CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
Chlorobromomethane	OSHA CSI		200		5		20		4		GC-FID	ST 226-01 38
Chlorobromomethane (hydrocarbons, halogenated)	NIOSH 1003		200		5		10-200		varies		GC-FID	ST 226-01 38
Chlorodifluoromethane	OSHA CSI				1		50		20 min		GC-FID	ST NA SKC
Chlorodiphenyl	OSHA CSI				60		1000		1		GC-ECD	ST 226-30-16 38
Chlorodiphenyl (21% Cl) *(see polychlorinated biphenyls)*	OSHA CSI											
Chlorodiphenyl (32% Cl) *(see polychlorinated biphenyls)*	OSHA CSI											
Chlorodiphenyl (42% Cl)	OSHA PV2089			1	60		1000		1		GC-ECD	ST 226-30-16 38
Chlorodiphenyl (42% Cl) *(see polychlorinated biphenyls)*	NIOSH 5503											
Chlorodiphenyl (48% Cl) *(see polychlorinated biphenyls)*	OSHA CSI											
Chlorodiphenyl (54% Cl)	OSHA PV2088			0.5	60		1000		1		GC-ECD	ST 226-30-16 38
Chlorodiphenyl (54% Cl) *(see polychlorinated biphenyls)*	NIOSH 5503											
Chlorodiphenyl (60% Cl) *(see polychlorinated biphenyls)*	OSHA CSI											
Chlorodiphenyl (62% Cl) *(see polychlorinated biphenyls)*	OSHA CSI											
Chloroethane (ethyl chloride)	NIOSH 2519				3		50		1		GC-FID	ST 226-09 38
2-Chloroethanol (ethylene chlorohydrin)	NIOSH 2513			1	10		20(50)		8(3.3)		GC-FID	ST 226-81A 39
Chloroform (trichloromethane)	ASTM D 5466				6		varies		varies		GC-MS	CAN 228 Series PK 228 Series
Chloroform (trichloromethane)	OSHA 05	1062		50 (C)	10		200		50 min		GC-FID	ST 226-01 38
Chloroform (trichloromethane) (hydrocarbons, halogenated)	NIOSH 1003	1269		2		15		10-200		varies	GC-FID	ST 226-01 38
bis-Chloromethyl ether	OSHA 10				50		500		100 min		GC-ECD	IMP 225-36-2 67 IT 225-22 67
Chloromethyl methyl ether	NON 29	1251			2.4	0.3	10	20	4	15	GC-ECD	ST NA SKC
Chloromethyl methyl ether	OSHA 10				50		500		100 min		GC-ECD	IMP 225-36-2 67 IT 225-22 67
4-Chloronitrobenzene (nitrobenzenes)	NIOSH 2005		0.1 ppm		96		200		8		GC-FID	ST 226-10 38
Chloropentafluoroethane	OSHA CSI				2.5		50		50 min		GC-FID	ST 226-01 38
Chlorophene	OSHA CSI				10		20(50)		8(3.3)		GC-FID	ST 226-35 38
o-Chlorophenol	OSHA CSI				40		200		3.3		HPLC-UV	ST 226-10 38
p-Chlorophenol	NIOSH 2014				24		50		8		HPLC-UV	ST 226-10 38
Chloropicrin	NON 51		0.1		144		100		24		GC-MSD	ST 226-175 41
Chloropicrin	OSHA PV2103		0.1		3		200		15 min		GC-ECD	ST 226-93 40
beta-Chloroprene	NIOSH 1002			1 (15 min)		1.5		100		15	GC-FID	ST 226-01 38
beta-Chloroprene	OSHA 07	1133	25		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
beta-Chloroprene	OSHA 112		25		6		50		2		GC-ECD	ST 226-111A 40
o-Chlorostyrene	OSHA CSI				20	3	200	200	100 min	15	GC-FID	ST 226-01 38
Chlorothalonil	ASTM D 4861				240-7200		1000-5000		4-24		GC-ECD	PUF 226-92 44
Chlorothalonil	OSHA CSI				180		1000		3		HPLC-UV	F/CST 225-709 96 C/HLD 225-1 102
o-Chlorotoluene	OSHA CSI				20		200		100 min		GC-FID	ST 226-01 38
Chlorotoluron	ASTM D 4861				240-7200		1000-5000		4-24		HPLC-UV	PUF 226-92 44
Chlorotrifluoroethylene	OSHA CSI				10		200		50 min		GC-FID	ST 226-01 38
Chlorpropham (Organonitrogen Pesticides)	NIOSH 5601				240		1000		4		HPLC-UV	ST 226-58 or ST 226-30-16 38
Chlorpyrifos (Dursban)	ASTM D 4861				240-7200		1000-5000		4-24		GC-ECD	PUF 226-92 44
Chlorpyrifos (Dursban)	OSHA 62	1394			480		1000		8		GC-FPD	ST 226-30-16 38
Chlorpyrifos (Organophosphorus Pesticides)	NIOSH 5600		0.2 mg/m³		240		1000		4		GC-FPD	ST 226-58 39
Chromic acid & chromates (as CrO_3)	OSHA ID 215 (V2)	1439	0.005 mg/m³		960		2000		8	15	IC-UV	F/CST 225-802 Ω 93 C/HLD 225-1 102
Chromic acid & chromates (chromium hexavalent)	NIOSH 7600		1 µg/m³ (10 hr)		240		1000		4		VAS	F/CST 225-803 93 C/HLD 225-1 102
Chromic acid & chromates (chromium hexavalent)	NIOSH 7604		1 µg/m³ (10 hr)		960		2000		8		IC-CD	F/CST 225-803 93 C/HLD 225-1 102
Chromium & compounds (as Cr)	NIOSH 7024	1457	0.5 mg/m³		10 - 1000		1000 - 3000		varies		AA-F	F/CST 225-3-01 or 102 C/HLD 225-1 F/CST 225-8410 90
Chromium (Elements by Cellulosic Internal Capsule Sampler)	NIOSH 7306		0.5 mg/m³		1-2000		1000-4000		Varies		ICP-AES	SC 225-8517 90 C/HLD 225-1 102
Chromium (Elements by ICP Aqua Regia Ashing)	NIOSH 7301		0.5 mg/m³		5-1000		1000-4000		varies		ICP-AES	F/CST 225-3-01 or 102 C/HLD 225-1 F/CST 225-803 ¥ 93
Chromium (Elements by ICP HNO_3 Digestion))	NIOSH 7303		0.5 mg/m³		8-500,000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Chromium (Elements by ICP HNO_3/$HClO_4$ Ashing)	NIOSH 7300	1455	0.5 mg/m³		5-1000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Chromium (Elements on Wipes)	NIOSH 9102				wipe						ICP-AES	W 225-2414 140 TMP 225-2403 or TMP 225-2415 140

Agency standards for OSHA listings represent the OSHA PELs reported in the 29 CFR 1910.1000 Part 1910, Section 1000.

References and abbreviations are found on pages 212-213.

C

Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	Agency Standard CLG/STEL (ppm)	Vol. (liter) TWA Sample Time or Air Volume	Vol. (liter) CLG/STEL Sample Time or Air Volume	Rate (ml/min) TWA Flow/Sampling Rate	Rate (ml/min) CLG/STEL Flow/Sampling Rate	Time TWA (hrs)	Time CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
Chromium acetate	OSHA ID 121				960		2000		8		AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Chromium carbonate	OSHA ID 121				960		2000		8		AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Chromium metal & insoluble compounds	OSHA ID 121	1043	1 mg/m³		960		2000		8		AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Chromium metal & insoluble compounds	OSHA ID 125G		1 mg/m³		480		2000		4		ICP-AES	F/CST 225-3-01 or F/CST 225-3100 or F/CST 225-803 or F/CST 225-8215 93 C/HLD 225-1 102
Chromium phosphate	OSHA ID 121				960		2000		8		AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Chromium soluble salts (except hexavalent)	OSHA ID 121				960		2000		8		AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Chromium trioxide (CR(VI))	OSHA ID 215 (V2)	1439	0.005 mg/m³		960		2000		8		IC-UV	F/CST 225-802 Ω 93 C/HLD 225-1 102
Chromium, hexavalent	ASTM D 6832				varies		1000-5000		varies		IC	F/CST 225-802 or F/CST 225-1713 or F/CST 225-709 or F/CST 225-401 95
Chromium, hexavalent	NIOSH 7600	1032	1 µg/m³ (10 hr)		240		1000		4		VAS	F/CST 225-802 93 C/HLD 225-1 102
Chromium, hexavalent	NIOSH 7604	1032	1 µg/m³ (10 hr)		240		1000		4		IC-CD	F/CST 225-802 93 C/HLD 225-1 102
Chromium, hexavalent	NIOSH 7605		0.001 mg/m³ (10 hr)		1-400		1000-4000		varies		IC-PCD-UV	F/CST 225-802 93 C/HLD 225-1 102
Chromium, hexavalent	NIOSH 7703		0.001 mg/m³ (10 hr)		10-1200		1000-4000		varies		P VAS	F/CST 225-802 93 C/HLD 225-1 102
Chromium, hexavalent	OSHA ID 103			0.005 mg/m³ (C)	960	30	2000	2000	8	15	DPP	F/CST 225-802 93 C/HLD 225-1 102
Chromium, hexavalent	OSHA W4001			0.005 mg/m³ (C)							IC-UV	FLT 225-5-37 or FLT 225-1822 95
Chromium, hexavalent (CR(VI))	OSHA ID 215 (V2)	1439	0.005 mg/m³		960		2000		8		IC-UV	F/CST 225-802 Ω 93 C/HLD 225-1 102
Chromium, hexavalent (in settled dust)	NIOSH 9101				bulk	bulk					CLR or VAS or IC	
Chrysene	OSHA 58		0.2 mg/m³		960		2000		8		GR & HPLC-FD, or GR & HPLC-UV	FLT 225-7 96 CST 225-2LF 97 C/HLD 225-1 102
Chrysene (Polynuclear Aromatic Hydrocarbons by GC-MS)	ASTM D 6209				350 m³ (max)		225 L/min		1-24		GC-MS	PUF 226-131 45 FLT 225-1808 95
Chrysene (Polynuclear Aromatic Hydrocarbons by GC)	NIOSH 5515		LFC		480		2000		4		GC-FID	F/CST 225-1713 94 ST 226-30-04 38 C/HLD 225-1 102
Chrysene (Polynuclear Aromatic Hydrocarbons by HPLC)	NIOSH 5506		LFC		480		2000		4		HPLC-UV	F/CST 225-1713 94 ST 226-30-04 38 C/HLD 225-1 102
Chrysosporium species (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST 225-3-01 90 C/HLD 225-1 102
Chrysosporium species (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI 225-9611 120
Chrysotile *(see asbestos fibers)*	NIOSH 9000				bulk						XRD	
Chrysotile fibers *(see asbestos fibers)*	NIOSH 7400											
Cladosporium species (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST 225-3-01 90 C/HLD 225-1 102
Cladosporium species (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI 225-9611 120
Clopidol (respirable fraction)	OSHA CSI		5 mg/m³		varies		varies		varies		HPLC-UV	F/CST 225-706 96 C/HLD 225-1 102 CYC 225-105 110
Clopidol (total dust)	OSHA CSI		15 mg/m³		120		1000		2		HPLC-UV	F/CST 225-709 96 C/HLD 225-1 102
Coal dust (< 5% SiO_2)	OSHA CSI		2.4 mg/m³/(%SiO_2+2)		varies		varies		varies		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CYC 225-105 110 CST 225-3LF 97
Coal dust (> 5% SiO_2) *(see Silica, respirable crystalline)*	OSHA ID 142											
Coal tar naphtha (naphthas)	NIOSH 1550		100		3		20		2.5		GC-FID	ST 226-01 38
Coal tar pitch volatiles	OSHA 58	1076	0.2 mg/m³		960		2000		8		GR & HPLC-FD, or GR & HPLC-UV	FLT 225-7 96 CST 225-2LF 97 C/HLD 225-1 102
Cobalt	OSHA ID 213		0.1 mg/m³		480		2000		6		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Cobalt & compounds (as Co)	NIOSH 7027		0.05 mg/m³		960		2000		8		AA-F	F/CST 225-3-01 90 C/HLD 225-1 102
Cobalt (Elements by Cellulosic Internal Capsule Sampler)	NIOSH 7306		0.05 mg/m³ (dust, fume)		1-2000		1000-4000		Varies		ICP-AES	SC 225-8517 90 C/HLD 225-1 102
Cobalt (Elements by ICP Aqua Regia Ashing)	NIOSH 7301		0.5 mg/m³ (dust, fume)		25-2000		1000-4000		varies		ICP-AES	F/CST 225-3-01 or F/CST 225-803 ¥ 93 C/HLD 225-1 102
Cobalt (Elements by ICP HNO_3 Digestion))	NIOSH 7303		0.5 mg/m³ (dust, fume)		3-500,000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Cobalt (Elements by ICP HNO_3/$HClO_4$ Ashing)	NIOSH 7300	1455	0.05 mg/m³ (dust, fume)		25-2000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Cobalt (Elements on Wipes)	NIOSH 9102				wipe						ICP-AES	W 225-2414 140 TMP 225-2403 or TMP 225-2415 140
Cobalt acetate	OSHA ID 125G				480		2000		4		ICP-AES	F/CST 225-3-01 or F/CST 225-3100 or F/CST 225-803 or F/CST 225-8215 93 C/HLD 225-1 102
Cobalt carbonyl	OSHA ID 121				960		2000		8		AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Cobalt hydrocarbonyl	OSHA ID 121	1193	0.1 mg/m³ (as Co)		960		2000		8		AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102

Agency standards for OSHA listings represent the OSHA PELs reported in the 29 CFR 1910.1000 Part 1910, Section 1000.

References and abbreviations are found on pages 212-213.

Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	CLG/STEL (ppm)	Vol. (liter) TWA Sample Time or Air Volume	CLG/STEL	Rate (ml/min) TWA Flow/Sampling Rate	CLG/STEL	Time TWA (hrs)	CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
Cobalt metal, dust & fume	OSHA ID 125G		0.1 mg/m³		480		2000		4		ICP-AES	F/CST 225-3-01 or F/CST 225-3100 or F/CST 225-803 or F/CST 225-8215 93 C/HLD 225-1 102
Cobalt metal, dust & fume (as Co)	OSHA ID 121	1210	0.1 mg/m³		960		2000		8		AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Coke oven emissions	OSHA 58		0.15 mg/m³		960		2000		8		GR & HPLC-FD, or GR & HPLC-UV	FLT 225-7 96 CST 225-2LF 97 C/HLD 225-1 102
Command (dimethazone)	OSHA PV2066				60		1000		1		GC-ECD	ST 226-30-16 38
Copper (Elements by ICP Aqua Regia Ashing)	NIOSH 7301		1 mg/m³ (dust) 0.1 mg/m³ (fume)		5-1000		1000-4000		varies		ICP-AES	F/CST 225-3-01 or F/CST 225-8031 ¥ 93 C/HLD 225-1 102
Copper (Elements by ICP HNO_3 Digestion))	NIOSH 7303		1 mg/m³ (dust) 0.1 mg/m³ (fume)		15-500,000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Copper (Elements by ICP HNO_3/$HClO_4$ Ashing)	NIOSH 7300	1455	1 mg/m³ (dust) 0.1 mg/m³ (fume)		5-1000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Copper (Elements on Wipes)	NIOSH 9102				wipe						ICP-AES	W 225-2414 140 TMP 225-2403 or TMP 225-2415 140
Copper dust	NIOSH 7029		1 mg/m³		480		1000		8		AA-F	F/CST 225-3-01 90 C/HLD 225-1 102
Copper dusts & mists	OSHA ID 125G		1 mg/m³		480		2000		4		ICP-AES	F/CST 225-3-01 or F/CST 225-3100 or F/CST 225-803 or F/CST 225-8215 93 C/HLD 225-1 102
Copper dusts & mists (as Cu)	OSHA ID 121	1205	1 mg/m³		960		2000		8		AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Copper fume	NIOSH 7029		0.1 mg/m³		480		1000		8		AA-F	F/CST 225-3-01 90 C/HLD 225-1 102
Copper fume	OSHA ID 121	1206	0.1 mg/m³		960		2000		8		AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Copper fume	OSHA ID 125G		0.1 mg/m³		480		2000		4		ICP-AES	F/CST 225-3-01 or F/CST 225-3100 or F/CST 225-803 or F/CST 225-8215 93 C/HLD 225-1 102
Copper fume (ICP analysis of metal/metalloid particulates from solder operations)	OSHA ID 206		0.1 mg/m³		480		2000		4		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Co-Ral (coumaphos)	OSHA CSI				480		1000		8		GC-FPD	ST 226-30-16 38
Corn starch *(see dust, respirable nuisance)*												
Coronene	OSHA CSI				960		2000		8		HPLC-UV	F/CST 225-709 96 C/HLD 225-1 102
Corundum ($Al2O_3$) *(see alpha-alumina [total dust])*												
Corundum (emery) (particulates, respirable)	NIOSH 0600	1038			375		2500		2.5		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CYC 225-01-02 111 CST 225-3LF 97
Corundum (emery) (particulates, total)	NIOSH 0500	1035			120		2000		1		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CST 225-2LF 97
Corynebacterium species (bacteria)	OSHA CSI				141.5		28300		5 min		varies	BI 225-9611 120
Cotton Dust (raw)	OSHA CSI		1 mg/m³		960		2		8		GR	FLT 225-5-37-P with PPI 225-381 and IS 225-388 or PPI 225-386 112
Cotton Dust (raw)	OSHA CSI		1 mg/m³		2664		7.4		6		GR	F/CST 225-803 93 VERT. ELUTRIATOR NA SKC
Coumarin	OSHA CSI				96		200		8		HPLC-UV	ST 226-30-04 38
Crag herbicide (respirable dust)	OSHA CSI		5 mg/m³		varies		varies		varies		CLR	F/CST 225-803 93 C/HLD 225-1 102 CYC 225-105 110
Crag herbicide (total dust)	OSHA CSI		15 mg/m³		90		1500		1		CLR	F/CST 225-3-01 90 C/HLD 225-1 102
p-Cresidine *(see 5-methyl-o-anisidine)*	OSHA CSI											
di-tert-butyl-p-Cresol	OSHA PV2108				100		1000		100 min		GC-FID	ST 226-57 39
Cresol (all isomers)	NIOSH 2546		10 mg/m³		24		100		4		GC-FID	ST 226-95 40
Cresol (all isomers)	OSHA 32		5 mg/m³		24		100		4		HPLC-UV	ST 226-95 40
Cresols	EPA TO-8	1668			< 80 L		100-1000 ml/min				HPLC-UV	IMP 225-36-1 67 IT 225-22 67
Cresylil acid *(see cresol, all isomers)*	OSHA CSI											
Cristobalite *(see Silica, respirable crystalline)*	OSHA ID 142											
Cristobalite (silica, crystalline [respirable] by XRD)	NIOSH 7500	1370	0.05 mg/m³		400-1000		2500		varies		XRD	F/CST 225-803 93 CYC 225-01-02 111 C/HLD 225-1 102
Cristobalite (silica, crystalline by IR)	NIOSH 7602		0.05 mg/m³		400-800		2500		varies		IR	F/CST 225-803 93 C/HLD 225-1 102 CYC 225-01-02 111
Cristobalite (silica, crystalline by VAS)	NIOSH 7601	1041	0.05 mg/m³		400-800		2500		varies		VAS	F/CST 225-803 93 C/HLD 225-1 102 CYC 225-01-02 111
Crocidolite fibers *(see asbestos fibers)*	NIOSH 7400											
Crotonaldehyde	ASTM D 5197				varies		500-1200		5 min-24 hrs		HPLC-UV	ST 226-120 ° or ST 226-119 40
Crotonaldehyde	NIOSH 3516		2		48		200		4		DPP	IMP 225-36-2 67 IT 225-22 67
Crotonaldehyde	OSHA 81		2		6		100		1		HPLC-UV	CF/CST 225-9019 64 C/HLD 225-1 102
Crotonaldehyde (Aldehydes, Screening)	NIOSH 2539		2		5		20		4		GC-FID & GC-MS	ST 226-118 40
Crufomate	OSHA PV2015				60		1000		1		GC-FPD	ST 226-30-16 38
Cryolite (fluorides)	NIOSH 7902		2.5 mg/m³		480		1000		8		ISE	CF/CST 225-9001 64 C/HLD 225-1 102

Agency standards for OSHA listings represent the OSHA PELs reported in the 29 CFR 1910.1000 Part 1910, Section 1000.

References and abbreviations are found on pages 212-213.

C

Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	Agency Standard CLG/STEL (ppm)	Vol. (liter) TWA Sample Time or Air Volume	Vol. (liter) CLG/STEL	Rate (ml/min) TWA Flow/Sampling Rate	Rate (ml/min) CLG/STEL	Time TWA (hrs)	Time CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
Cumene (isopropyl benzene)	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42; CPC 224-26-CPC 51; TH 224-26-02 51
Cumene (isopropyl benzene)	OSHA 07	1065	50		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Cumene (isopropyl benzene)	OSHA PV2137		50		24		200		2		GC-FID	ST 226-01 38
Cumene (isopropyl benzene) (Hydrocarbons, Aromatic)	NIOSH 1501		50 (skin)		1-30		10-200		8(3.3)		GC-FID	ST 226-01 38
Cumene hydroperoxide	OSHA CSI				120		1000		2		HPLC-UV	IMP 225-36-1 67; IT 225-22 67
Cunninghamella species (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST 225-3-01 90; C/HLD 225-1 102
Cunninghamella species (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI 225-9611 120
Cupric carbonate as Cu (Elements by ICP HNO_3/$HClO_4$ Ashing)	NIOSH 7300	1455			960		1000-4000		varies		ICP-AES	F/CST 225-3-01 90; C/HLD 225-1 102
Curvularia species (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST 225-3-01 90; C/HLD 225-1 102
Curvularia species (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI 225-9611 120
Cyanamide	OSHA CSI				10		100		100 min		HPLC-UV	ST 226-30-18 38
Cyanazine	NIOSH 5602				480		1000		8		GC-ECD	ST 226-58 39
Cyanide (as Cn)	OSHA ID 120		5 mg/m³		120		1000		2		ISE	F/CST 225-3-01 90; IT 225-22 67; IMP 225-36-2 67
Cyanides, aerosol & gas	NIOSH 7904			5 mg/m³ (10 min)	120		500		4		ISE	FLT 225-2705 Δ 94; IMP 225-36-2 67; C/HLD 225-1 102; CST 225-2LF 97; IT 225-22 67
Cyanogen	OSHA PV2104				12		200		1		GC-NPD	ST 226-117 40
Cyanogen chloride	OSHA CSI				1		200		5		GC-NPD	ST 226-117 40
Cyanuric acid	NIOSH 5030				480		1000		8		HPLC-UV	F/CST 225-802 93; C/HLD 225-1 102
Cyclohexane	OSHA 07	1134	300		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Cyclohexane (hydrocarbons, BP 36 to 216 C)	NIOSH 1500	1268	300		2.5-5		10-200		varies		GC-FID	ST 226-01 38
Cyclohexanol	OSHA 07	1135	50		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Cyclohexanol (alcohols combined)	NIOSH 1405		50 (skin)		1-10		10-200		varies		GC-FID	ST 226-01 38
Cyclohexanol (alcohols III)	NIOSH 1402		50		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Cyclohexanone	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42; CPC 224-26-CPC 51; TH 224-26-02 51
Cyclohexanone	OSHA 01	1073	50		10		20(50)		8(3.3)		GC-FID	ST 226-110 40
Cyclohexanone (Ketones I)	NIOSH 1300		25		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Cyclohexanone (Ketones I)	NIOSH 2555				1-10		10-200		varies		GC-FID	ST NA SKC
Cyclohexene	OSHA 07	1124	300		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Cyclohexene (hydrocarbons, BP 36 to 216 C)	NIOSH 1500		300		5-7		10-200		varies		GC-FID	ST 226-01 38
N-Cyclohexyl-2-benzothiazolesulfenamide	OSHA CSI				480		2000		4		HPLC-UV	F/CST 225-709 96; C/HLD 225-1 102
Cyclohexylamine	OSHA PV2016				20		200		100 min		GC-FID	ST 226-98 40
Cyclonite (RDX)	OSHA CSI		1.5 mg/m³ (skin)		120		1000		2		HPLC-UV	F/CST 225-709 96; C/HLD 225-1 102
Cyclopentane	OSHA CSI				5		200		25 min		GC-FID	ST 226-01 38
Cyhexatin	OSHA ID 197SG				480		2000		4		AA-GF	F/CST 225-709 96; C/HLD 225-1 102; ST 226-30 38
Cypermethrin	OSHA PV2063				60		1000		60 min		GC-ECD	ST 226-30-16 38
D & C red #19	OSHA CSI				240		1000		4		HPLC-UV	F/CST 225-709 96; C/HLD 225-1 102
2,4-D (2,4-dichlorophenoxyacetic acid)	NIOSH 5001		10 mg/m³		180		1000		3		HPLC-UV	F/CST 225-706 96; C/HLD 225-1 102
2,4-D (2,4-dichlorophenoxyacetic acid)	OSHA CSI		10 mg/m³		180		3000		1		HPLC-UV	F/CST 225-709 96; C/HLD 225-1 102
2,4-D (2-butoxyethyl ester)	NIOSH 5602				480		1000		8		GC-ECD	ST 226-58 39
2,4-D (2-butoxyethyl ester)	NIOSH 5602				480		1000		8		GC-ECD	ST 226-58 39
2,4-D acid	NIOSH 5602		10		480		1000		8		GC-ECD	ST 226-58 39
2,4-D, BE	NIOSH 5602				480		1000		8		GC-ECD	ST 226-58 39
2,4-D, EH	NIOSH 5602				480		1000		8		GC-ECD	ST 226-58 39
2,4-D, ME (2,4-dichlorophenoxyacetic acid)	NIOSH 5602				480		1000		8		GC-ECD	ST 226-58 39
Dacthal	ASTM D 4861				240-7200		1000-5000		4-24		GC-ECD	PUF 226-92 44
DAP (diallyl phthalate)	OSHA CSI				60		1000		1		GC-FID	ST 226-30-16 38
DBP *(see dibutyl phthalate)*	OSHA 104											
p,p-DDE	ASTM D 4861				240-7200		1000-5000		4-24		GC-ECD	PUF 226-92 44
DDT	OSHA CSI		1 mg/m³		90		1500		1		GC-ECD	F/CST 225-709 96; C/HLD 225-1 102
p,p-DDT	ASTM D 4861				240-7200		1000-5000		4-24		GC-ECD	PUF 226-92 44
DDVP (dichlorvos)	ASTM D 4861				240-7200		1000-5000		4-24		GC-ECD	PUF 226-92 44
Decaborane	OSHA CSI		0.05		480	30	2000	2000	4	15	ICP	F/CST 225-3-01 90; C/HLD 225-1 102
Decabromodiphenyl oxide	NIOSH 2559				48-960		2000		varies		HPLC-UV	FLT 225-1822 95; CST 225-2LF 97; SP 225-27 103
Decabromodiphenyl oxide	OSHA CSI				200		1000		3		GC-ECD	F/CST 225-709 96; C/HLD 225-1 102

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References and abbreviations are found on pages 212-213.

Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	CLG/STEL (ppm)	Vol. (liter) TWA	CLG/STEL Sample Time or Air Volume	Rate (ml/min) TWA	CLG/STEL Flow/Sampling Rate	Time TWA (hrs)	CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
n-Decane	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
n-Decane (hydrocarbons, BP 36 to 216 C)	NIOSH 1500				2		10-50		varies		GC-FID	ST 226-01 38
Decyl alcohol	OSHA CSI				10		20(50)		8(3.3)		GC-FID	ST 226-01 38
DEHP *(see di-2-ethylhexyl phthalate)*	OSHA 104											
Dehydroabietic acid	OSHA CSI				180		2000		1.5		HPLC-UV	F/CST 225-709 96 C/HLD 225-1 102
Dehydroisoandrosterone	OSHA CSI				240		1000		4		HPLC-UV	F/CST 225-709 96 C/HLD 225-1 102
Demeton	NIOSH 5514		0.1 mg/m³		480		1000		8		GC-FPD	FLT 225-5 88 SCN 225-26 103 CST 225-2LF 97 ST 226-30-05 38 C/HLD 225-1 102
Demeton (Systox)	OSHA CSI		0.1 mg/m³		480		1000		8		GC-FPD	ST 226-30-16 38
Demosan	OSHA CSI				960		2000		8		GC-ECD	F/CST 225-709 96 C/HLD 225-1 102
DEP *(see diethyl phthalate)*	OSHA 104											
Desflurane	OSHA 106	1760			3		50		1		GC-FID	ST 226-81A 39
Di-(2-ethylhexyl) adipate	OSHA CSI				180		1000		3		GC-FID	FLT 225-17-04 94 CST 225-3LF 97 C/HLD 225-1 102
Di-(2-ethylhexyl) phthalate	OSHA CSI		5 mg/m³		60	15	1000	1000	1	15	GC-FID	ST 226-30-16 38
Di-(2-ethylhexyl) phthalate (DEHP)	NIOSH 5020				180		1000		3		GC-FID	F/CST 225-3-01 90 C/HLD 225-1 102
Di(ethyleneglycol) ethyl ether acrylate	OSHA PV2132		1 mg/m³		48		200		4		GC-FID	ST 226-110 40
Diacetone alcohol	OSHA 07	1123	50		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Diacetone alcohol (alcohols combined)	NIOSH 1405		50		1-10		10-200		varies		GC-FID	ST 226-01 38
Diacetone alcohol (alcohols III)	NIOSH 1402		50		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Diacetyl	NIOSH 2557				6		100		1		GC	ST NA SKC
Diacetyl	OSHA 1012		0.05		9	3	50	200	3	15	GC-FID	ST 226-183 41
Diacetyl	OSHA 1013		0.05		9	3	50	200	3	15	GC-FID	ST 226-183 41
Diallyl disulfide	OSHA PV2086				10		20(50)		8(3.3)		GC-FPD	ST 226-110 40
Diallyl phthalate	OSHA CSI				60		1000		1		GC-FID	ST 226-30-16 38
1,2-Diaminoethane	NIOSH 2540				10		100		1.7		HPLC-UV	ST 226-30-18 38
o-Dianisidine	OSHA 71	1235			100		1000		100 min		GC-ECD	CF/CST 225-9004 64 C/HLD 225-1 102
o-Dianisidine dyes (dyes, benzidine)	NIOSH 5013		LFC		480		1000		8		HPLC-UV	FLT 225-17A 94 CST 225-3LF 97 C/HLD 225-1 102
o-Dianisidine-based dyes	OSHA CSI				480		1000		8		HPLC-UV	FLT 225-17-04 94 CST 225-3LF 97 C/HLD 225-1 102
DiaziNON ASTM D 4861					240-7200		1000-5000		4-24		GC-NPD	PUF 226-92 44
DiaziNON OSHA 62	1396				480		1000		8		GC-FPD	ST 226-30-16 38
Diazinon (Organophosphorus Pesticides)	NIOSH 5600		0.1 mg/m³		240		1000		4		GC-FPD	ST 226-58 39
Diazomethane	NIOSH 2515		0.2		10		200		50 min		GC-FID	ST 226-23 38
Diazomethane	OSHA CSI		0.2		10		200		50 min		GC-FID	ST 226-23 38
Dibenz(a,h)anthracene	OSHA CSI				960		2000		8		HPLC-UV	F/CST 225-709 96 C/HLD 225-1 102
Dibenz(a,h)anthracene (Polynuclear Aromatic Hydrocarbons by GC-MS)	ASTM D 6209				350 m³ (max)		225 L/min		1-24		GC-MS	PUF 226-131 45 FLT 225-1808 95
Dibenz(a,h)anthracene (Polynuclear Aromatic Hydrocarbons by GC)	NIOSH 5515				480		2000		4		GC-FID	F/CST 225-1713 94 ST 226-30-04 38 C/HLD 225-1 102
Dibenz(a,h)anthracene (Polynuclear Aromatic Hydrocarbons by HPLC)	NIOSH 5506				480		2000		4		HPLC-FD	F/CST 225-1713 94 ST 226-30-04 38 C/HLD 225-1 102
Diborane	NIOSH 6006		0.1		120		1000		2		PES	ST 226-151 41 FLT NA SKC and CST 225-32 102
Dibrom	OSHA CSI		3 mg/m³		60		1000		1		GC-FPD	ST 226-30-16 38
1,2-Dibromo-3-chloropropane (DBCP)	OSHA CSI		1 ppb		10		20(50)		8(3.3)		GC-ECD	ST 226-81A 39
Dibromodifluoromethane (difluorodibromomethane)	NIOSH 1012		100		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
1,2-Dibromoethane (ethylene dibromide)	ASTM D 5466				6		varies		varies		GC-MS	CAN 228 Series PK 228 Series
1,2-Dibromoethane (ethylene dibromide)	NIOSH 1008		0.045	0.13	24	3	50	200	8	15	GC-ECD	ST 226-01 38
Dibutyl amine	OSHA CSI				120		1000		2		GC-NPD	IMP 225-36-2 67 IT 225-22 67
2-Dibutyl aminoethanol (aminoethanol compounds I)	NIOSH 2007		2		10		20(50)		8(3.3)		GC-FID	ST 226-10-04 38
Dibutyl phosphate	NIOSH 5017		1	2	240		2000		2		GC-FPD	FLT 225-17-01 94 CST 225-2LF 97 C/HLD 225-1 102
Dibutyl phthalate	NIOSH 5020		5 mg/m³		100		1000		100 min		GC-FID	F/CST 225-3-01 90 C/HLD 225-1 102
Dibutyl phthalate (DBP)	OSHA 104		5 mg/m³		240		1000		4		GC-FID	ST 226-56 39
Dibutyltin bis (isooctyl mercaptoacetate) (organotin compounds as Sn)	NIOSH 5504		0.1 mg/m³		480		1000		8		HPLC & AA-GF	ST 226-30 38 F/CST 225-709 96 C/HLD 225-1 102
Dibutyltin dilaurate (as Sn)	OSHA ID 218SG				500		1000		500 min		AA	F/CST 225-3-01 90 C/HLD 225-1 102
Dibutyltin maleate (as Sn)	OSHA ID 224SG				200		1000		200 min		AA-GF	F/CST 225-3-01 90 C/HLD 225-1 102
Dicamba	OSHA CSI				200		1000		3.3		HPLC-UV	F/CST 225-709 96 C/HLD 225-1 102

Agency standards for OSHA listings represent the OSHA PELs reported in the 29 CFR 1910.1000 Part 1910, Section 1000.

References and abbreviations are found on pages 212-213.

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Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	Agency Standard CLG/STEL (ppm)	Vol. (liter) TWA Sample Time or Air Volume	Vol. (liter) CLG/STEL Sample Time or Air Volume	Rate (ml/min) TWA Flow/Sampling Rate	Rate (ml/min) CLG/STEL Flow/Sampling Rate	Time TWA (hrs)	Time CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
Dicamba sodium salt	OSHA CSI				200		1000		3.3		HPLC-UV	F/CST 225-709 96 C/HLD 225-1 102
3,3-Dichloro-1,1,1,2,2-pentafluoropropane	OSHA CSI				9		50		3		GC-FID	ST 226-01 38
2,2-Dichloro-1,1,1-trifluoroethane	NON 50				9		50		3		GC-FID	ST 226-09 38
1,3-Dichloro-1,1,2,2,3-pentafluoropropane	OSHA CSI				9		50		3		GC-FID	ST 226-01 38
1,1-Dichloro-1-fluoroethane	OSHA 113				1		50		20 min		GC-FID	ST NA SKC
1,1-Dichloro-1-nitroethane	NIOSH 1601		2		10		20(50)		8(3.3)		GC-FID	ST 226-81A 39
1,1-Dichloro-1-nitroethane	OSHA 07			10		15		1000		15	GC-FID	ST 226-81A 39
1,1-Dichloro-1-nitroethane	OSHA CSI			10	10		20		8		GC-FID	ST 226-81A 39
Dichloroacetylene	OSHA CSI					1		200		5	GC-FID	ST 226-01 38
3,4-Dichloroaniline	OSHA CSI				100		1000		1.5		HPLC	F/CST 225-803 93 C/HLD 225-1 102
m-Dichlorobenzene	ASTM D 5466				6		varies		varies		GC-MS	CAN 228 Series PK 228 Series
m-Dichlorobenzene	OSHA CSI				10		200		50 min		GC-FID	ST 226-01 38
o-Dichlorobenzene	ASTM D 5466				6		varies		varies		GC-MS	CAN 228 Series PK 228 Series
o-Dichlorobenzene	OSHA 07	1122		50 (C)		3		200		15	GC-FID	ST 226-01 38
p-Dichlorobenzene	ASTM D 5466				6		varies		varies		GC-MS	CAN 228 Series PK 228 Series
p-Dichlorobenzene	OSHA 07	1121	75		3	0.75	20	50	2.5	15	GC-FID	ST 226-01 38
o-Dichlorobenzene (hydrocarbons, halogenated)	NIOSH 1003			50		3		10-200		varies	GC-FID	ST 226-01 38
p-Dichlorobenzene (hydrocarbons, halogenated)	NIOSH 1003		1.7 (LOQ)		3		10-200		varies		GC-FID	ST 226-01 38
3,3'-Dichlorobenzidine	OSHA 65	1238			100		1000		100 min		GC-ECD	CF/CST 225-9004 64 C/HLD 225-1 102
Dichlorodifluoroethane	OSHA CSI				3		100		30 min		GC-FID	ST 226-01 38
Dichlorodifluoromethane	NIOSH 1018		1000		3		20		2.5		GC-FID	ST 226-01 38 ST 226-09 38
1,2-Dichloroethane	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
1,2-Dichloroethane (ethylene dichloride)	OSHA 07	1119	50	100	10		20(50)		8(3.3)		GC-FID	ST 226-01 38
1,1-Dichloroethane (ethylidene chloride)	ASTM D 5466				6		varies		varies		GC-MS	CAN 228 Series PK 228 Series
1,1-Dichloroethane (ethylidene chloride)	OSHA 07		100		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
1,1-Dichloroethane (Hydrocarbons, Halogenated)	NIOSH 1003	1267	100		10		10-200		varies		GC-FID	ST 226-01 38
Dichloroethyl ether	NIOSH 1004		5	10	10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Dichloroethyl ether	OSHA 07			15	10	15	20	1000	8	15	GC-FID	ST 226-01 38
1,2-Dichloroethylene	OSHA 07	1118	200		3		20		2.5		GC-FID	ST 226-01 38
cis-1,2-Dichloroethylene	ASTM D 5466				6		varies		varies		GC-MS	CAN 228 Series PK 228 Series
1,2-Dichloroethylene (hydrocarbons, halogenated)	NIOSH 1003		200		3		10-200		varies		GC-FID	ST 226-01 38
Dichlorofluoromethane	NIOSH 2516		10		3		20		2.5		GC-FID	ST 226-25 38
Dichloromethane	ASTM D 5466				6		varies		varies		GC-MS	CAN 228 Series PK 228 Series
Dichloromethane (methylene chloride)	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
Dichloromethane *(see methylene chloride)*												
Dichloromonofluoromethane (dichlorofluoromethane)	NIOSH 2516		10		3		20		2		GC-FID	ST 226-09 ♠ 38
Dichloromonofluoromethane (dichlorofluoromethane)	OSHA CSI		1000		3		20		2.5		GC-FID	ST 226-09 38
2,4-Dichlorophenoxyacetic acid (2,4-D)	NIOSH 5001		10 mg/m³		180		1000		3		HPLC-UV	F/CST 225-709 96 C/HLD 225-1 102
1,2-Dichloropropane (propylene dichloride)	ASTM D 5466				6		varies		varies		GC-MS	CAN 228 Series PK 228 Series
1,2-Dichloropropane (propylene dichloride)	NIOSH 1013		LFC		3		20		2.5		GC-ECN	ST 226-81A 39
1,3-Dichloropropene	OSHA CSI				5		200		25 min		GC-FID	ST 226-01 38
cis-1,3-Dichloropropene	ASTM D 5466				6		varies		varies		GC-MS	CAN 228 Series PK 228 Series
trans-1,3-Dichloropropene	ASTM D 5466				6		varies		varies		GC-MS	CAN 228 Series PK 228 Series
3,4-Dichloropropionanilide	OSHA CSI										W	FLT 225-7 96
2,2-Dichloropropionic acid	OSHA PV2017				10		200		50 min		HPLC-UV	ST 226-10 38
Dichlorotetrafluoroethane	OSHA CSI				3		50		1		GC-FID	ST 226-09 38 ST 226-01 38
1,1-Dichlorotetrafluoroethane	OSHA CSI				2		50		40 min		GC-FID	ST 226-01 38 ST 226-09 38
1,2-Dichlorotetrafluoroethane (dichlorodifluoromethane)	NIOSH 1018		1000		3		20		2.5		GC-FID	ST 226-01 38 ST 226-09 38
Dichlorotrifluoroethane	NON 50				9		50		3		GC-FID	ST 226-09 38
Dichlorvos (DDVP)	ASTM D 4861				240-7200		1000- 5000		4-24		GC-ECD	PUF 226-92 44
Dichlorvos (DDVP)	OSHA 62	1395	1 mg/m³		480		1000		8		GC-FPD	ST 226-30-16 38
Dicloran	ASTM D 4861				240-7200		1000- 5000		4-24		GC-ECD	PUF 226-92 44
Dicofol	ASTM D 4861				240-7200		1000-5000		4-24		GC-ECD	PUF 226-92 44
Dicofol	OSHA CSI										W	SM TB 225-24 140
Dicrotophos	ASTM D 4861				240-7200		1000-5000		4-24		HPLC-UV	PUF 226-92 44
Dicrotophos (Bidrin)	OSHA PV2099				480		1000		8		GC-FPD	ST 226-30-16 38

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Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	CLG/STEL (ppm)	Vol. (liter) TWA Sample Time or Air Volume	CLG/STEL	Rate (ml/min) TWA Flow/Sampling Rate	CLG/STEL	Time TWA (hrs)	CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
Dicrotophos (Organophosphorus Pesticides)	NIOSH 5600		0.25 mg/m³		240		1000		4		GC-FPD	ST 226-58 39
Dicyclopentadiene	OSHA PV2098				10		100		100 min		GC-FID	ST 226-01 38
Dicyclopentadienyl iron (respirable dust)	OSHA CSI		5 mg/m³		varies		varies		varies		GR	F/CST 225-803 93 C/HLD 225-1 102
Dicyclopentadienyl iron (total dust)	OSHA CSI		15 mg/m³		960		2000		8		AA	F/CST 225-3-01 90 C/HLD 225-1 102
Dieldrin	ASTM D 4861				240-7200		1000-5000		4-24		GC-ECD	PUF 226-92 44
Dieldrin	OSHA CSI		0.25 mg/m³		180		1500		2		GC-ECD	F/CST 225-709 96 C/HLD 225-1 102
Diesel emissions *(see elemental carbon)*	NIOSH 5040										TOA-FID	
Diesel exhaust particles *(see elemental carbon)*	NIOSH 5040										TOA-FID	
Diesel particulate matter	ASTM D 6877				varies		1000-4000		varies		EGA-TOS	DPM 225-317 or F/CST 225-401 95
Diesel particulate matter	MSHA 30CFR57		350 µg/m³ (total carbon)		varies		2000		varies		TOA-FID	DPM 225-317 95 C/HLD 225-1 102 CYC 225-105 110
Diesel particulate matter	MSHA 30CFR57		350 µg/m³ (total carbon)		varies		varies		varies		TOA-FID	F/CST 225-401 95 C/HLD 225-1 102 CYC 225-100 110
Diethanolamine	OSHA PV2018				10		100		100 min		HPLC-UV	ST 226-30-18 38
Diethanolamine (DEA) (Aminoethanol Compounds II)	NIOSH 3509	1006	3		240		1000		4		IC	IMP 225-36-1 67 IT 225-22 67
Diethyl ether (ethyl ether)	NIOSH 1610				0.25-3		10-200		varies		GC-FID	ST 226-01 38
Diethyl ketone (3-pentanone)	OSHA CSI				10		20(50)		8(3.3)		GC-FID	ST NA SKC
Diethyl phthalate (DEP)	OSHA 104				240		1000		4		GC-FID	ST 226-56 39
Diethyl sulfate	OSHA CSI				15		1000		15 min		GC-FID	ST 226-10 38
Diethylamine	OSHA 41	1697	25		10	3	200	200	50 min	15	HPLC	ST 226-96 40
Diethylamine (amines, aliphatic)	NIOSH 2010		10	25	24	3	50	200	8	15	GC-FID	ST 226-10 38
2-Diethylaminoethanol	OSHA CSI		10		24		200		2		GC-FID	ST 226-10-04 38
2-Diethylaminoethanol (aminoethanol compounds I)	NIOSH 2007		10		10		20(50)		8(3.3)		GC-FID	ST 226-10-04 38
Diethylaminopropylamine (DEP)	OSHA CSI				100		1000		100 min		GC-NPD	IMP 225-36-1 67 IT 225-22 67
Diethylene dioxide *(see dioxane)*												
Diethylene ether *(see dioxane)*												
Diethylene glycol (glycols)	NIOSH 5523	1387			60		1000		1		GC-FID	ST 226-57 39
Diethylene glycol methyl ether	OSHA CSI				10		100		100 min		GC-FID	ST 226-01 38
Diethylene glycol monobutyl ether acetate	OSHA CSI				9.6		100		1.6		GC-FID	ST 226-01 38
Diethylene glycol monoethyl ether	OSHA CSI				10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Diethylenetriamine	OSHA 60	1285			10		100		100 min		HPLC-UV	ST 226-30-18 38
Difluorodibromomethane	NIOSH 1012		100		6		50		2		GC-FID	ST 226-01 38
Difluorodibromomethane	OSHA 07		100		10		20		8		GC-FID	ST 226-01 38
Diglycidyl ether of bisphenol A	OSHA 1018				240		1000		240 (min)		HPLC-UV/ PDA	F/CST 225-709 96 C/HLD 225-1 102
Diglycolamine	OSHA CSI				20		100		3		GC-NPD	IMP 225-36-1 67 IT 225-22 67
Diglyme	OSHA CSI				20		200		100 min		GC-FID	ST 226-01 38
Dihexyl phthalate	OSHA PV2076				240		1000		4		GC-FID	ST 226-56 39
Dihydrocapsaicin	NIOSH 5041				480	15	1000	1000	8	15	HPLC-FD	FLT 225-16 96 CST 225-32 102
Diisobutyl ketone	OSHA 07	1116	50		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Diisobutyl ketone (Ketones I)	NIOSH 1300		25		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Diisobutyl ketone (Ketones I)	NIOSH 2555				1-10		10-200		varies		GC-FID	ST NA SKC
Diisocyanates	OSHA 42	1458			240	15	1000	1000	4	15	HPLC-UV or HPLC-FD	C/HLD 225-9002 or 225-1 102 CF/CST 225-9013 64
Diisopropylamine	OSHA CSI		5		120		1000		2		GC-FID	IMP 225-36-1 67 IT 225-22 67
Dimethazone	OSHA PV2066				60		1000		1		GC-ECD	ST 226-30-16 38
Dimethoate	OSHA PV2113				480		1000		8		GC-FPD	ST 226-30-16 38
2,5-Dimethoxyaniline	OSHA CSI				17		50		5.7		HPLC-UV	ST 226-30-04 38
Dimethoxymethane (methylal)	NIOSH 1611		1000		2		20		1.5		GC-FID	ST 226-01 38
Dimethoxymethane (methylal)	OSHA 07	1115	1000		2		20		1.5		GC-FID	ST 226-01 38
Dimethyl adipate	OSHA PV2019				20		200		100 min		GC-FID	ST 226-01 38
Dimethyl arsenic acid (arsenic, organo-)	NIOSH 5022				960		2000		8		IC-AA	FLT 225-17-01 94 C/HLD 225-1 102 CST 225-2LF 97
Dimethyl disulfide	NON 42	1413			12		1000		12 min		GC-FPD	SB 253-10 or SB 231-10 54 SB 263-10 or
Dimethyl disulfide	OSHA CSI				6		100		1		GC-FID	ST 226-01 38
Dimethyl glutarate	OSHA PV2020				20		200		100 min		GC-FID	ST 226-01 38
Dimethyl phthalate (DMP)	OSHA 104		5 mg/m³		240		1000		4		GC-FID	ST 226-56 39
Dimethyl succinate	OSHA PV2021				20		200		100 min		GC-FID	ST 226-01 38
Dimethyl sulfate	NIOSH 2524	1284	0.1 (8 hrs.)		12		50		4		GC-ECN	ST 226-114 40
Dimethyl sulfate	OSHA PV2147		1		10		100		100 min		GC-FPD	ST 226-115 40

Agency standards for OSHA listings represent the OSHA PELs reported in the 29 CFR 1910.1000 Part 1910, Section 1000.

References and abbreviations are found on pages 212-213.

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Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	CLG/STEL (ppm)	Vol. (liter) TWA Sample Time or Air Volume	CLG/STEL	Rate (ml/min) TWA Flow/Sampling Rate	CLG/STEL	Time TWA (hrs)	CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
Dimethyl sulfide	NON 42	1413			12		1000		12 min		GC-FPD	SB 263-10 or SB 231-10 54
Dimethyl sulfide	OSHA CSI				5		20		4		GC-FPD	ST 226-01 38
Dimethyl sulfoxide	OSHA CSI				10		100		100 min		GC-FID	ST 226-01 38
Dimethyl-1,2-dibromo-2,2-dichloroethyl phosphate	OSHA CSI		3 mg/m³		60		1000		1		GC-FPD	ST 226-30-16 38
2,3-Dimethyl-2,3-dinitrobutane	NON 44		0.15 mg/m³ OEL		10		200		50 min		GC-ECD	ST 226-35-03 39
Dimethylacetamide	NIOSH 2004	1695	10		48		100		8		GC-FID	ST 226-10 38
Dimethylacetamide	OSHA CSI		10		60		1000		1		GC-FID	ST 226-10 38
Dimethylamine	NIOSH 2010		10		24		50		8		GC-FID	ST 226-10 38
Dimethylamine	OSHA 34	1696	10		10		20		8		HPLC	ST 226-96 40
2-Dimethylamino ethanol	NIOSH 2561				10-24		20-100		varies		GC-FID	ST 226-94 40
1-Dimethylamino-2-propanol	NIOSH 2561				10-24		20-100		varies		GC-FID	ST 226-94 40
4-Dimethylaminoazobenzene	OSHA CSI				60		1000		1		HPLC-UV	F/CST 225-706 96 C/HLD 225-1 102 IMP 225-36-1 67 IT 225-22 67
Dimethylaminobenzene	OSHA CSI		5		24		50		8		GC-FID	ST 226-10 38
2,4-Dimethylaminobenzene (Amines, Aromatic)	NIOSH 2002		2		24		50		8		GC-FID or GC-NSD	ST 226-10 38
N,N-Dimethylaniline	OSHA 07		5		10	3	20(50)	200	8(3.3)	15	GC-FID	ST 226-01 38
N,N-Dimethylaniline	OSHA PV2064		5		30		200		2.5		GC-FID	ST 226-98 40
N,N-Dimethylaniline (Amines, Aromatic)	NIOSH 2002	1054	5	10	24	3	50	200	8	15	GC-FID or GC-NSD	ST 226-10 38
2,5-Dimethylbenzaldehyde	ASTM D 5197				varies		500-1200		5 min-24 hrs		HPLC-UV	ST 226-120 ° or ST 226-119 40
trans-1,4-Dimethylcyclohexane	OSHA CSI				10		20(50)		8(3.3)		GC-FID	ST 226-01 38
N,N-Dimethylethanolamine	NIOSH 2561				10-24		20-100		varies		GC-FID	ST 226-94 40
N,N-Dimethylethanolamine	OSHA CSI				24		50		8		GC-FID	ST 226-10-04 38
N,N-Dimethylethylamine	OSHA PV2096				40		100		40 min		GC-NPD	ST 226-18 38
N,N-Dimethylformamide	NIOSH 2004		10		24		50		8		GC-FID	ST 226-10 38
N,N-Dimethylformamide	OSHA 66	1271	10		9.6	3	20	200	8	15	GC-NPD	ST 226-01 38
1,1-Dimethylhydrazine	NIOSH 3515		0.06 (120 min)		60		1000		1		VAS	IMP 225-36-2 67 IT 225-22 67
1,1-Dimethylhydrazine	OSHA CSI		0.5		96		200		8		CLR	IMP 225-36-2 67 IT 225-22 67
N,N-Dimethyl-p-toluidine (Amines, Aromatic)	NIOSH 2002	1055			96		200		8		GC-FID or GC-NSD	ST 226-10 38
Dimethyltin dichloride	NIOSH 5526		0.1 mg/m³		60	60	250	1000	4	60	GC-FPD	ST 226-30-16 38
Di-n-hexyl phthalate	OSHA PV2076				240		1000		4		GC-FID	ST 226-56 39
Dinitolmide	OSHA CSI				240		1000		4		HPLC	F/CST 225-706 96 C/HLD 225-1 102
Dinitrobenzene (all isomers)	OSHA CSI		1 mg/m³		60		1000		1		HPLC-UV	ST 226-30-16 38
Dinitro-o-cresol	OSHA CSI		0.2 mg/m³		180		1500		2		HPLC-UV	F/CST 225-3-01 90 IMP 225-36-1 67 IT 225-22 67
4,6-Dinitro-o-sec-butyl phenol	OSHA CSI				24		50		8		HPLC-UV	ST 226-95 40
2-(2,4-Dinitrophenoxy)ethanol	OSHA CSI				10		20(50)		8(3.3)		HPLC-UV	ST 226-10 38
Dinitrotoluene (DNT)	OSHA 44		1.5 mg/m³		60		1000		1		GC-TEA	ST 226-56 39
Di-n-octyl phthalate (DNOP)	OSHA 104				240		1000		4		GC-FID	ST 226-56 39
Di-n-octyl-phthalate (DNOP)	OSHA CSI				90		1000		1.5		GC-ECD	ST 226-56 39
n-Dioctyl phthalate (DNOP)	OSHA 104				240		1000		4		GC-FID	ST 226-56 39
Dioxane (diethylene dioxide)	NIOSH 1602		1 (30 min)		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Dioxane (diethylene dioxide)	OSHA 07	1114	100		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Dioxathion (Delnav)	OSHA CSI				480		1000		8		GC-FPD	ST 226-30-16 38
Dioxin (including, PHDDs, PCDDs, PBDDs)	EPA TO-9A	1673					200-280 L/min		24 hrs		HRGC-HRMS	PUF 226-131 41 FLT 225-1808 95
Diphenyl	NIOSH 2530		0.2		30		100		5		GC-FID	ST 226-35-01 38
Diphenyl ether	OSHA PV2022		0.2		20		200		100 min		GC-FID	ST 226-95 40
p,p-Diphenyl methane diisocyanate (MDI) *(see methylene bisphenyl isocyanate)*	OSHA 47											
2-Diphenylacetyl-1,3-indandione	OSHA CSI				480		2000		4		HPLC-UV	F/CST 225-706 96 C/HLD 225-1 102
Diphenylamine	OSHA 78	1229			100		1000		100 min		HPLC-UV	CF/CST 225-9004 64 C/HLD 225-1 102
5,5-Diphenylhydantoin	OSHA CSI				60		1000		1		HPLC-UV	FLT 225-7 ‡ 96 CST 225-3LF 97 C/HLD 225-1 102
Diphenylmethane-4,4'-diisocyanate (4,4-methylene bisphenyl isocyanate) (isocyanates)	NIOSH 5521	1001	50 µg/m³	200 µg/m³ (10 min) C	480	10	1000	1000	8	10	HPLC-ELCHM & HPLC-UV	IMP 225-36-1 67 IT 225-22 67
Dipropyl disulfide	OSHA PV2086				10		20(50)		8(3.3)		GC-FPD	ST 226-110 40
Dipropyl ketone	OSHA CSI				10		20		8		GC-FID	ST NA SKC
Dipropylene glycol methyl ether	OSHA 07	1113	100		10	3	20(50)	200	8(3.3)	15	GC-FID	ST 226-01 38
Dipropylene glycol methyl ether	OSHA 101		100		10		100		100 min		GC-FID	ST 226-01 38

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Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	CLG/STEL (ppm)	Vol. (liter) TWA	CLG/STEL Sample Time or Air Volume	Rate (ml/min) TWA	CLG/STEL Flow/Sampling Rate	Time TWA (hrs)	CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
Dipropylene glycol methyl ether (glycol ethers)	NIOSH 2554				3-25		100-200		varies		GC-FID	ST 226-81A 39
Dipropylene glycol monomethyl ether (glycol ethers)	NIOSH 2554				3-25		100-200		varies		GC-FID	ST 226-81A 39
Diquat	OSHA CSI				120		1000		2		HPLC-UV	F/CST 225-709 96 C/HLD 225-1 102
Direct black 38	OSHA CSI				100		1000		100 min		HPLC	F/CST 225-706 96 C/HLD 225-1 102
Direct black 38 (dyes, benzidine)	NIOSH 5013		LFC		480		1000		8		HPLC	FLT 225-17A 94 C/HLD 225-1 102 CST 225-3LF 97
Direct blue	OSHA CSI				60		1000		1		HPLC-UV	F/CST 225-709 96 C/HLD 225-1 102
Direct blue 2	OSHA CSI				100		1000		100 min		HPLC-UV	F/CST 225-709 96 C/HLD 225-1 102
Direct blue 6	OSHA CSI				100		1000		100 min		HPLC-UV	F/CST 225-709 96 C/HLD 225-1 102
Direct blue 6 (dyes, benzidine)	NIOSH 5013		LFC		480		1000		8		HPLC	FLT 225-17A 94 C/HLD 225-1 102 CST 225-3LF 97
Direct blue 8 (dyes, benzidine)	NIOSH 5013		LFC		480		1000		8		HPLC	FLT 225-17A 94 C/HLD 225-1 102 CST 225-3LF 97
Direct blue 98	OSHA CSI				180		1000		3		HPLC-UV	F/CST 225-706 96 C/HLD 225-1 102
Direct brown 31	OSHA CSI				180		1000		3		HPLC-UV	F/CST 225-706 96 C/HLD 225-1 102
Direct brown 95	OSHA CSI				100		1000		100 min		HPLC-UV	F/CST 225-709 96 C/HLD 225-1 102
Direct brown 95 (dyes, benzidine)	NIOSH 5013		LFC		480		1000		8		HPLC	FLT 225-17A 94 C/HLD 225-1 102 CST 225-3LF 97
Direct red 2	OSHA CSI				120		1000		2		HPLC-UV	F/CST 225-709 96 C/HLD 225-1 102
Direct red 2 (dyes, benzidine)	NIOSH 5013		LFC		480		1000		8		HPLC	FLT 225-17A 94 C/HLD 225-1 102 CST 225-3LF 97
Direct red 28 (dyes, benzidine)	NIOSH 5013		LFC		480		1000		8		HPLC	FLT 225-17A 94 C/HLD 225-1 102 CST 225-3LF 97
Direct red 81	OSHA CSI				100		1000		100		HPLC-UV	F/CST 225-709 96 C/HLD 225-1 102
Di-sec-octyl phthalate *(see di-[2-ethylhexy] phthalate)*												
Disperse yellow 3	OSHA CSI				100		1000		100 min		HPLC-UV	F/CST 225-709 96 C/HLD 225-1 102
Disulfiram (tetraethylthiuram disulfide)	OSHA CSI				120		1000		2		HPLC-UV	F/CST 225-709 96 C/HLD 225-1 102
Disulfoton	OSHA PV2105				480		1000		8		GC-FPD	ST 226-30-16 38
Disulfoton (Organophosphorus Pesticides)	NIOSH 5600		0.1 mg/m³		240		1000		4		GC-FPD	ST 226-58 39
Disyston	OSHA CSI				480		1000		8		GC-FPD	ST 226-30-16 38
2,2'-Dithiobis(benzothiazole)	OSHA CSI				480		2000		4		HPLC-UV	F/CST 225-706 96 C/HLD 225-1 102
Diuron	ASTM D 4861				240-7200		1000-5000		4-24		HPLC-UV	PUF 226-92 44
Diuron (Organonitrogen Pesticides)	NIOSH 5601		10 mg/m³		240		1000		4		HPLC-UV	ST 226-58 or ST 226-30-16 38
Divinyl benzene	OSHA 89				12		50		4		GC-FID	ST 226-73 39
Divinyl sulfide	OSHA CSI				2.5		20		2		GC	ST 226-01 38
DMP *(see dimethyl phthalate)*	OSHA 104											
DNOP *(see di-n-octyl phthalate)*	OSHA 104											
DNT (dinitrotoluene)	OSHA 44		1.5 mg/m³		60		1000		1		GC-TEA	ST 226-56 39
n-Dodecane	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 CPC 224-26-CPC 51 TH 224-26-02 51
Dodecyl alcohol (lauryl alcohol)	OSHA CSI				10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Dodine	OSHA CSI				240		1000		2		HPLC-UV	ST 226-30 38
Dursban (chlorpyrifos)(organophosphorus pesticides)	NIOSH 5600		0.2 mg/m³	0.6 mg/m³	240		1000		4		GC-FPD	ST 226-58 39
Dust, inorganic					15-150		15000		1-10 min		varies	STC 225-9820 101
Dust, respirable (in workplace atmospheres)	ASTM D 4532	1418			varies		2500		varies		GR	FLT 225-5-37-P 93 CYC 225-01-02 111 C/HLD 225-1 102 CST 225-3LF 97
Dust, respirable nuisance	OSHA CSI		5.0 mg/m³		varies		varies		varies		GR	FLT 225-5-37-P 93 CYC 225-105 110 C/HLD 225-1 102 CST 225-3LF 97
Dust, respirable nuisance (particulates)	NIOSH 0600	1038			375		2500		2.5		GR	FLT 225-5-37-P 93 CYC 225-01-02 111 C/HLD 225-1 102 CST 225-3LF 97
Dust, total nuisance	OSHA CSI		15 mg/m³		720		1500		8		GR	FLT 225-5-37-P 93 CST 225-2LF 97 C/HLD 225-1 102
Dust, total nuisance (particulates)	NIOSH 0500	1035			120		2000		1		GR	FLT 225-5-37-P 93 CST 225-2LF 97 C/HLD 225-1 102
Dust, total, particulates not otherwise regulated	NIOSH 0500	1035			120		2000		1		GR	FLT 225-5-37-P 93 CST 225-2LF 97 C/HLD 225-1 102
Dyes, benzidine, o-tolidine, o-dianisidine	NIOSH 5013		LFC		480		1000		8		HPLC-UV	FLT 225-17A 94 C/HLD 225-1 102 CST 225-3LF 97
Dyfonate	OSHA CSI				480		1000		8		GC-FPD	ST 226-30-16 38
Elemental carbon (diesel exhaust)	MSHA				varies		varies		varies		EGA-TOS	DPM 225-317 95 CYC 225-105 110
Elemental carbon (diesel exhaust)	NIOSH 5040				varies		varies		varies		TOA-FID	F/CST 225-401 95 C/HLD 225-1 102 CYC 225-100 110
Elements by Cellulosic Internal Capsule Sampler *(see specific element)*	NIOSH 7306		Varies		Varies		1000-4000		Varies		ICP-AES	SC 225-8517 90 C/HLD 225-1 102

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Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	CLG/STEL (ppm)	Vol. (liter) TWA Sample Time or Air Volume	CLG/STEL	Rate (ml/min) TWA Flow/Sampling Rate	CLG/STEL	Time TWA (hrs)	CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
Elements by ICP Aqua Regia ashing *(see specific element)*	NIOSH 7301		varies		varies		1000-4000		varies		ICP-AES	F/CST 225-3-01 or 102; C/HLD 225-1; F/CST 225-803 93
Elements by ICP HNO_3 digestion *(see specific element)*	NIOSH 7303		varies		varies		1000-4000		varies		ICP-AES	F/CST 225-3-01 90; C/HLD 225-1 102
Elements by ICP HNO_3/$HClO_4$ ashing *(see specific element)*	NIOSH 7300	1455	varies		varies		1000-4000		varies		ICP-AES	F/CST 225-3-01 90; C/HLD 225-1 102
Elements on wipes *(see specific element)*	NIOSH 9102				wipe						ICP-AES	W 225-2414 140; TMP 225-2403 or TMP 225-2415 140
Elements qualitative	OSHA ID 204				480		2000		8		XRF	F/CST 225-3-01 90; C/HLD 225-1 102
Emery (corundum) (particulates, respirable)	NIOSH 0600	1038			375		2500		2.5		GR	FLT 225-5-37-P 93; C/HLD 225-1 102; CYC 225-01-02 111; CST 225-3LF 97
Emery (corundum) (particulates, total)	NIOSH 0500	1035			120		2000		1		GR	FLT 225-5-37-P 93; C/HLD 225-1 102; CST 225-2LF 97
Emery (respirable dust)	OSHA CSI		5 mg/m³		varies		varies		varies		GR	FLT 225-5-37-P 93; C/HLD 225-1 102; CYC 225-105 110; CST 225-3LF 97
Emery (total dust)	OSHA CSI		15 mg/m³		960		2000		8		GR	F/CST 225-803 93; C/HLD 225-1 102
Endosulfan (thiodan)	OSHA PV2023				60		1000		1		GC-ECD	ST 226-30-16 38
Endotoxins (bacteria in air)	NON 48				62.5-375		12500 +		5-30		varies	BS 225-9595 122; VT 225-9598A◊ 122
Endrin	NIOSH 5519		0.1 mg/m³		240		1000		4		GC-ECD	CST 225-2LF 97; SCN 225-26 103; C/HLD 225-1 102; FLT ST 225-5 NA SKC 88
Enflurane (ethrane)	OSHA 103	1348			12		50		4		GC-FID	ST 226-81A 39
Enflurane (ethrane)	OSHA 29				10		20		8		GC-FID	ST 226-01 38
Environmental tobacco smoke (nicotine & 3-ethenylpyridine)	NON 49				90-720		1500		1-8		GC-NSD	ST 226-170 41
Environmental tobacco smoke (respirable particles)	ASTM D 5955	1419			varies		varies		varies		GR & HPLC-UV & HPLC-FD	FLT 225-2705 94; CYC 225-01-02 111; C/HLD 225-1 102; CST 225-3LF 97
Environmental tobacco smoke (solanesol, respirable particles)	ASTM D 6271				150-3600		2500		1-24		HPLC-UV	FLT 225-2705 94; CYC 225-01-02 111; CST 225-3LF 97; C/HLD 225-1 102
Epichlorohydrin	NIOSH 1010		LFC		10	3	20(50)	200	8(3.3)	15	GC-FID	ST 226-01 38
Epichlorohydrin	OSHA 07	1112	5		20		100		3.3		GC-FID	ST 226-01 38
Epicoccum species (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST 225-3-01 90; C/HLD 225-1 102
Epicoccum species (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI 225-9611 120
EPN	NIOSH 5012		0.5 mg/m³		480		1000		8		GC-FPD	F/CST 225-709 96; C/HLD 225-1 102
EPN	OSHA CSI		0.5 mg/m³		480		1000		8		GC-FPD	ST 226-30-16 38
1,2-Epoxyethylbenzene	OSHA CSI				10		20(50)		8(3.3)		GC-FID	ST 226-35 38
1,2-Epoxypropane *(see propylene oxide)*												
2,4,D-Esters	ASTM D 4861				240-7200		1000-5000		4-24		GC-ECD	PUF 226-92 44
Esters I *(see specific compounds)*	NIOSH 1450		varies		1-10		varies		varies		GC-FID	ST 226-01 38
Estradiol	OSHA PV2001				240		1000		4		HPLC-UV	F/CST 225-706 96; C/HLD 225-1 102
Estriol	OSHA PV2001				60		1000		1		HPLC-UV	F/CST 225-706 96; C/HLD 225-1 102
Estrone	OSHA PV2001				60		1000		1		HPLC-UV	F/CST 225-706 96; C/HLD 225-1 102
1,2-Ethanediol (ethylene glycol) (glycols)	NIOSH 5523	1401			24		100		4		GC-FID	ST 226-57 39
1,2-Ethanediol dinitrate	OSHA 43			0.2 (C)		15		1000		15	HPLC-TEA	ST 226-35-03 39
2-(2-methoxyethoxy)Ethanol	OSHA CSI				6		100		1		GC-FID	ST 226-01 38
Ethanol (ethyl alcohol)	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42; TH 224-26-02 51; CPC 224-26-CPC 51
Ethanolamine	OSHA PV2111		3		10	1.5	100	100	100 min	15	HPLC-UV	ST 226-30-18 38
3-Ethenylpyridine	NON 49				90-720		1500		1-8		GC-NSD	ST 226-170 41
3-Ethenylpyridine & nicotine	ASTM D 5075	1427			90-2160		1500		1-24		GC-NPD	ST 226-93 40
Ethion (nialate)	OSHA CSI				480		1000		8		GC-FPD	ST 226-30-16 38
Ethion (Organophosphorus Pesticides)	NIOSH 5600		0.4 mg/m³		240		1000		4		GC-FPD	ST 226-58 39
Ethoprop (Organophosphorus Pesticides)	NIOSH 5600				240		1000		4		GC-FPD	ST 226-58 39
1-Ethoxy-2-propanol	OSHA CSI				48		100		8		GC-FID	ST 226-01 38
2-Ethoxyethanol	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42; TH 224-26-02 51; CPC 224-26-CPC 51
2-Ethoxyethanol (alcohols IV)	NIOSH 1403	1273	0.5 (skin)		1-6		10-50		varies		GC-FID	ST 226-01 38
2-Ethoxyethanol (CELLOSOLVE solvent)	OSHA 79	1277	200		48	15	100	1000	8	15	GC-FID	ST 226-01 38
2-Ethoxyethanol (CELLOSOLVE solvent) (alcohols IV)	NIOSH 1403	1273	0.5 (skin)		1-6		10-50		varies		GC-FID	ST 226-01 38
2-Ethoxyethyl acetate	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42; TH 224-26-02 51; CPC 224-26-CPC 51
2-Ethoxyethyl acetate (CELLOSOLVE acetate)	OSHA 79	1277	100		48	15	100	1000	8	15	GC-FID	ST 226-01 38
2-Ethoxyethyl acetate (Esters I)	NIOSH 1450		0.5 (skin)		1-10		10-200		varies		GC-FID	ST 226-01 38

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References and abbreviations are found on pages 212-213.

Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	CLG/STEL (ppm)	Vol. (liter) TWA	CLG/STEL Sample Time or Air Volume	Rate (ml/min) TWA	CLG/STEL Flow/Sampling Rate	Time TWA (hrs)	CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
Ethrane (enflurane)	OSHA 29				10		100		1.6		GC-FID	ST 226-01 38
Ethyl 2-cyanoacrylate	OSHA 55				12		100		2		HPLC-UV	ST 226-98 40
Ethyl acetate	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 CPC 224-26-CPC 51 TH 224-26-02 51
Ethyl acetate	NIOSH 1457		400		10		20		8		GC-FID	ST 226-01 38
Ethyl acetate	OSHA 07	1111	400		5		20		4		GC-FID	ST 226-01 38
Ethyl acrylate	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 CPC 224-26-CPC 51 TH 224-26-02 51
Ethyl acrylate	NON 54		5	15	10	3	20	200	8	15	GC-FID	ST 226-81A 39
Ethyl acrylate	OSHA 92		25		12	0.75	50	50	4	15	GC-FID	ST 226-73 39
Ethyl acrylate (Esters I)	NIOSH 1450		4 (LOQ)		1-10		10-200		varies		GC-FID	ST 226-01 38
Ethyl alcohol (ethanol)	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 CPC 224-26-CPC 51 TH 224-26-02 51
Ethyl alcohol (ethanol)	OSHA 07	1109	1000		1		50		20 min		GC-FID	ST 226-01 38
Ethyl alcohol (ethanol)	OSHA 100	1283	1000		12		50		4		GC-FID	ST 226-82 40
Ethyl alcohol (ethanol) (Alcohols I)	NIOSH 1400		1000		1		50		20 min		GC-FID	ST 226-01 38
Ethyl amyl ketone	OSHA 07	1158	25		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Ethyl benzene	ASTM D 5466				6		varies		varies		GC-MS	CAN 228 Series PK 228 Series
Ethyl benzene	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 CPC 224-26-CPC 51 TH 224-26-02 51
Ethyl benzene	OSHA 07	1108	100		10	3	20(50)	200	8(3.3)	15	GC-FID	ST 226-01 38
Ethyl benzene	OSHA 1002	1746	100		12		50		4		GC-FID	ST 226-01 38
Ethyl benzene	OSHA 1002	1746	100				13.83		8		GC-FID	PS 575-002 75
Ethyl benzene (Hydrocarbons, Aromatic)	NIOSH 1501	1053	100	125	1-24	1-24	10-200	10-200	varies	varies	GC-FID	ST 226-01 38
Ethyl bromide (bromoethane)	NIOSH 1011				4		20		3.3		GC-FID	ST 226-01 38
Ethyl bromide (bromoethane)	OSHA 07	1107	200		5	3	20	200	4	15	GC-FID	ST 226-01 38
Ethyl butyl ketone (3-heptanone)	OSHA 07	1106	50		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Ethyl butyl ketone (3-heptanone) (Ketones II)	NIOSH 2553		50		1-25		10-200		varies		GC-FID	ST NA SKC
Ethyl butyl ketone (3-heptanone) (Ketones II)	NIOSH 1301		50		24		200		2		GC-FID	ST 226-01 38
Ethyl chloride	ASTM D 5466				6		varies		varies		GC-MS	CAN 228 Series PK 228 Series
Ethyl chloride	NIOSH 2519				3		50		1		GC-FID	ST 226-25 38
Ethyl chloride	OSHA 07		1000		3		50		1		GC-FID	ST 226-01 38
Ethyl ether (diethyl ether)	OSHA 07	1105	400		3	3	20	200	2.5	15	GC-FID	ST 226-01 38
Ethyl ether (ethyl ether)	NIOSH 1610				0.25-3		10-200		varies		GC-FID	ST 226-01 38
Ethyl formate	NIOSH 1452		100		10		20		8		GC-FID	ST 226-01 38
Ethyl formate	OSHA 07	1104	100		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Ethyl lactate	OSHA PV2081				10		200		50 min		GC-FID	ST 226-01 38
Ethyl mercaptan	OSHA CSI			10 (C)		120		1000		120	GC-FPD	CF/CST 225-9007 64 C/HLD 225-1 102
Ethyl mercaptan (mercaptans)	NIOSH 2542	1330		0.5 (15 min)	48	12	100	200	8	60	GC-FPD	CF/CST 225-9007 64 C/HLD 225-1 102
Ethyl methacrylate	NIOSH 2537				1-8		10-50		varies		GC-FID	ST 226-30-06 38
Ethyl methacrylate	OSHA PV2100				10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Ethyl O-(p-nitrophenyl) phenylphosphonothionate (EPN)	NIOSH 5012		0.5 mg/m³		480		1000		8		GC-FPD	F/CST 225-709 96 C/HLD 225-1 102
Ethyl parathion	ASTM D 4861				240-7200		1000-5000		4-24		GC-NPD	PUF 226-92 44
Ethyl propionate	OSHA CSI				10		20(50)		8(3.3)		GC	ST 226-01 38
Ethyl silicate	OSHA CSI		100		9		50		3		GC-FID	ST 226-30-04 38
2-Ethyl toluene	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 CPC 224-26-CPC 51 TH 224-26-02 51
3-Ethyl toluene	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 CPC 224-26-CPC 51 TH 224-26-02 51
4-Ethyl toluene	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 CPC 224-26-CPC 51 TH 224-26-02 51
Ethyl vinyl benzene	OSHA 89				12		50		4		GC-FID	ST 226-73 39
Ethyl-3-ethoxypropionate	OSHA PV2025				10		100		100 min		GC-FID	ST 226-01 38
Ethylamine	OSHA 36		10		10		200		50 min		HPLC-UV	ST 226-96 40
Ethylene chlorohydrin	NIOSH 2513			1	10	3	20(50)	200	8(3.3)	15	GC-FID	ST 226-81A 39
Ethylene chlorohydrin	OSHA 07	1159	5		20		40		8		GC-FID	ST 226-81A 39
Ethylene dibromide (1,2-dibromoethane)	NIOSH 1008		0.045	0.13 (15 min)	10	3	20(50)	200	8(3.3)	15	GC-ECD	ST 226-01 38
Ethylene dibromide (1,2-dibromoethane)	OSHA 02	1072	20	30	10	1	20(50)	200	8(3.3)	5	GC-ECD	ST 226-01 38
Ethylene dichloride	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 CPC 224-26-CPC 51 TH 224-26-02 51
Ethylene dichloride (1,2-dichloroethane)	OSHA 03	1063	50	100	10	3	200	200	1	15	GC-ECD	ST 226-01GWS 38

Agency standards for OSHA listings represent the OSHA PELs reported in the 29 CFR 1910.1000 Part 1910, Section 1000.

References and abbreviations are found on pages 212-213.

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Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	Agency Standard CLG/STEL (ppm)	Vol. (liter) TWA Sample Time or Air Volume	Vol. (liter) CLG/STEL Sample Time or Air Volume	Rate (ml/min) TWA Flow/Sampling Rate	Rate (ml/min) CLG/STEL Flow/Sampling Rate	Time TWA (hrs)	Time CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
Ethylene dichloride (1,2-dichloroethane) (hydrocarbons, halogenated)	NIOSH 1003		1	2	3	3	10-200	10-200	varies	varies	GC-FID	ST 226-01 38
Ethylene glycol (glycols)	NIOSH 5523	1401			60		1000		1		GC-FID	ST 226-57 39
Ethylene glycol dinitrate	OSHA 43			0.2 (C)		15		1000		15	HPLC-TEA	ST 226-35-03 39
Ethylene glycol dinitrate (nitroglycerine)	NIOSH 2507			0.1 mg/m³		15		1000		15	GC-ECD	ST 226-35-03 39
Ethylene glycol isopropyl ether (isopropyl CELLOSOLVE solvent)	OSHA CSI				9		100		1.5		GC-FID	ST 226-01 38
Ethylene glycol monohexyl ether	OSHA CSI				10		200		50 min		GC-FID	ST 226-01 38
Ethylene oxide	ASTM D 4413				6	3	100	200	1	15	GC-FID	ST 226-16 or ST 226-36 39
Ethylene oxide	ASTM D 5578				9.6	1.5	20	100	8	15	GC-ECD	ST 226-178 41
Ethylene oxide	NIOSH 1614		0.1	5 (10 min)	24	1.5	100	150	4	10	GC-ECD	ST 226-178 41
Ethylene oxide	OSHA 1010	1751	1	5.0 EL	12	0.75	50	50	4	15	GC-ECD	ST 226-178 41
Ethylene oxide (by portable GC)	NIOSH 3702	1031	0.1	5 (10 min)	varies	varies	20-4000	varies	varies	varies	P GC-PID	SB 232 Series 55
Ethylene oxide (Qazi-Ketcham)	NON 14				10		20(50)		8(3.3)		GC	ST 226-36 39
Ethylene thiourea	NIOSH 5011		LFC		480		2000		4		VAS	F/CST 225-802 93 C/HLD 225-1 102
Ethylene thiourea	OSHA 95				480		2000		4		HPLC-UV	F/CST 225-706 96 C/HLD 225-1 102
Ethylenediamine	NIOSH 2540		10		10		100		1.7		HPLC-UV	ST 226-30-18 38
Ethylenediamine	OSHA 60	1287	10		10		100		100 min		HPLC-UV	ST 226-30-18 38
Ethylenimine	NIOSH 3514				48		200		4		HPLC-UV	IMP 225-36-2 67 IT 225-22 67
2-Ethylhexanol	OSHA CSI				48		200		4		GC-FID	ST 226-01 38
Ethylhexyl acetate	OSHA CSI				10		20(50)		8(3.3)		GC-FID	ST 226-01 38
2-Ethylhexyl acrylate	OSHA PV2026				12		100		2		GC-FID	ST 226-73 39
di-2-Ethylhexyl phthalate (DEHP)	OSHA 104		5 mg/m³		240		1000		4		GC-FID	ST 226-56 39
N-Ethylmorpholine	OSHA CSI		20		10		20(50)		8(3.3)		GC-FID	ST 226-10 38
ETS *(see environmental tobacco smoke)*	NON 49											
Exserohilum species (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST 225-3-01 90 C/HLD 225-1 102
Exserohilum species (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI 225-9611 120
Fenamiphos	OSHA CSI				480		1000		8		GC-FPD	ST 226-30-16 38
Fenamiphos (Organophosphorus Pesticides)	NIOSH 5600		0.1 mg/m³		240		1000		4		GC-FPD	ST 226-58 39
Fenarimol	OSHA CSI				30		1000		30 min		HPLC-UV	ST 226-30-16 38
Fensulfothion (Dansanit)	OSHA CSI				480		1000		8		GC-FPD	ST 226-30-16 38
Fenthion	OSHA CSI				480		1000		8		GC-FPD	ST 226-30-16 38
Fenvalerate	ASTM D 4861				240-7200		1000-5000		4-24		HPLC-UV	PUF 226-92 44
Ferbam	OSHA CSI		15 mg/m³		480		1000		8		HPLC-UV	ST 226-30-16 38
Ferric chloride *(see iron salts, soluble as Fe)*	OSHA ID 121											
Ferrovanadium dust	OSHA ID 125G	1218	1 mg/m³		480	30	2000	2000	4	15	ICP-AES	F/CST 225-3-01 or F/CST 225-3100 or F/CST 225-803 or F/CST 225-8215 93 C/HLD 225-1 102
Fibers (bioaerosols)					15-150		15000		1-10 min		varies	STC 225-9820 101
Fibers *(see specific compounds)*												
Fibrous glass (particulates, respirable)	NIOSH 0600	1038			375		2500		2.5		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CYC 225-01-02 111 CST 225-3LF 97
Fibrous glass (particulates, total)	NIOSH 0500	1035			120		2000		1		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CST 225-2LF 97
Fibrous glass dust	OSHA CSI		15 mg/m³		960		2000		8		GR	F/CST 225-8204 93 C/HLD 225-1 102
Flax dust *(see dust, total and respirable nuisance)*	OSHA CSI											
Fluoboric acid	OSHA CSI				120		1000		2		ISE	IMP 225-36-2 67 IT 225-22 67
Fluometuron	ASTM D 4861				240-7200		1000-5000		4-24		HPLC-UV	PUF 226-92 44
Fluoranthene	OSHA CSI				960		2000		8		HPLC-UV	F/CST 225-706 96 C/HLD 225-1 102
Fluoranthene (Polynuclear Aromatic Hydrocarbons by GC-MS)	ASTM D 6209				350 m³ (max)		225 L/min		1-24		GC-MS	PUF 226-131 45 FLT 225-1808 95
Fluoranthene (Polynuclear Aromatic Hydrocarbons by GC)	NIOSH 5515				480		2000		4		GC-FID	F/CST 225-1713 94 C/HLD 225-1 102 ST 226-30-04 38
Fluoranthene (Polynuclear Aromatic Hydrocarbons by HPLC)	NIOSH 5506				480		2000		4		HPLC-FD	F/CST 225-1713 94 C/HLD 225-1 102 ST 226-30-04 38
Fluorene	OSHA CSI				960		2000		8		HPLC-UV	F/CST 225-709 96 C/HLD 225-1 102
Fluorene (Polynuclear Aromatic Hydrocarbons by GC-MS)	ASTM D 6209				350 m³ (max)		225 L/min		1-24		GC-MS	PUF 226-131 45 FLT 225-1808 95
Fluorene (Polynuclear Aromatic Hydrocarbons by GC)	NIOSH 5515				480		2000		4		GC-FID	F/CST 225-1713 94 C/HLD 225-1 102 ST 226-30-04 38
Fluorene (Polynuclear Aromatic Hydrocarbons by HPLC)	NIOSH 5506				480		2000		4		HPLC-UV	F/CST 225-1713 94 C/HLD 225-1 102 ST 226-30-04 38
Fluoride (particulate)	NIOSH 7906		2.5 mg/m³		960		2000		8		IC-CD	CF/CST 225-9031 64 C/HLD 225-1 102

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References and abbreviations are found on pages 212-213.

Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	CLG/STEL (ppm)	Vol. (liter) TWA	CLG/STEL	Rate (ml/min) TWA	CLG/STEL	Time TWA (hrs)	CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
					Sample Time or Air Volume		Flow/Sampling Rate					
Fluorides	ASTM D 4765	1421			varies		2000		varies		ISE	CF/CST 225-9001 64 C/HLD 225-1 102
Fluorides (aerosol & gas by ISE)	NIOSH 7902	1226	2.5 mg/m³	6 (HF)	480	22.5	1000	1500	8	15	ISE	CF/CST 225-9001 64 C/HLD 225-1 102
Fluorides (as F)	OSHA ID 110	1227	2.5 mg/m³		90	22.5	1500	1500	1	15	ISE	CF/CST 225-9001 64 C/HLD 225-1 102
Fluorine	OSHA CSI		0.1		480		1000		8		ISE	IMP 225-36-2 67 IT 225-22 67
Fluorotrichloromethane (trichlorofluoromethane)	NIOSH 1006			1000		5		20		240	GC-FID	ST 226-09 38
5-Fluorouracil	OSHA CSI				180		1000		3		HPLC-UV	ST 226-30-16 38
Folpet	ASTM D 4861				240-7200		1000-5000		4-24		GC-ECD	PUF 226-92 44
Fonofos (Dyfonate)	OSHA PV2027				480		1000		8		GC-FPD	ST 226-30-16 38
Fonofos (Organophosphorus Pesticides)	NIOSH 5600		0.1 mg/m³		240		1000		4		GC-FPD	ST 226-58 39
Formaldehyde	ASTM D 5197	1442			varies		500-1200		5 min-24 hrs		HPLC-UV	ST 226-120 ° or ST 226-119 40
Formaldehyde	EPA IP-6A	1664					100-1000 ml/min		5 min-24 hrs		HPLC-UV	ST 226-119 or ST 226-120 40
Formaldehyde	EPA IP-6C	1664					20.4 ml/min		15 min-8 hrs		HPLC-UV	PS 500-100 84
Formaldehyde	EPA IP-6C	1664					20.4 ml/min		1-7 days		HPLC-UV	PS 500-100 84
Formaldehyde	EPA IP-6C	1664					20.4 ml/min		7 days		HPLC-UV	PS 500-100 84
Formaldehyde	EPA TO-11A	1082			varies		100-2000 ml/min		varies		HPLC-UV	ST 226-119 or ST 226-120 40
Formaldehyde	EPA TO-11A	1082					28.6 ml/min		15 min-24 hrs		HPLC-UV	PS 500-100 84
Formaldehyde	EPA TO-11A	1082					28.6 ml/min		15 min-8 hrs		HPLC-UV	PS 500-100 84
Formaldehyde	EPA TO-11A	1082					28.6 ml/min		7 days		HPLC-UV	PS 500-100 84
Formaldehyde	NIOSH 2016	1761	0.016	0.1 (C)	1-<15	1-<15	30-500	30-500	varies	varies	HPLC-UV	ST 226-119 ♠ 40
Formaldehyde	NIOSH 2541	1015	0.016	0.1 (C)	24	1	100	100	4	10	GC-FID	ST 226-118 40
Formaldehyde	NIOSH 3500		0.016	0.1	96	15	200	1000	8	15	VAS	IMP 225-36-1 67 IT 225-22 67 FLT 225-1709** 94 CST 225-2LF** 97 SCN 225-26** 103
Formaldehyde	OSHA 1007		0.75	2	13.8	0.43	28.6	28.6	8	15	HPLC-UV	PS 500-100 84
Formaldehyde	OSHA 52	1020	0.75	2	24	3	100	200	4	15	GC-NPD	ST 226-117 or ST 226-54 39
Formaldehyde (Aldehydes, Screening)	NIOSH 2539		0.016	0.1	5		20		4		GC-FID & GC-MS	ST 226-118 40
Formaldehyde on dust (textile or wood)	NIOSH 5700		0.016	0.1	240		2000		4		HPLC-UV	IOM 225-70A 108 FLT 225-5-25 93
Formamide	OSHA CSI				10	1.5	100	100	100 min		GC-NPD	ST 226-10 38
Formetanate (Organonitrogen Pesticides)	NIOSH 5601				240		1000		4		HPLC-UV	ST 226-58 or ST 226-30-16 38
Formic acid	NIOSH 2011		5		24		200		2		IC-CD	FLT 225-2708 94 CST 225-3-25LF 97 ST 226-10-03 38 C/HLD 225-1 102
Formic acid	OSHA ID 186SG		5		48		100		8		IC	ST 226-09 38
Freon 11	ASTM D 5466				6		varies		varies		GC-MS	CAN 228 Series PK 228 Series
Freon 113	OSHA 113		1000		1		50		20 min		GC-FID	ST NA SKC
Freon 113 (1,1,2-Trichloro-1,2,2-trifluoroethane)	ASTM D 5466				6		varies		varies		GC-MS	CAN 228 Series PK 228 Series
Freon 114	ASTM D 5466				6		varies		varies		GC-MS	CAN 228 Series PK 228 Series
Freon 12	ASTM D 5466				6		varies		varies		GC-MS	CAN 228 Series PK 228 Series
Freon 123	NON 50				9		50		3		GC-FID	ST 226-09 38
Freon 141b	OSHA 113		1000		1		50		20 min		GC-FID	ST NA SKC
Fumarin	OSHA CSI				180		1000		3		HPLC-UV	F/CST 225-706 96 C/HLD 225-1 102
Fungi	NIOSH 0800				varies		28300		varies		varies	BI 225-9611 120
Fungi (in air)					15-150		15000		1-10 min		varies	STC 225-9820 101
Fungi (in air) (BioSampler method)	NON 48				62.5-375		12500 +		5-30		varies	BS 225-9595 122 VT 225-9598A◊ 122
Furans (including PHDFs, PCDFs, PBDFs)	EPA TO-9A	1673					200-280 L/min		24 hrs		HRGC-HRMS	PUF 226-131 41 FLT 225-1808 95
Furfural	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
Furfural	NIOSH 2529				5		20		4		GC-FID	ST 226-118 40
Furfural	OSHA 72		5		180		1000		3		GC-FID	ST 226-81A 39
Furfural (Aldehydes, Screening)	NIOSH 2539				5		20		4		GC-FID & GC-MS	ST 226-118 40
Furfuryl alcohol	NIOSH 2505		10	15	5		20		4		GC-FID	ST 226-115 40
Fusarium species (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST 225-3-01 90 C/HLD 225-1 102
Fusarium species (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI 225-9611 120
Gallium	OSHA CSI				960		2000		8		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CST 225-2LF 97
Gallium (Elements by ICP HNO_3 Digestion))	NIOSH 7303				1-3300		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Gasoline	OSHA PV2028				10	1.5	20(50)	100	8(3.3)	15	GC-FID	ST 226-01 38
Gentian violet	OSHA CSI				180		1000		3		HPLC-UV	FLT 225-7 96 CST 225-2LF 97
Germanium oxide	OSHA CSI				960		2000		8		AA-GF	F/CST 225-3-01 90 C/HLD 225-1 102
Glass, fibrous *(see asbestos fibers)*	NIOSH 7400											

Agency standards for OSHA listings represent the OSHA PELs reported in the 29 CFR 1910.1000 Part 1910, Section 1000.

References and abbreviations are found on pages 212-213.

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Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	Agency Standard CLG/STEL (ppm)	Vol. (liter) TWA Sample Time or Air Volume	Vol. (liter) CLG/STEL Sample Time or Air Volume	Rate (ml/min) TWA Flow/Sampling Rate	Rate (ml/min) CLG/STEL Flow/Sampling Rate	Time TWA (hrs)	Time CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
Glass, fibrous dust	OSHA CSI				960		2000		8		GR	FLT 225-5-37-P 93 C/HLD 225-1 102; CST 225-2LF 97
Gliocladium species (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST 225-3-01 90 C/HLD 225-1 102
Gliocladium species (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI 225-9611 120
Glutaraldehyde	NIOSH 2531		0.2		4		200		20		HPLC-UV	ST 226-118 40
Glutaraldehyde	NIOSH 2532	1346	0.2		3		200		15		HPLC-UV	ST 226-119 40
Glutaraldehyde	NON 43				30	15	250	1000	2	15	GC-FID	ST 226-10 38
Glutaraldehyde	OSHA 64	1241			15		1000		15		HPLC-UV	CF/CST 225-9003 64 C/HLD 225-1 102
Glycerin mist (particulates, respirable)	NIOSH 0600	1038			375		2500		2.5		GR	FLT 225-5-37-P 93 C/HLD 225-1 102; CYC 225-01-02 111 CST 225-3LF 97
Glycerin mist (respirable)	OSHA CSI		5 mg/m³		varies		varies		varies		GR	FLT 225-5-37-P 93 C/HLD 225-1 102; CYC 225-105 110 CST 225-3LF 97
Glycerin mist (total dust)	OSHA CSI		15 mg/m³		96		2000		8		GR	F/CST 225-803 93 C/HLD 225-1 102
Glycidol (2,3-epoxy-1-propanol)	NIOSH 1608		25		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Glycidol (2,3-epoxy-1-propanol)	OSHA 07	1157	50		48		100(200)		8(4)		GC-FID	ST 226-01 38
Glycol chlorohydrin *(see ethylene chlorohydrin)*												
Glycol ethers	NIOSH 2554				3-25		100-200		varies		GC-FID	ST 226-81A 39
Glycols	NIOSH 5523	1402			60		1000		1		GC-FID	ST 226-57 39
Glyphosate	OSHA PV2067				100		1000		100 min		HPLC-UV	F/CST 225-706 96 C/HLD 225-1 102
Gold	OSHA ID 121				960		2000		8		AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Gold (Elements by ICP HNO_3 Digestion))	NIOSH 7303				1-3300		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Grain dust (oats, wheat, barley)	OSHA CSI		10 mg/m³		960		2000		8		GR	FLT 225-5-37-P 93 C/HLD 225-1 102; CST 225-2LF 97
Graphite (natural) *(see Respirable dust)*	OSHA ID 142											
Graphite (synthetic) (particulates, respirable)	NIOSH 0600	1038			375		2500		2.5		GR	FLT 225-5-37-P 93 C/HLD 225-1 102; CYC 225-01-02 111 CST 225-3LF 97
Graphite (synthetic) (particulates, total)	NIOSH 0500	1035			120		2000		1		GR	FLT 225-5-37-P 93 C/HLD 225-1 102; CST 225-2LF 97
Graphite (synthetic) (respirable dust)	OSHA CSI		5 mg/m³		varies		varies		varies		GR	FLT 225-5-37-P 93 C/HLD 225-1 102; CYC 225-105 110 CST 225-3LF 97
Graphite (synthetic) (total dust)	OSHA CSI		15 mg/m³		960		2000		8		GR	FLT 225-5-37-P 93 C/HLD 225-1 102; CST 225-2LF 97
Graphium species (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST 225-3-01 90 C/HLD 225-1 102
Graphium species (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI 225-9611 120
Grunerite fibers *(see asbestos)*	OSHA ID 160											
Gypsum (particulates, respirable)	NIOSH 0600	1038			375		2500		2.5		GR	FLT 225-5-37-P 93 C/HLD 225-1 102; CYC 225-01-02 111 CST 225-3LF 97
Gypsum (particulates, total)	NIOSH 0500	1035			120		2000		1		GR	FLT 225-5-37-P 93 C/HLD 225-1 102; CST 225-2LF 97
Hafnium	OSHA ID 121		0.5 mg/m³		960		2000		8		AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Halothane	OSHA 103	1347			12		50		4		GC-FID	ST 226-81A 39
Halothane	OSHA 29				9		100		1.5		GC-FID	ST 226-01 38
Haloxon	OSHA CSI										W	W 225-2401A 140
HDI *(see hexamethylene diisocyanate)*												
Heptachlor	ASTM D 4861				240-7200		1000-5000		4-24		GC-ECD	PUF 226-92 44
Heptachlor	OSHA PV2029		0.5 mg/m³		60		1000		1		GC-ECD	ST 226-30-16 38
Heptachlor (non-occupational exposure)	ASTM D 4947	1417			240-7200	250	1000-5000		4-24		GC-ECD	PUF 226-92 44
Heptachlor epoxide	ASTM D 4861				240-7200		1000-5000		4-24		GC-ECD	PUF 226-92 44
Heptanal (Aldehydes, Screening)	NIOSH 2539				5		20		4		GC-FID & GC-MS	ST 226-118 40
n-Heptane	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51; CPC 224-26-CPC 51
n-Heptane	OSHA 07	1156	500		5	3	20	200	4	15	GC-FID	ST 226-01 38
3-Heptanone (ethyl butyl ketone) (Ketones II)	NIOSH 2553		50		1-25		10-200		varies		GC-FID	ST NA SKC
2-Heptanone (methyl n-amyl ketone) (Ketones II)	NIOSH 2553		100		1-25		10-200		varies		GC-FID	ST NA SKC
1-Heptene	OSHA CSI				10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Hexachloro-1,3-cyclopentadiene	NIOSH 2518		0.01		24		50		8		GC-ECD	ST 226-116 40
Hexachlorobenzene	ASTM D 4861				240-7200		1000-5000		4-24		GC-ECD	PUF 226-92 44
Hexachlorobenzene	OSHA CSI				480		2000		4		GC-ECD	F/CST 225-706 96 C/HLD 225-1 102
Hexachlorobutadiene	NIOSH 2543		0.02		48		100		8		GC-ECD	ST 226-30-04 38
Hexachlorocyclopentadiene	ASTM D 4861				240-7200		1000-5000		4-24		GC-ECD	PUF 226-124 44
Hexachlorocyclopentadiene (hexachloro-1,3-cyclopentadiene)	NIOSH 2518		0.01		48		100		8		GC-ECD	ST 226-116 40
Hexachloroethane	OSHA 07	1155	1		30		100		5		GC-FID	ST 226-01 38

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References and abbreviations are found on pages 212-213.

Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	Agency Standard CLG/STEL (ppm)	Vol. (liter) TWA Sample Time or Air Volume	Vol. (liter) CLG/STEL Sample Time or Air Volume	Rate (ml/min) TWA Flow/Sampling Rate	Rate (ml/min) CLG/STEL Flow/Sampling Rate	Time TWA (hrs)	Time CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
Hexachloroethane (hydrocarbons, halogenated)	NIOSH 1003		1		10		10-200		varies		GC-FID	ST 226-01 38
Hexachloronaphthalene	OSHA CSI		0.2 mg/m³		30		1000		30 min		GC-ECD	F/CST 225-3-01 90 C/HLD 225-1 102
Hexamethylene diisocyanate	NIOSH 5522		35 µg/m³	140 µg/m³	360	20	1000	2000	6	10	HPLC-FD	IMP 225-36-1 67 IT 225-22 67
1,6-Hexamethylene diisocyanate	OSHA 42	1458			15		1000		15 min		HPLC-UV or HPLC-FD	CF/CST 225-9002 or 102 C/HLD 225-1 CF/CST 225-9013 64
Hexamethylene diisocyanate (gaseous)	ASTM D 6562				15		1000		15 min		HPLC-UV or HPLC-FD	CF/CST 225-9023 or 102 C/HLD 225-1 CF/CST 225-9022 64
Hexamethylene diisocyanate (HDI) (isocyanates)	OR-OSHA 1010		0.02	0.02	45	5	1000	1000	45 min	5	HPLC	IMP 225-36-1 67 IT 225-22 67 CF/CST 225-9029 64
Hexamethylene diisocyanate (isocyanates)	NIOSH 5521		35 µg/m³	140 µg/m³ (10 min) (C)	480	10	1000	1000	8	10	HPLC-ELCHM & HPLC-UV	IMP 225-36-1 67 IT 225-22 67
1,6-Hexamethylene diisocyanate (isocyanates, total)	NIOSH 5525		35 µg/m³	140 µg/m³ (10 min) (C)	1-500		1000-2000		varies		HPLC-UV	FLT 225-7 ‡ 96 SP 225-27 or 96 FLT 225-702 ‡ CST 225-4 97 IOM 225-76A 108
Hexamethylene diisocyanate (monomeric aerosol)	ASTM D 6561				15		1000		15 min		HPLC-UV	CF/CST 225-9023 or 102 C/HLD 225-1 CF/CST 225-9022 ▼ 64
Hexamethylene diisocyanate (monomeric gaseous)	ASTM D 6561				15		1000		15 min		HPLC-UV	CF/CST 225-9023 or 102 C/HLD 225-1 CF/CST 225-9022 64
Hexamethylene diisocyanate (oligomeric aerosol)	ASTM D 6561				15		1000		15 min		HPLC-UV	CF/CST 225-9023 or 102 C/HLD 225-1 CF/CST 225-9022 ▼ 64
Hexamethylene diisocyanate biuret	OSHA PV2030				15		1000		15 min		HPLC-UV	FLT 225-7 ‡ 96 C/HLD 225-1 102 CST 225-3LF 97
Hexamethylene diisocyanate biuret (HDI-BT) (isocyanates)	OR-OSHA 1010		1.0 mg/m³	0.5 mg/m³	45	5	1000	1000	45 min	5	HPLC	IMP 225-36-1 67 IT 225-22 67 CF/CST 225-9029 64
Hexamethylene diisocyanate isocyanurate (HDI-IC) (isocyanates)	OR-OSHA 1010		1.0 mg/m³	0.5 mg/m³	45	5	1000	1000	45 min	5	HPLC	IMP 225-36-1 67 IT 225-22 67 CF/CST 225-9029 64
Hexamethylenediamine	OSHA CSI				12		100		2		HPLC-UV	ST 226-30-18 38
Hexamethylenetetramine	NON 52				15		1000		15 min		GC-NPD or GC-FID	ST 226-57 39
Hexamethylenetetramine	OSHA CSI				15		1000		15 min		GC-NPD	F/CST 225-3-01 90 IMP 225-36-1 67 IT 225-22 67
Hexanal	ASTM D 5197				varies		500-1200		5 min-24 hrs		HPLC-UV	ST 226-120 ° or ST 226-119 40
Hexanal (Aldehydes, Screening)	NIOSH 2539				5		20		4		GC-FID & GC-MS	ST 226-118 40
n-Hexane	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
n-Hexane	OSHA 07	1154	500		5		20		4		GC-FID	ST 226-01 38
Hexane (isomers other than n-hexane)	OSHA CSI				4	3	20	200	3.3	15	GC-FID	ST 226-01 38
1,6-Hexanediol	OSHA CSI				6		100		1		GC-FID	ST 226-09 38
Hexanediol diacrylate	NON 39				480		1000		8		GC-FID	ST 226-56 39
1,6-Hexanediol diacrylate	OSHA CSI				10		20(50)		8(3.3)		HPLC	ST 226-95 40
1,6-Hexanediol diacrylate	OSHA PV2133		1 mg/m³		48		200		4		GC-FID	ST 226-110 40
2-Hexanone (Ketones I)	NIOSH 2555				1-10		10-200		varies		GC-FID	ST NA SKC
2-Hexanone (methyl butyl ketone)	OSHA 07	1153	100		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
2-Hexanone (methyl butyl ketone) (Ketones I)	NIOSH 1300		1		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Hexavalent chromium	ASTM D 6832				varies		1000-5000		varies		IC	F/CST 225-802 or F/CST 225-1713 or F/CST 225-709 or F/CST 225-401 95
Hexavalent chromium	NIOSH 7600	1032	1 µg/m³ (10 hr)		240		1000		4		VAS	F/CST 225-802 93 C/HLD 225-1 102
Hexavalent chromium	NIOSH 7604	1032	1 µg/m³ (10 hr)		240		1000		4		IC-CD	F/CST 225-802 93 C/HLD 225-1 102
Hexavalent chromium	NIOSH 7605		0.001 mg/m³ (10 hr)		1-400		1000-4000		varies		IC-PCD-UV	F/CST 225-802 93 C/HLD 225-1 102
Hexavalent chromium	NIOSH 7703		0.001 mg/m³ (10 hr)		10-1200		1000-4000		varies		P VAS	F/CST 225-802 93 C/HLD 225-1 102
Hexavalent chromium	OSHA ID 103			0.005 mg/m³ (C)	960	30	2000	2000	8	15	DPP	F/CST 225-802 93 C/HLD 225-1 102
Hexavalent chromium	OSHA W4001			0.005 mg/m³ (C)							IC-UV	FLT 225-5-37 or FLT 225-1822 95
Hexavalent chromium (CR(VI))	OSHA ID 215 (V2)	1439	0.005 mg/m³		960		2000		8		IC-UV	F/CST 225-802 93 C/HLD 225-1 102
Hexavalent chromium (in settled dust)	NIOSH 9101				bulk	bulk					CLR or VAS or IC	
Hexone	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
Hexone	OSHA 1004		100				13.62		8		GC-FID	PS 575-002 75
Hexone	OSHA 1004		100		12		50		4		GC-FID	ST NA SKC
Hexone (Ketones I)	NIOSH 2555		50		1-10		10-200		varies		GC-FID	ST NA SKC
Hexone (methyl isobutyl ketone)	OSHA 07		100		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Hexone (methyl isobutyl ketone) (Ketones I)	NIOSH 1300		50	75	10	3	20(50)	200	8(3.3)	15	GC-FID	ST 226-01 38
n-Hexyl acetate	OSHA CSI				6		200		30 min		GC-FID	ST 226-01 38

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Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	Agency Standard CLG/STEL (ppm)	Vol. (liter) TWA Sample Time or Air Volume	Vol. (liter) CLG/STEL Sample Time or Air Volume	Rate (ml/min) TWA Flow/Sampling Rate	Rate (ml/min) CLG/STEL Flow/Sampling Rate	Time TWA (hrs)	Time CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
sec-Hexyl acetate	OSHA 07	1152	50		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Hexyl alcohol	OSHA CSI				10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Hexyl carbitol	OSHA CSI				6		200		30 min		GC-FID	ST 226-01 38
Hexylene glycol	OSHA PV2101					3		200		15	GC-FID	ST 226-01 38
HMX	OSHA PV2032				480		1000		8		HPLC-UV	F/CST 225-709 96 C/HLD 225-1 102
HydramethylNON OSHA CSI					90		1000		1.5		HPLC-UV	F/CST 225-3-01 90 C/HLD 225-1 102
Hydrazine	NIOSH 3503			0.03 (120 min)	90		1000		1.5		VAS	IMP 225-36-2 67 IT 225-22 67
Hydrazine	NON 22				96		200		8		CLR	ST 226-42-02 39
Hydrazine	OSHA 108		1		240		1000		4		IC-UV	CF/CST 225-9012 64 C/HLD 225-1 102
Hydrazine	OSHA 20	1281	1		20		100		3.3		HPLC-UV	ST 226-42-02 39
Hydrazoic acid	NON 25					15		1000		15	HPLC-UV	ST 226-55 39
Hydrazoic acid	OSHA ID 211					5		1000		5	IC-UV	ST 226-55 39 FLT 225-5-37-P 93 CST 225-2LF 97 SPC 225-23 103 C/HLD 225-1 102
Hydrocarbons BP 36 to 216 C *(see specific compounds)*	NIOSH 1500		varies		varies		varies		varies		GC-FID	ST 226-01 38
Hydrocarbons, aromatic *(see specific compounds)*	NIOSH 1501	1453	varies		varies		varies		varies		GC-FID	ST 226-01 38
Hydrocarbons, halogenated *(see specific compounds)*	NIOSH 1003	1454	varies		varies		varies		varies		GC-FID	ST 226-01 38
Hydrofluoric acid (fluorides)	NIOSH 7906		3	6	960	30	2000	2000	8	15	IC-CD	CF/CST 225-9031 64 C/HLD 225-1 102
Hydrogen bromide	NIOSH 7907			3		30		2000		15	IC-CD	CF/CST 225-9032 64
Hydrogen bromide	OSHA ID 165SG		3		97	3	200	200	8	15	IC	ST 226-10-03 38
Hydrogen chloride	NIOSH 7907			5		30		2000		15	IC-CD	CF/CST 225-9032 64
Hydrogen chloride (hydrochloric acid)	OSHA ID 174SG			5		7.5		500		15	IC	ST 226-10-03 38
Hydrogen cyanide	NIOSH 6010			4.7		2-90		50-200		varies	VAS	ST 226-28 38
Hydrogen cyanide	NIOSH 6017			4.7		2-90		50-200		varies	IC/ELCM	ST 226-28 38
Hydrogen cyanide	OSHA 1015		10				28.4		8	15	IC-ELCM	PS 590-400 86
Hydrogen cyanide	OSHA ID 120		10		120	15	1000	1000	2	15	ISE	CST 225-3LF 97 IMP 225-36-2 67 IT 225-22 67 FLT 225-5 88 SP 225-2902 103
Hydrogen cyanide (cyanides)	NIOSH 7904			5 mg/m³ (10 min)		15		1000		15	ISE	FLT 225-2705 Δ 94 CST 225-2LF 97 IMP 225-36-2 67 IT 225-22 67 C/HLD 225-1 102
Hydrogen fluoride	NIOSH 7906		3	6	960	30	2000	2000	8	15	IC-CD	CF/CST 225-9031 64 C/HLD 225-1 102
Hydrogen fluoride (as F)	OSHA ID 110		3	6	90	22	1500	1500	1	15	ISE	CF/CST 225-9001 64 C/HLD 225-1 102
Hydrogen fluoride (fluorides)	NIOSH 7902		3	6	480	30	1000	2000	8	15	ISE	CF/CST 225-9001 64 C/HLD 225-1 102
Hydrogen peroxide	OSHA 1019		1.0 (1.4 mg.m³)		240	30	1000	2000	4	15	VAS	CF/CST 225-9030 64 C/HLD 225-1 102
Hydrogen selenide (as Se)	OSHA CSI		0.05		480		1000		8		AA	IMP 225-36-2 67 IT 225-22 67
Hydrogen sulfide	NIOSH 6013			10 (10 min)	24	3	100	300	4	10	IC	ST NA SKC
Hydrogen sulfide	NON 42	1414			12		1000		12 min		GC-FPD	SB 231-10 54
Hydrogen sulfide	OSHA 1008		10	20	12	7.5	50	500	4	15	IC	ST 226-177 41
Hydrogenated terphenyls	OSHA CSI				30		1000		30		GC-FID	FLT 225-17-04 94 CST 225-2LF 97 C/HLD 225-1 102
Hydroquinone	NIOSH 5004			2 mg/m³ (15 min)		30		2000		15	HPLC-UV	F/CST 225-3-01 90 C/HLD 225-1 102
Hydroquinone	OSHA PV2094		2 mg/m³		20		200		100 min		HPLC-UV	ST 226-98 40
2-Hydroxy-4-methoxyacetophenone	OSHA CSI				10		200		50 min		HPLC-UV	ST 226-30 38
4-Hydroxy-4-methyl-2-pentanone *(see diacetone alcohol)*												
4-Hydroxy-4-methyl-2-petanone (alcohols combined)	NIOSH 1405		50		1-10		10-200		varies		GC-FID	ST 226-01 38
m-Hydroxyacetophenone	OSHA CSI				10		200		50 min		HPLC-UV	ST 226-30-04 38
m-Hydroxybenzoic acid	OSHA CSI				180		1000		3		HPLC-UV	F/CST 225-3-01 90 C/HLD 225-1 102
4-Hydroxycoumarin	OSHA CSI				10		200		50 min		HPLC-UV	ST 226-30-04 38
Hydroxyethyl acrylate	OSHA CSI				12		200		2		GC-FID	ST 226-15GWS 38
2-Hydroxyethyl methacrylate	OSHA CSI				10		200		50 min		GC-FID	ST 226-01 38
2-Hydroxypropyl acrylate	OSHA PV2078				10		100		100 min		GC-FID	ST 226-73 39
2-Imidazolidinethione (ethylene thiourea)	NIOSH 5011		LFC		480		1000		8		VAS	F/CST 225-803 93 C/HLD 225-1 102
Indene	OSHA CSI				10		20(50)		8(3.3)		GC-FID	ST 226-110 40
Indeno(1,2,3-cd)pyrene (Polynuclear Aromatic Hydrocarbons by GC)	NIOSH 5515				480		2000		4		GC-FID	F/CST 225-1713 94 ST 226-30-04 38 C/HLD 225-1 102
Indeno(1,2,3-cd)pyrene (Polynuclear Aromatic Hydrocarbons by GC-MS)	ASTM D 6209				350 m³ (max)		225 L/min		1-24		GC-MS	PUF 226-131 45 FLT 225-1808 95
Indeno(1,2,3-cd)pyrene (Polynuclear Aromatic Hydrocarbons by HPLC)	NIOSH 5506				480		2000		4		HPLC-FD	F/CST 225-1713 94 ST 226-30-04 38 C/HLD 225-1 102

Agency standards for OSHA listings represent the OSHA PELs reported in the 29 CFR 1910.1000 Part 1910, Section 1000.

References and abbreviations are found on pages 212-213.

Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	CLG/STEL (ppm)	Vol. (liter) TWA	CLG/STEL Sample Time or Air Volume	Rate (ml/min) TWA	CLG/STEL Flow/Sampling Rate	Time TWA (hrs)	CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
Indium	OSHA ID 121		0.1 mg/m³		960		2000		8		AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Indium & compounds (as In)	OSHA CSI		0.1 mg/m³		960		2000		8		ICP-DCP	F/CST 225-3-01 90 C/HLD 225-1 102
Indium (Elements by Cellulosic Internal Capsule Sampler)	NIOSH 7306		0.1 mg/m³		8-2000		1000-4000		Varies		ICP-AES	SC 225-8517 90 C/HLD 225-1 102
Indium (Elements by ICP HNO_3 Digestion))	NIOSH 7303				15-500,000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Iodine	NIOSH 6005		0.1		15		1000		15		IC	ST 226-67 39
Iodine	NON 16				48		100		8		IC	ST 226-67 39
Iodine	OSHA ID 212		0.1 (C)		2.5		500		5		IC	ST 226-80 39
Iodine (particulates)	OSHA ID 212		0.1		2.5		500		5		IC	ST 226-142 41
Iodine (vapor)	OSHA ID 212		0.1		2.5		500		5		IC	ST 226-80 39
Iodoform	OSHA CSI				10		100		100 min		GC-ECD	F/CST 225-706 96 C/HLD 225-1 102 ST 226-93 40
Iridium	OSHA CSI				960		2000		8		AA	F/CST 225-3-01 90
Iron	OSHA ID 121				960		2000		8		AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Iron & compounds (as Fe)	OSHA ID 121	1209			960		2000		8		AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Iron (bulk)	OSHA ID 125G				480		2000		4		ICP-AES	F/CST 225-3-01 or F/CST 225-803 or C/HLD 225-1 102 F/CST 225-3100 or F/CST 225-8215 93
Iron (Elements by Cellulosic Internal Capsule Sampler)	NIOSH 7306		5 mg/m³ (dust, fume) as Fe		2-500		1000-4000		Varies		ICP-AES	SC 225-8517 90 C/HLD 225-1 102
Iron (Elements by ICP Aqua Regia Ashing)	NIOSH 7301		5 mg/m³ (dust, fume)		5-100		1000-4000		varies		ICP-AES	F/CST 225-3-01 or C/HLD 225-1 102 F/CST 225-803 ¥ 93
Iron (Elements by ICP HNO_3 Digestion))	NIOSH 7303		0.5 mg/m³ (dust, fume)		1-5000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Iron (Elements by ICP HNO_3/$HClO_4$ Ashing)	NIOSH 7300	1455	5 mg/m³ (dust, fume)		5-100		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Iron (Elements on Wipes)	NIOSH 9102				wipe						ICP-AES	W 225-2414 140 TMP 225-2415 140 TMP 225-2403 or
Iron oxide (Elements by ICP HNO_3 Digestion))	NIOSH 7303				1-5000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Iron oxide fume	OSHA ID 121	1045	10 mg/m³		960		2000		8		AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Iron oxide fume	OSHA ID 125G		10 mg/m³		480		2000		4		ICP-AES	F/CST 225-3-01 or F/CST 225-803 or C/HLD 225-1 102 F/CST 225-3100 or F/CST 225-8215 93
Iron pentacarbonyl (as Fe)	OSHA CSI				480	30	2000	2000	4	15	CLR	IMP 225-36-2 67 IT 225-22 67
Iron salts, soluble (as Fe)	OSHA ID 121	1208			960		2000		8		AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Isoamyl acetate	OSHA 07	1151	100		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Isoamyl acetate (Esters I)	NIOSH 1450		100		1-10		10-200		varies		GC-FID	ST 226-01 38
Isoamyl alcohol	OSHA CSI		100		10	3	20(50)	200	8(3.3)	15	GC-FID	ST 226-01 38
Isoamyl alcohol (alcohols combined)	NIOSH 1405		100	125 (skin)	1-10	1-10	10-200	10-200	varies	varies	GC-FID	ST 226-01 38
Isoamyl alcohol (alcohols III)	NIOSH 1402		100	125	10	3	20(50)	200	8(3.3)	15	GC-FID	ST 226-01 38
Isoamyl nitrite	OSHA CSI				5		20		4		HPLC-UV	ST 226-01 38
Isobutanol (isobutyl alcohol)	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 CPC 224-26-CPC 51 TH 224-26-02 51
Isobutyl acetate	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 CPC 224-26-CPC 51 TH 224-26-02 51
Isobutyl acetate	OSHA 07	1150	150		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Isobutyl acetate	OSHA 1009	1750	150		12	0.75	50	50	4	15	GC-FID	ST 226-01 38
Isobutyl acetate	OSHA 1009	1750	150				13.16	13.16	8	15	GC-FID	PS 575-002 75
Isobutyl acetate (Esters I)	NIOSH 1450		150		1-10		10-200		varies		GC-FID	ST 226-01 38
Isobutyl acrylate	OSHA CSI				10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Isobutyl alcohol	OSHA 07	1149	100		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Isobutyl alcohol (alcohols combined)	NIOSH 1405		50		2-10		10-200		varies		GC-FID	ST 226-01 38
Isobutyl alcohol (alcohols II)	NIOSH 1401		50		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Isobutyl alcohol (isobutanol)	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 CPC 224-26-CPC 51 TH 224-26-02 51
Isobutyl isobutyrate	OSHA PV2090				10		200		50 min		GC-FID	ST 226-01 38
Isobutyl nitrite	OSHA CSI				5		20		4		HPLC-UV	ST 226-01 38
Isobutylbenzene	OSHA CSI				6		200		30 min		GC-FID	ST 226-01 38
Isobutyraldehyde (Aldehydes, Screening)	NIOSH 2539				5		20		4		GC-FID & GC-MS	ST 226-118 40
Isobutyric acid	OSHA CSI				6		100		1		GC-FID	ST 226-110 40
Isobutyronitrile	OSHA CSI				10		20(50)		8(3.3)		GC-FID	ST 226-01 38

Agency standards for OSHA listings represent the OSHA PELs reported in the 29 CFR 1910.1000 Part 1910, Section 1000.

References and abbreviations are found on pages 212-213.

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Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	Agency Standard CLG/STEL (ppm)	Vol. (liter) TWA Sample Time or Air Volume	Vol. (liter) CLG/STEL Sample Time or Air Volume	Rate (ml/min) TWA Flow/Sampling Rate	Rate (ml/min) CLG/STEL Flow/Sampling Rate	Time TWA (hrs)	Time CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
Isocyanates *(see specific isocyanate)*	NIOSH 5521	1459	varies		480	10	1000	1000	8	10	HPLC-ELCHM & HPLC-UV	IMP 225-36-1 67 IT 225-22 67
Isocyanates *(see specific isocyanate)*	NIOSH 5522	1460	varies	varies	360	20	1000	2000	6	10	HPLC-FD	IMP 225-36-1 67 IT 225-22 67
Isocyanates *(see specific isocyanate)*	OR-OSHA 1010		varies	varies	45	5	1000	1000	45 min	5	HPLC	IMP 225-36-1 67 IT 225-22 67 CF/CST 225-9029 64
Isocyanates, total *(see specific isocyanate)*	NIOSH 5525		varies	varies	1-500	1-500	1000-2000	1000-2000	varies	varies	HPLC-UV	FLT 225-7 ‡ 96 CST 225-4 97 SP 225-27 or IOM 225-76A 108 FLT 225-702 ‡ 96
Isofenphos	OSHA CSI				480		1000		8		GC-FPD	ST 226-30-16 38
Isoflurane	OSHA 103	1349			12		50		4		GC-FID	ST 226-81A 39
Isooctyl alcohol	OSHA PV2033		100		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Isophorone	NIOSH 2508		4		10		20(50)		8(3.3)		GC-FID	ST 226-81A 39
Isophorone	NIOSH 2556		4		2-25		10-100		varies		GC-FID	ST 226-93 40
Isophorone	OSHA 07	1160	25		10		20(50)		8(3.3)		GC-FID	ST 226-81A 39
Isophorone (3,5,5-Trimethylcyclohex-2-enone)	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
Isophorone diisocyanate	OSHA PV2034				60	15	1000	1000	1	15	HPLC-UV	CF/CST 225-9002 64 C/HLD 225-1 102
Isophorone diisocyanate (IPDI)	OR-OSHA 1010		0.02	0.02	45	5	1000	1000	45 min	5	HPLC	IMP 225-36-1 67 IT 225-22 67 CF/CST 225-9029 64
Isophorone diisocyanate (isocyanates, total)	NIOSH 5525		45 µg/m³	180 µg/m³ (10 min) C	1-500		1000-2000		varies		HPLC-UV	FLT 225-7 ‡ 96 CST 225-4 97 SP 225-27 or IOM 225-76A 108 FLT 225-702 ‡ 96
Isophthalic acid	OSHA CSI				bulk						HPLC-UV	
Isopropanol (isopropyl alcohol)	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
Isopropyl acetate	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
Isopropyl acetate	NIOSH 1454				9		50		3		GC-FID	ST 226-01 38
Isopropyl acetate	NIOSH 1460				0.1-9.0		20-200		varies		GC-FID	ST 226-01 38
Isopropyl acetate	OSHA 07	1148	250		10	3	20(50)	200	8(3.3)	15	GC-FID	ST 226-01 38
Isopropyl alcohol	OSHA 07	1147	400		3	1.5	20	100	2.5	15	GC-FID	ST 226-01 38
Isopropyl alcohol	OSHA 109		400		18	3	50	200	6	15	GC-FID	ST 226-82 40
Isopropyl alcohol (Alcohols I)	NIOSH 1400		400	500	3	3	20	200	2.5	15	GC-FID	ST 226-01 38
Isopropyl alcohol (isopropanol)	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
Isopropyl amine	OSHA CSI		5		90	15	1000	1000	1.5	15	GC-FID	IMP 225-36-2 67 IT 225-22 67
N-Isopropyl aniline	OSHA 78	1228			100		1000		100 min		HPLC-UV	CF/CST 225-9004 64 C/HLD 225-1 102
Isopropyl benzen (cumene)	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
Isopropyl bromide	OSHA CSI				12		100		2		GC-FID	ST 226-01 38
Isopropyl CELLOSOLVE solvent *(see ethylene glycol isopropyl ether)*	OSHA CSI											
Isopropyl ether	NIOSH 1618		500		0.1-3		10-50		varies		GC-FID	ST 226-01 38
Isopropyl ether	OSHA 07	1146	500		3	0.75	20	50	2.5	15	GC-FID	ST 226-01 38
Isopropyl glycidyl ether	NIOSH 1620			50 (15 min)		3		200		15	GC-FID	ST 226-01 38
Isopropyl glycidyl ether	OSHA 07	1145	50		10	3	20(50)	200	8(3.3)	15	GC-FID	ST 226-01 38
Isopropyl m-chlorocarbanilate	OSHA CSI				30		1000		30 min		HPLC-UV	IMP 225-36-1 67 IT 225-22 67
Isovaleraldehyde	ASTM D 5197				varies		500-1200		5 min-24 hrs		HPLC-UV	ST 226-120 ° or ST 226-119 40
Isovaleraldehyde (Aldehydes, Screening)	NIOSH 2539				5		20		4		GC-FID & GC-MS	ST 226-118 40
Jet fuel	OSHA CSI					3		200		15	GC-FID	ST 226-01 38
Kaolin (particulates, respirable)	NIOSH 0600	1038			375		2500		2.5		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CYC 225-01-02 111 CST 225-3LF 97
Kaolin (particulates, total)	NIOSH 0500	1035			120		2000		1		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CST 225-2LF 97
Kaolin (respirable dust)	OSHA CSI		5 mg/m³		varies		varies		varies		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CYC 225-105 110 CST 225-3LF 97
Kaolin (total dust)	OSHA CSI		15 mg/m³		960		2000		8		GR	F/CST 225-803 93 C/HLD 225-1 102
Kathon 886 (kathon biocide)	NON 55				50	7.5	200	500	4	15	HPLC-UV	ST 226-99 40
Kepone	NIOSH 5508		1 µg/m³		480		1000		8		GC-ECD	F/CST 225-3-01 90 IMP 225-36-1 67 IT 225-22 67
Kepone	OSHA CSI				480		1000		8		GC-ECD	F/CST 225-3-01 90 IMP 225-36-1 67 IT 225-22 67
Kerosene	OSHA CSI				10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Kerosene	OSHA PV2139				20		100		200 min		GC-FID	ST 226-01 38

Agency standards for OSHA listings represent the OSHA PELs reported in the 29 CFR 1910.1000 Part 1910, Section 1000.

References and abbreviations are found on pages 212-213.

Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	CLG/STEL (ppm)	Vol. (liter) TWA Sample Time or Air Volume	CLG/STEL	Rate (ml/min) TWA Flow/Sampling Rate	CLG/STEL	Time TWA (hrs)	CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
Kerosene (naphthas)	NIOSH 1550		100 mg/m³		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Ketene	OSHA CSI		0.5		50	15	1000	1000	50 min	15	CLR	IMP 225-36-2 67 IT 225-22 67
Ketones	EPA TO-5	1671			< 80 L		100-1000 ml/min				HPLC-UV	IMP 225-36-1 67 IT 225-22 67
Ketones (screening)	NIOSH 2549				5		20		4		GC-MS	ST 226-330 42
Ketones I *(see specific compounds)*	NIOSH 1300		varies		varies		10-200		varies		GC-FID	ST 226-01 38
Ketones I *(see specific compounds)*	NIOSH 2555				varies		varies		varies		GC-FID	ST NA SKC
Ketones II *(see specific compounds)*	NIOSH 1301		varies		varies		varies		8		GC-FID	ST 226-01 38
Ketones II *(see specific ketone)*	NIOSH 2553		varies	varies	1-25	1-25	10-200	10-200	varies	varies	GC-FID	ST NA SKC
Lactic Acid	OSHA CSI				800		2000		400 min		IC	ST 226-01 pp cc
Lactose powder	NON 53											F/CST 225-1725 or FLT 225-2714 and CST 225-2257 and SP 225-2901 103
Lake Red C	OSHA CSI				300		2000		2.5		HPLC-UV	F/CST 225-709 96 C/HLD 225-1 102
Landrin	OSHA CSI				60		1000		1		HPLC-UV	ST 226-30-16 38
Lanthanum (Elements by Cellulosic Internal Capsule Sampler)	NIOSH 7306				Varies		1000-4000		Varies		ICP-AES	SC 225-8517 90 C/HLD 225-1 102
Lanthanum (Elements by ICP Aqua Regia Ashing)	NIOSH 7301				5-1000		1000-4000		varies		ICP-AES	F/CST 225-3-01 or F/CST 225-803 ¥ 93 C/HLD 225-1 102
Lanthanum (Elements by ICP HNO_3/$HClO_4$ Ashing)	NIOSH 7300	1455			5-1000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Lanthanum (Elements on Wipes)	NIOSH 9102				wipe						ICP-AES	W 225-2414 140 TMP 225-2403 or TMP 225-2415 140
Lasso (aroclor)	OSHA PV2035				100		1000		100 min		HPLC-UV	F/CST 225-706 96 C/HLD 225-1 102
Lead	NIOSH 7082	1034	< 0.1 mg/m³		720		1500		8		AAS-F	F/CST 225-3-01 90 C/HLD 225-1 102
Lead	NIOSH 7105	1034	< 0.1 mg/m³		720		1500		8		AAS-GF	F/CST 225-3-01 90 C/HLD 225-1 102
Lead (by field portable XRF)	NIOSH 7702		< 0.1 mg/m³		960		2000		8		XRF	F/CST 225-3-01 90
Lead (by portable ultrasound extraction/ASV)	NIOSH 7701		0.05 mg/m³		20-1500		1000-4000		varies		P ASV	F/CST 225-3-01 90 C/HLD 225-1 102
Lead (Elements by Cellulosic Internal Capsule Sampler)	NIOSH 7306		0.05 mg/m³		4-2000		1000-4000		Varies		ICP-AES	SC 225-8517 90 C/HLD 225-1 102
Lead (Elements by ICP Aqua Regia Ashing)	NIOSH 7301		0.05 mg/m³		50-2000		1000-4000		varies		ICP-AES	F/CST 225-3-01 or F/CST 225-803 ¥ 93 C/HLD 225-1 102
Lead (Elements by ICP HNO_3 Digestion))	NIOSH 7303		0.5 mg/m³		35-100,000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Lead (Elements by ICP HNO_3/$HClO_4$ Ashing)	NIOSH 7300	1034	0.05 mg/m³		50-2000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Lead (Elements on Wipes)	NIOSH 9102				wipe						ICP-AES	W 225-2414 140 TMP 225-2403 or TMP 225-2415 140
Lead (ICP analysis of metal/metalloid particulates from solder operations)	OSHA ID 206				480		2000		4		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Lead (in dust wipes)	NIOSH 9105										SPOT	W 550-001 or W 550-002 139
Lead (in surface dust)	ASTM E 1792				bulk						Varies	W 225-2414 140 TMP 225-2403 140
Lead (in surface dust)	OSHA ID 125G				wipe						ICP-AES	W 225-2414 140 TMP 225-2403 140
Lead (in workplace air)	ASTM D 6785				varies		varies		varies		AAS-F	IOM 225-70A 108 FLT 225-1930 88
Lead (on surfaces)	NIOSH 9100										AA-F or AA-GF or ICP	W 225-2401A 140
Lead chromate (as Pb)	OSHA CSI		50 µg/m³		960		2000		8		AA	F/CST 225-3-01 90 C/HLD 225-1 102
Lead chromate (as Pb) *(see lead, inorganic fumes & dusts or chromic acid & chromates)*	OSHA CSI											
Lead chromate (CR(VI))	OSHA ID 215 (V2)	1439	0.005 mg/m³		960		2000		8		IC-UV	F/CST 225-802 93 C/HLD 225-1 102
Lead oxide (as lead)	NIOSH 7082	1034	< 0.1 mg/m³		720		1500		8		AAS-F	F/CST 225-3-01 90 C/HLD 225-1 102
Lead oxide (as Pb)	NIOSH 7105	1034	< 0.1 mg/m³		720		1500		8		AAS-GF	F/CST 225-3-01 90 C/HLD 225-1 102
Lead oxide (by field portable XRF)	NIOSH 7702		< 0.1mg/m³		960		2000		8		XRF	F/CST 225-3-01 90
Lead oxide (by portable ultrasound extraction/ASV)	NIOSH 7701		0.05 mg/m³		20-1500		1000-4000		varies		P ASV	F/CST 225-3-01 90 C/HLD 225-1 102
Lead sulfide (as Pb)	NIOSH 7505		< 0.1 mg/m³		750		2500		5		XRD	F/CST 225-803 93 C/HLD 225-1 102 CYC 225-01-02 111
Lead, inorganic fumes & dusts (as Pb)	OSHA ID 121	1196	0.05 mg/m³		960	30	2000	2000	8	15	AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Lead, inorganic fumes & dusts (as Pb)	OSHA ID 125G		0.05 mg/m³		480	30	2000	15	4		ICP-AES	F/CST 225-3-01 or F/CST 225-3100 or F/CST 225-803 or F/CST 225-8215 93 C/HLD 225-1 102
Lead, inorganic surface dusts (as Pb)	OSHA ID 121	1179									AA or AES	W 225-2401A 140
Limestone (particulates, total)	NIOSH 0500	1035			120		2000		1		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CST 225-2LF 97
Limestone *(see calcium carbonate)*												
Limestone *(see dust, total & respirable nuisance)*												
Limonene	OSHA PV2036				10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Limonene (terpenes)	NIOSH 1552				24		50		8		GC-FID	ST 226-01 38
Lindane	OSHA CSI		0.5 mg/m³		240		1000		4		GC-ECD	F/CST 225-706 96 C/HLD 225-1 102 IMP 225-36-1 67 IT 225-22 67

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Agency standards for OSHA listings represent the OSHA PELs reported in the 29 CFR 1910.1000 Part 1910, Section 1000.

References and abbreviations are found on pages 212-213.

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Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	Agency Standard CLG/STEL (ppm)	Vol. (liter) TWA Sample Time or Air Volume	Vol. (liter) CLG/STEL Sample Time or Air Volume	Rate (ml/min) TWA Flow/Sampling Rate	Rate (ml/min) CLG/STEL Flow/Sampling Rate	Time TWA (hrs)	Time CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
Lindane (gamma-BHC)	ASTM D 4861				240-7200		1000-5000		4-24		GC-ECD	PUF 226-92 44
Linuron	ASTM D 4861				240-7200		1000-5000		4-24		HPLC-UV	PUF 226-92 44
Linuron	OSHA CSI				240		1000		4		HPLC-UV	F/CST 225-706 96 C/HLD 225-1 102
Lithium	OSHA ID 121				960		2000		8		AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Lithium (Elements by Cellulosic Internal Capsule Sampler)	NIOSH 7306				Varies		1000-4000		Varies		ICP-AES	SC 225-8517 90 C/HLD 225-1 102
Lithium (Elements by ICP Aqua Regia Ashing)	NIOSH 7301				100-2000		1000-4000		varies		ICP-AES	F/CST 225-3-01 or 102 C/HLD 225-1 F/CST 225-803 ¥ 93
Lithium (Elements by ICP HNO_3/$HClO_4$ Ashing)	NIOSH 7300	1455			100-2000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Lithium hydride (as Li)	OSHA ID 121		0.025 mg/m³		960		2000		8		AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Lithium hydroxide (alkaline dust)	NIOSH 7401				960		2000		8		TITRA	F/CST 225-1715 94 C/HLD 225-1 102
Lithium hydroxide (as Li)	OSHA ID 121				960		2000		8		AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Machette	OSHA CSI				100		1000		100 min		HPLC-UV	F/CST 225-706 96 C/HLD 225-1 102
Magnesite (particulates, respirable)	NIOSH 0600	1038			375		2500		2.5		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CYC 225-01-02 111 CST 225-3LF 97
Magnesite (particulates, total)	NIOSH 0500	1035			120		2000		1		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CST 225-2LF 97
Magnesite *(see dust, total & respirable nuisance)*	OSHA CSI											
Magnesium	OSHA ID 121	1192			960	30	2000	2000	8	15	AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Magnesium (Elements by Cellulosic Internal Capsule Sampler)	NIOSH 7306				1-330		1000-4000		Varies		ICP-AES	SC 225-8517 90 C/HLD 225-1 102
Magnesium (Elements by ICP Aqua Regia Ashing)	NIOSH 7301		10 mg/m³ (fume, as oxide)		5-67		1000-4000		varies		ICP-AES	F/CST 225-3-01 or 102 C/HLD 225-1 F/CST 225-803 ¥ 93
Magnesium (Elements by ICP HNO_3 Digestion))	NIOSH 7303				1-10,000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Magnesium (Elements by ICP HNO_3/$HClO_4$ Ashing)	NIOSH 7300	1455	10 mg/m³ (fume, as oxide)		5-67		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Magnesium oxide (as Mg, elements by ICP)	NIOSH 7303		10		5-33000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Magnesium oxide fume (respirable dust)	OSHA ID 121	1214	5 mg/m³		960		2000		8		GR & AA or GR & AES	F/CST 225-3-01 90 CYC 225-105 110 C/HLD 225-1 102
Magnesium oxide fume (total dust)	OSHA ID 121	1213	15 mg/m³		960		2000		8		AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Malathion	ASTM D 4861				240-7200		1000-5000		4-24		GC-NPD	PUF 226-92 44
Malathion	OSHA 62	1397	15 mg/m³		60		1000		1		GC-FPD	ST 226-30-16 38
Malathion (Organophosphorus Pesticides)	NIOSH 5600		10 mg/m³		60		1000		1		GC-FPD	ST 226-58 39
Malbranchea species (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST 225-3-01 90 C/HLD 225-1 102
Malbranchea species (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI 225-9611 120
Maleic anhydride	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 CPC 224-26-CPC 51 TH 224-26-02 51
Maleic anhydride	NIOSH 3512		0.25		360		1000		6		HPLC-UV	IMP 225-36-2 67 IT 225-22 67
Maleic anhydride	OSHA 25		0.25		20		100		3.3		HPLC-UV	ST 226-30-07 38 ST 226-30 38
Maleic anhydride	OSHA 86		0.25		60		500		2		HPLC-UV	CF/CST 225-9021 †† 64 C/HLD 225-1 102
Maneb	OSHA 107				500		2000		250		HPLC-UV	F/CST 225-3-01 90 C/HLD 225-1 102
Maneb	OSHA CSI										W	W 225-2401A 140
Manganese & compounds (as Mn)	OSHA ID 121	1194		5 mg/m³ (C)	960	10	2000	2000	8	5	AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Manganese & compounds (as Mn)	OSHA ID 125G			5 mg/m³		10		2000		5	ICP-AES	F/CST 225-3-01 or 102 F/CST 225-803 or F/CST 225-3100 or 93 C/HLD 225-1 F/CST 225-8215 93
Manganese (Elements by Cellulosic Internal Capsule Sampler)	NIOSH 7306		1 mg/m³	3 mg/m³	1-1000		1000-4000		Varies		ICP-AES	SC 225-8517 90 C/HLD 225-1 102
Manganese (Elements by ICP Aqua Regia Ashing)	NIOSH 7301		1 mg/m³	3 mg/m³	5-200	5-200	1000-4000	1000-4000	varies	varies	ICP-AES	F/CST 225-3-01 or 102 C/HLD 225-1 F/CST 225-803 ¥ 93
Manganese (Elements by ICP HNO_3 Digestion))	NIOSH 7303		1 mg/m³	3 mg/m³	0.05-10,000	0.05-10,000	1000-4000	1000-4000	varies	varies	ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Manganese (Elements by ICP HNO_3/$HClO_4$ Ashing)	NIOSH 7300	1455	1 mg/m³	3 mg/m³	5-200	5-200	1000-4000	1000-4000	varies	varies	ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Manganese (Elements on Wipes)	NIOSH 9102				wipe						ICP-AES	W 225-2414 140 TMP 225-2415 140 TMP 225-2403 or
Manganese cyclopentadienyl tricarbonyl (as Mn)	OSHA CSI				480		1000		8		AA	F/CST 225-3-01 90 IT 225-22 67 IMP 225-36-2 67
Manganese fume	OSHA ID 125G			5 mg/m³	480	30	2000	2000	4	15	ICP-AES	F/CST 225-3-01 or 102 F/CST 225-803 or F/CST 225-3100 or 93 C/HLD 225-1 F/CST 225-8215 93
Manganese fume (as Mn)	OSHA ID 121	1195		5 mg/m³ (C)	960	10	2000	2000	8	5	AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Manganese in welding fume	NON 58			5 mg/m³ *	varies		750		varies		GR	FLT 225-8050 C/HLD 225-6200 CST 225-6201
Manganese tetroxide (as Mn)	OSHA ID 121	1191			960		2000		8		AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Manganese tetroxide (as Mn)	OSHA ID 125G				480		2000		4		ICP-AES	F/CST 225-3-01 or 102 F/CST 225-803 or F/CST 225-3100 or 93 C/HLD 225-1 F/CST 225-8215 93

Agency standards for OSHA listings represent the OSHA PELs reported in the 29 CFR 1910.1000 Part 1910, Section 1000.

References and abbreviations are found on pages 212-213.

Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	CLG/STEL (ppm)	Vol. (liter) TWA Sample Time or Air Volume	CLG/STEL	Rate (ml/min) TWA Flow/Sampling Rate	CLG/STEL	Time TWA (hrs)	CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
Marble (particulates, respirable)	NIOSH 0600	1038			375		2500		2.5		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CYC 225-01-02 111 CST 225-3LF 97
Marble (particulates, total)	NIOSH 0500	1035			120		2000		1		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CST 225-2LF 97
Marble *(see dust, total and respirable nuisance)*												
MCPA (2-methyl-4-chlorophenoxyacetic acid)	OSHA CSI				240		500		8		HPLC	F/CST 225-706 96 C/HLD 225-1 102
MCPP	OSHA CSI				240		1000		4		HPLC-UV	F/CST 225-706 96 C/HLD 225-1 102
MDI (4,4-methylene bisphenyl isocyanate)	OSHA 47		50 µg/m³	200 µg/m³		10		1000		10	HPLC-UV	CF/CST 225-9002 or CF/CST 225-9013 64 C/HLD 225-1 102
MDI (4,4-methylenebis[phenyl isocyanate]) (isocyanates, total)	NIOSH 5525		50 µg/m³	200 µg/m³ (10 min) C	1-500		1000-2000		varies		HPLC-UV	FLT 225-7 ‡ 96 CST 225-4 97 SP 225-27 or IOM 225-76A 108 FLT 225-702 ‡ 96
MDI (4,4'-methylenebisphenyl isocyanate) (isocyanates)	NIOSH 5521	1001	50 µg/m³	200 µg/m³ (10 min) C	480	10	1000	1000	8	10	HPLC-ELCHM & HPLC-UV	IMP 225-36-1 67 IT 225-22 67
MEK *(see methyl ethyl ketone)*												
Melamine	OSHA CSI				40		1000		40 min		HPLC	F/CST 225-709 96 C/HLD 225-1 102
Melengestrol acetate	OSHA CSI				120		1000		2		HPLC-UV	F/CST 225-706 96 C/HLD 225-1 102
Menadione	OSHA CSI				10		20(50)		8(3.3)		HPLC-UV	ST 226-30 38
Mercaptans *(see specific compounds)*	NIOSH 2542	1330		0.5 (15 min)	48	12	100	200	8	60	GC-FPD	CF/CST 225-9007 64 C/HLD 225-1 102
Mercaptoethanol	OSHA CSI				10		20(50)		8(3.3)		GC-FPD	ST 226-10 38
Mercury	NIOSH 6009		0.05 mg/m³		48		200		4		AA	ST 226-17-1A 38 F/CST 225-3-01 90
Mercury (Rathje & Marcero)	NON 17				48		100		8		AA	ST 226-17-1A 38
Mercury (Rathje & Marcero)	NON 17				varies		1000-3000		varies		AA	ST 226-17-3A 38
Mercury (vapor)	OSHA ID 140	1677	0.1 mg/m³		3-100		200		varies		AA	ST 226-17-1A 38 F/CST 225-3-01 90
Mercury (vapor)	OSHA ID 140	1677	0.1 mg/m³		9.6		20		8		AA	CH 520-03 86 C 520-02A 86
Mercury, Particulate (in Workplace Atmospheres, air samples)	OSHA ID 145			0.01 mg/m³		30		2000		15	AA	F/CST 225-3-01 90 C/HLD 225-1 102
Mercury, Particulate (in Workplace Atmospheres, wipe samples)	OSHA ID 145			0.01 mg/m³							wipe	SM TB 225-24 140
Mesityl oxide	OSHA 07	1144	25		10	3	20(50)	200	8(3.3)	15	GC-FID	ST 226-01 38
Mesityl oxide (Ketones II)	NIOSH 2553		10		1-25		10-200		varies		GC-FID	ST NA SKC
Mesityl oxide (Ketones II)	NIOSH 1301		10		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Mesitylene	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
Mestranol	OSHA PV2068				480		2000		4		HPLC	F/CST 225-802 93 C/HLD 225-1 102
Metal & metalloid particulates	OSHA ID 121	1177	varies	varies	960	30	2000	2000	8	15	AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Metal & metalloid particulates	OSHA ID 125G	1371	varies	varies	480	30	2000	2000	4	15	ICP-AES	F/CST 225-3-01 or F/CST 225-3100 or F/CST 225-803 or F/CST 225-8215 93 C/HLD 225-1 102
Metal removal fluid (aerosol)	ASTM D 7049				960		2000		8		GR	FLT 225-27-07 94 CST 225-2LF 97 C/HLD 225-1 102
Metal working fluids (aerosols)	ASTM D 7049				960		2000		8		GR	FLT 225-27-07 94 CST 225-2LF 97 C/HLD 225-1 102
Metals (in settled dust)	ASTM D 6966				wipe		wipe		wipe		Varies	W 225-2414 140 TMP 225-2403 or TMP 225-2415 140
Metals in workplace atmospheres	ASTM D 4185	1426			varies		2000		varies		AAS	F/CST 225-3-01 90 C/HLD 225-1 102
Metals, trace (Elements by ICP HNO_3/$HClO_4$ Ashing)	NIOSH 7300	1455	varies	varies	varies	varies	1000-4000	1000-4000	varies	varies	ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Metalworking fluids (thoracic particulates)	NIOSH 5524 ●		0.4 mg/m³ (thoracic particulates)		2000		varies		varies		GR	PPI 225-381 112 FLT 225-27-07 94 IS 225-388 95 SP 225-27 or SCN 225-26 103
Metalworking fluids (total particulates)	NIOSH 5524 ●	1726	0.5 mg/m³ (total particulates)		1000 (min)		2000		varies		GR	FLT 225-27-07 94 CST 225-4 97 C/HLD 225-1 102
Methacrylic acid	OSHA PV2005				24		100		4		HPLC-UV	ST 226-30-08 38
Metham sodium	OSHA CSI				40		1000		40 min		HPLC-UV	ST 226-58 39
Methamidophos	OSHA CSI				480		1000		8		GC-FPD	ST 226-30-16 38
Methamidophos (Organophosphorus Pesticides)	NIOSH 5600				240		1000		4		GC-FPD	ST 226-58 39
Methanol (methyl alcohol)	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
Methanol (methyl alcohol)	NIOSH 2000		200	250	5	3	20	200	4	15	GC-FID	ST 226-51 39
Methidathion	OSHA PV2074				60		1000		1		GC-ECD	ST 226-58 39
Methiocarb (Organonitrogen Pesticides)	NIOSH 5601				240		1000		4		HPLC-UV	ST 226-58 or ST 226-30-16 38
Methomyl	OSHA PV2114				60		1000		1		HPLC-UV	ST 226-30-16 38
Methomyl (Organonitrogen Pesticides)	NIOSH 5601		2.5 mg/m³		240		1000		4		HPLC-UV	ST 226-58 or ST 226-30-16 38
Methotrexate	OSHA PV2146				120		1000		2		HPLC-UV	ST 226-30-16 38

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References and abbreviations are found on pages 212-213.

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Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	Agency Standard CLG/STEL (ppm)	Vol. (liter) TWA Sample Time or Air Volume	Vol. (liter) CLG/STEL	Rate (ml/min) TWA Flow/Sampling Rate	Rate (ml/min) CLG/STEL	Time TWA (hrs)	Time CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
2-Methoxy-1-propanol	OSHA 99				10		100		100 min		GC-FID	ST 226-01 38
2-Methoxy-1-propyl acetate	OSHA 99				10		100		100 min		GC-FID	ST 226-01 38
1-Methoxy-2-propanol	OSHA 99				10		100		100 min		GC-FID	ST 226-01 38
1-Methoxy-2-propanol (glycol ethers)	NIOSH 2554				3-25		100-200		varies		GC-FID	ST 226-81A 39
1-Methoxy-2-propyl acetate	OSHA 99				10		100		100 min		GC-FID	ST 226-01 38
1-Methoxy-2-propyl acetate (glycol ethers)	NIOSH 2554				3-25		100-200		varies		GC-FID	ST 226-81A 39
Methoxychlor	ASTM D 4861				240-7200		1000-5000		4-24		GC-ECD	PUF 226-92 44
Methoxychlor	OSHA PV2038		15 mg/m³		60		1000		1		GC-ECD	ST 226-30-16 38
2-Methoxyethanol	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST CPC 226-300 Series 224-26-CPC 42 51 TH 224-26-02 51
2-Methoxyethanol (methyl CELLOSOLVE solvent)	OSHA 79	1277	25		48	15	100	1000	8	15	GC-FID	ST 226-01 38
2-Methoxyethanol (methyl CELLOSOLVE solvent) (alcohols IV)	NIOSH 1403	1274	0.1 (skin)		6-50		10-50		varies		GC-FID	ST 226-01 38
2-Methoxyethyl acetate	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST CPC 226-300 Series 224-26-CPC 42 51 TH 224-26-02 51
2-Methoxyethyl acetate (methyl CELLOSOLVE acetate)	OSHA 79	1277	25		48	15	100	1000	8	15	GC-FID	ST 226-01 38
Methoxyflurane	OSHA CSI				10		20(50)		8(3.3)		GC-FID	ST 226-01 38
2-Methoxyphenol	OSHA PV2039				20		200		100 min		GC-FID	ST 226-95 40
3-Methoxyphenol	OSHA PV2039				20		200		100 min		GC-FID	ST 226-95 40
4-Methoxyphenol	OSHA PV2039				20		200		100 min		GC-FID	ST 226-95 40
Methoxypropanol	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST CPC 226-300 Series 224-26-CPC 42 51 TH 224-26-02 51
6-Methoxytetralone	OSHA CSI				10		20(50)		8(3.3)		HPLC-UV	ST 226-30 38
Methyl acetate	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST CPC 226-300 Series 224-26-CPC 42 51 TH 224-26-02 51
Methyl acetate	NIOSH 1458		200	250	5	3	20	200	4	15	GC-FID	ST 226-01 38
Methyl acetate	OSHA 07	1143	200		5	3	20	200	4	15	GC-FID	ST 226-01 38
Methyl acetylene-propadiene mixture	OSHA 07	1142	1000		2	0.75	20	50	100 min	15	GC-FID	ST 226-01 38
Methyl acrylate	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST CPC 226-300 Series 224-26-CPC 42 51 TH 224-26-02 51
Methyl acrylate	NIOSH 1459		10		5		20		4		GC-FID	ST 226-01 38
Methyl acrylate	NIOSH 2552		10		1-5		10-200		varies		GC-FID	ST NA SKC
Methyl acrylate	NON 54		5	15	10	3	20	200	8	15	GC-FID	ST 226-81A 39
Methyl acrylate	OSHA 92		10		12		50		4		GC-FID	ST 226-73 39
Methyl acrylonitrile	OSHA 37				20		200		100 min		GC-NPD	ST 226-01 38
Methyl alcohol (methanol)	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST CPC 226-300 Series 224-26-CPC 42 51 TH 224-26-02 51
Methyl alcohol (methanol)	NIOSH 2000		200	250	5	3	20	200	4	15	GC-FID	ST 226-51 39
Methyl alcohol (RH < 50% at 25 C)	OSHA 91	1328	200		3	0.75	50	50	1	15	GC-FID	ST 226-82 40
Methyl alcohol (RH > 50% at 25 C)	OSHA 91	1328	200		5	0.75	50	50	100 min	15	GC-FID	ST 226-82 40
Methyl amine	OSHA 40		10		10		20		8		HPLC-UV	ST 226-96 40
Methyl arsonic acid (arsenic, organo-)	NIOSH 5022				480		1000		8		IC-AA	FLT C/HLD 225-17-01 225-1 94 102 CST 225-2LF 97
Methyl bromide	ASTM D 5466				6		varies		varies		GC-MS	CAN 228 Series PK 228 Series
Methyl bromide	OSHA PV2040			20		3		200		15	GC-FID	ST 226-83 40
Methyl butyl ketone (Ketones I)	NIOSH 2555				1-10		10-200		varies		GC-FID	ST NA SKC
Methyl butyl ketone (MBK, 2-hexanone) (Ketones I)	NIOSH 1300		1		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Methyl CELLOSOLVE acetate (2-methoxyethyl acetate)	NIOSH 1451		0.1		12		50		4		GC-FID	ST 226-01 38
Methyl CELLOSOLVE acetate (2-methoxyethyl acetate)	OSHA 79	1277	25		48	15	100	1000	8	15	GC-FID	ST 226-01 38
Methyl CELLOSOLVE solvent (2-methoxyethanol)	OSHA 79	1277	25		48	15	100	1000	8	15	GC-FID	ST 226-01 38
Methyl CELLOSOLVE solvent (2-methoxyethanol) (alcohols IV)	NIOSH 1403	1274	0.1 (skin)		6-50		10-50		varies		GC-FID	ST 226-01 38
Methyl chloride	ASTM D 5466				6		varies		varies		GC-MS	CAN 228 Series PK 228 Series
Methyl chloride	NIOSH 1001		LFC			0.5		100		5	GC-FID	ST 226-09 38 ST 226-01 38
Methyl chloroform	ASTM D 5466				6		varies		varies		GC-MS	CAN 228 Series PK 228 Series
Methyl chloroform (1,1,1-Trichloroethane)	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST CPC 226-300 Series 224-26-CPC 42 51 TH 224-26-02 51
Methyl chloroform (1,1,1-trichloroethane)	OSHA 14		350		3	3	20	200	2.5	15	GC-FID	ST 226-01 38
Methyl chloroform (1,1,1-trichloroethane) (hydrocarbons, halogenated)	NIOSH 1003			350		3		10-200		varies	GC-FID	ST 226-01 38
Methyl cyclohexane	OSHA 07	1069	500		5		20		4		GC-FID	ST 226-01 38
Methyl cyclohexane (hydrocarbons, BP 36 to 216 C)	NIOSH 1500		400		4		10-200		varies		GC-FID	ST 226-01 38

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References and abbreviations are found on pages 212-213.

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Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	CLG/STEL (ppm)	Vol. (liter) TWA	CLG/STEL Sample Time or Air Volume	Rate (ml/min) TWA	CLG/STEL Flow/Sampling Rate	Time TWA (hrs)	CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
Methyl demeton	OSHA CSI				480		1000		8		GC-FPD	ST 226-30-16 38
N-Methyl dicyclohexylamine	OSHA CSI				10		20(50)		8(3.3)		GC-FID	ST 226-10 38
Methyl ethyl ketone	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
Methyl ethyl ketone	OSHA 1004		200		12		50		4		GC-FID	ST NA SKC
Methyl ethyl ketone (Ketones I)	NIOSH 2555				1-10		10-200		varies		GC-FID	ST NA SKC
Methyl ethyl ketone (MEK) *(see 2-butanone)*												
Methyl ethyl ketone (MEK) *(see 2-butanone)*	NIOSH 2500	1012	200	300	10	3	20(50)	200	8(3.3)	15	GC-FID	ST 226-81A 39
Methyl ethyl ketone (MEK, 2-butanone)	OSHA 1004		200				16.88		8		GC-FID	PS 575-002 75
Methyl ethyl ketone peroxide	NIOSH 3508	1002		0.2 (15 min)		120		1000		120	VAS	IMP 225-36-1 67 IT 225-22 67
Methyl ethyl ketone peroxide	OSHA 77					15		1000		15	HPLC-UV	ST 226-93 40
Methyl formate	OSHA PV2041		100		3		50		1		GC-FID	ST 226-83 40
Methyl iodide	NIOSH 1014		2		48		100		8		GC-FID	ST 226-01 38
Methyl iodide	OSHA CSI		5		50		200		4		GC-FID	ST 226-01 38
Methyl isoamyl acetate (Esters I)	NIOSH 1450		50		1-10		10-200		varies		GC-FID	ST 226-01 38
Methyl isoamyl ketone	OSHA PV2042		100		24		50		8		GC-FID	ST 226-01 38
Methyl isobutyl carbinol (methyl amyl alcohol)	OSHA 07	1068	25		10	3	20(50)	200	8(3.3)	15	GC-FID	ST 226-01 38
Methyl isobutyl carbinol (methyl amyl alcohol) (alcohols combined)	NIOSH 1405		25	40 (skin)	1-10	1-10	10-200	10-200	varies	varies	GC-FID	ST 226-01 38
Methyl isobutyl carbinol (methyl amyl alcohol) (Alcohols III)	NIOSH 1402		25	40	10	3	20(50)	200	8(3.3)	15	GC-FID	ST 226-01 38
Methyl isobutyl ketone	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
Methyl isobutyl ketone	OSHA 1004		100		12		50		4		GC-FID	ST NA SKC
Methyl isobutyl ketone (hexone)	OSHA 07	1070	100		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Methyl isobutyl ketone (hexone)	OSHA 1004		100				13.62		8		GC-FID	PS 575-002 75
Methyl isobutyl ketone (hexone) (Ketones I)	NIOSH 1300		50	75	10	3	20(50)	200	8(3.3)	15	GC-FID	ST 226-01 38
Methyl isobutyl ketone (Ketones I)	NIOSH 2555		50		1-10		10-200		varies		GC-FID	ST NA SKC
Methyl isocyanate (MIC)	OSHA 54		0.02		15		50		5		HPLC-FD	ST NA SKC
Methyl isopropyl ketone	OSHA CSI				10		20		8		GC-FID	ST 226-01 38
Methyl isothiocyanate	OSHA CSI				120		1000		2		GC-FID	ST 226-01 38
Methyl mercaptan	NIOSH 2542	1330		0.5 (15 min)	48	12	100	200	8	60	GC-FPD	CF/CST 225-9007 64 C/HLD 225-1 102
Methyl mercaptan	NON 42	1412			12		1000		12 min		GC-FPD	SB 231-10 54
Methyl mercaptan	OSHA 26			10	20		200		100 min		GC-FPD	CF/CST 225-9007 64 C/HLD 225-1 102
Methyl methacrylate	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
Methyl methacrylate	NIOSH 2537		100		1-8		10-50		varies		GC-FID	ST 226-30-06 38
Methyl methacrylate	NON 54		50	75	10	3	20	200	8	15	GC-FID	ST 226-81A 39
Methyl methacrylate	OSHA 94		100		3		50		1		GC-FID	ST 226-73 39
4-Methyl morpholine	OSHA CSI				30		100		5		GC-FID	ST 226-98 40
Methyl n-amyl ketone (2-heptanone) (Ketones II)	NIOSH 2553		100		1-25		10-200		varies		GC-FID	ST NA SKC
Methyl parathion	ASTM D 4861				240-7200		1000-5000		4-24		GC-NPD	PUF 226-92 44
Methyl parathion	OSHA PV2112				480		1000		8		GC-FPD	ST 226-30-16 38
Methyl parathion (Organophosphorus Pesticides)	NIOSH 5600		0.2 mg/m³		240		1000		4		GC-FPD	ST 226-58 39
Methyl propyl ketone (2-pentanone)	OSHA 07		200		10	3	20(50)	200	8(3.3)	15	GC-FID	ST 226-01 38
Methyl propyl ketone (Ketones I)	NIOSH 2555				1-10		10-200		varies		GC-FID	ST NA SKC
Methyl silicate	OSHA CSI				9		50		3		GC-FID	ST 226-30-04 38
alpha-Methyl styrene	OSHA 07	1066		100 (C)	30	3	200	200	2.5	15	GC-FID	ST 226-01 38
alpha-Methyl styrene (Hydrocarbons, Aromatic)	NIOSH 1501		50	100	1-30	1-30	10-200	10-200	varies	varies	GC-FID	ST 226-01 38
beta-Methyl styrene (Hydrocarbons, Aromatic)	NIOSH 1501		50	100	1-30	1-30	10-200	10-200	varies	varies	GC-FID	ST 226-01 38
Methyl styrene (vinyl toluene)	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
17-a-Methyl testosterone	OSHA PV2001				60		1000		1		HPLC-UV	F/CST 225-706 96 C/HLD 225-1 102
Methyl-2-cyanoacrylate	OSHA 55				12		100		2		HPLC-UV	ST 226-98 40
3-Methyl-2-cyclopentene-2-ol-one	OSHA CSI				10		200		50 min		HPLC-UV	ST 226-30-04 38
1-Methyl-2-ethyl benzene	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
1-Methyl-2-pyrrolidinone	OSHA PV2043				10		200		50 min		GC-FID	ST 226-01 38
N-Methyl-2-pyrrolidinone	NIOSH 1302				96		200		8		GC-NPD, FID	ST 226-01 38
N-Methyl-2-pyrrolidinone	OSHA PV2043				10		200		50 min		GC-FID	ST 226-01 38

Agency standards for OSHA listings represent the OSHA PELs reported in the 29 CFR 1910.1000 Part 1910, Section 1000.

References and abbreviations are found on pages 212-213.

M

Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	Agency Standard CLG/STEL (ppm)	Vol. (liter) TWA Sample Time or Air Volume	Vol. (liter) CLG/STEL Sample Time or Air Volume	Rate (ml/min) TWA Flow/Sampling Rate	Rate (ml/min) CLG/STEL Flow/Sampling Rate	Time TWA (hrs)	Time CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
1-Methyl-3-ethyl benzene	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
5-Methyl-3-heptanone (ketones II)	NIOSH 2553		25		1-25		10-200		varies		GC-FID	ST NA SKC
5-Methyl-3-heptanone (ketones II)	NIOSH 1301		25		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
1-Methyl-4-ethyl benzene	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
2-Methyl-4-isothiazolin-3-one (Kathon 886)	NON 55		1.5 mg/m³	4.5 mg/m³	50	7.5	200	500	4	15	HPLC-UV	ST 226-99 40
Methylacetylene (propyne)	OSHA CSI		1000		2		50		40 min		GC-FID	ST 226-01 38
Methylal (dimethoxymethane)	NIOSH 1611		1000		1.8		20		1.5		GC-FID	ST 226-01 38
Methylal *(see dimethoxymethane)*												
6-Methylcoumarin	OSHA CSI				10		20(50)		8(3.3)		HPLC-UV	ST 226-30 38
Methylcyclohexanol	NIOSH 1404		50		12		25		8		GC-FID	ST 226-01 38
Methylcyclohexanol	OSHA CSI		100		12		25		8		GC-FID	ST 226-01 38
Methylcyclohexanone	NIOSH 2521		50	75	3		50		1		GC-FID	ST 226-115 40
o-Methylcyclohexanone	OSHA CSI		100		6	0.75	50	50	2	15	GC-FID	ST 226-115 40
Methylcyclopentadienyl manganese tricarbonyl (as Mn)	OSHA CSI			5 (C)	10		200		1		AA	ST 226-30 38
N-Methyldiethanolamine	OSHA CSI				20		100		3.3		GC-NPD	ST 226-42-02 39
4,4-Methylene bisphenyl isocyanate (MDI)	OSHA 47	1242		200 µg/m³		15		1000		15	HPLC-UV	CF/CST 225-9002 or CF/CST 225-9013 64 C/HLD 225-1 102
4,4-Methylene bisphenyl isocyanate (MDI) (isocyanates)	NIOSH 5521	1001	50 µg/m³	200 µg/m³ (10 min) C	480	10	1000	1000	8	10	HPLC-ELCHM & HPLC-UV	IMP 225-36-1 67 IT 225-22 67
4,4-Methylene bisphenyl isocyanate (MDI) (isocyanates)	OR-OSHA 1010		0.02	0.005	45	5	1000	1000	45 min	5	HPLC	IMP 225-36-1 67 IT 225-22 67 CF/CST 225-9029 64
Methylene chloride	NIOSH 1005	1018	LFC		2	1.5	20	100	1.6	15	GC-FID	ST 226-01 38
Methylene chloride	OSHA 59	1358	25	125	10	0.25	50	50	3.3	5	GC-FID	ST 226-09-02 38
Methylene chloride	OSHA 80		25	125	3	0.25	50	50	1	5	GC-FID	ST NA SKC
Methylene chloride (dichloromethane)	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
4,4-Methylene diphenyl isocyanate (MDI)	NIOSH 5522		50 µg/m³	200 µg/m³ (10 min) C	360	20	1000	2000	6	10	HPLC-FD	IMP 225-36-1 67 IT 225-22 67
4,4'-Methylenebis(2-chloroaniline) (MOCA)	OSHA 71	1234			100		1000		100 min		GC-ECD	CF/CST 225-9004 64 C/HLD 225-1 102
2,2'-Methylene-bis(4-chlorophenol)	OSHA CSI				750		2000		6.25		HPLC-UV	F/CST 225-709 96 C/HLD 225-1 102
Methylene-bis-(4-cyclohexylisocyanate)	OSHA PV2092					15		1000		15	HPLC-UV	CF/CST 225-9013 64 C/HLD 225-1 102
Methylene-bis-(4-cyclohexylisocyanate) (isocyanates, total)	NIOSH 5525			110 µg/m³ (10 min) C		1-500		1000-2000		varies	HPLC-UV	FLT 225-7 ‡ 96 CST 225-4 97 SP 225-27 or IOM 225-76A 108 FLT 225-702 ‡ 96
4,4-Methylenebisphenyl isocyanate (MDI) (isocyanates, total)	NIOSH 5525		50 µg/m³	200 µg/m³ (10 min) C	1-500		1000-2000		varies		HPLC-UV	FLT 225-7 ‡ 96 CST 225-4 97 SP 225-27 or IOM 225-76A 108 FLT 225-702 ‡ 96
4,4'-Methylenedianiline (MDA)	NIOSH 5029		LFC		480		1000		8		HPLC-UV	CF/CST 225-9004 64 C/HLD 225-1 102
4,4'-Methylenedianiline (MDA)	OSHA 57	1240			100		1000		100		GC-ECD	CF/CST 225-9004 64 C/HLD 225-1 102
Methyl-n-amyl ketone (2-heptanone)	OSHA CSI		100		24		200		2		GC-FID	ST 226-01 38
Methyl-n-amyl ketone (2-heptanone) (Ketones II)	NIOSH 1301		100		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
5-Methyl-o-anisidine	OSHA CSI				60		1000		1		HPLC-UV	ST 226-30-04 38
2-Methylpentane	OSHA CSI				10		20(50)		8(3.3)		GC-FID	ST 226-01 38
3-Methylpentane	OSHA CSI				5		20		4		GC	ST 226-01 38
Methylphenols	EPA TO-8	1668			< 80 L		100-1000 ml/min				HPLC-UV	IMP 225-36-1 67 IT 225-22 67
Methyl-t-butyl-ether (MTBE)	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
Methyl-tert-butyl ether	NIOSH 1615	1017			96		200		8		GC-FID	ST 226-37 39
Methyltetrahydrophthalic anhydride	NON 28				200	20	40	1000	8	20	GC-FID	ST 226-30 38
Methyltin dichloride	NIOSH 5526		0.1 mg/m³		60	60	250	1000	4	60	GC-FPD	ST 226-30-16 38
Methyltin mercaptide (tin, organic compounds [as Sn])	OSHA CSI				480		1000		8		AA-GF	ST 226-30-16 38
Metolachlor	ASTM D 4861				240-7200		1000-5000		4-24		GC-ECD	PUF 226-92 44
Metolachlor	NIOSH 5602				480		1000		8		GC-ECD	ST 226-58 39
Metribuzin	OSHA PV2044				240		1000		4		GC-FPD	ST 226-30-16 38
Mevinphos (phosdrin)	OSHA CSI		0.1 mg/m³		480	15	1000	1000	8	15	GC-FPD	ST 226-30-16 38
Mevinphos (phosdrin) (Organophosphorus Pesticides)	NIOSH 5600		0.01		240		1000		4		GC-FPD	ST 226-58 39
Mexacarbate	ASTM D 4861				240-7200		1000-5000		4-24		GC-ECD	PUF 226-92 44
MIBK *(see methyl isobutyl ketone)*												
MIC (methyl isocyanate)	OSHA 54		0.02		15		50		5		HPLC-FD	ST NA SKC
Mica *(see Respirable dust)*	OSHA ID 142											
Mineral spirits (naphthas)	NIOSH 1550		350 mg/m³	1800 mg/m³	3	1	20	200	2.5	5	GC-FID	ST 226-01 38

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References and abbreviations are found on pages 212-213.

Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	Agency Standard CLG/STEL (ppm)	Vol. (liter) TWA Sample Time or Air Volume	Vol. (liter) CLG/STEL Sample Time or Air Volume	Rate (ml/min) TWA Flow/Sampling Rate	Rate (ml/min) CLG/STEL Flow/Sampling Rate	Time TWA (hrs)	Time CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
Mineral wool fiber	OSHA CSI				960		2000		8		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CST 225-2LF 97
Mineral wool fiber (particulates, respirable)	NIOSH 0600	1038			375		2500		2.5		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CYC 225-01-02 111 CST 225-3LF 97
Mineral wool fiber (particulates, total)	NIOSH 0500	1035			120		2000		1		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CST 225-2LF 97
Mirex	ASTM D 4861				240-7200		1000-5000		4-24		GC-ECD	PUF 226-92 44
MOCAP	OSHA CSI				480		1000		8		GC-FPD	ST 226-30-16 38
Mold spores (in air)					15-150		15000		1-10 min		varies	STC 225-9820 101
Molybdenum (Elements by Cellulosic Internal Capsule Sampler)	NIOSH 7306				1-330		1000-4000		Varies		ICP-AES	SC 225-8517 90 C/HLD 225-1 102
Molybdenum (Elements by ICP Aqua Regia Ashing)	NIOSH 7301		5 mg/m³ (soluble) 10 mg/m³ (insoluble)		5-67		1000-4000		varies		ICP-AES	F/CST 225-3-01 or C/HLD 225-1 102 F/CST 225-803 ¥ 93
Molybdenum (Elements by ICP HNO_3 Digestion))	NIOSH 7303		5 mg/m³ (soluble) 10 mg/m³ (insoluble)		0.5-10,000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Molybdenum (Elements by ICP HNO_3/$HClO_4$ Ashing)	NIOSH 7300	1455	5 mg/m³ (soluble) 10 mg/m³ (insoluble)		6-67		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Molybdenum (Elements on Wipes)	NIOSH 9102				wipe						ICP-AES	W 225-2414 140 TMP 225-2403 or TMP 225-2415 140
Molybdenum insolubles (as Mo)	OSHA ID 125G		15 mg/m³		480		2000		4		ICP-AES	F/CST 225-3-01 or F/CST 225-3100 or F/CST 225-803 or F/CST 225-8215 or 93 C/HLD 225-1 102
Molybdenum insolubles (as Mo) (respirable fraction)	OSHA ID 121	1212	15 mg/m³ (total dust)		960		2000		8		GR & AA or GR & AES	F/CST 225-3-01 90 C/HLD 225-1 102 CYC 225-105 110
Molybdenum solubles (as Mo)	OSHA ID 121	1211	5 mg/m³		960		2000		8		AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Monensin	OSHA CSI				960		2000		8		CLR	F/CST 225-706 96 C/HLD 225-1 102
Monilia species (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST 225-3-01 90 C/HLD 225-1 102
Monilia species (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI 225-9611 120
Monochloroacetic acid	OSHA CSI				96		200		8		IC	ST 226-47-01 39
Monochloroacetic acid (chloroacetic acid)	NIOSH 2008				48		100		8		IC-CD	ST 226-47-01 39
Monocrotophos (Azodrin)	OSHA PV2045				480		1000		8		GC-FPD	ST 226-30-16 38
Monocrotophos (Organophosphorus Pesticides)	NIOSH 5600		0.25 mg/m³		240		1000		4		GC-FPD	ST 226-58 39
Monoethanolamine (2-aminoethanol)	NIOSH 3509		3	6	240		1000		4		IC	IMP 225-36-1 67 IT 225-22 67
Monoethanolamine *(see 2-aminoethanol)*												
Monomethyl aniline	NIOSH 3511		0.5		100		1000		100 min		GC-FID	IMP 225-36-2 67 IT 225-22 67
Monomethyl aniline	OSHA CSI		2		100		1000		100 min		GC-FID	IMP 225-36-2 67 IT 225-22 67
Monomethyl hydrazine	NIOSH 3510			0.04 (120 min)		15		1000		15	VAS	IMP 225-36-2 67 IT 225-22 67
Monomethyl hydrazine	OSHA 20			0.2		4.5		300		15	HPLC-UV	ST 226-42-02 39
Monuron	ASTM D 4861				240-7200		1000-5000		4-24		HPLC-UV	PUF 226-92 44
Morpholine	OSHA PV2123		20		10		100		100 min		GC-FID	ST 226-98 40
Mortierella species (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST 225-3-01 90 C/HLD 225-1 102
Mortierella species (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI 225-9611 120
Mucor (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST 225-3-01 90 C/HLD 225-1 102
Mucor (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI 225-9611 120
Mycobacteria	NIOSH 0801				50-300		28300		varies		GC-FID	BI 225-9611 120
Mycobacterium tuberculosis (airborne)	NIOSH 0900				1920		4000		8		PCR	FLT 225-2705 94 SP 225-27 103 CST 225-3LF 97 C/HLD 225-1 102
Mycotoxins (fungi in air)	NON 48				62.5-375		12500 +		5-30		varies	BS 225-9595 122 VT 225-9598A◊ 122
Naphtha (coal tar)	NIOSH 1550		100		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Naphtha (coal tar)	OSHA 48		100		3		200		15 min		GC-FID	ST 226-01 38
Naphthalene	OSHA 35	1060	10		10	3	20(50)	200	8(3.3)	15	GC-FID	ST 226-110 40
Naphthalene (Polynuclear Aromatic Hydrocarbons by GC-MS)	ASTM D 6209				350 m³ (max)		225 L/min		1-24		GC-MS	PUF 226-131 45 FLT 225-1808 95
Naphthalene (Polynuclear Aromatic Hydrocarbons by GC)	NIOSH 5515				480		2000		4		GC-FID	F/CST 225-1713 94 ST 226-30-04 38 C/HLD 225-1 102
Naphthalene (Polynuclear Aromatic Hydrocarbons by HPLC)	NIOSH 5506		10	15	480		2000		4		HPLC-UV	F/CST 225-1713 94 ST 226-30-04 38 C/HLD 225-1 102
1,5-Naphthalene diisocyanate	OSHA PV2046				60		1000		1		HPLC-UV-FD	CF/CST 225-9013 64 C/HLD 225-1 102
1,5-Naphthalene diisocyanate (isocyanates, total)	NIOSH 5525		40 µg/m³	70 µg/m³ (10 min) C	1-500	1-500	1000-2000	1000-2000	varies	varies	HPLC-UV	FLT 225-7 ‡ 96 CST 225-4 97 SP 225-27 or IOM 225-76A 108 FLT 225-702 ‡ 96
Naphthas *(see specific compounds)*	NIOSH 1550		varies		varies		varies		8		GC-FID	ST 226-01 38
beta-Naphthol	OSHA CSI				60		1000		1		HPLC-UV	IMP 225-36-1 67 IT 225-22 67
alpha-Naphthylamine	OSHA 93	1232			100		1000		100 min		GC-ECD	CF/CST 225-9004 64 C/HLD 225-1 102

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References and abbreviations are found on pages 212-213.

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Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	Agency Standard CLG/STEL (ppm)	Vol. (liter) TWA Sample Time or Air Volume	Vol. (liter) CLG/STEL Sample Time or Air Volume	Rate (ml/min) TWA Flow/Sampling Rate	Rate (ml/min) CLG/STEL Flow/Sampling Rate	Time TWA (hrs)	Time CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
beta-Naphthylamine	OSHA 93	1232			100		1000		100 min		GC-ECD	CF/CST 225-9004 64 C/HLD 225-1 102
Naphthylamines (alpha- & beta-)	NIOSH 5518				96		200		8		GC-FID	FLT 225-16 96 CST 225-32 102 ST 226-51 39
Naphthylene diisocyanate (NDI) (isocyanates)	NIOSH 5521		40 µg/m³	70 µg/m³ (10 min) C	480	10	1000	1000	8	10	HPLC-ELCHM & HPLC-UV	IMP 225-36-1 67 IT 225-22 67
Naphthylthiourea *(see ANTU)*												
Neurospora species (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST 225-3-01 90 C/HLD 225-1 102
Neurospora species (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI 225-9611 120
Nickel (Elements by Cellulosic Internal Capsule Sampler)	NIOSH 7306		0.015 mg/m³		2-2000		1000-4000		Varies		ICP-AES	SC 225-8517 90 C/HLD 225-1 102
Nickel (Elements by ICP Aqua Regia Ashing)	NIOSH 7301		0.015 mg/m³		5-1000		1000-4000		varies		ICP-AES	F/CST 225-3-01 or F/CST 225-803 ¥ 93 C/HLD 225-1 102
Nickel (Elements by ICP HNO_3 Digestion))	NIOSH 7303		0.012 mg/m³		1-50,000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Nickel (Elements by ICP HNO_3/$HClO_4$ Ashing)	NIOSH 7300	1455	0.15 mg/m³		5-1000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Nickel (Elements on Wipes)	NIOSH 9102				wipe						ICP-AES	W 225-2414 140 TMP 225-2403 or TMP 225-2415 140
Nickel (metal & insoluble compounds as Ni)	OSHA ID 125G		1 mg/m³		480		2000		4		ICP-AES	F/CST 225-3-01 or F/CST 225-3100 or F/CST 225-803 or F/CST 225-8215 93 C/HLD 225-1 102
Nickel (metal, soluble, & insoluble compounds as Ni)	OSHA ID 121	1044	1 mg/m³		960		2000		8		AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Nickel (soluble compounds as Ni)	OSHA ID 121	1197	1 mg/m³		960		2000		8		AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Nickel (soluble compounds as Ni)	OSHA ID 125G		1 mg/m³		480		2000		4		ICP-AES	F/CST 225-3-01 or F/CST 225-3100 or F/CST 225-803 or F/CST 225-8215 93 C/HLD 225-1 102
Nickel carbonyl	NIOSH 6007		0.001		72		150		8		AA-GF	ST NA SKC F/CST 225-3-01 90
Nickel carbonyl	OSHA CSI		0.001		480		1000		8		AA-GF	F/CST 225-709 96 C/HLD 225-1 102 IMP 225-36-2 67 IT 225-22 67
Nicotine	NIOSH 2544		0.5 mg/m³		360		1000		6		GC-NPD	ST 226-30-04 38
Nicotine	NIOSH 2551		0.5 mg/m³		480		1000		8		GC-NPD	ST 226-93 40
Nicotine	NON 19				120		1000		2		GC	ST 226-93 40
Nicotine	NON 49				90-720		1500		1- 8		GC-NSD	ST 226-170 41
Nicotine & 3-ethenylpyridine	ASTM D 5075	1427			varies		1500		varies		GC-NPD	ST 226-93 40
Nigrospora species (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST 225-3-01 90 C/HLD 225-1 102
Nigrospora species (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI 225-9611 120
Niobium (Elements by ICP HNO_3 Digestion))	NIOSH 7303		0.012 mg/m³		0.1-3300		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Nitric acid	NIOSH 7907		2	4	600	30	2000	2000	5	15	IC-CD	CF/CST 225-9032 64 C/HLD 225-1 102
Nitric acid	OSHA ID 165SG		2		96	7.5	200	500	8	15	IC	ST 226-10-03 38
Nitric oxide	OSHA ID 190		25		6		25		4		IC	ST 226-40 39
Nitric oxide & nitrogen dioxide	NIOSH 6014	1390	25 (NO)	1 (NO_2)	1.5-6		25		1-4		VAS	ST 226-40 39
5-Nitro-2-furaldehyde semicarbazone	OSHA CSI				240		1000		24 min		HPLC-UV	F/CST 225-709 96 C/HLD 225-1 102
p-Nitroaniline	NIOSH 5033		3 mg/m³		240		1000		4		HPLC-UV	F/CST 225-3-01 90 C/HLD 225-1 102
p-Nitroaniline	OSHA CSI		1 mg/m³		90		1500		1		HPLC-UV	F/CST 225-3-01 90 C/HLD 225-1 102
Nitrobenzene	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
Nitrobenzene	NIOSH 2005		1		48		100		8		GC-FID	ST 226-10 38
Nitrobenzene	NIOSH 2017		1		24		200		2		GC-FID	CF/CST 225-9004 64 ST 226-15 38
4-Nitrobiphenyl	OSHA CSI				240		500		8		GC-FID	ST 226-30-16 38
p-Nitrochlorobenzene	OSHA CSI		1 mg/m³		150		1000		2.5		GC-FID	ST 226-10 38
p-Nitrochlorobenzene (nitrobenzenes)	NIOSH 2005		0.1		96		200		8		GC-FID	ST 226-10 38
Nitrochloroform	NON 51		0.1		144		100		24		GC-MSD	ST 226-175 41
Nitrochloromethane	NON 51		0.1		144		100		24		GC-MSD	ST 226-175 41
4-Nitrodiphenyl	OSHA PV2082				240		500		8		GC-FID	ST 226-30-16 38
Nitroethane	NIOSH 2526		100		2.4		20		2		GC-FID	ST 226-3002A 42
Nitrofurazone	OSHA PV2069				240		1000		4		HPLC-UV	F/CST 225-709 96 C/HLD 225-1 102
Nitrogen dioxide	NIOSH 6014			1 (NO_2)	1.5-6		25-200		varies		VAS	ST 226-40-02 39
Nitrogen dioxide	OSHA ID 182	1406		5 (C)		3		200		15	IC	ST 226-40 or ST 226-40-02 39
Nitrogen dioxide & nitric oxide	NIOSH 6014	1390	25 (NO)	1 (NO_2)	1.5-6		25		1-4		VAS	ST 226-40 39
Nitrogen dioxide & nitric oxide	NON 11					0.75		50		15	CLR	ST 226-40 39
Nitrogen dioxide & nitric oxide	OSHA ID 182	1389	25 (NO)	5 (NO_2)	6	3	25	200	4	15	IC	ST 226-40 39
Nitroglycerin	NIOSH 2507			0.1 mg/m³		3		200		15	GC-ECD	ST 226-35-03 39
Nitroglycerin	OSHA 43			0.1 mg/m³		15		1000		15	HPLC	ST 226-35-03 39
Nitromethane	NIOSH 2527				2.4		20		2		GC-NSD	ST 226-111A 40

Agency standards for OSHA listings represent the OSHA PELs reported in the 29 CFR 1910.1000 Part 1910, Section 1000.

References and abbreviations are found on pages 212-213.

Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	CLG/STEL (ppm)	Vol. (liter) TWA	CLG/STEL Sample Time or Air Volume	Rate (ml/min) TWA	CLG/STEL Flow/Sampling Rate	Time TWA (hrs)	CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
Nitromethane	OSHA CSI		100		3		50		1		GC-NPD	ST 226-111A 40
p-Nitrophenol	OSHA CSI				100		1000		100 min		HPLC-UV	IMP 225-36-1 67 IT 225-22 67
1-Nitropropane	OSHA 46		25		3		100		30 min		GC-FID	ST 226-93 40
2-Nitropropane	NIOSH 2528		LFC		2		20		1.5		GC-FID	ST 226-110 40
2-Nitropropane	OSHA 46		25		3		100		30 min		GC-FID	ST 226-93 40
1-Nitropyrene	OSHA CSI				960		2000		8		HPLC-UV	F/CST 225-706 96 C/HLD 225-1 102
1-Nitropyrene in diesel particulates	NIOSH 2560				480-960		1000-2000		varies		GC-NCD	FLT 225-7 96 SP 225-27 103 SPC 225-23 103
N-Nitrosodiethanolamine	OSHA 31				480		2000		4		GC-TEA	F/CST 225-706 96 C/HLD 225-1 102
N-Nitrosodiphenylamine	OSHA 23				240		1000		4		HPLC-UV	IMP 225-36-2 67 IT 225-22 67
Nitrotoluene (m-isomer)	OSHA CSI		5		30		200		2.5		GC-FID	ST 226-10 38
m-Nitrotoluene (nitroaromatic compounds)	NIOSH 2005		2 ppm		96		200		8		GC-FID	ST 226-10 38
o-Nitrotoluene (nitroaromatic compounds)	NIOSH 2005		2 ppm		96		200		8		GC-FID	ST 226-10 38
p-Nitrotoluene (nitroaromatic compounds)	NIOSH 2005		2 ppm		96		200		8		GC-FID	ST 226-10 38
Nitrotoluene (nitrobenzenes)	NIOSH 2005		2 ppm		96		200		8		GC-FID	ST 226-10 38
Nitrous oxide	NIOSH 6600	1028	25		3		100-4000		varies		P IR	SB 231-05 54
trans-Nonachlor	ASTM D 4861				240-7200		1000-5000		4-24		GC-ECD	PUF 226-92 44
Nonane	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
Nonane	OSHA CSI				3		50		1		GC-FID	ST 226-01 38
n-Nonane (hydrocarbons, BP 36 to 216 C)	NIOSH 1500		200		4		10-200		varies		GC-FID	ST 226-01 38
Nonpolar organic compounds	NON 38		varies		varies				varies		GC	PUF 226-129 45
Non-sporulating fungi	OSHA CSI				120		1000		2		varies	F/CST 225-3-01 90 C/HLD 225-1 102
Non-sporulating fungi	OSHA CSI				141.5		28300		5 min		varies	BI 225-9611 120
Nonyl alcohol	OSHA CSI				10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Nonylphenol	OSHA CSI				24		100		4		HPLC-UV	ST 226-95 40
Norethindrone	OSHA PV2070				480		2000		4		HPLC-UV	F/CST 225-802 93 C/HLD 225-1 102
Nuisance dust (particulates, respirable)	NIOSH 0600	1038			375		2500		2.5		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CYC 225-01-02 111 CST 225-3LF 97
Nuisance dust (particulates, total)	NIOSH 0500	1035			120		2000		1		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CST 225-2LF 97
Nuisance dust *(see dust, respirable nuisance)*												
Octachloronaphthalene	OSHA CSI		0.1 mg/m³		30	15	1000	1000	0.5	15	GC-ECD	F/CST 225-3-01 90 C/HLD 225-1 102
Octadecanol	OSHA CSI				10		100		100 min		GC-FID	ST 226-01 38
Octane	OSHA 07	1141	500		5	3	20	200	4	15	GC-FID	ST 226-01 38
n-Octane	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
n-Octane	OSHA PV2138		500		4		50		80 min		GC-FID	ST 226-01 38
n-Octane (hydrocarbons, BP 36 to 216 C)	NIOSH 1500		75	385	4	4	0-200	0-200	varies	varies	GC-FID	ST 226-01 38
1-Octanethiol	NIOSH 2510			0.5 (15 min)		3		200		15	GC-FPDS	ST 226-35-03 39
Octanol	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
Octyl alcohol	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
di-n-Octyl phthalate (DNOP)	OSHA 104				240		1000		4		GC-FID	ST 226-56 39
Oil mist (mineral)	NIOSH 5026	1526	5 mg/m³	10 mg/m³	480	30	1000	2000	8	15	IR	F/CST 225-3-01 or F/CST 225-802 93 C/HLD 225-1 102
Oil mist (mineral)	OSHA ID 128		5 mg/m³		960		2000		8		FLUOR	FLT 225-5-37-P 93 C/HLD 225-1 102 CST 225-2LF 97
Oil mist (mineral)	OSHA ID 178SG		5 mg/m³		960		2000		8		GR & IR	FLT 225-5-37-P 93 C/HLD 225-1 102 CST 225-2LF 97
Oil mist (total aerosol)	NON 46		5 mg/m³		varies		2000		varies		GR	IOM 225-70A 108 FLT 225-5-25 93
Oil mist (vegetable) *(see dust, total & respirable nuisance)*												
Organic vapors (charcoal tube method)	ASTM D 3686				varies	varies	varies	varies	varies	varies	GC	ST 226-01 38
Organic vapors (diffusive sampler method)	ASTM D 4597				varies	varies	varies	varies	varies	varies	GC	PS 575-001 or PS 575-002 75
Organonitrogen pesticides *(see specific compounds)*	NIOSH 5601				240		1000		4		HPLC-UV	ST 226-58 or ST 226-30-16 38
Organophosphorus pesticides *(see specific compounds)*	NIOSH 5600		varies		varies		varies		8		GC-FPD	ST 226-58 39
Organotin compounds as Sn *(see specific compounds)*	NIOSH 5504		0.1 mg/m³		480		1000		8		HPLC & AA-GF	ST 226-30 38 F/CST 225-709 96 C/HLD 225-1 102
Organotincompounds as Sn *(see specific compounds)*	NIOSH 5526		0.1 mg/m³		60	60	250	1000	4	60	GC-FPD	ST 226-30-16 38
Orthene (acephate)	OSHA CSI				240		1000		4		HPLC-UV	F/CST 225-706 96 C/HLD 225-1 102
Oryzalin	OSHA CSI				120		1000		2		HPLC-UV	F/CST 225-706 96 C/HLD 225-1 102 IMP 225-36-1 67 IT 225-22 67

Agency standards for OSHA listings represent the OSHA PELs reported in the 29 CFR 1910.1000 Part 1910, Section 1000.

References and abbreviations are found on pages 212-213.

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Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	CLG/STEL (ppm)	Vol. (liter) TWA Sample Time or Air Volume	CLG/STEL	Rate (ml/min) TWA Flow/Sampling Rate	CLG/STEL	Time TWA (hrs)	CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
Oxalic acid	OSHA PV2115		1 mg/m³		100		1000		100 min		IC	FLT 225-701 90 CST 225-3LF 97 C/HLD 225-1 102
Oxamyl (Organonitrogen Pesticides)	NIOSH 5601				240		1000		4		HPLC-UV	ST 226-58 or ST 226-30-16 38
Oxamyl (Vydate)	OSHA CSI				60		1000		1		HPLC	ST 226-30-16 38
Oxychlordane	ASTM D 4861				240-7200		1000-5000		4-24		GC-ECD	PUF 226-92 44
Oxydemeton methyl	OSHA CSI				480		1000		8		GC-FPD	ST 226-30-16 38
Ozone	OSHA ID 214		0.1		90		500		3		IC	CF/CST 225-9014 64 ST Special C/HLD 225-1 102 order ∑
Paecilomyces species (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST 225-3-01 90 C/HLD 225-1 102
Paecilomyces species (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI 225-9611 120
PAHs (Polynuclear Aromatic Hydrocarbons by GC, *see specific compounds*)	NIOSH 5515	1464			480		2000		4		GC-FID	F/CST 225-1713 94 ST 226-30-04 38 C/HLD 225-1 102
PAHs (Polynuclear Aromatic Hydrocarbons by GC-MS, *see specific compounds*)	ASTM D 6209				350 m³ (max)		225 L/min		1-24		GC-MS	PUF 226-131 45 FLT 225-1808 95
PAHs (Polynuclear Aromatic Hydrocarbons by HPLC, *see specific compounds*)	NIOSH 5506	1464			480		2000		4		HPLC-UV	F/CST 225-1713 94 ST 226-30-04 38 C/HLD 225-1 102
Palladium (Elements by ICP HNO_3 Digestion))	NIOSH 7303				0.1-3.300		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Palladium *(see dust, total nuisance)*	OSHA CSI											
Pancreatin	OSHA CSI				480		2000		4		IRA	F/CST 225-1713 94 C/HLD 225-1 102
Papain	OSHA CSI				60,000		1000 L/min		1		GC-FID	FLT 225-7-07 96
Paper fiber (cellulose) (particulates, respirable)	NIOSH 0600	1038			375		2500		2.5		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CYC 225-01-02 111 CST 225-3LF 97
Paper fiber (cellulose) (particulates, total)	NIOSH 0500	1035			120		2000		1		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CST 225-2LF 97
PAPI	OSHA CSI				15		1000		15 min		HPLC-UV	FLT 225-7 ‡ 96 CST 225-3LF 97 C/HLD 225-1 102
Paraffin wax fume	OSHA PV2047				100		1000		100 min		GC-FID	F/CST 225-706 96 C/HLD 225-1 102
Paraquat	NIOSH 5003		0.1 mg/m³		480		1000		8		HPLC-UV	FLT 225-17-01 94 CST 225-2LF 97 C/HLD 225-1 102
Paraquat (respirable dust)	OSHA CSI		0.5 mg/m³		960		4000		4		HPLC-UV	FLT 225-17-01 94 CST 225-2LF 97 C/HLD 225-1 102
Parathion	OSHA 62	1398	0.1 mg/m³		480		1000		8		GC-FPD	ST 226-30-16 38
Parathion (Organophosphorus Pesticides)	NIOSH 5600		0.05 mg/m³		240		1000		4		GC-FPD	ST 226-58 39
Particulates not otherwise regulated (total dust)	OSHA CSI		15 mg/m³		720		1500		8		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CST 225-2LF 97
Particulates not otherwise regulated, respirable	NIOSH 0600	1038			375		2500		2.5		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CYC 225-01-02 111 CST 225-3LF 97
Particulates not otherwise regulated, respirable fraction	OSHA CSI		5 mg/m³		varies		varies		varies		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CYC 225-105 110 CST 225-3LF 97
Particulates, inorganic (bioaerosols)					15-150		15000		1-10 min		varies	STC 225-9820 101
Particulates, respirable	NIOSH 0600	1038			375		2500		2.5		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CYC 225-01-02 111 CST 225-3LF 97
Particulates, total *(see specific compounds)*	NIOSH 0500	1035			120		2000		1		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CST 225-2LF 97
Particulates, total *(see specific compounds)*	NIOSH 0501				120		2000		1		GR	AC 225-8516GLA 93 C/HLD 225-1 102 CST 225-2LF 97
PCBs (42% Cl) *(see polychlorobiphenyls)*	NIOSH 5503											
PCBs (54% Cl) *(see polychlorobiphenyls)*	NIOSH 5503											
PCBs (polychlorinated biphenyls)	EPA TO-4A	1670					200-280 L/min		24 hrs		varies	PUF 226-131 41 FLT 225-1808 95
Penicillium species (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST 225-3-01 90 C/HLD 225-1 102
Penicillium species (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI 225-9611 120
Pentaborane	OSHA CSI		0.005		480	15	1000	1000	8	15	ICP	IT 225-22 67 IMP 225-36-2 67
Pentac (bis [pentachloro-2,4-cyclopentadien-1-yl])	OSHA CSI				120		1000		2		HPLC-UV	FLT 225-9 88 CST 225-3LF 97 IMP 225-36-1 67 IT 225-22 67 C/HLD 225-1 102
Pentachlorobenzene	ASTM D 4861				240-7200		1000-5000		4-24		GC-ECD	PUF 226-92 44
Pentachlorobenzene (polychlorobenzenes)	NIOSH 5517				12		25		8		GC-ECD	FLT 225-17-03 94 CST Special ST 226-30-04 38 order
Pentachloroethane	NIOSH 2517				10		20		8		GC-ECD	ST 226-59-04 39
Pentachloroethane	OSHA CSI				10		20		8		GC-ECD	ST 226-59-04 39
Pentachloronaphthalene	OSHA CSI		0.5 mg/m³		90		1000		1.5		GC-ECD	ST 226-30-16 38
Pentachlorophenol	ASTM D 4861				240-7200		1000-5000		4-24		GC-ECD	PUF 226-92 44
Pentachlorophenol	NIOSH 5512		0.5 mg/m³		480		1000		8		HPLC-UV	CST 225-3LF 97 SCN 225-26 103 IMP 225-36-2 67 IT 225-22 67 FLT 225-5 88
Pentachlorophenol	OSHA 39		0.5 mg/m³		48		200		4		HPLC-UV	ST 226-97 40

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References and abbreviations are found on pages 212-213.

Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	Agency Standard CLG/STEL (ppm)	Vol. (liter) TWA Sample Time or Air Volume	Vol. (liter) CLG/STEL	Rate (ml/min) TWA Flow/Sampling Rate	Rate (ml/min) CLG/STEL	Time TWA (hrs)	Time CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
Pentaerythritol (particulates, respirable)	NIOSH 0600	1038			375		2500		2.5		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CYC 225-01-02 111 CST 225-3LF 97
Pentaerythritol (particulates, total)	NIOSH 0500	1035			120		2000		1		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CST 225-2LF 97
Pentaerythritol (respirable dust)	OSHA CSI		5 mg/m³		varies		varies		varies		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CYC 225-105 110 CST 225-3LF 97
Pentaerythritol (total dust)	OSHA CSI		15 mg/m³		960		2000		8		GR	F/CST 225-803 93 C/HLD 225-1 102
Pentamethyldiethylenetriamine	OSHA CSI				480		1000		8		GC-NPD	IMP 225-36-1 67 IT 225-22 67
Pentamidine isethionate	NIOSH 5032				960		2000		8		HPLC-FD	CST 225-4 97 FLT 225-5-37-P 93 C/HLD 225-1 102
Pentane	OSHA 07	1140	1000		2	0.75	20	50	1.6	15	GC-FID	ST 226-01 38
n-Pentane	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
n-Pentane (hydrocarbons, BP 36 to 216 C)	NIOSH 1500		120	610	4	4	10-200	10-200	varies	varies	GC-FID	ST 226-01 38
2,3-Pentanedione	OSHA 1016				10	3	50	200 (min)	200	15	GC-FID	ST 226-183 41
2-Pentanone (Ketones I)	NIOSH 2555				1-10		10-200		varies		GC-FID	ST NA SKC
2-Pentanone (methyl propyl ketone)	OSHA 07	1139	200		10	3	20(50)	200	8(3.3)	15	GC-FID	ST 226-01 38
2-Pentanone (methyl propyl ketone) (Ketones I)	NIOSH 1300		150		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
1-Pentene	OSHA CSI				10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Peracetic acid	NON 57					15		1000 *		15	MAS/HPLC-UV	CF/CST 225-9030 64 ST 226-193 or ST 226-199 39
Perchloric acid	OSHA ID 115SG				120		500		4		CLR	IMP 225-36-2 67 IT 225-22 67
Perchloroethylene	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
Perchloroethylene	Indoor	1689					13.1 ml/min		8-24 hrs		TD, GC	PS 690-101 or PS 690-103 or PS 690-104 84
Perchloroethylene (tetrachloroethylene)	OSHA 1001		100	200 (C)	12	0.75	50	50	4	5	GC-FID	ST 226-01 38
Perchloroethylene (tetrachloroethylene)	OSHA 1001		100	200 (C)			13.06		8	5	GC-FID	PS 575-002 75
Perchloroethylene (tetrachloroethylene) (hydrocarbons, halogenated)	NIOSH 1003		LFC		3		10-200		varies		GC-FID	ST 226-01 38
Perchloroethylene (tetrachloroethylene) (portable GC)	NIOSH 3704		LFC		1		20-5000		varies		P GC	SB 232-01 55
Perchloryl fluoride	OSHA CSI		3		240	15	1000	1000	4	15	ISE	IMP 225-36-2 67 IT 225-22 67
Perlite (< 1% Quartz) *(see dust, total & respirable nuisance)*												
cis-Permethrin	ASTM D 4861				240-7200		1000-5000		4-24		HPLC-UV	PUF 226-92 44
trans-Permethrin	ASTM D 4861				240-7200		1000-5000		4-24		HPLC-UV	PUF 226-92 44
Peroxyacetic acid (peracetic acid) & Hydrogen peroxide	NON 57					15		1000 *		15	MAS/HPLC-UV	CF/CST 225-9030 64 ST 226-193 or ST 226-199 39
Pesticides	EPA IP-8	1675					1-5 L/min		4-24 hrs		GC-ECD	PUF 226-92 or PUF 226-124 41
Pesticides	EPA TO-10A	1675					1-5 L/min		4-24 hrs		GC-ECD	PUF 226-92 or PUF 226-124 41
Pesticides, carbamate	ASTM D 4861				240-7200		1000-5000		4-24		HPLC-UV	PUF 226-92 44
Pesticides, organochlorine	ASTM D 4861	1253			240-7200		1000-5000		4-24		varies	PUF 226-92 or PUF 226-124 44
Pesticides, organochlorine	EPA TO-4A	1670					200-280 L/min		24 hrs		varies	PUF 226-131 41 FLT 225-1808 95
Pesticides, organonitrogen *(see specific compounds)*	NIOSH 5601				240		1000		4		HPLC-UV	ST 226-58 or ST 226-30-16 38
Pesticides, organophosphorus	ASTM D 4861	1253			240-7200		1000-5000		4-24		varies	PUF 226-92 or PUF 226-124 44
Pesticides, pyrethrin	ASTM D 4861				240- 7200		1000-5000		4-24		HPLC-UV	PUF 226-92 44
Pesticides, triazine	ASTM D 4861				240-7200		1000-5000		4-24		HPLC-UV or GC-ECD	PUF 226-92 44
Petroleum distillate (naphthas)	NIOSH 1550		350 mg/m³	1800 mg/m³	3.6	1.5	20	100	3	15	GC-FID	ST 226-01 38
Petroleum distillate fractions (PDF)	OSHA 48		500		3		20		2.5		GC-FID	ST 226-01 38
Petroleum ether (benzin) (naphthas)	NIOSH 1550		350 mg/m³	1800 mg/m³	3	1.5	20(50)	100	2.5(1)	15	GC-FID	ST 226-01 38
Petroleum naphtha (naphthas)	NIOSH 1550		350 mg/m³	1800 mg/m³	3	1.5	20(50)	100	2.5(1)	15	GC-FID	ST 226-01 38
Peziza species (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST 225-3-01 90 C/HLD 225-1 102
Peziza species (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI 225-9611 120
Phenanthrene	OSHA 58				960		2000		8		GR & HPLC-FD, or GR & HPLC-UV	FLT 225-7 96 CST 225-2LF 97 C/HLD 225-1 102
Phenanthrene (Polynuclear Aromatic Hydrocarbons by GC-MS)	ASTM D 6209				350 m³ (max)		225 L/min		1-24		GC-MS	PUF 226-131 45 FLT 225-1808 95
Phenanthrene (Polynuclear Aromatic Hydrocarbons by GC)	NIOSH 5515				480		2000		4		GC-FID	F/CST 225-1713 94 ST 226-30-04 38 C/HLD 225-1 102
Phenanthrene (Polynuclear Aromatic Hydrocarbons by HPLC)	NIOSH 5506				480		2000		4		HPLC-UV	F/CST 225-1713 94 ST 226-30-04 38 C/HLD 225-1 102
Phenol	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51

Agency standards for OSHA listings represent the OSHA PELs reported in the 29 CFR 1910.1000 Part 1910, Section 1000.

References and abbreviations are found on pages 212-213.

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Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	Agency Standard CLG/STEL (ppm)	Vol. (liter) TWA Sample Time or Air Volume	Vol. (liter) CLG/STEL Sample Time or Air Volume	Rate (ml/min) TWA Flow/Sampling Rate	Rate (ml/min) CLG/STEL Flow/Sampling Rate	Time TWA (hrs)	Time CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
Phenol	EPA TO-8	1668			< 80 L		100-1000 ml/min				HPLC-UV	IMP 225-36-1 67 IT 225-22 67
Phenol	OSHA 32	1019	5		24		100		4		HPLC-UV	ST 226-95 40
Phenol (cresols)	NIOSH 2546		5	15.6 (15 min)	24	3	100	200	4	15	GC-FID	ST 226-95 40
Phenolics (screening)	NIOSH 2549				5		20		4		GC-MS	ST 226-330 42
Phenothiazine	OSHA PV2048				100		1000		1		GC-NPD	F/CST 225-706 96 C/HLD 225-1 102
2-Phenoxyethanol	OSHA CSI				10		200		50 min		GC-FID	ST 226-01 38
2-Phenoxyethyl acrylate	OSHA CSI				24		100		4		GC-FID	ST 226-22 38
1-Pheny-1-cyclohexene	OSHA CSI				10		200		50 min		GC-FID	ST 226-01 38
Phenyl ether	NIOSH 1617		1		48		100		8		GC-FID	ST 226-01 38
Phenyl ether	OSHA 07	1138	1		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Phenyl ether	OSHA PV2022		1		20		200		100 min		GC-FID	ST 226-95 40
Phenyl ether-biphenyl mix	NIOSH 2013		1		24		50		8		GC-FID	ST 226-10 38
Phenyl ether-biphenyl mix	OSHA CSI		1		10		20(50)		8(3.3)		GC-FID	ST 226-95 40
Phenyl glycidyl ether	NIOSH 1619			1 (15 min)		80		1000		80	GC-FID	ST 226-01 38
Phenyl glycidyl ether	OSHA 07	1137	10		48		100		8		GC-FID	ST 226-01 38
Phenyl hydrazine	NIOSH 3518			0.14 (120 min)		120		1000		120	VAS	IMP 225-36-2 67 IT 225-22 67
Phenyl hydrazine	OSHA CSI		5		100	15	1000	1000	100 min	15	CLR	IMP 225-36-2 67 IT 225-22 67
Phenyl mercaptan	OSHA PV2075				20		200		100 min		GC-FID	CF/CST 225-9007 64 C/HLD 225-1 102
N-Phenyl-1-naphthylamine	OSHA 96				240		2000		4		HPLC-FD	FLT 225-703 ‡ 96 CST 225-309 97 C/HLD 225-1 102
N-Phenyl-2-naphthylamine	OSHA 96				240		1000		4		HPLC-FD	FLT 225-703 ‡ 96 CST 225-309 97 C/HLD 225-1 102
N-Phenyl-2-naphthylamine	OSHA CSI										W	W 225-2401A 140
4-Phenylcyclohexene	OSHA CSI				10		200		50 min		GC-FID	ST 226-01 38
m-Phenylenediamine	OSHA 87	1231			100		1000		100 min		HPLC-UV	CF/CST 225-9004 64 C/HLD 225-1 102
o-Phenylenediamine	OSHA 87	1231			100		1000		100 min		HPLC-UV	CF/CST 225-9004 64 C/HLD 225-1 102
p-Phenylenediamine	OSHA 87	1231	0.1 mg/m³		100		1000		100 min		HPLC-UV	CF/CST 225-9004 64 C/HLD 225-1 102
Phenyloxirane *(see styrene oxide)*	OSHA CSI				10		20(50)		8(3.3)		GC-FID	ST 226-35 38
o-Phenylphenol	ASTM D 4861				240-7200		1000-5000		4-24		HPLC-UV	PUF 226-92 44
o-Phenylphenol	OSHA CSI				10		20(50)		8(3.3)		GC-FID	ST 226-35 38
Phoma species (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST 225-3-01 90 C/HLD 225-1 102
Phoma species (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI 225-9611 120
Phorate	ASTM D 4861				240-7200		1000-5000		4-24		GC-NPD	PUF 226-92 44
Phorate (Organophosphorus Pesticides)	NIOSH 5600		0.05 mg/m³	0.2 mg/m³	240		1000		4		GC-FPD	ST 226-58 39
Phorate (Thimet)	OSHA CSI				480	15	1000	1000	8	15	GC-FPD	ST 226-30-16 38
Phosdrin (mevinphos)	OSHA CSI		0.1 mg/m³		480	15	1000	1000	8	15	GC-FPD	ST 226-30-16 38
Phosdrin (mevinphos) (Organophosphorus Pesticides)	NIOSH 5600		0.01	0.03	120	15	1000	1000	2	15	GC-FPD	ST 226-58 39
Phosgene	EPA TO-6	1669			< 50 L		100-1000 ml/min				HPLC-UV	IMP 225-36-1 67 IT 225-22 67
Phosgene	OSHA 61		0.1		240		1000		4		GC-NPD	ST 226-117 40
Phosgene & chloroformates	NON 40				24		50		8		GC-FPD	ST 226-153 41
Phosmet (Imidan)	OSHA CSI				120		1000		2		HPLC-UV	F/CST 225-706 96 C/HLD 225-1 102
Phosphine	NIOSH 6002		0.3	1	12	3	100	200	8	15	UV-VIS	ST 226-165A †† 41
Phosphine	OSHA 1003	1698	0.3		240	30	1000	2000	4	15	ICP-AES	CF/CST 225-9018 †† 64 C/HLD 225-1 102
Phosphoric acid	NIOSH 7908		1 mg/m³	3 mg/m³	960	30	2000	2000	8	15	IC-cd	CF/CST 225-9033 64 C/HLD 225-1 102
Phosphoric acid	OSHA ID 111	1466	1 mg/m³		960	30	2000	2000	8	15	IC	F/CST 225-3-01 90 C/HLD 225-1 102
Phosphoric acid	OSHA ID 165SG		1 mg/m³		960	30	2000	2000	8	15	IC	ST 226-10-03 38
Phosphorous (Elements by ICP HNO_3 Digestion))	NIOSH 7303		0.1 mg/m³		250-500,000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Phosphorus	NIOSH 7905		0.1 mg/m³		12		200		1		GC-FPD	ST 226-35-03 39
Phosphorus (Elements by Cellulosic Internal Capsule Sampler)	NIOSH 7306		0.1 mg/m³		9-2000		1000-4000		Varies		ICP-AES	SC 225-8517 90 C/HLD 225-1 102
Phosphorus (Elements by ICP Aqua Regia Ashing)	NIOSH 7301		0.1 mg/m³		25-2000		1000-4000		varies		ICP-AES	F/CST 225-3-01 or F/CST 225-803 ¥ 93 C/HLD 225-1 102
Phosphorus (Elements by ICP HNO_3/$HClO_4$ Ashing)	NIOSH 7300	1455	0.1 mg/m³		25-200		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Phosphorus (Elements on Wipes)	NIOSH 9102				wipe						ICP-AES	W 225-2414 140 TMP 225-2403 or TMP 225-2415 140
Phosphorus (yellow)	OSHA CSI		0.1 mg/m³		96		200		8		GC-FPD	ST 226-35-03 39
Phosphorus oxychloride	OSHA CSI				240		1000		4		IC	IMP 225-36-2 67 IT 225-22 67

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Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	Agency Standard CLG/STEL (ppm)	Vol. (liter) TWA Sample Time or Air Volume	Vol. (liter) CLG/STEL Sample Time or Air Volume	Rate (ml/min) TWA Flow/Sampling Rate	Rate (ml/min) CLG/STEL Flow/Sampling Rate	Time TWA (hrs)	Time CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
Phosphorus pentachloride	OSHA CSI		1 mg/m³		48		200		4		CLR	F/CST 225-803 93; IMP 225-36-2 67; IT 225-22 67; SCN 225-26 103
Phosphorus pentasulfide	OSHA ID 128SG		1 mg/m³		960	30	2000	2000	8	15	IC	F/CST 225-802 93; C/HLD 225-1 102
Phosphorus pentoxide	OSHA ID 111				480		1000		8		IC	F/CST 225-3-01 90; C/HLD 225-1 102
Phosphorus trichloride	NIOSH 6402		0.2	0.5	24		200		2		VAS	IMP 225-36-2 67; IT 225-22 67
Phosphorus trichloride	OSHA CSI		0.5		96	3	200	200	8	15	CLR	IMP 225-36-2 67; IT 225-22 67
Phosvel	OSHA CSI				480		1000		8		GC-FPD	ST 226-30-16 38
Phthalates *(see specific compounds)*												
Phthalic acid	OSHA CSI				10		200		50 min		HPLC	ST 226-01 38
Phthalic anhydride	OSHA 90		2		75		1000		1.25		HPLC-UV	FLT 225-7 ‡ 96; C/HLD 225-1 102; CST 225-3LF 97
m-Phthalodinitrile	OSHA CSI				20		200		100 min		GC-NPD	ST 226-01 38
Picloram (tordon) (total dust)	OSHA PV2049		15 mg/m³		60		1000		1		GR	F/CST 225-803 93; C/HLD 225-1 102
Picloram (tordon) (respirable dust)	OSHA CSI		5 mg/m³		varies		varies		varies		GR	FLT 225-5-37-P 93; C/HLD 225-1 102; CYC 225-105 110; CST 225-3LF 97
Picric acid	OSHA CSI		0.1 mg/m³		180		1500		2		HPLC-UV	F/CST 225-3-01 90; C/HLD 225-1 102
Pindone	OSHA CSI		0.1 mg/m³		180		1000		3		HPLC-UV	FLT 225-17-01 94; CST 225-2LF 97; ST 226-35-03 39; C/HLD 225-1 102
alpha-Pinene	OSHA CSI				10		20(50)		8(3.3)		GC-FID	ST 226-01 38
beta-Pinene	OSHA CSI				10		20(50)		8(3.3)		GC-FID	ST 226-01 38
alpha-Pinene (terpenes)	NIOSH 1552				24		50		8		GC-FID	ST 226-01 38
beta-Pinene (terpenes)	NIOSH 1552				24		50		8		GC-FID	ST 226-01 38
Piperazine dihydrochloride	OSHA CSI				96		200		8		GC-NPD	F/CST 225-709 96; C/HLD 225-1 102
Piperidine	OSHA CSI				6		200		30 min		GC-FID	ST 226-01 38
Piperonyl butoxide	OSHA PV2110				30		1000		30 min		HPLC-UV	ST 226-30-16 38
Pipron	OSHA CSI				90		1000		1.5		GC-ECD	F/CST 225-706 96; C/HLD 225-1 102; IMP 225-36-1 67; IT 225-22 67
Pirimiphos methyl	OSHA PV2071				120		1000		2		GC-ECD	ST 226-30-16 38
Pithomyces species (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST 225-3-01 90; C/HLD 225-1 102
Pithomyces species (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI 225-9611 120
Plaster of Paris (particulates, respirable)	NIOSH 0600	1038			375		2500		2.5		GR	FLT 225-5-37-P 93; C/HLD 225-1 102; CYC 225-01-02 111; CST 225-3LF 97
Plaster of Paris (particulates, total)	NIOSH 0500	1035			120		2000		1		GR	FLT 225-5-37-P 93; C/HLD 225-1 102; CST 225-2LF 97
Plaster of Paris *(see dust, respirable nuisance)*	OSHA CSI											
Platinum	OSHA ID 130SG				90		1000		1.5		AA	F/CST 225-3-01 90; C/HLD 225-1 102
Platinum (Elements by ICP HNO_3 Digestion))	NIOSH 7303				200-25,000,000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90; C/HLD 225-1 102
Platinum (as Pt), metal	OSHA CSI				960		2000		8		AA-GF	F/CST 225-3-01 90; C/HLD 225-1 102
Platinum (as Pt), metal	OSHA ID 121				960		2000		8		AA or AES	F/CST 225-3-01 90; C/HLD 225-1 102
Platinum (as Pt), soluble salts	OSHA ID 121		2 µg/m³		960		2000		8		AA or AES	F/CST 225-3-01 90; C/HLD 225-1 102
PM2.5	EPA IP-10A	1663					9 L/min		24 hrs		GR	CI 225-370 117; FLT 225-1709 94; FLT 225-2708 94
PM2.5	EPA IP-10A	1663					10 L/min		24 hrs		GR	PEM 761-203B 114; FLT 225-1709 94
PNAs (Polynuclear Aromatic Hydrocarbons by GC, *see specific compounds*)	NIOSH 5515	1464			480		2000		4		GC-FID	F/CST 225-1713 94; C/HLD 225-1 102; ST 226-30-04 38
PNAs by HPLC *(see specific compounds)*	NIOSH 5506	1464			480		2000		4		HPLC-UV	F/CST 225-1713 94; C/HLD 225-1 102; ST 226-30-04 38
PNAs selected	OSHA 58				960		2000		8		GR & HPLC-FD, or GR & HPLC-UV	FLT 225-7 96; C/HLD 225-1 102; CST 225-2LF 97
Pollen (in air)					15-150		15000		1-10 min		varies	STC 225-9820 101
Pollen (in air)	NON 48				62.5-375		12500 +		5-30		varies	BS 225-9595 122; VT 225-9598A◊ 122
Polychlorinated biphenyls	ASTM D 4861	1252			240-7200		1000-5000		4-24		varies	PUF 226-92 or PUF 226-124 44
Polychlorinated biphenyls	NIOSH 5503		0.001 mg/m³ (10 hr)		48		100(200)		8(4)		GC-ECD	FLT 225-16 96; ST 226-39 39; CST 225-32 102
Polychlorinated biphenyls	OSHA CSI				60		1000		1		GC-ECD	ST 226-30-16 38
Polychlorobenzenes *(see specific compounds)*	NIOSH 5517		varies		varies		varies		8		GC-ECD	FLT 225-17-03 94; CST Special order; ST 226-30-04 38; C/HLD 225-1 102
Polychlorobiphenyls (42% Cl)	NIOSH 5503		0.001 mg/m³ (10 hr)		48		100(200)		8(4)		GC-ECD	FLT 225-16 96; ST 226-39 39; CST 225-32 102
Polychlorobiphenyls (54% Cl)	NIOSH 5503		0.001 mg/m³ (10 hr)		48		100(200)		8(4)		GC-ECD	FLT 225-16 96; ST 226-39 39; CST 225-32 102
Polycyclic aromatic compounds (PACs), total	NIOSH 5800				960	30	2000	2000	8	15	FLUOR	F/CST 225-1713 94; C/HLD 225-1 102; ST 226-30-04 38

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Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	CLG/STEL (ppm)	Vol. (liter) TWA Sample Time or Air Volume	CLG/STEL	Rate (ml/min) TWA Flow/Sampling Rate	CLG/STEL	Time TWA (hrs)	CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
Polycyclic aromatic hydrocarbons (PAHs)	EPA IP-7				30,000 L		20 L/min				GC-FID, -MS, HPLC	PUF 226-131 41 FLT 225-1808 95
Polycyclic aromatic hydrocarbons (PAHs)	EPA TO-13A	1672					220 L/min		24 hrs		GC-MS	PUF 226-131 41 FLT 225-1808 95
Polyfunctional aziridine	OSHA CSI				100		1000		100 min		GC-FID	ST 226-57 39
Polynuclear aromatic hydrocarbons (Polynuclear Aromatic Hydrocarbons by GC-MS)	ASTM D 6209		varies		350 m^3 (max)		225 L/min		4-24		GC-MS	PUF 226-131 45 FLT 225-1808 95
Polynuclear aromatic hydrocarbons by HPLC *(see specific compounds)*	NIOSH 5506	1464	varies		480		2000		4		HPLC-UV	F/CST 225-1713 94 ST 226-30-04 38 C/HLD 225-1 102
Polynuclear aromatic hydrocarbons(polynuclear aromatic hydrocarbons by GC, *see specific compounds*)	NIOSH 5515	1464	varies		480		2000		4		GC-FID	F/CST 225-1713 94 ST 226-30-04 38 C/HLD 225-1 102
Portland cement (particulates, respirable)	NIOSH 0600	1038			375		2500		2.5		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CYC 225-01-02 111 CST 225-3LF 97
Portland cement (particulates, total)	NIOSH 0500	1035			120		2000		1		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CST 225-2LF 97
Portland cement (respirable dust) *(see Respirable dust)*	OSHA ID 142											
Portland cement (total dust)	OSHA ID 207		15 mg/m^3		240		1000		4		XRD	F/CST 225-803 93 C/HLD 225-1 102
Potassium & compounds	OSHA ID 121				960		2000		8		AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Potassium (Elements by Cellulosic Internal Capsule Sampler)	NIOSH 7306				Varies		1000-4000		Varies		ICP-AES	SC 225-8517 90 C/HLD 225-1 102
Potassium (Elements by ICP Aqua Regia Ashing)	NIOSH 7301				5-1000		1000-4000		varies		ICP-AES	F/CST 225-3-01 or F/CST 225-803 ¥ 93 C/HLD 225-1 102
Potassium (Elements by ICP $HNO_3/HClO_4$ Ashing)	NIOSH 7300	1455			5-1000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Potassium chromate (CR(VI))	OSHA ID 215 (V2)	1439	0.005 mg/m^3		960		2000		8		IC-UV	F/CST 225-802 Ω 93 C/HLD 225-1 102
Potassium cyanide (cyanides)	NIOSH 7904		5 mg/m^3 (10 min)		15		1000		15		ISE	FLT 225-2705 Δ 94 CST 225-2LF 97 IMP 225-36-2 67 IT 225-22 67 C/HLD 225-1 102
Potassium hydroxide (alkaline dust)	NIOSH 7401				960		2000		8		TITRA	F/CST 225-1715 94 C/HLD 225-1 102
Potassium hydroxide (as K)	OSHA ID 121	1199			10		2000		5		AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Pramitol	OSHA CSI				100		1000		100 min		HPLC-UV	ST 226-30-16 38
Progesterone	OSHA PV2001				60		1000		1		HPLC-UV	F/CST 225-706 96 C/HLD 225-1 102
Propane	OSHA CSI		1000		5		100		50 min		GC-FID	ST NA SKC
1,2,3-Propanetriol trinitrate	OSHA 43				15		1000		15 min		HPLC-UV	ST 226-35-03 39
n-Propanol	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
Propargyl alcohol	OSHA 97				6		50		2		GC-ECD	ST 226-178 41
Propazine	ASTM D 4861				240-7200		1000-5000		4-24		GC-NPD	PUF 226-92 44
Propham (Organonitrogen Pesticides)	NIOSH 5601				240		1000		4		HPLC-UV	ST 226-58 or ST 226-30-16 38
Propionaldehyde	ASTM D 5197				varies		500-1200		5 min-24 hrs		HPLC-UV	ST 226-120 ° or ST 226-119 40
Propionaldehyde (Aldehydes, Screening)	NIOSH 2539				5		20		4		GC-FID & GC-MS	ST 226-118 40
Propionic acid	OSHA CSI				10		20(50)		8(3.3)		GC-FID	ST 226-15 38
Propionitrile	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
Propoxur (Baygon)	ASTM D 4861				240-7200		1000-5000		4-24		HPLC-UV	PUF 226-92 44
Propoxur (Baygon)	OSHA PV2007				60		1000		1		HPLC-UV	ST 226-30-16 38
Propoxur (Organonitrogen Pesticides)	NIOSH 5601		0.5 mg/m^3		240		1000		4		HPLC-UV	ST 226-58 or ST 226-30-16 38
2-Propoxyethanol	OSHA CSI				6		200		30 min		GC-FID	ST 226-01 38
n-Propyl acetate	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
n-Propyl acetate	OSHA 07	1136	200		10	3	20(50)	200	8(3.3)	15	GC-FID	ST 226-01 38
n-Propyl acetate (Esters I)	NIOSH 1450		200	250	1-10	1-10	10-200	10-200	varies	varies	GC-FID	ST 226-01 38
Propyl alcohol	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
Propyl alcohol	OSHA 07		200		10	3	20(50)	200	8(3.3)	15	GC-FID	ST 226-01 38
n-Propyl alcohol (alcohols combined)	NIOSH 1405		200	250 (skin)	1-10	1-10	10-200	10-200	varies	varies	GC-FID	ST 226-01 38
n-Propyl alcohol (alcohols II)	NIOSH 1401		200	250	10	3	20(50)	200	8(3.3)	15	GC-FID	ST 226-01 38
n-Propyl benzene	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
Propyl bromide	OSHA CSI				12		100		2		GC-FID	ST 226-01 38
n-Propyl nitrate	OSHA 07		25	40	48		100		8		GC-FID	ST 226-81A 39
Propyl paraben	OSHA CSI										HPLC-UV	F/CST 225-706 96 C/HLD 225-1 102
Propylene dichloride (1,2-dichloro propane)	ASTM D 5466				6		varies		varies		GC-MS	CAN 228 Series PK 228 Series
Propylene dichloride (1,2-dichloro propane)	NIOSH 1013		LFC		3		20		2.5		GC-ECN	ST 226-81A 39

Agency standards for OSHA listings represent the OSHA PELs reported in the 29 CFR 1910.1000 Part 1910, Section 1000.

References and abbreviations are found on pages 212-213.

Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	CLG/STEL (ppm)	Vol. (liter) TWA	CLG/STEL	Rate (ml/min) TWA	CLG/STEL	Time TWA (hrs)	CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number					
					Sample Time or Air Volume		Flow/Sampling Rate										
Propylene dichloride (1,2-dichloro propane)	OSHA 07		75		10	3	20(50)	200	8(3.3)	15	GC-FID	ST	226-01	38			
Propylene glycol	NIOSH 5523	1403			60		1000		1		GC-FID	ST	226-57	39			
Propylene glycol	OSHA PV2051				60	15	1000	1000	1	15	GC-FID	ST	226-57	39			
1,2-Propylene glycol dinitrate	OSHA CSI				15		1000		15 min		HPLC	ST	226-35-03	39			
Propylene glycol monomethyl ether	OSHA CSI				10	3	20(50)	200	8(3.3)	15	GC-FID	ST	226-01	38			
Propylene glycol monomethyl ether (glycol ethers)	NIOSH 2554				3-25		100-200		varies		GC-FID	ST	226-81A	39			
Propylene glycol monomethyl ether acetate	OSHA CSI				10		20(50)		8(3.3)		GC-FID	ST	226-01	38			
Propylene glycol monomethyl ether acetate (glycol ethers)	NIOSH 2554				3-25		100-200		varies		GC-FID	ST	226-81A	39			
Propylene oxide (1, 2-epoxypropane)	NIOSH 1612		LFC		5		20		4.2		GC-FID	ST	226-01	38			
Propylene oxide (1, 2-epoxypropane)	OSHA 88	1325	100		5	5	100	1000	50 min	5	GC-FID	ST	226-81A	39			
Propyleneimine	OSHA CSI		2		48		200		4		HPLC-UV	IMP	225-36-2	67	IT	225-22	67
Pyrene	OSHA 58				960		2000		8		GR & HPLC-FD, or GR & HPLC-UV	FLT C/HLD	225-7 225-1	96 102	CST	225-2LF	97
Pyrene (Polynuclear Aromatic Hydrocarbons by GC-MS)	ASTM D 6209				350 m³ (max)		225 L/min		1-24		GC-MS	PUF	226-131	45	FLT	225-1808	95
Pyrene (Polynuclear Aromatic Hydrocarbons by HPLC)	NIOSH 5506				480		2000		4		HPLC-FD	F/CST C/HLD	225-1713 225-1	94 102	ST	226-30-04	38
Pyrethrin pesticides *(see specific compounds)*	ASTM D 4861				240-7200		1000-5000		4-24		GC-ECD	PUF	226-92	44			
Pyrethrum	ASTM D 4861				240-7200		1000-5000		4-24		HPLC-UV	PUF	226-92	44			
Pyrethrum	NIOSH 5008		5 mg/m³		100		1000		2		HPLC-UV	F/CST SP	225-709 225-27	96 103	C/HLD	225-1	102
Pyrethrum	OSHA 70	1400	5 mg/m³		60		1000		1		GC-ECD	ST	226-30-16	38			
Pyridine	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST CPC	226-300 Series 224-26-CPC	42 51	TH	224-26-02	51
Pyridine	NIOSH 1613		5		48		100		8		GC-FID	ST	226-01	38			
Pyridine	OSHA 07	1180	5		48		100		8		GC-FID	ST	226-01	38			
Pyridine	OSHA PV2295		5		10		100		100 min		GC-FID	ST	226-95	40			
1-(2-Pyridyl)piperazine	OSHA CSI										W	W	225-2401A	140			
Pyrimethamine	OSHA CSI				10		1000		100 min		HPLC-UV	F/CST	225-706	96	C/HLD	225-1	102
Quartz (respirable) in coal dust, (silica in coal mine dust)	NIOSH 7603		0.05 mg/m³		300-1000		2500		varies		IR	FLT CYC	225-5-37-P 225-01-02	93 111	C/HLD CST	225-1 225-3LF	102 97
Quartz *(see Silica, respirable crystalline)*	OSHA ID 142																
Quartz (silica, crystalline [respirable]) by XRD	NIOSH 7500	1370	0.05 mg/m³		400-1000		2500		varies		XRD	F/CST C/HLD	225-803 225-1	93 102	CYC	225-01-02	111
Quartz (silica, crystalline by IR)	NIOSH 7602		0.05 mg/m³		400-800		2500		varies		IR	F/CST CYC	225-803 225-01-02	93 111	C/HLD	225-1	102
Quartz (silica, crystalline by VAS)	NIOSH 7601	1041	0.05 mg/m³		400-800		2500		varies		VAS	F/CST CYC	225-803 225-01-02	93 111	C/HLD	225-1	102
Quinone	OSHA CSI		0.1		24		100		4		HPLC-UV	ST	226-30-04	38			
Rabon	OSHA CSI				480		1000		8		GC-ECD	ST	226-30-16	38			
Radon progeny (on dust, in mines)	NON 56				5		2000		5 min		DRI	FLT	225-702	96	CST	225-1107	102
Ramrod (propachlor)	OSHA CSI				120		1000		2		HPLC-UV	F/CST	225-706	96	C/HLD	225-1	102
Resmethrin	ASTM D 4861				240-7200		1000-5000		4-24		HPLC-UV	PUF	226-92	44			
Resmethrin	OSHA PV2052				60		1000		1		HPLC-UV	ST	226-30-16	38			
Resorcinol	NIOSH 5701		10		120		500		4		GC-FID	ST	226-57	39			
Respirable Dust using Aluminum Cyclone	OSHA ID 142		50 µg/m³		1200		2500		8		GR & XRD	FLT C/HLD	225-5-37-P 225-1	93 110	CST CYC	225-3050LF 225-01-02	97 97
Respirable Dust using GS-3 Cyclone	OSHA ID 142		50 µg/m³		1320		2750		8		GR & XRD	FLT C/HLD	225-5-37-P 225-1	93 110	CST CYC	225-3050LF 225-100	97 97
Respirable Dust using PPI Samplers	OSHA ID 142		50 µg/m³		960		2000		8		GR & XRD	FLT	225-5-37-P	93	PPI	225-385	112
Rhizopus species (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST	225-3-01	90	C/HLD	225-1	102
Rhizopus species (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI	225-9611	120			
Rhodamine B	OSHA PV2072				240		1000		4		HPLC-UV	F/CST	225-709	96	C/HLD	225-1	102
Rhodium metal fume & dust (as Rh)	OSHA CSI		0.1 mg/m³		960		2000		8		AA-GF	F/CST	225-3-01	90	C/HLD	225-1	102
Rhodium soluble salts (as Rh)	OSHA CSI		1 µg/m³		960		2000		8		AA-GF	F/CST	225-3-01	90	C/HLD	225-1	102
Rhodotorula species (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST	225-3-01	90	C/HLD	225-1	102
Rhodotorula species (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI	225-9611	120			
Ribavirin	NIOSH 5027				480		1000		8		HPLC-UV	F/CST	225-709	96	C/HLD	225-1	102
Ronnel	ASTM D 4861				240-7200		1000-5000		4-24		GC-ECD	PUF	226-92	44			
Ronnel	OSHA PV2054		15 mg/m³		60		1000		1		GC-FPD	ST	226-30-16	38			
Ronnel (Organophosphorus Pesticides)	NIOSH 5600		10 mg/m³		60		1000		1		GC-FPD	ST	226-58	39			
Rosaniline	OSHA CSI				bulk						HPLC						

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References and abbreviations are found on pages 212-213.

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Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	CLG/STEL (ppm)	Vol. (liter) TWA Sample Time or Air Volume	CLG/STEL	Rate (ml/min) TWA Flow/Sampling Rate	CLG/STEL	Time TWA (hrs)	CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
Rotenone	NIOSH 5007		5 mg/m³		120		1000		2		HPLC-UV	FLT 225-17-01 94 CST 225-2LF 97 C/HLD 225-1 102
Rotenone (commercial)	OSHA CSI		5 mg/m³		240		2000		2		HPLC-UV	FLT 225-17-01 94 CST 225-2LF 97 C/HLD 225-1 102
Rouge (particulates, respirable)	NIOSH 0600	1038			375		2500		2.5		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CYC 225-01-02 111 CST 225-3LF 97
Rouge (particulates, total)	NIOSH 0500	1035			120		2000		1		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CST 225-2LF 97
Rouge (respirable dust)	OSHA CSI		5 mg/m³		varies		varies		varies		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CYC 225-105 110 CST 225-3LF 97
Rouge (total dust)	OSHA CSI		15 mg/m³		960		2000		8		GR	F/CST 225-803 93 C/HLD 225-1 102
Roundup	OSHA CSI				90		1000		1.5		HPLC-UV	F/CST 225-709 96 C/HLD 225-1 102
Rozol	OSHA CSI				120		1000		2		HPLC-UV	F/CST 225-706 96 C/HLD 225-1 102
Rubber solvent (naphthas)	NIOSH 1550		350 mg/m³	1800 mg/m³	10	1.5	20(50)	100	8(3.3)	15	GC-FID	ST 226-01 38
Rubidium	OSHA CSI				480		1000		8		AA-GF	F/CST 225-709 96 C/HLD 225-1 102 IMP 225-36-2 67 IT 225-22 67
Safrotin	OSHA PV2050				60		1000		1		GC-ECD	F/CST 225-709 96 C/HLD 225-1 102
Saphrophyte (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST 225-3-01 90 C/HLD 225-1 102
Saphrophyte (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI 225-9611 120
Sarin	OSHA CSI				480		1000		8		GC-FPD	ST 226-30-16 38
Scopolamine methyl nitrate	OSHA PV2144				120		1000		2		HPLC-UV	F/CST 225-709 or F/CST 225-706 96 C/HLD 225-1 102
Scopulariopsis species (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST 225-3-01 90 C/HLD 225-1 102
Scopulariopsis species (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI 225-9611 120
Selenium	OSHA ID 121		0.2 mg/m³		960		2000		8		AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Selenium (Elements by Cellulosic Internal Capsule Sampler)	NIOSH 7306		0.2 mg/m³		2-2000		1000-4000		Varies		ICP-AES	SC 225-8517 90 C/HLD 225-1 102
Selenium (Elements by ICP Aqua Regia Ashing)	NIOSH 7301		0.2 mg/m³		13-2000		1000-4000		varies		ICP-AES	F/CST 225-3-01 or F/CST 225-803 93 C/HLD 225-1 102
Selenium (Elements by ICP HNO_3 Digestion))	NIOSH 7303		0.2 mg/m³		8-250,000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Selenium (Elements by ICP HNO_3/$HClO_4$ Ashing)	NIOSH 7300	1455	0.2 mg/m³		13-2000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Selenium (Elements on Wipes)	NIOSH 9102				wipe						ICP-AES	W 225-2414 140 TMP 225-2403 or TMP 225-2415 140
Selenium compounds (as Se)	OSHA CSI		0.2 mg/m³		960		2000		8		AA-GF	F/CST 225-3-01 90 C/HLD 225-1 102
Sevin *(see carbaryl)*												
Sevoflurane	OSHA CSI				3		50		1		GC-FID	ST 226-81A 39
Silica (quartz) in coal dust (quartz in coal mine dust by IR)	NIOSH 7603		0.05 mg/m³		300-1000		2500		varies		IR	FLT 225-5-37-P 93 C/HLD 225-1 102 CYC 225-01-02 111 CST 225-3LF 97
Silica, amorphous (respirable)	NIOSH 7501		6 mg/m³		50-400		2500		varies		XRD	F/CST 225-803 93 C/HLD 225-1 102 CYC 225-01-02 111
Silica, crystalline (respirable) by XRD	NIOSH 7500	1370	0.05 mg/m³		400-1000		2500		varies		XRD	F/CST 225-803 93 CYC 225-01-02 111 C/HLD 225-1 102
Silica, crystalline by IR	NIOSH 7602		0.05 mg/m³		400-800		2500		varies		IR	F/CST 225-803 93 C/HLD 225-1 102 CYC 225-01-02 111
Silica, crystalline by VAS	NIOSH 7601	1041	0.05 mg/m³		400-800		2500		varies		VAS	F/CST 225-803 93 C/HLD 225-1 102 CYC 225-01-02 111
Silica, fused *(see Silica, respirable crystalline)*	OSHA ID 142											
Silica, respirable crystalline (as quartz, cristobalite, tridymite) using Aluminum Cyclone	OSHA ID 142		50 µg/m³		1200		2500		8		XRD	FLT 225-5-37-P 93 CST 225-3050LF 97 C/HLD 225-1 110 CYC 225-01-02 97
Silica, respirable crystalline (as quartz, cristobalite, tridymite) using GS-3 Cyclone	OSHA ID 142		50 µg/m³		1320		2750		8		XRD	FLT 225-5-37-P 93 CST 225-3050LF 97 C/HLD 225-1 110 CYC 225-100 97
Silica, respirable crystalline (as quartz, cristobalite, tridymite) using PPI Samplers	OSHA ID 142		50 µg/m³		960		2000		8		XRD	FLT 225-5-37-P 93 PPI 225-385 112
Silicon	OSHA CSI		15 mg/m³		960		2000		8		GR	F/CST 225-803 93 C/HLD 225-1 102
Silicon (particulates, respirable)	NIOSH 0600	1038			375		2500		2.5		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CYC 225-01-02 111 CST 225-3LF 97
Silicon (particulates, total)	NIOSH 0500	1035			120		2000		1		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CST 225-2LF 97
Silicon (respirable dust)	OSHA CSI		5 mg/m³		varies		varies		varies		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CYC 225-105 110 CST 225-3LF 97
Silicon carbide (particulates, respirable)	NIOSH 0600	1038			375		2500		2.5		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CYC 225-01-02 111 CST 225-3LF 97
Silicon carbide (particulates, total)	NIOSH 0500	1035			120		2000		1		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CST 225-2LF 97
Silicon carbide (respirable dust)	OSHA CSI		5 mg/m³		varies		varies		varies		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CYC 225-105 110 CST 225-3LF 97
Silicon carbide (total dust)	OSHA CSI		15 mg/m³		960		2000		8		GR	F/CST 225-803 93 C/HLD 225-1 102

Agency standards for OSHA listings represent the OSHA PELs reported in the 29 CFR 1910.1000 Part 1910, Section 1000.

References and abbreviations are found on pages 212-213.

Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	CLG/STEL (ppm)	Vol. (liter) TWA Sample Time or Air Volume	CLG/STEL	Rate (ml/min) TWA Flow/Sampling Rate	CLG/STEL	Time TWA (hrs)	CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
Silicon tetrahydride (silane)	OSHA CSI				480		1000		8		AA-GF	IMP 225-36-2 67 IT 225-22 67
Silver (Elements by Cellulosic Internal Capsule Sampler)	NIOSH 7306		0.01 mg/m³		6-2000		1000-4000		Varies		ICP-AES	SC 225-8517 90 C/HLD 225-1 102
Silver (Elements by ICP Aqua Regia Ashing)	NIOSH 7301				250-2000		1000-4000		varies		ICP-AES	F/CST 225-3-01 or 102 C/HLD 225-1 F/CST 225-803 ¥ 93
Silver (Elements by ICP $HNO_3/HClO_4$ Ashing)	NIOSH 7300	1455	0.01 mg/m³ (metal, sol)		250-2000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Silver (Elements on Wipes)	NIOSH 9102				wipe						ICP-AES	W 225-2414 140 TMP 225-2415 140 TMP 225-2403 or
Silver, metal & soluble compounds (as Ag)	OSHA ID 121	1198	0.01 mg/m³		960		2000		8		AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Silver, metal & soluble compounds (ICP analysis of metal/metalloid particulates from solder operations)	OSHA ID 206	1279	0.01 mg/m³		960		2000		8		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Silvex	OSHA CSI										W	W 225-2401A 140
Simazine	ASTM D 4861				240-7200		1000-5000		4-24		HPLC-UV	PUF 226-92 44
Simazine	NIOSH 5602				480		1000		8		GC-ECD	ST 226-58 39
Simazine	OSHA CSI				120		1000		2		HPLC-UV	F/CST 225-706 96 C/HLD 225-1 102
Soapstone (respirable dust)	OSHA CSI		20 mppcf		varies		varies		varies		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CYC 225-105 110 CST 225-3LF 97
Soapstone (total dust)	OSHA CSI		20 mppcf		960		2000		8		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CST 225-2LF 97
Sodium azide	OSHA ID 211				5		1000		5		IC-UV	ST 226-55 39 FLT 225-5-37-P 93 CST 225-2LF 97 SPC 225-23 103 C/HLD 225-1 102
Sodium bisulfite	OSHA ID 121	1203			960		2000		8		AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Sodium carbonate *(see dust, respirable nuisance)*	OSHA CSI											
Sodium fluoride (fluorides)	NIOSH 7902		2.5 mg/m³		480	30	1000	2000	8	15	ISE	CF/CST 225-9001 64 C/HLD 225-1 102
Sodium fluoride (fluorides)	NIOSH 7906		2.5 mg/m³		960	30	2000	2000	8	15	IC-CD	CF/CST 225-9031 64 C/HLD 225-1 102
Sodium fluoroacetate	OSHA CSI		0.05 mg/m³		960	30	2000	2000	8	15	AA	F/CST 225-3-01 90 C/HLD 225-1 102
Sodium hexafluoroaluminate (fluorides)	NIOSH 7902		2.5 mg/m³		480	30	1000	2000	8	15	ISE	CF/CST 225-9001 64 C/HLD 225-1 102
Sodium hexafluoroaluminate (fluorides)	NIOSH 7906		2.5 mg/m³		960		2000		8		IC-CD	CF/CST 225-9031 64 C/HLD 225-1 102
Sodium hydroxide	OSHA ID 121	1042	2 mg/m³		960	30	2000	2000	8	15	AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Sodium hydroxide (alkaline dust)	NIOSH 7401			2 mg/m³ (15 min)	360		1500		4		TITRA	F/CST 225-1715 94 C/HLD 225-1 102
Sodium metabisulfite	OSHA ID 121				960		2000		8		AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Sodium metasilicate	OSHA CSI										NVM	F/CST 225-3-01 90 C/HLD 225-1 102
Sodium nitrate	OSHA CSI				960		2000		8		AA or IC	F/CST 225-3-01 90 C/HLD 225-1 102
Sodium nitrite	OSHA CSI				960		2000		8		AA or IC	F/CST 225-3-01 90 C/HLD 225-1 102
Sodium o-phenyl phenate	OSHA CSI				10		20(50)		8(3.3)		GC-FID	F/CST 225-706 96 ST 226-35 38 C/HLD 225-1 102
Sodium polyacrylate *(see super absorbent polymer)*												
Solanesol (environmental tobacco smoke, respirable particles)	ASTM D 6271				150-3600		2500		1-24		HPLC-UV	FLT 225-2705 94 CST 225-3LF 97 CYC 225-01-02 111 C/HLD 225-1 102
Solder fume (ICP analysis of metal/metalloid particulates from solder operations)	OSHA ID 206				480		2000		4		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Soot *(see elemental carbon)*	NIOSH 5040										TOA-FID	
Spores (bacterial, fungal) (in air)					15-150		15000		1-10 min		varies	STC 225-9820 101
Spores (bacterial, fungal) (in air)	NON 48				62.5-375		12500 +		5-30		varies	BS 225-9595 122 VT 225-9598A◊ 122
Sporothrix species (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST 225-3-01 90 C/HLD 225-1 102
Sporothrix species (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI 225-9611 120
Stachybotrys chartarum (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST 225-3-01 90 C/HLD 225-1 102
Stachybotrys chartarum (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI 225-9611 120
Stachybotrys species (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST 225-3-01 90 C/HLD 225-1 102
Stachybotrys species (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI 225-9611 120
Stannous-2-ethyl hexanoate (tin, organic compounds [as Sn])	OSHA CSI				480		1000		8		AA-GF	ST 226-30-16 38
Starch (particulates, respirable)	NIOSH 0600	1038			375		2500		2.5		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CYC 225-01-02 111 CST 225-3LF 97
Starch (particulates, total)	NIOSH 0500	1035			120		2000		1		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CST 225-2LF 97
Starch *(see dust, total and respirable nuisance)*												
Stoddard solvent	OSHA 48		500		3		200		15 min		GC-FID	ST 226-01 38
Stoddard solvent (naphthas)	NIOSH 1550		350 mg/m³	1800 mg/m³	10	1.5	20(50)	100	8(3.3)	15	GC-FID	ST 226-01 38
Strontium	OSHA CSI				480		1000		8		AA	F/CST 225-3-01 90 C/HLD 225-1 102

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References and abbreviations are found on pages 212-213.

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Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	CLG/STEL (ppm)	Vol. (liter) TWA	CLG/STEL	Rate (ml/min) TWA	CLG/STEL	Time TWA (hrs)	CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number					
					Sample Time or Air Volume		Flow/Sampling Rate										
Strontium (Elements by Cellulosic Internal Capsule Sampler)	NIOSH 7306				Varies		1000-4000		Varies		ICP-AES	SC	225-8517	90	C/HLD	225-1	102
Strontium (Elements by ICP Aqua Regia Ashing)	NIOSH 7301				10-1000		1000-4000		varies		ICP-AES	F/CST C/HLD	225-3-01 225-1	or 102	F/CST	225-803 ¥	93
Strontium (Elements by ICP HNO_3 Digestion))	NIOSH 7303				300-100,000,000		1000-4000		varies		ICP-AES	F/CST	225-3-01	90	C/HLD	225-1	102
Strontium (Elements by ICP HNO_3/$HClO_4$ Ashing)	NIOSH 7300	1455	0.5 mg/m³		10-1000		1000-4000		varies		ICP-AES	F/CST	225-3-01	90	C/HLD	225-1	102
Strontium (Elements on Wipes)	NIOSH 9102				wipe						ICP-AES	W TMP	225-2414 225-2415	140 140	TMP	225-2403	or
Strychnine	NIOSH 5016		0.15 mg/m³ (10 hr)		180		1500		2		HPLC-UV	F/CST	225-706	96	C/HLD	225-1	102
Strychnine	OSHA CSI		0.15 mg/m³		1000		3000		5.5		HPLC-UV	F/CST	225-709	96	C/HLD	225-1	102
Styrene	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST CPC	226-300 Series 224-26-CPC	42 51	TH	224-26-02	51
Styrene (phenylethylene)	ASTM D 5466				6		varies		varies		GC-MS	CAN	228 Series		PK	228 Series	
Styrene (phenylethylene)	NON 54				10	3	20	200	8	15	GC-FID	ST	226-81A	39			
Styrene (phenylethylene)	OSHA 09		100	200 (C)	10	3	20(50)	200	8(3.3)	15	GC-FID	ST	226-01	38			
Styrene (phenylethylene)	OSHA 1014		100	200 (C)			13.55	13.55	8	15	HPLC-UV	PS	575-006	75			
Styrene (phenylethylene)	OSHA 89	1368	100	200 (C)	12	0.75	50	50	4	15	GC-FID	ST	226-73	39			
Styrene (phenylethylene) (Hydrocarbons, Aromatic)	NIOSH 1501		50	100	1-14	1-14	10-1000	10-1000	varies	varies	GC-FID	ST	226-01	38			
Styrene oxide	OSHA CSI				10		20(50)		8(3.3)		GC-FID	ST	226-35	38			
Subtilisins (proteolytic enzymes)	OSHA CSI										Bulk						
Sucrose (particulates, respirable)	NIOSH 0600	1038			375		2500		2.5		GR	FLT CYC	225-5-37-P 225-01-02	93 111	C/HLD CST	225-1 225-3LF	102 97
Sucrose (particulates, total)	NIOSH 0500	1035			120		2000		1		GR	FLT CST	225-5-37-P 225-2LF	93 97	C/HLD	225-1	102
Sucrose *(see dust, total or dust, respirable nuisance)*	OSHA CSI																
Sudan I	OSHA CSI				90		1000		2		HPLC-UV	F/CST	225-709	96	C/HLD	225-1	102
Sudan III	OSHA CSI				90		1000		1.5		HPLC	F/CST	225-709	96	C/HLD	225-1	102
Sulfamethazine	OSHA CSI				100		1000		1.5		HPLC-UV	F/CST	225-706	96	C/HLD	225-1	102
Sulfamic acid	OSHA CSI				100		1000		100 min		IC	F/CST	225-709	96	C/HLD	225-1	102
m-Sulfobenzoic acid	OSHA CSI				180		1000		3		HPLC-UV	F/CST	225-3-01	90	C/HLD	225-1	102
Sulfur *(see dust, total & respirable nuisance)*																	
Sulfur dioxide	NIOSH 6004	1331	2	5	180	15	1000	1000	3	15	IC	CF/CST	225-9005	64	C/HLD	225-1	102
Sulfur dioxide	OSHA 1011		5 ppm		12	7.5	50	500	4	15	IC	ST	226-177	41			
Sulfur dioxide	OSHA ID 104		5		60	15	1000	1000	1	15	IC	F/CST IT	225-3-01 225-22	90 67	IMP	225-36-2	67
Sulfur dioxide	OSHA ID 200	1461	5		12	1.5	100	100	2	15	IC	ST	226-80	39			
Sulfur dioxide (using prefilter)	OSHA ID 200	1622	5		12	1.5	100	100	2	15	IC	ST CST	226-80 225-3-23	39 97	FLT C/HLD	225-2708 225-1	94 102
Sulfur hexafluoride by portable GC	NIOSH 6602	1023	1000		varies		20-100		varies		P GC-ECD	SB	232-03	or	SB	231-03	54
Sulfur monochloride	OSHA CSI			1		5		1000		5	IC	IMP	225-36-2	67	IT	225-22	67
Sulfur tetrafluoride	OSHA ID 110					5		1000		5	ISE	IMP	225-36-2	67	IT	225-22	67
Sulfuric acid	NIOSH 7908		0.2 mg/m³ *		960		2000		8		IC	PPI IS	225-381 225-388	112 95	FLT SP	225-1827 225-27	88 103
Sulfuric acid	NIOSH 7908		1 mg/m³		960		2000		8		IC-CD	CF/CST	225-9033	64	C/HLD	225-1	102
Sulfuric acid	OSHA ID 113	1465	1 mg/m³		480		2000		4		IC	F/CST	225-3-01	90	C/HLD	225-1	102
Sulfuric acid	OSHA ID 113		0.2 mg/m³ *		480		2000		4		IC	PPI IS	225-381 225-388	112 95	FLT SP	225-5 225-27	88 103
Sulfuric acid	OSHA ID 165SG		1 mg/m³		96		200		8		IC	ST	226-10-03	38			
Sulfuric acid mist	ASTM D 4856	1431			40		1000		40 min		IC	F/CST	225-3-01	90	C/HLD	225-1	102
Sulfuryl fluoride	NIOSH 6012		5	10	10		20		8		IC-CD	ST	226-16	38			
Sulfuryl fluoride	OSHA CSI		5		24	1.5	100	100	4	15	IC	ST	226-16	38			
Sulprofos	OSHA PV2037				240		1000		4		GC-FPD	ST	226-30-16	38			
Sulprofos (Organophosphorus Pesticides)	NIOSH 5600		1 mg/m³		240		1000		4		GC-FPD	ST	226-58	39			
Super absorbent polymers	NIOSH 5035				960		2000		8		ICP-AES or AA	F/CST	225-802	93	C/HLD	225-1	102
Syncephalastrum species (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST	225-3-01	90	C/HLD	225-1	102
Syncephalastrum species (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI	225-9611	120			
Systox *(see demeton)*																	
2,4,5-T	OSHA CSI		10 mg/m³		200		3000		1		HPLC-UV	F/CST	225-706	96	C/HLD	225-1	102
Talc (containing asbestos) *(see asbestos)*	OSHA ID 160																
Talc (respirable, with no asbestos)	OSHA CSI		20 mppcf		varies		varies		varies		GR	FLT CYC	225-5-37-P 225-105	93 110	C/HLD CST	225-1 225-3LF	102 97

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References and abbreviations are found on pages 212-213.

Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	Agency Standard CLG/STEL (ppm)	Vol. (liter) TWA Sample Time or Air Volume	Vol. (liter) CLG/STEL Sample Time or Air Volume	Rate (ml/min) TWA Flow/Sampling Rate	Rate (ml/min) CLG/STEL Flow/Sampling Rate	Time TWA (hrs)	Time CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
Tannin	OSHA CSI				60		1000		1		HPLC-UV	F/CST 225-706 96 C/HLD 225-1 102
Tantalum (metal, oxide dusts)	OSHA CSI		5 mg/m³		960		2000		8		GR	F/CST 225-803 93 C/HLD 225-1 102
2,4-TDI (toluene diisocyanate)	ASTM D 5932				15		1000		15		HPLC-UV-FD	CF/CST 225-9022 64 C/HLD 225-1 102
2,4-TDI (toluene diisocyanate)	NIOSH 5522		LFC		360	20	1000	2000	6	10	HPLC-FD	IMP 225-36-1 67 IT 225-22 67
2,4-TDI (toluene diisocyanate)	OSHA 42	1458		0.02 (C)	240	15	1000	1000	4	15	HPLC-UV or HPLC-FD	CF/CST 225-9002 or 102 C/HLD 225-1 CF/CST 225-9013 64
2,6-TDI (toluene diisocyanate)	ASTM D 5932				15		1000		15		HPLC-UV-FD	CF/CST 225-9022 64 C/HLD 225-1 102
2,6-TDI (toluene diisocyanate)	NIOSH 5522		LFC		360	20	1000	2000	6	10	HPLC-FD	IMP 225-36-1 67 IT 225-22 67
2,6-TDI (toluene diisocyanate)	OSHA 42	1458				15		2000		15	HPLC-UV or HPLC-FD	CF/CST 225-9002 or 102 C/HLD 225-1 CF/CST 225-9013 64
2,4-TDI (Toluene diisocyanate) (isocyanates)	OR-OSHA 1010		0.02	0.005	45	5	1000	1000	45 min	5	HPLC	IMP 225-36-1 67 IT 225-22 67 CF/CST 225-9029 64
2,6-TDI (Toluene diisocyanate) (isocyanates)	OR-OSHA 1010		0.02	0.005	45	5	1000	1000	45 min	5	HPLC	IMP 225-36-1 67 IT 225-22 67 CF/CST 225-9029 64
2, 4-TDI (toluene diisocyanate) (isocyanates, total)	NIOSH 5525		LFC		1-500		1000-2000		varies		HPLC-UV	FLT 225-7 ‡ 96 CST 225-4 97 SP 225-27 or IOM 225-76A 108 FLT 225-702 ‡ 96
2, 6-TDI (toluene diisocyanate) (isocyanates, total)	NIOSH 5525		LFC		1-500		1000-2000		varies		HPLC-UV	FLT 225-7 ‡ 96 CST 225-4 97 SP 225-27 or IOM 225-76A 108 FLT 225-702 ‡ 96
TEDP	OSHA CSI		0.2 mg/m³		480		1000		8		GC-FPD	ST 226-30-16 38
Tellurium	OSHA ID 121		0.1 mg/m³		960		2000		8		AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Tellurium	OSHA ID 132SG	1215	0.1 mg/m³		100 to 1000		1500 to 2000		varies		AA-GF	F/CST 225-3-01 90 C/HLD 225-1 102
Tellurium (Elements by Cellulosic Internal Capsule Sampler)	NIOSH 7306				7-2000		1000-4000		Varies		ICP-AES	SC 225-8517 90 C/HLD 225-1 102
Tellurium (Elements by ICP Aqua Regia Ashing)	NIOSH 7301		0.1 mg/m³		25-2000		1000-4000		varies		ICP-AES	F/CST 225-3-01 or 102 C/HLD 225-1 F/CST 225-803 ¥ 93
Tellurium (Elements by ICP HNO_3 Digestion))	NIOSH 7303		0.1 mg/m³		125-500,000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Tellurium (Elements by ICP HNO_3/$HClO_4$ Ashing)	NIOSH 7300	1455	0.1 mg/m³		25-2000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Tellurium (Elements on Wipes)	NIOSH 9102				wipe						ICP-AES	W 225-2414 140 TMP 225-2415 140 TMP 225-2403 or
Tellurium hexafluoride (as Te)	OSHA CSI		0.02		480		1000		8		AA	ST 226-01 38 F/CST 225-3-01 90
Temephos (respirable dust)	OSHA PV2056		5 mg/m³		varies		varies		varies		GC-FPD	F/CST 225-706 96 C/HLD 225-1 102
Temephos (total dust)	OSHA CSI		15 mg/m³		480		1000		8		GC-FPD	ST 226-30-16 38
TEPP	OSHA CSI		0.05 mg/m³		480		1000		8		GC-FPD	ST 226-30-16 38
Terbufos	OSHA CSI				480		1000		8		GC-FPD	ST 226-30-16 38
Terbufos (Organophosphorus Pesticides)	NIOSH 5600				240		1000		4		GC-FPD	ST 226-58 39
Terbuthiuron	ASTM D 4861				240-7200		1000-5000		4-24		HPLC-UV	PUF 226-92 44
Tergitol NP-33	OSHA CSI				100		1000		1.6		HPLC-UV	ST 226-57 39
Terpenes (screening)	NIOSH 2549				5		20		4		GC-MS	ST 226-330 42
Terpenes *(see specific compounds)*	NIOSH 1552	1463			24		50		8		GC-FID	ST 226-01 38
o-Terphenyl	NIOSH 5021			0.5		30		2000		15	GC-FID	F/CST 225-1713 94 C/HLD 225-1 102
o-Terphenyl *(see terphenyls)*	OSHA CSI											
Terphenyls	OSHA CSI			1 (C)		8.5		1700		5	HPLC-FD	F/CST 225-709 96 C/HLD 225-1 102
Terpineol	OSHA CSI				10		200		50 min		GC-FID	ST 226-01 38
Testosterone	OSHA PV2001				60		1000		1		HPLC-UV	F/CST 225-706 96 C/HLD 225-1 102
Tetrabromobisphenol A	OSHA CSI				100		1000		100 min		HPLC-UV	F/CST 225-706 96 C/HLD 225-1 102
1,1,2,2-Tetrabromoethane	NIOSH 2003				96		200		8		GC-FID	ST 226-10 38
Tetrabutyltin (organotin compounds as Sn)	NIOSH 5504		0.1 mg/m³		480		1000		8		HPLC & AA-GF	ST 226-30 38 F/CST 225-709 96 C/HLD 225-1 102
1,1,2,2-Tetrachloro-1,2-difluoroethane	NIOSH 1016		500		2		20		1.5		GC-FID	ST 226-01 38
1,1,2,2-Tetrachloro-1,2-difluoroethane	OSHA 07	1182	500		2		50		40 min		GC-FID	ST 226-01 38
1,1,1,2-Tetrachloro-2,2-difluoroethane	NIOSH 1016		500		2		20		1.5		GC-FID	ST 226-01 38
1,1,1,2-Tetrachloro-2,2-difluoroethane	OSHA 07	1181	500		2		50		40 min		GC-FID	ST 226-01 38
1,2,3,4-Tetrachlorobenzene	ASTM D 4861				240-7200		1000-5000		4-24		GC-ECD	PUF 226-124 44
1,2,3,5-Tetrachlorobenzene	OSHA CSI				12		100		2		GC-ECD	FLT 225-17-03 94 CST Special order ST 226-30-04 38 C/HLD 225-1 102
1,2,4,5-Tetrachlorobenzene (polychlorobenzenes)	NIOSH 5517				12		25		8		GC-ECD	FLT 225-17-03 94 CST Special order ST 226-30-04 38 C/HLD 225-1 102
2,3,7,8-Tetrachlorodibenzofuran	OSHA CSI				30		1000		0.5		NVM	IMP 225-36-1 67 IT 225-22 67
2,3,7,8-Tetrachlorodibenzo-p-dioxin	OSHA CSI				30		1000		0.5		NVM	IMP 225-36-1 67 IT 225-22 67

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Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	Agency Standard CLG/STEL (ppm)	Vol. (liter) TWA Sample Time or Air Volume	Vol. (liter) CLG/STEL	Rate (ml/min) TWA Flow/Sampling Rate	Rate (ml/min) CLG/STEL	Time TWA (hrs)	Time CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
1,1,1,2-Tetrachloroethane	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
1,1,2,2-Tetrachloroethane	ASTM D 5466				6		varies		varies		GC-MS	CAN 228 Series PK 228 Series
1,1,2,2-Tetrachloroethane	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
1,1,2,2-Tetrachloroethane	NIOSH 1019		1		24		50		8		GC-FID	ST 226-81A 39
1,1,2,2-Tetrachloroethane	NIOSH 2562		1		3-30		10-200		varies		GC-FID	ST NA SKC
1,1,2,2-Tetrachloroethane	OSHA 07		5		30		200		2.5		GC-FID	ST 226-81A 39
Tetrachloroethylene	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
Tetrachloroethylene	Indoor	1689					13.1 ml/min		8-24 hrs		TD, GC	PS 690-101 or PS 690-103 or PS 690-104 84
Tetrachloroethylene (hydrocarbons, halogenated)	NIOSH 1003		LFC		3		10-200		varies		GC-FID	ST 226-01 38
Tetrachloroethylene (perchloroethylene)	ASTM D 5466				6		varies		varies		GC-MS	CAN 228 Series PK 228 Series
Tetrachloroethylene (perchloroethylene)	OSHA 07		100	200	24		50		8		GC-FID	ST 226-01 38
Tetrachloroethylene (perchloroethylene)	OSHA 1001	1747	100	200 (C)	12	0.75	50	50	4	5	GC-FID	ST 226-01 38
Tetrachloroethylene (perchloroethylene)	OSHA 1001	1747	100	200 (C)			13.06		8	5	GC-FID	PS 575-002 75
Tetrachloroethylene (perchloroethylene) (portable GC)	NIOSH 3704		LFC		1		20-5000		varies		P GC	SB 232-01 55
Tetrachloronaphthalene	OSHA CSI		2 mg/m³		90		1000		1.5		GC-FID	ST 226-30-16 38
2,3,4,6-Tetrachlorophenol	OSHA 45				48		200		4		HPLC-UV	ST 226-97 40
Tetraethyl lead (as Pb)	NIOSH 2533		0.075 mg/m³		120		1000		2		GC-PID	ST 226-30-04 38
Tetraethyl lead (as Pb)	OSHA CSI		75 µg/m³		480		1000		8		AA	ST 226-01 38 F/CST 225-706 96 C/HLD 225-1 102
Tetraethyl pyrophosphate	NIOSH 2504		0.05 mg/m³		24		50		8		GC-FPD	ST NA SKC
Tetraethyl tin	OSHA 110		0.1 mg/m³		48	3	200	200	4	15	GC-FID	ST 226-95 40
Tetraethylene glycol	NIOSH 5523				60		1000		1		GC-FID	ST 226-57 39
Tetraethylene glycol diacrylate	OSHA CSI				10		20(50)		8(3.3)		HPLC-UV	ST 226-95 40
Tetraethylene glycol dimethacrylate	OSHA CSI				10		20(50)		8(3.3)		GC-FID	ST 226-95 40
Tetraethylenepentamine	OSHA CSI					15		1000		15	HPLC-UV	FLT 225-7 ‡ 96 CST 225-2LF 97 C/HLD 225-1 102
Tetrahydrofuran	NIOSH 1609		200	250	9	1.5	20(50)	100	7(3)	15	GC-FID	ST 226-01 38
Tetrahydrofuran	OSHA 07	1064	200		10	3	20(50)	200	8(3.3)	15	GC-FID	ST 226-01 38
Tetrahydrofurfuryl acrylate	OSHA PV2131		1 mg/m³		48		200		4		GC-FID	ST 226-110 40
Tetrakis(hydroxymethyl)phosphonium chloride	NIOSH 5046				1-480		1000-1700		varies		HPLC-UV	CF/CST 225-9003 64
Tetramethyl lead (as Pb)	NIOSH 2534		75 µg/m³		96		200		8		GC-PID	ST 226-30-06 38
Tetramethyl lead (as Pb)	OSHA CSI		75 µg/m³		480		1000		8		AA	F/CST 225-709 96 ST 226-01 38 C/HLD 225-1 102
Tetramethyl succinonitrile	OSHA 07	1183	0.5		10		20		8		GC-FID	ST 226-01 38
Tetramethyl thiouram disulfide *(see thiram)*												
Tetramethyl thiourea	NIOSH 3505				96		200		8		VAS	IMP 225-36-1 67 IT 225-22 67
Tetramethyl tin	OSHA PV2057		0.1 mg/m³		20		200		100 min		GC-FID	ST 226-01 38
1,2,3,4-Tetramethylbenzene	OSHA CSI				10		20(50)		8(3.3)		GC-FID	ST 226-01 38
1,2,3,5-Tetramethylbenzene	OSHA CSI				10		20(50)		8(3.3)		GC-FID	ST 226-01 38
1,2,4,5-Tetramethylbenzene	OSHA CSI				10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Tetramethyldiaminobenzophenone	OSHA CSI				180		1000		3		HPLC-UV	F/CST 225-709 96 C/HLD 225-1 102
N,N,N',N'-Tetramethylethylenediamine	OSHA CSI				480		1000		8		GC-NPD	IMP 225-36-1 67 IT 225-22 67
Tetranitromethane	NIOSH 3513		1		240		1000		4		GC-NPD	IMP 225-36-1 67 IT 225-22 67
Tetranitromethane	OSHA CSI		1		240		1000		4		GC-NPD	IMP 225-36-1 67 IT 225-22 67
Tetrasodium pyrophosphate	OSHA ID 111				960		2000		8		GR & IC	FLT 225-5-37-P 93 C/HLD 225-1 102 CST 225-2LF 97
Tetrasodium pyrophosphate	OSHA ID 121				960		2000		8		AA or AES	FLT 225-5-37-P 93 C/HLD 225-1 102 CST 225-2LF 97
Tetryl (2,4,6-trinitrophenyl-methylnitramine)	OSHA CSI		1.5 mg/m³		90		1500		1		CLR	F/CST 225-3-01 90 C/HLD 225-1 102
Thalium (Elements by ICP Aqua Regia Ashing)	NIOSH 7301		0.1 mg/m³ (skin, sol)		25-2000		1000-4000		varies		ICP-AES	F/CST 225-3-01 or F/CST 225-803 ¥ 93 C/HLD 225-1 102
Thallium (Elements by Cellulosic Internal Capsule Sampler)	NIOSH 7306		0.1 mg/m³ (skin)		7-2000		1000-4000		Varies		ICP-AES	SC 225-8517 90 C/HLD 225-1 102
Thallium (Elements by ICP HNO_3 Digestion))	NIOSH 7303		0.1 mg/m³ (skin, sol)		35-500,000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Thallium (Elements by ICP HNO_3/$HClO_4$ Ashing)	NIOSH 7300	1455	0.1 mg/m³ (skin, sol)		25-2000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Thallium (Elements on Wipes)	NIOSH 9102				wipe						ICP-AES	W 225-2414 140 TMP 225-2403 or TMP 225-2415 140

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References and abbreviations are found on pages 212-213.

Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	CLG/STEL (ppm)	Vol. (liter) TWA Sample Time or Air Volume	CLG/STEL	Rate (ml/min) TWA Flow/Sampling Rate	CLG/STEL	Time TWA (hrs)	CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
Thallium (soluble compounds) (as Tl)	OSHA ID 121	1202	0.1 mg/m³		960		2000		8		AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Thimet (phorate)	OSHA CSI				480	15	1000	1000	8	15	GC-FPD	ST 226-30-16 38
Thiobencarb (Organonitrogen Pesticides)	NIOSH 5601				240		1000		4		HPLC-UV	ST 226-58 or ST 226-30-16 38
4,4'-Thiobis(6-tert-butyl-m-cresol) (respirable dust)	OSHA CSI		5 mg/m³		varies		varies		varies		HPLC-UV	F/CST 225-706 96 C/HLD 225-1 102 CYC 225-105 110
4,4'-Thiobis(6-tert-butyl-m-cresol) (total dust)	OSHA CSI		15 mg/m³		60		1000		1		HPLC-UV	F/CST 225-706 96 C/HLD 225-1 102
Thioglycolic acid	OSHA CSI				120		1000		2		HPLC-UV	IMP 225-36-1 67 IT 225-22 67
Thionyl chloride	OSHA CSI					15		1000		15	IC	IMP 225-36-2 67 IT 225-22 67
Thiophanate	OSHA CSI				180		1000		3		HPLC-UV	F/CST 225-709 96 C/HLD 225-1 102
Thiophanate-methyl	OSHA PV2058				240		1000		4		HPLC-UV	F/CST 225-709 96 C/HLD 225-1 102
Thiophanate-methyl in air	NIOSH 5606				20-480		10-1000		varies		HPLC-UV	ST 226-58 39
Thiophene	OSHA CSI				48		100		8		GC-FPD	ST 226-01 38
Thiourea	OSHA PV2059				480		2000		4		HPLC-UV	F/CST 225-706 96 C/HLD 225-1 102
Thiram	NIOSH 5005		5 mg/m³		120		1000		2		HPLC-UV	FLT 225-17-01 94 C/HLD 225-1 102 CST 225-2LF 97
Thorium	OSHA CSI				960		2000		8		N ACT	F/CST 225-3-01 90 C/HLD 225-1 102
L-Thyroxine	OSHA PV2117				240		1000		4		HPLC-UV	F/CST 225-709 96 C/HLD 225-1 102
Tin (Elements by Cellulosic Internal Capsule Sampler)	NIOSH 7306		2 mg/m³		1-2000		1000-4000		Varies		ICP-AES	SC 225-8517 90 C/HLD 225-1 102
Tin (Elements by ICP Aqua Regia Ashing)	NIOSH 7301		2 mg/m³		5-1000		1000-4000		varies		ICP-AES	F/CST 225-3-01 or F/CST 225-803 ¥ 93 C/HLD 225-1 102
Tin (Elements by ICP HNO_3 Digestion))	NIOSH 7303		2 mg/m³		1-25000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Tin (Elements by ICP HNO_3/$HClO_4$ Ashing)	NIOSH 7300	1455	2 mg/m³		5-1000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Tin (ICP analysis of metal/metalloid particulates from solder operations)	OSHA ID 206		2 mg/m³		480		2000		4		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Tin (inorganic compounds, except oxides) (as Sn)	OSHA ID 121	1201	2 mg/m³		960		2000		8		AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Tin (organic compounds) (as Sn) (organotin compounds)	NIOSH 5504		0.1 mg/m³		480		1000		8		HPLC & AA-GF	ST 226-30 38 F/CST 225-706 96 C/HLD 225-1 102
Tin (organic compounds, *see specific compounds*) (as Sn)	OSHA CSI											
Tin oxide ((Stannous Oxide) as Sn)	OSHA ID 121	1200	0.1 mg/m³		960		2000		8		AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Titanium (Elements by Cellulosic Internal Capsule Sampler)	NIOSH 7306				Varies		1000-4000		Varies		ICP-AES	SC 225-8517 90 C/HLD 225-1 102
Titanium (Elements by ICP Aqua Regia Ashing)	NIOSH 7301				5-1000		1000-4000		varies		ICP-AES	F/CST 225-3-01 or F/CST 225-803 ¥ 93 C/HLD 225-1 102
Titanium (Elements by ICP HNO_3 Digestion))	NIOSH 7303				0.1-10,000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Titanium (Elements by ICP HNO_3/$HClO_4$ Ashing)	NIOSH 7300	1455			5-100		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Titanium *(see titanium dioxide)*	OSHA CSI											
Titanium dioxide (particulates, respirable)	NIOSH 0600	1038			375		2500		2.5		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CYC 225-01-02 111 CST 225-3LF 97
Titanium dioxide (particulates, total)	NIOSH 0500	1035			120		2000		1		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CST 225-2LF 97
Titanium dioxide (total dust)	OSHA CSI		15 mg/m³		960		2000		8		GR	F/CST 225-803 93 C/HLD 225-1 102
TNT (2,4,6-trinitrotoluene)	OSHA 44		1.5 mg/m³		60		1000		1		GC-TEA-EAP	ST 226-56 39
o-Tolidine	OSHA 71	1236			100		1000		100 min		GC-ECD	CF/CST 225-9004 64 C/HLD 225-1 102
o-Tolidine based dyes	OSHA CSI				480		1000		8		HPLC-UV	FLT 225-17A 94 C/HLD 225-1 102 CST 225-3LF 97
o-Tolidine dyes (dyes, benzidine)	NIOSH 5013		LFC		480		1000		8		HPLC-UV	FLT 225-17A 94 C/HLD 225-1 102 CST 225-3LF 97
m-Tolualdehyde	ASTM D 5197				varies		500-1200		5 min-24 hrs		HPLC-UV	ST 226-120 ° or ST 226-119 40
o-Tolualdehyde	ASTM D 5197				varies		500-1200		5 min-24 hrs		HPLC-UV	ST 226-120 ° or ST 226-119 40
p-Tolualdehyde	ASTM D 5197				varies		500-1200		5 min-24 hrs		HPLC-UV	ST 226-120 ° or ST 226-119 40
o-Toluamide	OSHA CSI		5 mg/m³		240		1000		4		HPLC	F/CST 225-709 96 C/HLD 225-1 102
Toluene	ASTM D 5466				6		varies		varies		GC-MS	CAN 228 Series PK 228 Series
Toluene	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 CPC 224-26-CPC 51 TH 224-26-02 51
Toluene	OSHA 07		200	300	10	3	20(50)	200	8(3.3)	15	GC-FID	ST 226-01 38
Toluene	OSHA 111	1748	200	300 (C)	12	0.5	50	50	4	10	GC-FID	ST 226-81A 39 ST 226-01 38
Toluene (Hydrocarbons, Aromatic)	NIOSH 1501		100	150	1-8	1-8	10-200	10-200	varies	varies	GC-FID	ST 226-01 38
2,4-Toluene diisocyanate	ASTM D 5836	1432			15		1000		15		HPLC-UV or HPLC-FD	CF/CST 225-9002 64 C/HLD 225-1 102
2,4-Toluene diisocyanate	ASTM D 5932				15		1000		15		HPLC-UV-FD	CF/CST 225-9022 64 C/HLD 225-1 102

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References and abbreviations are found on pages 212-213.

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Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	Agency Standard CLG/STEL (ppm)	Vol. (liter) TWA Sample Time or Air Volume	Vol. (liter) CLG/STEL Sample Time or Air Volume	Rate (ml/min) TWA Flow/Sampling Rate	Rate (ml/min) CLG/STEL Flow/Sampling Rate	Time TWA (hrs)	Time CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
2,4-Toluene diisocyanate	OSHA 42	1458		0.02 (C)	240	15	1000	1000	4	15	HPLC-UV or HPLC-FD	CF/CST 225-9002 or 102 C/HLD 225-1 CF/CST 225-9013 64
2,6-Toluene diisocyanate	ASTM D 5836	1432			15		1000		15		HPLC-UV or HPLC-FD	CF/CST 225-9002 64 C/HLD 225-1 102
2,6-Toluene diisocyanate	ASTM D 5932				15		1000		15		HPLC-UV-FD	CF/CST 225-9022 64 C/HLD 225-1 102
2,6-Toluene diisocyanate	OSHA 42	1458			240		1000		4		HPLC-UV or HPLC-FD	CF/CST 225-9002 or 102 C/HLD 225-1 CF/CST 225-9013 64
2,4-Toluene diisocyanate (isocyanates)	NIOSH 5521		LFC		480	10	1000	1000	8	10	HPLC-ELCHM & HPLC-UV	IMP 225-36-1 67 IT 225-22 67
2,4-Toluene diisocyanate (isocyanates)	OR-OSHA 1010		0.02	0.005	45	5	1000	1000	45 min	5	HPLC	IMP 225-36-1 67 IT 225-22 67 CF/CST 225-9029 64
2,6-Toluene diisocyanate (isocyanates)	NIOSH 5521		LFC		480		1000		8		HPLC-ELCHM & HPLC-UV	IMP 225-36-1 67 IT 225-22 67
2,6-Toluene diisocyanate (isocyanates)	OR-OSHA 1010		0.02	0.005	45	5	1000	1000	45 min	5	HPLC	IMP 225-36-1 67 IT 225-22 67 CF/CST 225-9029 64
2,4-Toluene diisocyanate (isocyanates, total)	NIOSH 5525		LFC		1-500		1000-2000		varies		HPLC-UV	FLT 225-7 ‡ 96 CST 225-4 97 SP 225-27 or IOM 225-76A 108 FLT 225-702 ‡ 96
2,6-Toluene diisocyanate (isocyanates, total)	NIOSH 5525		LFC		1-500		1000-2000		varies		HPLC-UV	FLT 225-7 ‡ 96 CST 225-4 97 SP 225-27 or IOM 225-76A 108 FLT 225-702 ‡ 96
p-Toluene sulfonic acid	NIOSH 5043				960	45	2000	3000	8	15	HPLC-UV	FLT 225-16 96 CST 225-32 102
p-Toluene sulfonic acid	OSHA CSI				120		1000		2		HPLC-UV	IMP 225-36-1 67 IT 225-22 67
Toluene-2,4-diamine	OSHA 65	1237		0.02 (C)	100		1000		100 min		GC-ECD	CF/CST 225-9004 64 C/HLD 225-1 102
2,4-Toluenediamine	NIOSH 5516		LFC		480		1000		8		HPLC-UV	IMP 225-36-1 67 IT 225-22 67
2,4-Toluenediamine	OSHA 65	1237		0.02 (C)	100		1000		100 min		GC-ECD	CF/CST 225-9004 64 C/HLD 225-1 102
2,6-Toluenediamine	NIOSH 5516		LFC		480		1000		8		HPLC-UV	IMP 225-36-1 67 IT 225-22 67
2,6-Toluenediamine	OSHA 65	1237			100		1000		100 min		GC-ECD	CF/CST 225-9004 64 C/HLD 225-1 102
2,6-Toluenediamine	OSHA 65	1237			100		1000		100 min		GC-ECD	CF/CST 225-9004 64 C/HLD 225-1 102
m-Toluidine	OSHA 73	1230			100		1000		100 min		GC-ECD	CF/CST 225-9004 64 C/HLD 225-1 102
o-Toluidine	NIOSH 2017		LFC		24		200		2		GC-FID	CF/CST 225-9004 64 ST 226-15 38
o-Toluidine	OSHA 73	1230	5		100		1000		100 min		GC-ECD	CF/CST 225-9004 64 C/HLD 225-1 102
p-Toluidine	OSHA 73	1230			100		1000		100 min		GC-ECD	CF/CST 225-9004 64 C/HLD 225-1 102
o-Toluidine (Amines, Aromatic)	NIOSH 2002	1057	LFC		48		100		8		GC-FID or GC-NSD	ST 226-10 38
o-Toluidine based dyes	OSHA CSI				480		1000		8		HPLC-UV	FLT 225-17-04 94 CST 225-3LF 97 C/HLD 225-1 102
Torak	OSHA CSI										W	W 225-2401A 140
Torula species (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST 225-3-01 90 C/HLD 225-1 102
Torula species (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI 225-9611 120
Toxaphene *(see chlorinated camphene)*												
Tremolite *(see asbestos fibers)*	NIOSH 7400											
Tremolite fibers *(see asbestos)*	OSHA ID 160											
Trially isocyanurate	OSHA CSI				10		20(50)		8(3.3)		GC-NPD	ST 226-01 38
Triazine pesticides	ASTM D 4861				960		2000		8		GC-ECD	PUF 226-92 44
Tributyl phosphate	NIOSH 5034		0.2		90		1500		1		GC-FPD	F/CST 225-3-01 90 C/HLD 225-1 102
Tributyl phosphate	OSHA CSI		5 mg/m³		90		1500		1		GC-FPD	F/CST 225-3-01 90 C/HLD 225-1 102
Tributyl phosphorotrithioate	OSHA CSI				480		1000		8		GC-FPD	IMP 225-36-1 67 IT 225-22 67
Tributyl phosphorotrithioate	OSHA CSI				480		1000		8		GC-FID	IMP 225-36-1 67 IT 225-22 67
Tributyltin benzoate {tin, organic compounds (as Sn)}	OSHA ID 222SG				200		2000		100 min		AA-GF	F/CST 225-803 93 C/HLD 225-1 102
Tributyltin chloride (organotin compounds as Sn)	NIOSH 5504		0.1 mg/m³		480		1000		8		HPLC & AA-GF	ST 226-30 38 F/CST 225-709 96 C/HLD 225-1 102
Tributyltin fluoride {tin, organic compounds (as Sn)}	OSHA ID 223SG				200		2000		100 min		AA-GF	F/CST 225-803 93 C/HLD 225-1 102
Tributyltin neodecanoate *(see tin, organic compounds)*												
Trichlorfon	OSHA CSI				390		1000		6.5		GC-FPD	ST 226-30-16 38
1,1,2-Trichloro-1,2,2-trifluoroethane	OSHA 113		1000		1		50		20 min		GC-FID	ST NA SKC
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	NIOSH 1020	1061	1000	1250	2.4	0.3	20	20	2	15	GC-FID	ST 226-01 38
1,1,1-Trichloro-2,2,2-trifluoroethane	OSHA CSI				3		20		2.5		GC-FID	ST 226-01 38
Trichloroacetic acid	OSHA PV2017				10		200		50		HPLC-UV	ST 226-10 38

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Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	CLG/STEL (ppm)	Vol. (liter) TWA	CLG/STEL Sample Time or Air Volume	Rate (ml/min) TWA	CLG/STEL Flow/Sampling Rate	Time TWA (hrs)	CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
1,2,3-Trichlorobenzene	ASTM D 4861				240-7200		1000- 5000		4 to 24		GC-ECD	PUF 226-124 44
1,2,3-Trichlorobenzene	OSHA CSI				12		50		4		GC-ECD	FLT 225-17-03 94 ST 226-30-04 38 CST Special order 102 C/HLD 225-1
1,2,4-Trichlorobenzene	ASTM D 5466				6		varies		varies		GC-MS	CAN 228 Series PK 228 Series
1,2,4-Trichlorobenzene	OSHA CSI					5		1000		5	GC-ECD	FLT 225-17-03 94 ST 226-30-04 38 CST Special order 102 C/HLD 225-1
1,2,4-Trichlorobenzene (polychlorobenzenes)	NIOSH 5517			5	12	3	25	200	8	15	GC-ECD	FLT 225-17-03 94 ST 226-30-04 38 CST Special order 102 C/HLD 225-1
1,1,2-Trichloroethane	ASTM D 5466				6		varies		varies		GC-MS	CAN 228 Series PK 228 Series
1,1,2-Trichloroethane	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 CPC 224-26-CPC 51 TH 224-26-02 51
1,1,2-Trichloroethane	OSHA 11	1071	10		10		200		1		GC-FID	ST 226-01 38
1,1,2-Trichloroethane (hydrocarbons, halogenated)	NIOSH 1003		10 (skin)		10		10-200		varies		GC-FID	ST 226-01 38
1,1,1-Trichloroethane (methyl chloroform)	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 CPC 224-26-CPC 51 TH 224-26-02 51
1,1,1-Trichloroethane (methyl chloroform) (hydrocarbons, halogenated)	NIOSH 1003			350		3		10-200		varies	GC-FID	ST 226-01 38
Trichloroethylene	ASTM D 5466				6		varies		varies		GC-MS	CAN 228 Series PK 228 Series
Trichloroethylene	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 CPC 224-26-CPC 51 TH 224-26-02 51
Trichloroethylene	NIOSH 1022		25	2 (1 hr)	10	2	20(50)	200	8(3.3)	10	GC-FID	ST 226-01 38
Trichloroethylene	OSHA 07	1184	100	200 (C)	10	3	20(50)	200	8(3.3)	15	GC-FID	ST 226-01 38
Trichloroethylene	OSHA 1001	1747	100	200 (C)	12	0.75	50	50	4	5	GC-FID	ST 226-01 38
Trichloroethylene	OSHA 1001	1747	100	200 (C)			14.24		8	5	GC-FID	PS 575-002 75
Trichloroethylene (hydrocarbons, halogenated)	NIOSH 1003				10		10-200		varies		GC-FID	ST 226-01 38
Trichloroethylene by portable GC	NIOSH 3701	1030	25	2 (1 hr)	varies	varies	20-50	varies	varies	varies	P GC-PID	SB 232 Series 55
Trichlorofluoromethane (fluorotrichloromethane)	NIOSH 1006			1000		5		20		240	GC-FID	ST 226-09 38
Trichloronaphthalene	OSHA CSI		5 mg/m³		90		1000		1.5		GC-ECD	ST 226-30-16 38
Trichloronitromethane	NON 51		0.1		144		100		24		GC-MSD	ST 226-175 41
2,4,5-Trichlorophenol	ASTM D 4861				240-7200		1000- 5000		4 to 24		GC-ECD	PUF 226-92 44
2,4,5-Trichlorophenoxyacetic acid *(see 2,4,5-T)*												
1,2,3-Trichloropropane	OSHA 07	1185	50		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
1,2,3-Trichloropropane (hydrocarbons, halogenated)	NIOSH 1003		10 (skin)		0.6-60		10-200		varies		GC-FID	ST 226-01 38
2,3,6-Trichlorotoluene	OSHA CSI				10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Trichoderma species (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST 225-3-01 90 C/HLD 225-1 102
Trichoderma species (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI 225-9611 120
Tricyclohexyltin hydroxide (organotin compounds as Sn)	NIOSH 5504		0.1 mg/m³		480		1000		8		HPLC & AA-GF	ST 226-30 38 C/HLD 225-1 102 F/CST 225-709 96
Tridymite *(see Silica, respirable crystalline)*	OSHA ID 142											
Tridymite (silica, crystalline (respirable)) by XRD	NIOSH 7500	1370	0.05 mg/m³		400-1000		2500		varies		XRD	F/CST 225-803 93 C/HLD 225-1 102 CYC 225-01-02 111
Tridymite (Silica, crystalline by IR)	NIOSH 7602		0.05 mg/m³		400-800		2500		varies		IR	F/CST 225-803 93 CYC 225-01-02 111 C/HLD 225-1 102
Triethanolamine (TEA)	OSHA PV2141				120		1000		2		GC-FID	F/CST 225-709 96 C/HLD 225-1 102
Triethanolamine (TEA) (Aminoethanol Compounds II)	NIOSH 3509				240		1000		4		IC	IMP 225-36-1 67 IT 225-22 67
Triethylamine	OSHA PV2060		25		5	3	100	200	50 min	15	GC-FID	ST 226-98 40
Triethylene glycol	NIOSH 5523				60		1000		1		GC-FID	ST 226-57 39
Triethylenetetramine (TETA)	OSHA 60	1286			10		100		100 min		HPLC-UV	ST 226-30-18 38
Trifluorobromomethane	NIOSH 1017		1000		1		20		50 min		GC-FID	ST 226-01 38 ST 226-09 38
2,2,2-Trifluoroethanol	OSHA CSI				5		20		4		GC-FID	ST 226-01 38
Trifluoromonobromomethane	OSHA 07		1000		1		20		50 min		GC-FID	ST 226-01 38 ST 226-09 38
Trifluoromonobromomethane (trifluorobromomethane)	NIOSH 1017		1000		1		20		50 min		GC-FID	ST 226-01 38 ST 226-09 38
Trifluralin	ASTM D 4861				240-7200		1000- 5000		4 to 24		GC-ECD	PUF 226-92 44
Trifluralin	OSHA CSI				48		100		8		HPLC-UV	ST 226-56 39
1,3,5-Triglycidyl isocyanurate	OSHA PV2055				60		1000		1		GC-ECD	CF/CST 225-9027 64 C/HLD 225-1 102
Trimellitic anhydride (TMA)	NIOSH 5036		0.005 (10 hr)		960		2000		8		GC-FID	F/CST 225-802 93 C/HLD 225-1 102
Trimellitic anhydride (TMA)	OSHA 98				480		2000		4		HPLC-UV	CF/CST 225-9010 †† 64 C/HLD 225-1 102
2,2,4-Trimethyl-1,3-pentanediol diisobutyrate	OSHA PV2002				10		100		100 min		GC-FID	ST 226-110 40
Trimethylamine	OSHA CSI				10	1.5	100	100	100 min	15	GC-NPD	ST 226-98 40
1,2,3-Trimethylbenzene	OSHA PV2091				10		100		100 min		GC-FID	ST 226-01 38
1,2,4-Trimethylbenzene	ASTM D 5466				6		varies		varies		GC-MS	CAN 228 Series PK 228 Series

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Agency standards for OSHA listings represent the OSHA PELs reported in the 29 CFR 1910.1000 Part 1910, Section 1000.

References and abbreviations are found on pages 212-213.

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Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	CLG/STEL (ppm)	Vol. (liter) TWA	CLG/STEL	Rate (ml/min) TWA	CLG/STEL	Time TWA (hrs)	CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
					Sample Time or Air Volume		Flow/Sampling Rate					
1,2,4-Trimethylbenzene	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
1,2,4-Trimethylbenzene	OSHA PV2091				10		100		100 min		GC-FID	ST 226-01 38
1,3,5-Trimethylbenzene	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
1,3,5-Trimethylbenzene (mesitylene)	ASTM D 5466				6		varies		varies		GC-MS	CAN 228 Series PK 228 Series
1,3,5-Trimethylbenzene (mesitylene)	OSHA PV2091				10		100		100 min		GC-FID	ST 226-01 38
3,5,5-Trimethylcyclohex-2-enone (isophorone)	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
Trimethylolethane trinitrate	OSHA CSI				15		1000		15 min		HPLC-UV	ST 226-35-03 39
Trimethylolpropane triacrylate	OSHA CSI				10		20(50)		8(3.3)		HPLC-UV	ST 226-95 40
Trimethyltin dichloride	NIOSH 5526		0.1 mg/m³		60	60	250	1000	4	60	GC-FPD	ST 226-30-16 38
2,4,7-Trinitro-9-fluorenone	OSHA CSI				480		1000		8		HPLC-UV	FLT 225-17A 94 CST 225-3LF 97 C/HLD 225-1 102
2,4,7-Trinitrofluoren-9-one	NIOSH 5018				480		3000		2.7		HPLC-UV	FLT 225-17-04 94 CST 225-3LF 97 C/HLD 225-1 102
2,4,6-Trinitrotoluene (TNT)	OSHA 44		1.5 mg/m³		60		1000		1		GC-TEA-EAP	ST 226-56 39
Triorthocresyl phosphate	NIOSH 5037		0.1 mg/m³		90		1000		1.5		GC-FPD	F/CST 225-3-01 90 C/HLD 225-1 102
Triphenyl phosphate	NIOSH 5038		3 mg/m³		240		1000		4		GC-FPD	F/CST 225-3-01 90 C/HLD 225-1 102
Triphenyl tin chloride (as Sn)	NIOSH 5527		0.1 mg/m³ (skin)		100-2000		1000-4000		varies		HPLC & ICP-AES	FLT 225-5-37-P 93 C/HLD 225-1 102
Triphenylamine	OSHA CSI				240		1000		4		HPLC-UV	IMP 225-36-2 67 IT 225-22 67
Triphenyltin fluoride (tin, organic compounds [as Sn])	OSHA CSI		0.1 mg/m³		960		2000		8		AA-GF	F/CST 225-709 96 C/HLD 225-1 102
Triphenyltin hydroxide {tin, organic compounds (as Sn)}	OSHA ID 225SG		0.1 mg/m³		200		2000		100 min		AA-GF	F/CST 225-709 96 C/HLD 225-1 102
Tripoli *(see Silica, respirable crystalline)*	OSHA ID 142											
Tripropylene glycol diacrylate	OSHA CSI				10		20(50)		8(3.3)		HPLC-UV	ST 226-95 40
Tripropylene glycol diacrylate (TPGDA)	NON 39				480		1000		8		GC-FID	ST 226-56 39
Trydymite (silica, crystalline by VAS)	NIOSH 7601	1041	0.05 mg/m³		400-800		2500		varies		VAS	F/CST 225-803 93 C/HLD 225-1 102 CYC 225-01-02 111
Trypsin	OSHA CSI				480		2000		4		IRA	F/CST 225-1713 94 C/HLD 225-1 102
Tuberculosis (mycobacterium tuberculosis), airborne	NIOSH 0900				1920		4000		8		PCR	FLT 225-2705 94 SP 225-27 103 CST 225-3LF 97 C/HLD 225-1 102
Tungsten & compounds (insoluble) (as W)	OSHA ID 213				480	30	2000	2000	4	15	ICP	F/CST 225-3-01 90 C/HLD 225-1 102
Tungsten & compounds (soluble) (as W)	OSHA ID 213				480	30	2000	2000	4	15	ICP	F/CST 225-3-01 90 C/HLD 225-1 102
Tungsten (Elements by Cellulosic Internal Capsule Sampler)	NIOSH 7306		5 mg/m³	10 mg/m³	Varies		1000-4000		Varies		ICP-AES	SC 225-8517 90 C/HLD 225-1 102
Tungsten (Elements by ICP Aqua Regia Ashing)	NIOSH 7301		5 mg/m³	10 mg/m³	50-1000	50-1000	1000-4000	1000-4000	varies	varies	ICP-AES	F/CST 225-3-01 or F/CST 225-803 ¥ 93 C/HLD 225-1 102
Tungsten (Elements by ICP HNO_3/$HClO_4$ Ashing)	NIOSH 7300	1455	5 mg/m³	10 mg/m³	5-1000	5-1000	1000-4000	1000-4000	varies	varies	ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Tungsten insoluble	NIOSH 7074		5 mg/m³	10 mg/m³	480		1000		8		AA-F	F/CST 225-3-01 90 C/HLD 225-1 102
Tungsten soluble	NIOSH 7074		1 mg/m³	3 mg/m³	480		1000		8		AA-F	F/CST 225-3-01 90 C/HLD 225-1 102
Turpentine	NIOSH 1551		100		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
n-Undecane	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 TH 224-26-02 51 CPC 224-26-CPC 51
n-Undecane (hydrocarbons, BP 36 to 216 C)	NIOSH 1500		2		2		10 - 50		varies		GC-FID	ST 226-01 38
Uranium (as U) soluble compounds	OSHA CSI		0.05 mg/m³		960		2000		8		DPCSP	F/CST 225-803 93 C/HLD 225-1 102
Uranium (insoluble compounds)	OSHA CSI		0.25 mg/m³		960	30	2000	2000	8	15	ICP	F/CST 225-3-01 90 C/HLD 225-1 102
Uranium (soluble compounds)	OSHA ID 170SG		0.05 mg/m³		240		2000		2		POL	F/CST 225-803 93 C/HLD 225-1 102
Urea pesticides	ASTM D 4861				240-7200		1000-5000		4 to 24		GC-ECD	PUF 226-92 44
n-Valeraldehyde	ASTM D 5197				varies		500-1200		5 min to 24 hrs		HPLC-UV	ST 226-120 ° or ST 226-119 40
n-Valeraldehyde	NIOSH 2536		50		10		20		8		GC-FID	ST 226-118 40
n-Valeraldehyde	OSHA 85				3		50		1		HPLC-UV	CF/CST 225-9020 64 C/HLD 225-1 102
n-Valeraldehyde (Aldehydes, Screening)	NIOSH 2539		50		5		20		4		GC-FID & GC-MS	ST 226-118 40
Vanadium (Elements by ICP HNO_3 Digestion))	NIOSH 7303		0.05 mg/m³		2.5-500,000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Vanadium (Elements by ICP HNO_3/$HClO_4$ Ashing)	NIOSH 7300	1455	0.05 mg/m³		5-2000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Vanadium (Elements by Cellulosic Internal Capsule Sampler)	NIOSH 7306		0.05 mg/m³ C (as pentoxide)		Varies		1000-4000		Varies		ICP-AES	SC 225-8517 90 C/HLD 225-1 102
Vanadium (Elements by ICP Aqua Regia Ashing)	NIOSH 7301		0.05 mg/m³		5-2000		1000-4000		varies		ICP-AES	F/CST 225-3-01 or F/CST 225-803 ¥ 93 C/HLD 225-1 102
Vanadium (Elements on Wipes)	NIOSH 9102				wipe						ICP-AES	W 225-2414 140 TMP 225-2403 or TMP 225-2415 140

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References and abbreviations are found on pages 212-213.

Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	Agency Standard CLG/STEL (ppm)	Vol. (liter) TWA Sample Time or Air Volume	Vol. (liter) CLG/STEL Sample Time or Air Volume	Rate (ml/min) TWA Flow/Sampling Rate	Rate (ml/min) CLG/STEL Flow/Sampling Rate	Time TWA (hrs)	Time CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
Vanadium fume (as V_2O_5)	OSHA ID 125G		0.05 mg/m³	0.1	480	20	2000	1000	4	20	ICP-AES	F/CST 225-3-01 or 225-3100; F/CST 225-803 or 225-8215; C/HLD 225-1 102
Vanadium oxides	NIOSH 7504			0.05 mg/m³ (15 min)	600		2600		4		XRD	F/CST 225-803 93; CYC 225-01-02 111; C/HLD 225-1 102
Vanadium pentoxide (V_2O_5) *(see vanadium oxides)*	NIOSH 7504											
Vanadium pentoxide (V_2O_5) (confirmation of)	OSHA ID 185		0.05 mg/m³	0.05 mg/m³	varies		varies		varies		XRD	F/CST 225-803 93; C/HLD 225-1 102; CYC 225-105 110
Vanadium respirable dust (as V_2O_5)	OSHA ID 125G			0.5 mg/m³		varies		varies		varies	ICP-AES	F/CST 225-3-01 90; C/HLD 225-1 102; CYC 225-105 110
Vanadium trioxide *(see vanadium oxides)*	NIOSH 7504											
Vegetable oil mist *(see dust, respirable & total nuisance)*	OSHA CSI											
Vermiculite *(see dust, total & respirable nuisance)*												
Verticillium species (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST 225-3-01 90; C/HLD 225-1 102
Verticillium species (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI 225-9611 120
Vinyl acetate	NON 21				24		50		8		GC	ST 226-68 39
Vinyl acetate	OSHA 51				24	3	100	200	4	15	GC-FID	ST NA SKC
Vinyl bromide	NIOSH 1009		LFC		10		20(50)		8(3.3)		GC-FID	ST 226-09 38
Vinyl bromide	OSHA 08	1074			5		20		4		GC-FID	ST 226-01 38
Vinyl chloride	ASTM D 4766	1434			24		100 or 50		4 or 8		GC-FID	ST 226-16 38
Vinyl chloride	ASTM D 5466				6		varies		varies		GC-MS	CAN 228 Series PK 228 Series
Vinyl chloride	NIOSH 1007		LFC		5		50		1.6		GC-FID	ST 226-01 38
Vinyl cyclohexene dioxide	OSHA PV2083				10		20(50)		8(3.3)		GC-FID	ST 226-30 38
Vinyl toluene	OSHA 07		100		10		20(50)		8(3.3)		GC-FID	ST 226-01 38
Vinyl toluene (methyl styrene)	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST CPC 226-300 Series 224-26-CPC 42 51 TH 224-26-02 51
N-Vinyl-2-pyrrolidinone	OSHA PV2106				10		100		100 min		GC-FID	ST 226-01 38
Vinylidene chloride	ASTM D 5466				6		varies		varies		GC-MS	CAN 228 Series PK 228 Series
Vinylidene chloride	NIOSH 1015		LFC		5		20		4		GC-FID	ST 226-01 38
Vinylidene chloride	OSHA 19				3	3	200	200	15 min	15	GC-FID	ST 226-01 38
Viruses (in air)	NON 48				62.5-375		12500 +		5-30		varies	BS 225-9595 122 VT 225-9598A◊ 122
VM&P naphtha	OSHA 48				3	3	20	200	2.5	15	GC-FID	ST 226-01 38
VM&P naphtha (naphthas)	NIOSH 1550		350 mg/m³	1800 mg/m³	10	3	20(50)	200	8(3.3)	15	GC-FID	ST 226-01 38
Volatile organic compounds (screening)	NIOSH 2549				5		20		4		GC-MS	ST 226-330 42
Volatile organic compounds (VOCs) (canister)	EPA TO-14A	1676			varies		varies		varies		GC-MS	CAN 228 Series PK 228 Series
Volatile organic compounds (VOCs) (canister)	EPA TO-15	1676			varies		varies		varies		GC-MS	CAN 228 Series PK 228 Series
Volatile organic compounds (VOCs) (sample bag)	EPA 0040	1665					250-1000 ml/min		1-2 hrs		GC-MS	VAC 231-939 or 231-940 with; SB 236-004 or 232-939 or; SB 236-001 or SB 232-01
Volatile organic compounds (VOCs) (thermal desorption tube)	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST CPC 226-300 Series 224-26-CPC 42 51 TH 224-26-02 51
VOST (volatile organic sampling train)	EPA 0031				20 min		1 L/min		20 min		TD, GC-MS	ST 226-134 £ 41 ST Special Order
Vydate (oxamyl)	OSHA CSI				60		1000		1		HPLC	ST 226-30-16 38
Wallemia species (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST 225-3-01 90 C/HLD 225-1 102
Wallemia species (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI 225-9611 120
Warfarin	NIOSH 5002		0.1 mg/m³		360		1500		4		HPLC-UV	FLT 225-17-01 94; C/HLD 225-1 102 CST 225-2LF 97
Welding fumes (total particulate)	OSHA ID 125G				480		2000		4		ICP-AES	F/CST 225-3-01 or 225-3100; F/CST 225-803 or 225-8215; C/HLD 225-1 102
Wemicide CW 104	OSHA CSI				480		1000		8		HPLC-UV	ST 226-30-16 38
Wollastonite *(see dust, total and respirable nuisance)*	OSHA CSI											
Wood alcohol (methanol)	NIOSH 2000		200	250	5	3	20	200	4	15	GC-FID	ST 226-51 39
Wood dust (except western red cedar)	OSHA CSI				960	30	2000	2000	8	30	GR	F/CST 225-803 93 C/HLD 225-1 102
Wood dust (western red cedar)	OSHA CSI		2.5 mg/m³		960		2000		8		GR	F/CST 225-803 93 C/HLD 225-1 102
Wood dust, hardwood	OSHA CSI		15 mg/m³		960		2000		8		GR	F/CST 225-803 93 C/HLD 225-1 102
Wood dust, softwood	OSHA CSI		15 mg/m³		960		2000		8		GR	F/CST 225-803 93 C/HLD 225-1 102
Wood spirit (methanol)	NIOSH 2000		200	250	5	3	20	200	4	15	GC-FID	ST 226-51 39
m-Xylene	ASTM D 5466				6		varies		varies		GC-MS	CAN 228 Series PK 228 Series
m-Xylene	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST CPC 226-300 Series 224-26-CPC 42 51 TH 224-26-02 51
m-Xylene	OSHA 1002	1746	100				13.82		8		GC-FID	PS 575-002 75
o-Xylene	ASTM D 5466				6		varies		varies		GC-MS	CAN 228 Series PK 228 Series

Agency standards for OSHA listings represent the OSHA PELs reported in the 29 CFR 1910.1000 Part 1910, Section 1000.

References and abbreviations are found on pages 212-213.

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Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	Agency Standard CLG/STEL (ppm)	Vol. (liter) TWA Sample Time or Air Volume	Vol. (liter) CLG/STEL Sample Time or Air Volume	Rate (ml/min) TWA Flow/Sampling Rate	Rate (ml/min) CLG/STEL Flow/Sampling Rate	Time TWA (hrs)	Time CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
o-Xylene	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 CPC 224-26-CPC 51 TH 224-26-02 51
o-Xylene	OSHA 1002	1746	100				14.24		8		GC-FID	PS 575-002 75
p-Xylene	ASTM D 5466				6		varies		varies		GC-MS	CAN 228 Series PK 228 Series
p-Xylene	EPA TO-17	1689			1 L & 4 L		16.7 ml/min & 66.7 ml/min				TD, GC	ST 226-300 Series 42 CPC 224-26-CPC 51 TH 224-26-02 51
p-Xylene	OSHA 1002	1746	100				13.94		8		GC-FID	PS 575-002 75
m-Xylene (Hydrocarbons, Aromatic)	NIOSH 1501		100		2-23		10-200		varies		GC-FID	ST 226-01 38
o-Xylene (Hydrocarbons, Aromatic)	NIOSH 1501		100	150	2-23	2-23	10-200	10-200	varies	varies	GC-FID	ST 226-01 38
p-Xylene (Hydrocarbons, Aromatic)	NIOSH 1501		100		2-23		10-200		varies		GC-FID	ST 226-01 38
Xylene (o-, m-, & p-isomers)	OSHA 07	1186	100		10	3	20(50)	200	8(3.3)	15	GC-FID	ST 226-01 38
Xylene (o-, m-, & p-isomers)	OSHA 1002	1746	100		12		50		4		GC-FID	ST 226-01 38
m-Xylenediamine (mXDA)	OSHA 105	1405				15		1000		15	HPLC-UV	CF/CST 225-9004 64 C/HLD 225-1 102
p-Xylenediamine (pXDA)	OSHA 105	1405				15		1000		15	HPLC-UV	CF/CST 225-9004 64 C/HLD 225-1 102
Xylidine	OSHA CSI		5		24		50		8		GC-FID	ST 226-10 38
2,4-Xylidine (Amines, Aromatic)	NIOSH 2002	1056	2		10		20(50)		8(3.3)		GC-FID or GC-NSD	ST 226-10 38
Yeast (fungi, molds, spores)	OSHA CSI				120		1000		2		varies	F/CST 225-3-01 90 C/HLD 225-1 102
Yeast (fungi, molds, spores)	OSHA CSI				141.5		28300		5 min		varies	BI 225-9611 120
Yttrium	OSHA ID 121		1 mg/m³		960		2000		8		AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Yttrium (Elements by ICP HNO_3 Digestion))	NIOSH 7303				0.1-50,000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Yttrium (Elements by Cellulosic Internal Capsule Sampler)	NIOSH 7306		1 mg/m³		1-2000		1000-4000		Varies		ICP-AES	SC 225-8517 90 C/HLD 225-1 102
Yttrium (Elements by ICP Aqua Regia Ashing)	NIOSH 7301				5-1000		1000-4000		varies		ICP-AES	F/CST 225-3-01 or F/CST 225-803 ¥ 93 C/HLD 225-1 102
Yttrium (Elements by ICP HNO_3/$HClO_4$ Ashing)	NIOSH 7300	1455			5-1000		1000-4000		varies		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Yttrium (Elements on Wipes)	NIOSH 9102				wipe						ICP-AES	W 225-2414 140 TMP 225-2403 or TMP 225-2415 140
Zectran	OSHA CSI										W	W 225-2401A 140
Zinc	OSHA ID 121	1204			960		2000		8		AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Zinc	OSHA ID 125G				480		2000		4		ICP-AES	F/CST 225-3-01 or F/CST 225-3100 or F/CST 225-803 or F/CST 225-8215 93 C/HLD 225-1 102
Zinc & compounds (as Zn)	NIOSH 7030		5 mg/m³ (ZnO)	15 mg/m³ (ZnO)	240	30	1000	2000	4	15	AA-F	F/CST 225-3-01 90 C/HLD 225-1 102
Zinc (Elements by Cellulosic Internal Capsule Sampler)	NIOSH 7306		5 mg/m³	15 mg/m³ C (dust) 10 mg/m³ (fume)	Varies		1000-4000		Varies		ICP-AES	SC 225-8517 90 C/HLD 225-1 102
Zinc (Elements by ICP Aqua Regia Ashing)	NIOSH 7301				5-200		1000-4000		varies		ICP-AES	F/CST 225-3-01 or F/CST 225-803 ¥ 93 C/HLD 225-1 102
Zinc (Elements by ICP HNO_3 Digestion))	NIOSH 7303		5 mg/m³ (ZnO)	15 mg/m³ (ZnO)	0.5-10,000	0.5-10,000	1000-4000	1000-4000	varies	varies	ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Zinc (Elements by ICP HNO_3/$HClO_4$ Ashing)	NIOSH 7300	1455	5 mg/m³ (ZnO)	10 mg/m³ (ZnO)	5-200	5-200	1000-4000	1000-4000	varies	varies	ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Zinc (Elements on Wipes)	NIOSH 9102				wipe						ICP-AES	W 225-2414 140 TMP 225-2403 or TMP 225-2415 140
Zinc bromide *(see dust, total and nuisance)*												
Zinc chloride fume	OSHA ID 121	1207	1 mg/m³		960	30	2000	2000	8	15	AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Zinc chloride fume	OSHA ID 125G		1 mg/m³		480	30	2000	2000	4	15	ICP-AES	F/CST 225-3-01 or F/CST 225-3100 or F/CST 225-803 or F/CST 225-8215 93 C/HLD 225-1 102
Zinc chromate (CR(VI))	OSHA ID 215 (V2)	1439	0.005 mg/m³		960		2000		8		IC-UV	F/CST 225-802 Ω 93 C/HLD 225-1 102
Zinc chromates (as CrO_3)	OSHA ID 215 (V2)	1439	0.005 mg/m³		960		2000			15	IC-UV	F/CST 225-802 Ω 93 C/HLD 225-1 102
Zinc dibutyldithiocarbamate	OSHA PV2065				180		1000		3		HPLC-UV	ST 226-30-16 38
Zinc oxide	NIOSH 7502		5 mg/m³	15 mg/m³ (15 min)	240	30	1000	2000	4	15	XRD	FLT 225-2705 93 CST 225-3-23 97
Zinc oxide (Elements by ICP HNO_3 Digestion))	NIOSH 7303		5 mg/m³	15 mg/m³	0.5-10,000	0.5-10,000	1000-4000	1000-4000	varies	varies	ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Zinc oxide (particulates, respirable)	NIOSH 0600	1038			375		2500		2.5		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CYC 225-01-02 111 CST 225-3LF 97
Zinc oxide (particulates, total)	NIOSH 0500	1035			120		2000		1		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CST 225-2LF 97

Agency standards for OSHA listings represent the OSHA PELs reported in the 29 CFR 1910.1000 Part 1910, Section 1000.

References and abbreviations are found on pages 212-213.

Chemical Hazard	Agency Reference	Chem F File	SAMPLING ∞ Agency Standard TWA (ppm)	Agency Standard CLG/STEL (ppm)	Vol. (liter) TWA Sample Time or Air Volume	Vol. (liter) CLG/STEL Sample Time or Air Volume	Rate (ml/min) TWA Flow/Sampling Rate	Rate (ml/min) CLG/STEL Flow/Sampling Rate	Time TWA (hrs)	Time CLG/STEL (min)	Analytical Method	SKC Collecting Equipment & Page Number
Zinc oxide dust *(see dust, total & respirable)*	OSHA CSI											
Zinc oxide fume	OSHA ID 121		5 mg/m³		960	30	2000	2000	8	15	AA or AES	FLT 225-5-37-P 93 C/HLD 225-1 102 CST 225-2LF 97
Zinc oxide fume	OSHA ID 125G		5 mg/m³		480	30	2000	2000	4	15	ICP-AES	F/CST 225-3-01 or F/CST 225-3100 or F/CST 225-803 or F/CST 225-8215 93 C/HLD 225-1 102
Zinc oxide fume	OSHA ID 143		5 mg/m³		960	30	2000	2000	8	15	XRD	FLT 225-5-37-P 93 C/HLD 225-1 102 CST 225-2LF 97
Zinc oxide fume (ICP analysis of metal/metalloid particulates from solder operations)	OSHA ID 206		5 mg/m³		480		2000		4		ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Zinc stearate (particulates, respirable)	NIOSH 0600	1038			375		2500		2.5		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CYC 225-01-02 111 CST 225-3LF 97
Zinc stearate (particulates, total)	NIOSH 0500	1035			120		2000		1		GR	FLT 225-5-37-P 93 C/HLD 225-1 102 CST 225-2LF 97
Zinc stearate (respirable dust)	OSHA CSI		5 mg/m³		912		1900		8		GR	F/CST 225-803 93 C/HLD 225-1 102
Zinc stearate (total dust)	OSHA ID 121		15 mg/m³		960		2000		8		AA or AES	F/CST 225-3-01 90 C/HLD 225-1 102
Zinc stearate (total dust)	OSHA ID 125G		15 mg/m³		480		2000		4		ICP-AES	F/CST 225-3-01 or F/CST 225-3100 or F/CST 225-803 or F/CST 225-8215 93 C/HLD 225-1 102
Zineb	OSHA 107				500		2000		250 min		HPLC-UV	F/CST 225-3-01 90 C/HLD 225-1 102
Ziram	OSHA PV2073				120		1000		2		HPLC-UV	ST 226-30-16 38
Zirconium (Elements by Cellulosic Internal Capsule Sampler)	NIOSH 7306		5 mg/m³	10 mg/m³	1-1000		1000-4000		Varies		ICP-AES	SC 225-8517 90 C/HLD 225-1 102
Zirconium (Elements by ICP Aqua Regia Ashing)	NIOSH 7301		5 mg/m³	10 mg/m³	5-200	5-200	1000-4000	1000-4000	varies	varies	ICP-AES	F/CST 225-3-01 or F/CST 225-803 ¥ 93 C/HLD 225-1 102
Zirconium (Elements by ICP $HNO_3/HClO_4$ Ashing)	NIOSH 7300	1455	5 mg/m³	10 mg/m³	5-200	5-200	1000-4000	1000-4000	varies	varies	ICP-AES	F/CST 225-3-01 90 C/HLD 225-1 102
Zirconium (Elements on Wipes)	NIOSH 9102				wipe						ICP-AES	W 225-2414 140 TMP 225-2403 or TMP 225-2415 140
Zirconium compounds (as Zr)	OSHA ID 121		5 mg/m³		960	30	2000	2000	8	15	AA or AES	F/CST 225-803 93 C/HLD 225-1 102

Z

Symbols and Notes

∞ ..... *The sampling parameters shown are suggestions based on the ranges of volume, flow, and time specified in the methods. It is the responsibility of the analyst performing the sampling and analysis to adjust parameters so that the required detection limits can be obtained. It is the responsibility of the user to research published methods to determine validation level and suitability for unique applications.*

C ..... *Ceiling Value*

CSI ..... *OSHA Chemical Sampling Information*

EL ..... *Excursion Limit*

LFC ..... *NIOSH standard: Lowest Feasible Concentration*

LOQ ..... *Limit of Quantitation*

NA SKC ..... *Not available from SKC*

NON ..... *Non-agency reference*

NVM ..... *No validated method*

OEL ..... *U.S. Army Occupational Exposure Limit*

OR-OSHA ..... *Oregon OSHA method and target concentrations*

PV ..... *Provisional Method*

Special order ..... *Because of limited shelf-life, certain sampling media are available only as special order items.*

** ..... *Optional, use filter if particulates are present*

‡ ..... *Filter or tube must be chemically treated before sampling.*

♠ ..... *Modified procedure or sampler*

◊ ..... *Other collection liquids may be more suited to target microorganisms.*

¥ ..... *This method does not digest PVC filters (Cat. No. 225-803) completely.*

Δ ..... *1.0-micron PTFE filter is a NIOSH recommended substitute filter for the 0.8-micron PVC filter originally recommended in NIOSH Method 7904.*

∑ ..... *Use an oxidizer tube if sulfur dioxide is present.*

+ ..... *Sonic flow*

o ..... *Use sorbent tube Cat. No. 226-120 when sampling in atmospheres containing ozone.*

†† ..... *Special order/limited shelf-life; contact SKC*

▼ ..... *The MOPIP Derivatizing Solution, Cat. No. 225-9050, is needed to analyze for monomer/oligimer aerosol.*

Ω ..... *For sampling in Chromium plating operations, PVC filters (225-802) require special treatment after receipt at the laboratory. Alternatively quartz fiber filters (225-1827) treated with NaOH may be used. Refer to the method for details.*

● ..... *NIOSH Method 5524 analysis requires a Filter Funnel which is available from Case Custom Environmental Equipment, Erlanger, KY, Telephone 859-250-8558.*

£ ..... *Collect six samples at 20 minutes each. Use two Cat. No. 226-134 per sample.*

Agency standards for OSHA listings represent the OSHA PELs reported in the 29 CFR 1910.1000 Part 1910, Section 1000.

References and abbreviations are found on pages 212-213.

Abbreviations

Collecting Equipment

AC	Accu-CAP Cassette Insert
BI	Bioaerosol Impactor
BS	BioSampler
C	Capsule
C/HLD	Filter Cassette and Cyclone Holder
CAN	Canister
CF/CST	Coated Filter in Preloaded Cassette
CH	Capsule Holder
CI	Cascade Impactor
CPC	Constant Pressure Controller
CST	Filter Cassette
CYC	Cyclone
DR	Direct-reading
DRI	Direct-reading Instrument
DRT	Drying Tube
DT	Detector Tube, Color
EPAM	Environmental Particulate Monitor
F/CST	Filter in Preloaded Cassette
FLT	Filter
FLT/CL	Filter Cassette with Cowl
FOAM	Foam
IMP	Impinger
IOM	IOM Particulate Sampler
IS	Impaction Substrate
IT	Impinger Trap
JAR	Jar
MVC	Microvacuum Cassette
PK	Passive Kit
PPI	Parallel Particle Impactor
PS	Passive Sampler
PUF	PUF Cartridge
SB	Sample Bag
SCN	Screen
SCRN	Stainless Steel Screen
SH	Sampling Head
SM TB	Smear Tab
SP	Support Pads
SPC	Spacer
SSC	Stainless Steel Cassette
ST	Sorbent Tube
STC	Spore Trap Cassette
SV	Sorbent Vial
T	Tape
TH	Tube Holder
TK	Test Kit
TMP	Template
VAC	Vac-U-Chamber
VT	ViaTrap for use with BioSampler
W	Wipe

Analytical Methods

AA	Atomic absorption
AAS	Atomic absorption spectroscopy
AED	Atomic emission detection
AES	Atomic emission spectroscopy
CA	Chromotropic acid assay
CD	Conductivity detection
CI	Colorimetric
CLR	Spectrophotometric method or colorimeter
DET TB	Detector tube, color-indicating
DID	Discharge ionization detector
DPCSP	Differential pulse cathodic stripping polarography
DPP	Differential pulse polarography
DR	Direct-reading
DRI	Direct-reading instrument
EAP	Explosives analysis package
ECD	Electron capture detector
ECN	Electrolytic conductivity detector
EGA-TOS	Evolved gas analysis with thermal-optical sensor
ELCHM	Electrochemical detector
F	Flame
FAME	Fatty acid methyl ester
FD	Fluorescence detector
FID	Flame ionization detector
FLAG	Flame arsine generation
FLUOR	Fluorescence
FPD	Flame photometric detector
FPDS	Flame photometric detector sulfur specific
GC	Gas chromatography
GF	Graphite furnace
GR	Gravimetric analysis
HGA	Heated graphite atomizer
HPLC	High-performance liquid chromatography
HRGC	High resolution gas chromatography
HRMS	High resolution mass spectrometry
IC	Ion chromatography
IC-CD	Ion chromatography detector
ICP	Inductively coupled plasma
ICP-DCP	Inductively coupled plasma-directly coupled plasma spectroscopy
IR	Infrared spectrophotometry
IRA	Immunoradiometric assay
ISE	Ion-specific electrode
MAS	Molecular absorption spectometry
MD	Multi-detector
MS	Mass spectrometry
MSD	Mass selective detector
N ACT	Neutron activation
NCD	Nitrogen chemiluminescence detector
NPD	Nitrogen-phosphorus detector
NSD	Nitrogen-specific detector
NVM	No validated method
P FLUOR	Portable fluorescence
P GC	Portable gas chromatography
P IR	Portable infrared spectro-photometry
P IS	Portable infrared spectrophotometer
P VAS	Portable visible absorption spectrophotometry
PASV	Portable anodic stripping voltammetry
PCD	Post-column derivatization
PCM	Phase contrast microscopy
PCR	Polymerase chain-reaction
PDA	Photo diode array detector
PES	Plasma emission spectrometry
PID	Photoionization detector
PLM	Polarized light microscopy
POL	Polarography
SCD	Sulfur chemiluminescence detector
SEM	Scanning electron microscopy
SPOT	Chemical spot test
TCD	Thermal conductivity detector
TD	Thermal desorption
TEA	Thermal energy analyzer
TEM	Transmission electron microscopy
TITRA	Titration
TOA	Thermal-optical analysis
UV	Ultraviolet detector
VAS	Visible absorption spectrophotometry
VIS	Visual
W	Wipe
XRD	X-ray diffraction
XRF	X-ray fluorescence
XRFS	X-ray fluorescence spectroscopy

References

SKC Sampling Guides are abstracted from publications by the National Institute of Occupational Safety and Health (NIOSH), the Occupational Safety and Health Administration (OSHA), American Society for Testing and Materials (ASTM) International, the Environmental Protection Agency (EPA), Health and Safety Executive (HSE), and published non-agency methods.

NIOSH, OSHA, EPA, HSE, and ASTM International Agency References

NIOSH Manual of Analytical Methods, Fifth Edition, 2016

OSHA Analytical Methods Manual, published 1985 with updates through 1994; method number only for organics, method number with ID prefix for inorganics

OSHA Chemical Sampling Information (CSI) on the OSHA website, previously the OSHA Chemical Information Manual (CIM), a resource for on-site sampling used by OSHA compliance officers. Chemical entries are listed alphabetically. *Go to www.osha.gov and search on "chemical sampling information."*

EPA Compendium of Methods, Toxic Organic (TO) Jan. 1997, Inorganic (IO) Feb. 1997, Indoor Air (IP) Apr. 1990

Methods for Determination of Hazardous Substances (MDHS) is a series published by Health and Safety Executive (HSE) Books in the U.K. that describes procedures for the measurement of personal exposure to contaminants in air. *Go to www.hse.gov.uk/pubns/mdhs/.*

ASTM International, Annual Book of Standards, Section 11 - Water and Environmental Technology, Volume 11.03. Occupational Health & Safety; Protective Clothing

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Tech Tips

- *Access online SKC Sampling Guides for the most up-to-date sampling information. Visit www.skcinc.com and click on Sampling Guides on the left side navigation bar.*
- *Get fast access to agency and organization websites from www.skcinc.com by clicking Links on the left side navigation bar.*

Air Sampling Terms

8-Hour Time-weighted Average (TWA)

The average full-shift exposure level calculated by weighting concentrations throughout a workday with respect to time. The denominator "eight hours" is used because OSHA standards are based on an 8-hour workday. OSHA and ACGIH use the following formula to calculate TWA:

$$TWA = \frac{C1T1 + C2T2 + C3T3 \ldots CnTn}{8\ hrs}$$

TWA = Time-weighted average concentrations in ppm or mg/m³
C = Concentration of contaminant during an incremental exposure time
T = Time — incremental exposure time

Absorption

The penetration of airborne chemicals into a collection medium, such as impinger fluid, where the chemicals will dissolve or react chemically

Active Sampling

The collection of airborne contaminants by means of a forced movement of air by a sample pump through appropriate collection media

Adsorption

The collection of gases and vapors onto the surface of a collection medium such as the sorbent material in sorbent tubes

Aerodynamic Diameter

A description of the shapes and densities of dust particles; the diameter of a unit-density sphere having the same settling velocity as the particle in question

Aerosol

Microscopic liquid or solid particles dispersed into the air

Air Volume

The total amount of air passed through a sampling medium; determined by multiplying flow rate in ml/min or L/min by the sample time in minutes

Ambient Air

Air that is external to buildings and accessible to the general public

Back Pressure

The pressure drop, i.e., resistance to flow created by the collected sample or the sample media itself

Bioaerosols

Airborne particles, molecules, or volatile compounds ranging in size from 100 microns to 0.01 micron that are living, contain living organisms, or were released from living organisms

Blank Sample

A representative sampling medium sent as a control with the actual sample to a lab. Blanks are subjected to the same procedures as samples, except no air is drawn through them.

Ceiling Value

The concentration that should not be exceeded during any part of the work day

Closed-face Sampling

Filter sampling using a two or three-piece cassette with the cassette inlet section in place and the sealing plugs removed

Constant Flow

A feature available on air sample pumps that allows the pump to automatically compensate for flow restrictions and variations, ensuring the flow rate is held constant throughout the sampling period

50% Cut-point

Describes the performance of cyclones and other particle size-selective devices. For personal sampling, the 50% cut-point is the size of the dust that the device collects with 50% efficiency.

Cyclone

A sampling device used to collect and separate respirable particulate mass. The cyclone functions as a centrifuge; the rapid circulation of air separates particles according to size.

Desorption Efficiency

A measure of how much analyte can be recovered from the sorbent tube

Dust

Solid particles rendered airborne during the crushing or grinding of hard, rock-like materials

Fugitive Emissions

Emissions that could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening

Fume

Solid airborne particles formed by the vaporization of solid materials, oxidation of the vapor, and condensation of the oxide

Gas

A state of matter consisting of molecules in constant random motion that is neither a defined volume nor shape and remains in this state at normal temperature (25 C) and pressure (1 atmosphere)

Grab Sampling

The direct collection of an air-contaminant mixture into a device such as a sample bag or detector tube over a brief period

Gravimetric Analysis

Sample analysis of filters by determining sample weight

High Flow Sampling

The collection of airborne contaminants (typically particulates) at flow rates greater than 1000 ml/min

Indoor Environmental Quality

The impacts of the indoor environment, including but not limited to air quality, lighting, and thermal comfort, on occupant health, comfort, and performance

Integrated Sampling

The collection of air contaminants over an extended period

LEED

Leadership in Energy and Environmental Design (LEED) is a program that provides building owners/operators with a framework for identifying and implementing practical and measurable green building design, construction, operation, and maintenance solutions.

Low Flow Sampling

The sampling of airborne contaminants (typically gases and vapors) at flow rates less than 500 ml/min

Matched-weight Filters

Two filters that match in weight; the top filter collects contaminants, the bottom filter serves as a control. After sampling, both filters are weighed and the difference between weights is the sample weight.

Mist

Droplets rendered airborne by rubbing, boiling, splashing, or otherwise agitating a liquid

Nanoparticle

Intentionally manufactured particles with at least one dimension in the range of 1 to 100 nanometers (nm)

Near-roadway Monitoring

An EPA network of monitors established near major roadways to monitor/assess NO_2 mobile source emissions from vehicles in areas where people live, work, play, attend school, and commute. The network also provides the ability to collocate monitors to assess mobile contribution to particulate matter (PM10, 2.5, and ultrafine) exposure.

Air Sampling Terms

Open-face Sampling
Filter sampling using a three-piece cassette with the cassette inlet section removed; this is typically used for sampling asbestos and other fibers

Particulate Matter (PM)
A mix of solid particles and liquid droplets suspended in air. Origin, shape, size, and composition vary. Standards exist for PM10 (diameter ≤ 10 µm) and PM2.5 (diameter ≤ 2.5 µm) because they are easily trapped in the lungs and are most likely to cause adverse health effects. Additional particles of concern are PM1.0 (diameter ≤ 1 µm) and PM Coarse (diameter < 10 µm and > 2.5 µm).

Passive (Diffusive) Samplers

Small air samplers or "badges" that collect airborne gases or vapors without the use of a pump. Chemicals diffuse through a diffusion barrier onto a sorbing medium inside the sampler at a fixed rate that can be scientifically determined.

Preloaded Filter Cassettes
Ready-to-use cassettes that comprise a cassette, filter, support pad, and sealing plugs

Preweighed Filters
Individual filters that are weighed to within 5 decimals before they are loaded into a cassette

Sampling Parameters — Rate, Time, and Volume
Consult specific methods to determine the range given for each parameter. In the SKC Sampling Guide under "Sampling," some chemicals have two different recommendations for sampling rates and times; the sampling rate for an 8-hour sample is listed with the shorter period rate in parentheses. The choice of rate depends on sampling requirements.

Sampling Train
The entire sampling system: sampling medium (sorbent tube, filter, cyclone, IOM, etc.) connected to a sample pump with flexible tubing

Short-term Exposure Limit (STEL)
A 15-minute time-weighted average exposure that should not be exceeded during any part of the workday

Smoke
Particles resulting from the incomplete combustion of organic matter and consisting predominantly of carbons and oxides of carbon

Solvent Desorption
The process of extracting adsorbed chemicals from sorbent material through the use of solvents

Source Emissions
Particulate or gaseous emissions generated from a stationary source, such as a stack

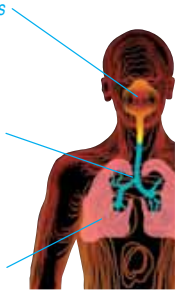
Thermal Desorption
The process of extracting adsorbed chemicals from sorbent material through the use of heat

TLV-TWA
An ACGIH-defined concentration level in air, typically for inhalation or skin exposure, to which it is believed a worker can be exposed day after day (8 hours per day, 40 hours per work week) for a working lifetime without adverse health effects

Traditional Workplace Exposure Guidelines
- *Total Dust*
  Dust that is collected using closed-face 37-mm cassettes fitted with suitable filters
- *Respirable Dust*
  Particles that penetrate to the gas exchange regions of the lung; collected using a filter cassette with suitable filter and a cyclone

Ultrafine Particulate Matter
Ultrafine particles less than 100 nanometers (0.1 micron) result from combustion, friction, or natural processes in the air or water. While nano-sized, ultrafine particles are not nanoparticles because they are neither intentionally manufactured nor of a constant composition or size.

Updated Workplace Exposure Guidelines
The concept of size-selective sampling of industrial aerosol is based on the measurement of particles associated with a specific human health effect, i.e., how deeply particles penetrate into the respiratory tract. ACGIH recommends that particle size-selective threshold limit values (TLVs) be expressed in three forms:



- ***Inhalable** Particulate Mass*
  (100-µm 50% cut-point), hazardous when deposited anywhere in the respiratory tract
- ***Thoracic** Particulate Mass*
  (10-µm 50% cut-point), hazardous when deposited anywhere in the lung airways and the gas exchange regions
- ***Respirable** Particulate Mass*
  (4-µm 50% cut-point), hazardous when deposited in the gas exchange regions of the lungs

Vapor
The gaseous form of a substance that is typically a liquid at normal temperature (25 C) and pressure (1 atm)

Vapor Intrusion
Volatile chemicals in buried wastes and/or contaminated groundwater emit vapors that migrate through subsurface soils into indoor air spaces of overlying buildings.

Whole Air Sampling
The collection of air into a sealable container such as a stainless steel canister or sampling bag for subsequent analysis

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SKC Trademarks

Accu-CAP
AirChek
AirLite
Anasorb
BestChek
BioSampler
BioStage
CalChek
Chek-mate
DataTrac
FlexFoil
Full Disclosure
ISO-CHEK
Leland Legacy
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Pocket Pump
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SamplePro
SKC
Solu-CAP
SPLIT2
ULTRA
VersaTrap
ViaTrap
VOC Chek

Other Trademarks

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AMVAC Chemical Corp.: Thimet
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