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 48
Acetaldehyde	MDHS 102	20 ppm (37 mg/m³)	50 ppm (92 mg/m³)	diffusive	diffusive	diffusive	diffusive			HPLC	PS 500-100 94
Acetic acid	MDHS 96			24		50		8		GC-FID	ST 226-01 46
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 67 C/HLD 225-1 114
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 67 C/HLD 225-1 114
Acetone	MDHS 88	500 pm (1210 mg/m³)	1500 ppm (3620 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 84
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 46
Acetonitrile	MDHS 88	40 ppm (68 mg/m³)	60 ppm (102 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 84
Acetonitrile	MDHS 96	40 ppm (68 mg/m³)	60 ppm (102 mg/m³)	10		20(50)		8(3.3)		GC-FID	ST 226-09 46
o-Acetylsalicylic acid	MDHS 14/4	5 mg/m³		120		2000		8		GR	IOM 225-70A 121 FLT 225-58F 108
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 48
Acrolein (acrylaldehyde)	OSHA 52	0.1 ppm (0.23 mg/m³)		48	3	100	200	8	15	GC-NPD	ST 226-117 48
Acrylamide	MDHS 57/2	0.3 mg/m³		50	3	100	200	8	15	HPLC-UV	IMP 225-36-1 69 IT 225-22 69
Acrylonitrile	MDHS 88	2 ppm (4.4 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 84
Acrylonitrile	MDHS 96	2 ppm (4.4 mg/m³)		24		50		8		GC-FID	ST 226-01 46
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 84
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 46
Aluminium alkyl compounds	OSHA ID-121	2 ppm		960		2000		8		AAS	F/CST 225-3-01 100 C/HLD 225-1 114
Aluminium metal (inhalable dust)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 121 FLT 225-58F 108
Aluminium metal (respirable dust)	MDHS 14/4	4 mg/m³		1056		2200		8		GR	IOM 225-70A 121 FOAM 225-772 or CYC 225-69 125 FLT 225-58F 108
Aluminium oxides (inhalable dust)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 121 FLT 225-58F 108
Aluminium oxides (respirable dust)	MDHS 14/4	4 mg/m³		1056		2000 (2200)		8		GR	IOM 225-70A 121 FOAM 225-772 or CYC 225-69 125 FLT 225-58F 108
Aluminium salts, soluble	OSHA ID-121	2 mg/m³		960		2000		8		AA or AES	F/CST 225-3-01 100 C/HLD 225-1 114
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 46
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 46 F/CST 225-3-01 100
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 46 F/CST 225-3-01 100
Ammonium chloride (fume)	MDHS 14/4	10 mg/m³	20 mg/m³	960	30	2000	2000	8	15	GR, IC-ECN	IOM 225-70A 121 FLT 225-1930 100
Ammonium sulphamate	MDHS 14/4	10 mg/m³	20 mg/m³	960	30	2000	2000	8	15	GR	IOM 225-70A 121 FLT 225-1930 100
Aniline	MDHS 96	1 ppm (4 mg/m³)		200		20	200		100	GC-FID	ST 226-10 46
Antimony & compounds (as Sb)	MDHS 91/2	0.5 mg/m³				2000		8		XRF	IOM 225-70A 121 FLT 225-1930 100
p-Aramid respirable fibres	MDHS 87	0.5 fibres/ml		Refer to method						PCM	FLT/CL 225-54A 121 FLT 225-1913 100
Aromatic carboxylic acid anhydrides *(see individual compounds)*	MDHS 62/2									HPLC	IOM 225-70A 121 FLT 225-58F 108 ST 226-35 46

See page 224 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 121 FLT 225-1930 100
Arsine	NIOSH 6001	0.05 ppm (0.16 mg/m³)		10	3	20	200	8	15	AA-GF	ST 226-01 46
Asbestos (chrysotile alone)	MDHS *See HSG 248*		0.1	240	40	1000	4000	4	10	PCM	FLT/CL 225-54A 121 FLT 225-60F or FLT 225-1913 100
Asbestos, with crocidolite/amosite/mixtures	MDHS *See HSG 248*		0.1	240	40	1000	4000	4	10	PCM	FLT/CL 225-54A 121 FLT 225-60F or FLT 225-1913 100
Asphalt (petroleum fumes)	NIOSH 5042	5 mg/m³	10 mg/m³	360	60	1000	4000	6	15	GR	FLT 225-27-07 106 SP 225-27 115 F/CST 225-2LF 109
Azodicarbonamide	MDHS 92/2	1 mg/m³	3 mg/m³	960	30	2000	2000	8	15	HPLC	IOM 225-79A 121 FLT 225-58F 108 FLT 225-2708 106
Barium compounds (soluble) (as Ba)	MDHS 91/2	0.5 mg/m³		960		2000		8		XRF	IOM 225-70A 121 FLT 225-1930 100
Barium sulphate (inhalable dust)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 121 FLT 225-58F 108
Barium sulphate (respirable dust)	MDHS 14/4	4 mg/m³		1056		2200		8		GR	CYC 225-69 125 FLT 225-58F 108
Benzene	MDHS 72	1 ppm (3.25mg/m³)		2.5		5		8		TD, GC	ST 226-357 50
Benzene	MDHS 80	1 ppm (3.25mg/m³)		24		50		8		GC-ECD	ST 226-357 50
Benzene	MDHS 88	1 ppm (3.25mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 84
Benzene	MDHS 96	1 ppm (3.25mg/m³)		10	3	20	200	8	15	GC-FID	ST 226-01 46
Benzyl butyl phthalate	MDHS 96	5 mg/m³		50		10		8		GC-FID	ST 226-35 46
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 84
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 46
Beryllium & compounds (as Be)	Contact SKC	0.002 mg/m³		960	120	2000	2000	8	60	AA	IOM 225-70A 121 FLT 225-1930 100
Bisphenol A	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 121 FLT 225-58F 108
Bornan-2-one	MDHS 88	2 ppm (13 mg/m³)	3 ppm (19 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 84
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 46
Boron tribromide	OSHA CSI		1 ppm (10 mg/m³)		5		1000		5	IC	IMP 225-36-2 or IMP 225-36-5 69 IT 225-22 69
Bromacil (ISO)	OSHA CSI	1 ppm (11 mg/m³)	2 ppm (22 mg/m³)	50		1000		50		HPLC-UV	IMP 225-36-1 69 IT 225-22 69
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 67 C/HLD 225-1 114
Bromomethane	OSHA PV2040	5 ppm (20 mg/m³)	15 ppm (59 mg/m³)	3		50		1		GC-FID	ST 226-83 § 48
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 50
1,3-Butadiene	MDHS 88	10 ppm (22 mg/m³)		diffusive	diffusive	diffusive	diffusive	8	15	GC-FID	PS 575-001 84
1,3-Butadiene	MDHS 96	10 ppm (22 mg/m³)		10		20		8		GC-FID	ST 226-09 46
Butan-1-ol	MDHS 72		50 ppm (154 mg/m³)	24		50		8		TD, GC	ST 226-358 50
Butan-1-ol	MDHS 80		50 ppm (154 mg/m³)	24		50		8		GC-ECD	ST 226-358 50
Butan-1-ol	MDHS 88		50 ppm (154 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 84
Butan-1-ol	MDHS 96		50 ppm (154 mg/m³)	10	3	20-50	200	8	15	GC-FID	ST 226-01 46
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 50
Butan-2-ol	MDHS 88	100 ppm (308 mg/m³)	150 ppm (462 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 84
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 46
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 84
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 47
Butane	OSHA CSI	600 ppm (1450 mg/m³)	750 ppm (1810 mg/m³)	10		20		8		TD, GC	ST 226-01 46
2-Butoxyethanol	MDHS 72	25 ppm	50 ppm	24		50		8		TD, GC	ST 226-358 50
2-Butoxyethanol	MDHS 80	25 ppm	50 ppm	24		50		8		GC-ECD	ST 226-358 50
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 84
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 46
n-Butyl acetate	MDHS 80	150 ppm (724 mg/m³)	200 ppm (966 mg/m³)	24		50		8		GC-ECD	ST 226-358 50
n-Butyl acetate	MDHS 88	150 ppm (724 mg/m³)	200 ppm (966 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 84
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 46
sec-Butyl acetate	MDHS 88	200 ppm (966 mg/m³)	250 ppm (1210 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 84
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 46
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 46
t-Butyl acetate	MDHS 88	200 ppm (966 mg/m³)	250 ppm (1210 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 84
n-Butyl acrylate	MDHS 88	1 ppm (5 mg/m³)	5 ppm (26 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 84
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 46
n-Butyl chloroformate	ASTM D6209	1 ppm (5.7 mg/m³)		varies		225		varies		GC-MS	ST 226-131 53
Butyl lactate	OSHA PV2080	5 ppm (30 mg/m³)		10		200		8		GC-FID	ST 226-01 46
2-sec-Butylphenol	OSHA PV2128	5 ppm (31 mg/m³)		20		200		100 min		HPLC-UV	ST 226-95 48
Cadmium & compounds (except oxide fume & sulphide pigments)	MDHS 91/2	0.025 mg/m³		960	30	2000	2000	8	15	XRF	IOM 225-70A 121 FLT 225-1930 100
Cadmium oxide fume (as Cd)	MDHS 91/2	0.025 mg/m³	0.05 mg/m³	960		2000		8		XRF	IOM 225-70A 121 FLT 225-1930 100
Cadmium sulphide & pigments (as Cd)	MDHS 91/2	0.03 mg/m³		960		2000		8		XRF	IOM 225-70A 121 FLT 225-1930 100
Caesium hydroxide	MDHS 91/2	2 mg/m³		960		2000		8		XRF	IOM 225-70A 121 FLT 225-1930 100
Calcium carbonate (inhalable)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 121 FLT 225-58F 108
Calcium carbonate (respirable)	MDHS 14/4	4 mg/m³		1056		2000 (2200)		8		GR	IOM 225-70A 121 FOAM 225-772 or CYC 225-69 125 FLT 225-58F 108
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 100 C/HLD 225-1 114

See page 224 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 hydroxide	NIOSH 7020	5 mg/m³		240		1000		4		AA-F	F/CST 225-3-01 or F/CST 225-3100 100 C/HLD 225-1 114
Calcium oxide	NIOSH 7020	2 mg/m³		240		1000		4		AA-F	F/CST 225-3-01 or F/CST 225-3100 100 C/HLD 225-1 114
Calcium silicate (inhalable)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 121 FLT 225-58F 108
Calcium silicate (respirable)	MDHS 14/4	4 mg/m³		1056		2000 (2200)		8		GR	IOM 225-70A 121 FOAM 225-772 or CYC 225-69 125 FLT 225-58F 108
Captan (ISO)	MDHS 94/2	5 mg/m³	15 mg/m³	240		2000 (500)		8		HPLC-UV	IOM 225-70A 121 FLT 225-58F 108 ST 226-35 46
Carbon black	MDHS 14/4	3.5 mg/m³	7 mg/m³	960		2000		8		GR	IOM 225-70A 121 FLT 225-58F 108
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 60
Carbon dioxide (by portable GC)	NIOSH 6603	5000 ppm (9150 mg/m³)	30000 ppm (54000 mg/m³)							GC	SB 232-Series 59
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
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 263-Series or SB 262-Series or SB 253-Series 60
Carbon tetrachloride	MDHS 72	2 ppm (13 mg/m³)			12		200		60	TD, GC	ST 226-358 46
Carbon tetrachloride	MDHS 80	2 ppm (13 mg/m³)		24		50		8		TD, GC	ST 226-358 46
Carbon tetrachloride	MDHS 88	2 ppm (13 mg/m³)		diffusive	diffusive	diffusive	diffusive	5	15	GC-FID	ST 575-001 84
Carbon tetrachloride	MDHS 96	2 ppm (13 mg/m³)		10		20-50		8		GC-FID	ST 226-01 46
Cellulose (inhalable dust)	MDHS 14/4	10 mg/m³	20 mg/m³	960		2000		8		GR	IOM 225-70A 121 FLT 225-58F 108
Cellulose (respirable dust)	MDHS 14/4	4 mg/m³		1056		2000 (2200)		8		GR	IOM 225-70A 121 FOAM 225-772 or CYC 225-69 125 FLT 225-58F 108
Chlorine	NIOSH 6011		0.5 ppm (1.5 mg/m³)	90	15	1000	1000	1.5	15	IC	CF/CST 225-9006 67
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 69 IT 225-22 69
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 50
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 84
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 46
1-Chloro-4-nitrobenzene	NIOSH 2005	1 mg/m³	2 mg/m³	96		200		8		GC-FID	ST 226-10 46
Chloroacetaldehyde	NIOSH 2015		1 ppm (3.3 mg/m³)		3		200		15	GC-ECD	ST 226-15GWS 46
2-Chloroacetophenone	OSHA CSI	0.05 ppm (0.32 mg/m³)		12		200		1		HPLC-UV	ST 226-47-01 46
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 46
Chlorobenzene	MDHS 88	1 ppm (4.7 mg/m³)	3 ppm (14 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 84
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 46
Chlorodifluoromethane	MDHS 96	1000 ppm (3590 mg/m³)		varies		varies		varies		GC-FID	ST 226-01 46
Chloroethane	MDHS 96	50 ppm (134 mg/m³)		3		50		1		GC-FID	ST 226-09 46
2-Chloroethanol	MDHS 96		1 ppm (3.4 mg/m³)	10	3	20(50)	200	8(3.3)	15	GC-FID	ST 226-81A 47
Chloroform	MDHS 80	2 ppm (9.9 mg/m³)		24		50		8		GC-ECD	ST 226-357 50
Chloroform	MDHS 88	2 ppm (9.9 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 84
Chloroform	MDHS 96	2 ppm (9.9 mg/m³)		10		200		8		GC-FID	ST 226-01 46
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 46
bis-Chloromethyl ether	OSHA 10	0.001 ppm (0.005 mg/m³)		50		500		100 min		GC-ECD	IMP 225-36-2 69 IT 225-22 69
Chloropyrifos (ISO)	MDHS 94/2	0.2 mg/m³	0.6 mg/m³	240		500		8		HPLC-UV	IOM 225-70A 121 FLT 225-58F 108 ST 226-35 46
Chromium & inorganic compounds	MDHS 91/2	0.5 mg/m³		960		2000		8		XRF	IOM 225-70A 121 FLT 225-1930 100
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 121 FLT 225-9026 67
Chromium II & III compounds (as Cr)	MDHS 91/2	0.5 mg/m³		960		2000		8		XRF	IOM 225-70A 121 FLT 225-1930 100
Chromium VI compounds (as Cr)	MDHS 52/4	0.05 mg/m³		240	30	2000	2000	2	15	CLR	IOM 225-70A 121 FLT 225-9026
Cobalt & cobalt compounds (as Co)	MDHS 91/2	0.1 mg/m³		240		2000		2		XRF	IOM 225-70A 121 FLT 225-1930 100
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 121 FLT 225-1930 100
Copper fume	MDHS 91/2	0.2 mg/m³		960		2000		8		XRF	IOM 225-70A 121 FLT 225-1930 100
Cotton dust	MDHS 14/4	2.5 mg/m³		960		2000		8		GR	IOM 225-70A 121 FLT 225-58F 108
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 46
Cumene	MDHS 72, 80	25 ppm (125 mg/m³)	50 ppm (250 mg/m³)	24		50		8		TD, GC	ST 226-358 50
Cumene	MDHS 88	25 ppm (125 mg/m³)	50 ppm (250 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 84
Cumene	MDHS 96	25 ppm (125 mg/m³)	50 ppm (250 mg/m³)	10		20	50	8	15	GC-FID	ST 226-01 46
Cyanamide	OSHA CSI	0.58 ppm (1 mg/m³)		10		100		100 min		HPLC-UV	ST 226-30-18 46
Cyanides (except HCN, cyanogen & cyanogen chloride	NIOSH 7904	5 mg/m³		120		500		4		ISE	FLT 225-2705 106 CST 225-2LF 109 IMP 225-36-2 69 IT 225-22 69 C/HLD 225-1 114
Cyanogen chloride	OSHA CSI		0.3 ppm (0.77 mg/m³)		1		200		5	GC-NPD	ST 226-117 48
Cyclohexane	MDHS 88	100 ppm (350 mg/m³)	300 ppm (1050 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 84
Cyclohexane	MDHS 96	100 ppm (350 mg/m³)	300 ppm (1050 mg/m³)	10		20		8		GC-FID	ST 226-01 46

See page 224 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)		
Cyclohexanol	MDHS 88	50 ppm (208 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 84
Cyclohexanol	MDHS 96	50 ppm (208 mg/m³)		10		20-50		8(3.3)		GC-FID	ST 226-01 46
Cyclohexanone	MDHS 88	10 ppm (41 mg/m³)	20 ppm (82 mh/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 84
Cyclohexanone	MDHS 96	10 ppm (41 mg/m³)	20 ppm (82 mh/m³)	10		20	50	8	15	GC-FID	ST 226-01 46
Cyclohexylamine	OSHA PV2016	10 ppm (41 mg/m³)		20		200		100 min		GC-FID	ST 226-98 48
2,4-D (ISO)	NIOSH 5602	10 mg/m³	20 mg/m³	480		1000		8		GC-ECD	ST 226-58 47
Dialkyl phthalate C7-C9	OSHA 104	5 mg/m³		240		1000		4		GC-FID	ST 226-56 47
Diallyl phthalate	OSHA CSI	5 mg/m³		60		1000		1		GC-FID	ST 226-30-16 46
Diatomaceous earth (natural respirable dust)	MDHS 14/4	1.2 mg/m³		960 (1056)		2000 (2200)		8		GR	IOM 225-70A 121 FOAM 225-772 or CYC 225-69 125 FLT 225-58F 108
Dibenzoyl peroxide	NIOSH 5009	5 mg/m³		90		1500		1		HPLC-UV	F/CST 225-3-01 100
Dibismuth tritelluride	MDHS 91/2	10 mg/m³	20 mg/m³	960		2000		8		XRF	IOM 225-70A 121 FLT 225-1930 100
Diboron trioxide	MDHS 14/4	10 mg/m³	20 mg/m³	960 (1056)		2000 (2200)		8		GR	IOM 225-70A 121 FOAM 225-772 or CYC 225-69 125 FLT 225-58F 108
1,2-Dibromoethane	MDHS 88	0.5 ppm (3.9 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 84
1,2-Dibromoethane	MDHS 96	0.5 ppm (3.9 mg/m³)		10	3	20	200	8	15	GC-ECD	ST 226-01 46
Dibutyl hydrogen phosphate	NIOSH 5017	1 ppm (8.7 mg/m³)	2 ppm (17 mg/m³)	240		2000		2		GC-FPD	FLT 225-17-01 106 CST 225-2LF 109 C/HLD 225-1 114
Dibutyl phthalate	OSHA 104	5 mg/m³		240		1000		4		GC-FID	ST 226-56 46
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 67 C/HLD 225-1 114
2,2-Dichloro-4,4'-methylene dianiline (MbOCA)	MDHS 75/2	0.005 mg/m³			200		2000		each 100 min	HPLC	IOM 225-70A 121 FLT 225-58F 108
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 46
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 84
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 46
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 84
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 46
1,1-Dichloroethane	MDHS 96	100 ppm		10	3	200	200	8	15	GC-FID	ST 226-01 46
1,2-Dichloroethane (ethylene dichloride)	MDHS 72, 80	5 ppm (21 mg/m³)		24		50		8		TD, GC	ST 226-358 50
1,2-Dichloroethane (ethylene dichloride)	MDHS 88	5 ppm (21 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 84
1,2-Dichloroethane (ethylene dichloride)	MDHS 96	5 ppm (21 mg/m³)		10	3	20	200	8	15	GC-FID	ST 226-01 46
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 84
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 46
Dichlorofluoromethane	MDHS 96	10 ppm (43 mg/m³)		3		20		2.5		GC-FID	ST 226-01 46
Dichloromethane	MDHS 72, 80	100 ppm (350 mg/m³)	300 ppm (1060 mg/m³)	24		50		8		TD, GC	ST 226-358 50
Dichloromethane	MDHS 88	100 ppm (350 mg/m³)	300 ppm (1060 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 84
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 46
Dicylopentadiene	MDHS 88	5 ppm (27 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 84
Diethyl ether	MDHS 88	100 ppm (310 mg/m³)	200 ppm (620 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 84
Diethyl ether	MDHS 96	100 ppm (310 mg/m³)	200 ppm (620 mg/m³)	3		20		2.5		GC-FID	ST 226-01 46
Diethyl phthalate	OSHA 104			240		1000		4		GC-FID	ST 226-56 46
Diethyl sulphate	MDHS 89	0.05 ppm (0.32 mg/m³)								GC-MS	ST 226-357 50
Diethylamine	MDHS 96	5 ppm (15 mg/m³)	10 ppm (30 mg/m³)	24	3	50	200	8	15	GC-FID	ST 226-10 46
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 69 IT 225-22 69
Diisopropyl ether	MDHS 88	250 ppm (1060 mg/m³)	310 ppm (1310 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 84
Diisopropyl ether	MDHS 96	250 ppm (1060 mg/m³)	310 ppm (1310 mg/m³)	3		20		2.5		GC-FID	ST 226-01 46
Diisopropylamine	OSHA CSI	5 ppm (21 mg/m³)		120		1000		1		GC-ECD	IMP 225-36-2 or IMP 225-36-1 69 IT 225-22 69
Dimethoxymethane	MDHS 88	1000 ppm (3160 mg/m³)	1250 ppm (3950 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 84
Dimethoxymethane	MDHS 96	1000 ppm (3160 mg/m³)	1250 ppm (3950 mg/m³)	2		20		1.5		GC-FID	ST 226-01 46
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 46
Dimethyl phthalate	OSHA 104	5 mg/m³	10 mg/m³	240		1000		4		GC-FID	ST 226-56 47
Dimethyl sulphate	MDHS 89	0.05 ppm (0.32 mg/m³)								GC-MS	ST 226-357 50
Dimethyl sulphate	MDHS 96	0.05 ppm (0.26 mg/m³)		12		50		4		GC-ECN	ST 226-114 48
N,N-Dimethylacetamide	MDHS 96	10 ppm (36 mg/m³)	20 ppm (72 mg/m³)	48		100		8		GC-FID	ST 226-10 46
Dimethylamine	MDHS 96	2 ppm (3.8 mg/m³)	6 ppm (11 mg/m³)							GC-FID	ST 226-10 46
2-Dimethylaminoethanol	OSHA CSI	2 ppm (7.4 mg/m³)	6 ppm (22 mg/m³)	24		200		8		GC-FID	ST 226-10-04 46
N,N-Dimethylaniline	MDHS 88	5 ppm (25 mg/m³)	10 ppm (50 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 84
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 46
N,N-Dimethylethylamine	OSHA PV2096	10 ppm (30 mg/m³)	15 ppm (46 mg/m³)	40		100		40 min		GC-NPD	ST 226-18 46
Dimethylformamide	MDHS 88	5 ppm (15 mg/m³)	10 ppm (30 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 84
2,6-Dimethylheptan-4-one	MDHS 88	25 ppm (148 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 84
2,6-Dimethylheptan-4-one	MDHS 96	25 ppm (148 mg/m³)		10		20(50)		8(3.3)		GC-FID	ST 226-01 46
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 46
1,4-Dioxane	MDHS 88	20 ppm (73 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 84
1,4-Dioxane	MDHS 96	20 ppm (73 mg/m³)		10		20		8		GC-FID	ST 226-01 46

See page 224 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)		
Diphenyl ether (vapour)	MDHS 88	1 ppm (7.1 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 84
Diphenyl ether (vapour)	MDHS 96	1 ppm (7.1 mg/m³)		30		100		5		GC-FID	ST 226-35-01 46
Diphenylamine	OSHA 78	10 mg/m³	20 mg/m³	100		1000		100 min		HPLC-UV	CF/CST 225-9004 67 C/HLD 225-1 114
Diphosphorus pentasulphide	OSHA ID-128SG	1 mg/m³	2 mg/m³	960	30	2000	2000	8	15	IC	F/CST 225-802 105 C/HLD 225-1 114
Diphosphorus pentoxide	OSHA ID-111	1 mg/m³	2 mg/m³	480		1000		8		IC	F/CST 225-3-01 100 C/HLD 225-1 114
Dipropylene glycol methyl ether	MDHS 72	50 ppm (308 mg/m³)		24		50		8		TD, GC	ST 226-357 or ST 226-358 50
Dipropylene glycol methyl ether	MDHS 88	50 ppm (308 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 84
Diquat dibromide (ISO)	OSHA CSI	0.5 mg/m³	1 mg/m³	120		1000		8		HPLC/UV	IOM 225-70A 121 FLT 225-58F 108
Disodium disulphite	OSHA ID-121	5 mg/m³		960		2000		8		AA or AES	F/CST 225-3-01 100 C/HLD 225-1 114
Disodium tetraborate (anhydrous)	OSHA ID-125G	1 mg/m³		480		2000		4		ICP-AES	F/CST 225-3-01 C/HLD 225-1 or F/CST 225-3100 114 100
Disodium tetraborate (decahydrate)	OSHA ID-125G	5 mg/m³		480		2000		4		ICP-AES	F/CST 225-3-01 C/HLD 225-1 or F/CST 225-3100 114 100
Disodium tetraborate (pentahydrate)	OSHA ID-125G	1 mg/m³		480		2000		4		ICP-AES	F/CST 225-3-01 C/HLD 225-1 or F/CST 225-3100 114 100
Disulphur dichloride	OSHA CSI		1 ppm (5.6 mg/m³)	480		1000		8		CLR	IMP 225-36-2 69 IT 225-22 69
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 FLT 225-7 or CYC 225-69-35 108
2,6-Di-tert-butyl-p-cresol	OSHA PV2108	10 mg/m³		100		1000		100 min		GC-FID	ST 226-57 47
Diuron (ISO)	NIOSH 5601	10 mg/m³		240		1000		4		HPLC-UV	ST 226-58 or ST 226-30-16 46
Dusts (inhalable)	MDHS 14/4			960		2000		8		GR	IOM 225-70A 121 FLT 225-58F 108
Dusts (respirable)	MDHS 14/4			1056		2000 (2200)		8		GR	IOM 225-70A 121 FLT 225-58F 108 FOAM 225-772 or CYC 226-177 49 FLT 225-58F 108
Emery (inhalable dust)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 121 FLT 225-58F 108
Emery (respirable dust)	MDHS 14/4	4 mg/m³		1056		2200		8		GR	CYC 225-69 125 FLT 225-58F or IOM 225-70A 121 FOAM 225-772 121 FLT 225-58F 108
Endosulfan (ISO)	MDHS 94/2	0.1 mg/m³	0.3 mg/m³	240		500		8		HPLC-UV	IOM 225-70A 121 FLT 225-58F 108 ST 226-35 46
Enflurane	MDHS 80	50 ppm (383 mg/m³)		24		50		8		GC-ECD	ST 226-357 50
Enflurane	MDHS 88	50 ppm (383 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 84
Ethane-1,2-diol (particulate)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 121 FLT 225-58F 108
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 84
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 67
Ethanol	MDHS 72	1000 ppm (1920 mg/m³)		24		50		8		TD, GC	ST 226-358 50
Ethanol	MDHS 88	1000 ppm (1920 mg/m³)		diffusive	diffusive	diffusive	diffusive	8	15	GC-FID	PS 575-002 84
Ethanol	MDHS 96	1000 ppm (1920 mg/m³)		1		50		20 min		GC-FID	ST 226-01 46
2-(Methoxyethoxy)ethanol	OSHA CSI	10 ppm (50.1 mg/m³)		6		100		1		GC-FID	ST 226-01 46
2-Ethoxyethanol	MDHS 72	2 ppm (8 mg/m³)		24		50		8		TD, GC	ST 226-357 50
2-Ethoxyethanol	MDHS 80	2 ppm (8 mg/m³)		24		50		8		GC-ECD	ST 226-357 50
2-Ethoxyethanol	MDHS 88	2 ppm (8 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 84
2-Ethoxyethanol	MDHS 96	2 ppm (8 mg/m³)		5		20		4		GC-FID	ST 226-01 46
2-Ethoxyethyl acetate	MDHS 72	2 ppm (11 mg/m³)		24		50		8		TD, GC	ST 226-357 50
2-Ethoxyethyl acetate	MDHS 80	2 ppm (11 mg/m³)		24		50		8		GC-ECD	ST 226-357 or ST 226-358 50
2-Ethoxyethyl acetate	MDHS 88	2 ppm (11 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 84
Ethyl acetate	MDHS 72, 80	200 ppm	400 ppm	24		50		8		TD, GC	ST 226-357 or ST 226-358 50
Ethyl acetate	MDHS 88	200 ppm	400 ppm	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 84
Ethyl acetate	MDHS 96	200 ppm	400 ppm	10		20		8		GC-FID	ST 226-01 46
Ethyl acrylate	MDHS 72	5 ppm (21 mg/m³)	10 ppm (42 mg/m³)	24		50		8		TD, GC	ST 226-357 50
Ethyl acrylate	MDHS 88	5 ppm (21 mg/m³)	10 ppm (42 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 84
Ethyl acrylate	MDHS 96	5 ppm (21 mg/m³)	10 ppm (42 mg/m³)	10		20		8		GC-FID	ST 226-01 46
Ethyl benzene	MDHS 72	100 ppm (441 mg/m³)	125 ppm (552 mg/m³)	24		50		8		TD, GC	ST 226-357 50
Ethyl benzene	MDHS 80	100 ppm (441 mg/m³)	125 ppm (552 mg/m³)	24		50		8		GC-ECD	ST 226-357 50
Ethyl benzene	MDHS 88	100 ppm (441 mg/m³)	125 ppm (552 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 84
Ethyl benzene	MDHS 96	100 ppm (441 mg/m³)	125 ppm (552 mg/m³)	12		50		4		GC-FID	ST 226-01 46
Ethyl cyanoacrylate	OSHA 55		0.3 ppm (1.5 mg/m³)	12		100		2		HPLC-UV	ST 226-98 48
Ethyl formate	MDHS 96	100 ppm (308 mg/m³)	150 ppm (462 mg/m³)	10		20		8		GC-FID	ST 226-01 46
Ethylamine	OSHA 36	2 ppm (3.8 mg/m³)	6 ppm (11 mg/m³)	10		200		50 min		HPLC-UV	ST 226-96 48
Ethylene oxide	MDHS 88	5 ppm (9.2 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-005 84
Ethylene oxide	MDHS 96	5 ppm (9.2 mg/m³)								GC-FID	ST 226-01 46
Ethylenediamine	NIOSH 2540	1 ppm (4.3 mg/m³)		10		100		1.7		HPLC-UV	ST 226-30-18 46
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 ¶ 47
bis-2-Ethylhexyl phthalate (dioctyl phthalate)	OSHA 104	5 mg/m³		240		1000		4		GC-FID	ST 226-56 46
4-Ethylmorpholine	OSHA CSI	5 ppm (24 mg/m³)	20 ppm (96 mg/m³)	10		20		8		GC-FID	ST 226-10 46
Ferrous foundary particulate (inhalable)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 121 FLT 225-58F 108
Ferrous foundary particulate (respirable)	MDHS 14/4	4 mg/m³		1056		2200 (2000)		8		GR	CYC 225-69 125 FLT 225-58F or IOM 225-70A 121 FOAM 225-772 121 FLT 225-58F 108
Flour dust	MDHS 14/4	10 mg/m³	30 mg/m³			2000	2000	8	15	GR	IOM 225-70A 121 FLT 225-58F 108
Fluoride (inorganic as F)	Contact SKC	2.5 mg/m³		960	30	2000	2000	8	15	IC	IOM 225-70A 121 FLT 225-1930 100

See page 224 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)		
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 69 IT 225-22 69
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 48
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 46
Formic acid	NIOSH 2011	5 ppm (9.6 mg/m³)		24		200		2		IC-ECN	FLT 225-2708 106 CST 225-3- 109 ST 226-10-03 46 C/HLD 25LF 114 225-1
2-Furaldehyde (furfural)	MDHS 72	2 ppm (8 mg/m³)	5 ppm (20 mg/m³)	24		50		8		TD, GC	ST 226-357 50
2-Furaldehyde (furfural)	NIOSH 2529	5 ppm (20 mg/m³)		5		20		4		GC-FID	ST 226-118 48
2-Furaldehyde (furfural)	OSHA 72	5 ppm (20 mg/m³)		180		1000		3		TD, GC	ST 226-81A 48
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 48
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 94
Glycerol mist	NIOSH 0600	10 mg/m³		375		2500		2.5		GR	CYC 225-01-02 125 FLT 225-5- 105 CST 225-3LF 109 C/HLD 37-P 114 225-1
Grain dust	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 121 FLT 225-58F 108
Graphite (inhalable dust)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 121 FLT 225-58F 108
Graphite (respirable dust)	MDHS 14/4	4 mg/m³		1056		2200		8		GR	CYC 225-69 125 FLT 225-58F or IOM 225-70A 121 FOAM 225-772 121 FLT 225-58F 108
Gypsum (inhalable dust)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 121 FLT 225-58F 108
Gypsum (respirable dust)	MDHS 14/4	4 mg/m³		1056		2200		8		GR	CYC 225-69 125 FLT 225-58F or IOM 225-70A 121 FOAM 225-772 121 FLT 225-58F 108
Halogeno platinum compounds as Pt	MDHS 91/2	0.002 mg/m³		30		50		8		AAS	IOM 225-70A 121 FLT 225-1930 100
Halothane	MDHS 80	10 ppm (82 mg/m³)		24		50		8		GC-ECD	ST 226-357 or ST 226-358 50
Halothane	MDHS 88	10 ppm (82 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 84
Hardwood dust	MDHS 14/4	5 mg/m³								GR	IOM 225-70A 121 FLT 225-58F 108
Heptan-2-one	MDHS 88	50 ppm (237 mg/m³)	100 ppm (475 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 84
Heptan-2-one	MDHS 96	50 ppm (237 mg/m³)	100 ppm (475 mg/m³)							GC-FID	ST 226-01 46
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 84
Heptan-3-one	MDHS 96	35 ppm (166 mg/m³)	100 ppm (475 mg/m³)							GC-FID	ST 226-01 46
n-Heptane	MDHS 72, 80	500 ppm (2085 mg/m³)								TD, GC	ST 226-357 50
n-Heptane	MDHS 88	500 ppm (2085 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 84
n-Heptane	MDHS 96	500 ppm (2085 mg/m³)								GC-FID	ST 226-01 46
Hexan-2-one	MDHS 88	5 ppm (21 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 84
Hexan-2-one	MDHS 96	5 ppm (21 mg/m³)		10		20		8		GC-FID	ST 226-01 46
n-Hexane	MDHS 72	20 ppm (72 mg/m³)		24		50		8		TD, GC	ST 226-357 50
n-Hexane	MDHS 80	20 ppm (72 mg/m³)		24		50		8		GC-ECD	ST 226-358 50
n-Hexane	MDHS 88	20 ppm (72 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 84
n-Hexane	MDHS 96	20 ppm (72 mg/m³)		4		20		3.3		GC-FID	ST 226-01 46
1,6-Hexanolactam (dust & vapour)	OSHA PV2012	10 mg/m³	20 mg/m³	100	15	1000	1000	8	15	HPLC-UV	ST 226-57 47
1,6-Hexanolactam (dust only)	MDHS 14/4	1 mg/m³	3 mg/m³	1056		2000 (2200)		8		GR	IOM 225-70A 121 FOAM 225-772 or CYC 225-69 125 FLT 225-58F 108
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 67 C/HLD 225-1 114
Hydrogen bromide	OSHA ID-165SG		3 ppm (10 mg/m³)	48	4.5	200	300	4	15	IC	ST 226-10-03 46
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 46
Hydrogen cyanide	MDHS 56/3		10 ppm (11 mg/m³)	40	15	200	1000	3	15	ISE	IMP 225-36-2 69 IT 225-22 69 IOM 225-70A 121 FLT 225-1930£ 100
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 121 FLT 225-1930† 100
Hydrogen peroxide	OSHA ID-126SG	1 ppm (1.4 mg/m³)	2 ppm (2.8 mg/m³)	100		1000		100 min		DPP	IMP 225-36-2 or IMP 225-36-5 69 IT 225-22 69
Hydrogen sulphide	OSHA 1008	5 ppm (7 mg/m³)	10 ppm (14 mg/m³)							IC	ST 226-177 49
Hydroquinone	MDHS 98/3	0.5 mg/m³			30		2000		15	HPLC-UV	IOM 225-70A 121 FLT 225-58F 108 ST 226-35-03 47
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 84
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 46
2-Hydroxypropyl acrylate	OSHA PV2078	0.5 ppm (2.7 mg/m³)		10		100		100 min		GC-FID	ST 226-73 47
Indene	OSHA CSI	10 ppm (48 mg/m³)	15 ppm (72 mg/m³)	10		20		8		GC-FID	ST 226-110 48
Indium & compounds (as In)	MDHS 91/2	0.1 mg/m³	0.3 mg/m³	960		2000		8		XRF	IOM 225-70A 121 FLT 225-1930 100
Iodine	NIOSH 6005		0.1 ppm (1.1 mg/m³)	15		1000		15		IC	ST 226-67 47
Iodoform	OSHA CSI	0.6 ppm (9.8 mg/m³)	1 ppm (16 mg/m³)	10		100		100 min		GC-ECD	F/CST 225-706 108 C/HLD 225-1 114 ST 226-93 48
Iodomethane	MDHS 88	2 ppm (12 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 84
Iodomethane	MDHS 96	2 ppm (12 mg/m³)		10		20		8		GC-FID	ST 226-01 46
Iron oxide (fume) (as Fe)	MDHS 91/2	5 mg/m³	10 mg/m³	960		2000		8		XRF	IOM 225-70A 121 FLT 225-1930 100
Iron salts (as Fe)	MDHS 91/2	1 mg/m³	2 mg/m³	960		2000		8		XRF	IOM 225-70A 121 FLT 225-1930 100
Isobutyl acetate	MDHS 72	150 ppm (724 mg/m³)	187 ppm (903 mg/m³)	24		50		8		TD, GC	ST 226-357 50
Isobutyl acetate	MDHS 88	150 ppm (724 mg/m³)	187 ppm (903 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 84
Isobutyl acetate	MDHS 96	150 ppm (724 mg/m³)	187 ppm (903 mg/m³)	10		20		8		GC-FID	ST 226-01 46
Isocyanates (all) (as -NCO)	MDHS 25/4	0.02 mg/m³	0.07 mg/m³	960		2000		8		HPLC	IOM 225-79A 121 FLT 225-9011 67

See page 224 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)		
Isoflurane	MDHS 80	50 ppm (383 mg/m³)		24		50		8		GC-ECD	ST 226-357 50
Isoflurane	MDHS 88	50 ppm (383 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 84
Isooctyl alcohol (mixed isomers)	MDHS 88	50 ppm (271 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 84
Isopentane	MDHS 88	600 ppm (1800 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 84
Isopentane	MDHS 96	600 ppm (1800 mg/m³)		varies		varies		varies		GC-FID	ST 226-01 46
Isopropyl acetate	MDHS 72		200 ppm (849 mg/m³)	24		50		8		TD, GC	ST 226-357 50
Isopropyl acetate	MDHS 88		200 ppm (849 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 84
Isopropyl acetate	MDHS 96		200 ppm (849 mg/m³)	9		50		3		GC-FID	ST 226-01 46
Isopropyl chloroformate			1 ppm (5.1 mg/m³)								
Kaolin (respirable dust)	MDHS 14/4	2 mg/m³		1056		varies		8		GR	CYC 225-69 125 FLT 225-58F or IOM 225-70A 121 FOAM 225-772 121 FLT 225-58F 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 225-36-2 or IMP 225-36-5 69 IT 225-22 69
Lead & inorganic compounds	MDHS 91/2			960	30	2000	2000	8	15	XRF	IOM 225-70A 121 FLT 225-1930 100
Limestone (inhalable dust)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 121 FLT 225-58F 108
Limestone (respirable dust)	MDHS 14/4	4 mg/m³		1056		2200		8		GR	CYC 225-69 125 FLT 225-58F or IOM 225-70A 121 FOAM 225-772 121 FLT 225-58F 108
Liquified petroleum gas	OSHA CSI	1000 ppm (1750 mg/m³)	1250 ppm (2180 mg/m³)							DET TB	DT 810-100A 75
Lithium hydride	MDHS 14/4	0.025 mg/m³		1056		2200		8		GR	CYC 225-69 125 FLT 225-58F or IOM 225-70A 121 FOAM 225-772 121 FLT 225-58F 108
Lithium hydroxide	OSHA ID-121		1 mg/m³	960		2000		8		AA or AES	F/CST 225-3-01 100 C/HLD 225-1 114
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 121 FLT 225-1913 100
Magnesite (inhalable dust)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 121 FLT 225-58F 108
Magnesite (respirable dust)	MDHS 14/4	4 mg/m³		1056		2200		8		GR	CYC 225-69 125 FLT 225-58F or IOM 225-70A 121 FOAM 225-772 121 FLT 225-58F 108
Magnesium oxide (as Mg) (inhalable dust)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 121 FLT 225-58F 108
Magnesium oxide (as Mg) (respirable dust)	MDHS 14/4	4 mg/m³		1056		2200		8		GR	CYC 225-69 125 FLT 225-58F or IOM 225-70A 121 FOAM 225-772 121 FLT 225-58F 108
Malathion	OSHA 62	10 mg/m³		60		1000		1		GC-FPD	ST 226-30-16 46
Maleic anhydride	MDHS 72	1 mg/m³	3 mg/m³	24		50		8		TD, GC	ST 226-357 50
Manganese & inorganic compounds	MDHS 91/2	0.5 mg/m³		960		2000		8		XRF	IOM 225-70A 121 FLT 225-1930 100
Manganese in welding fume	ISO 10882-1	0.5 mg/m³				750				GR	H/SET 225-6200 MINI 225-6201 CAL 225-6202 FLT 225-8050 108
Marble (total inhalable)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 121 FLT 225-58F 108
Marble (total respirable)	MDHS 14/4	4 mg/m³		1056		2200		8		GR	CYC 225-69 125 FLT 225-58F or IOM 225-70A 121 FOAM 225-772 121 FLT 225-58F 108
Mercaptoacetic acid	OSHA CSI	1 ppm (3.8 mg/m³)		120		1000		2		HPLC-UV	IMP 225-36-1 69 IT 225-22 69
Mercury & compounds (except alkyl compounds)	NIOSH 6009	0.02 mg/m³		48		200		4		AA	ST 226-17-1A 46 F/CST 225-3-01 100
Metalworking fluids (water-mix)	MDHS 95/2					2000				AAS/ICP-AES	IOM 225-70A FLT 225-1930 100
Methacrylic acid	OSHA PV2005	20 ppm (72 mg/m³)	40 ppm (143 mg/m³)	24		100		4		HPLC-UV	ST 226-30-08 46
Methanethiol	OSHA 26	0.5 ppm (1 mg/m³)		20		200		100 min		GC-FPD	F/CST 225-9007 67 C/HLD 225-1 114
Methanol	MDHS 72	200 ppm (266 mg/m³)	250 ppm (333 mg/m³)	24		50		8		TD, GC	ST 226-358 50
Methanol	MDHS 80	200 ppm (266 mg/m³)	250 ppm (333 mg/m³)	24		50		8		GC-ECD	ST 226-357 50
Methanol	MDHS 96	200 ppm (266 mg/m³)	250 ppm (333 mg/m³)	5	3	20	200	4	15	GC-FID	ST 226-51 47
2-Methoxyethanol	MDHS 72, 80	1 ppm (3 mg/m³)		24		50		8		TD, GC	ST 226-358 50
2-Methoxyethanol	MDHS 88	1 ppm (3 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 84
2-Methoxyethanol	MDHS 96	1 ppm (3 mg/m³)		10		20		8		GC-FID	ST 226-01 46
2-Methoxyethyl acetate	MDHS 72	1 ppm (5 mg/m³)		8		15		8		TD, GC	ST 226-37 47
2-Methoxyethyl acetate	MDHS 88	1 ppm (5 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 or PS 575-001 84
2-Methoxyethyl acetate	MDHS 96	1 ppm (5 mg/m³)		10	7.5	20	500	8	15	GC-FID	ST 226-01 46
1-Methoxypropan-2-ol	MDHS 72	100 ppm (375 mg/m³)	150 ppm (560 mg/m³)							TD, GC	ST 226-357 50
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 84
1-Methoxypropyl acetate	MDHS 72	50 ppm (274 mg/m³)	100 ppm (548 mg/m³)							TD, GC	ST 226-358 46
1-Methoxypropyl acetate	MDHS 88	50 ppm (274 mg/m³)	100 ppm (548 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 84
1-Methoxypropyl acetate	MDHS 96	50 ppm (274 mg/m³)	100 ppm (548 mg/m³)							GC-FID	ST 226-01 46
Methyl acetate	MDHS 72, 80	200 ppm (616 mg/m³)	250 ppm (770 mg/m³)	24		50		8		TD, GC	ST 226-358 50
Methyl acetate	MDHS 88	200 ppm (616 mg/m³)	250 ppm (770 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 84
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 46
Methyl acrylate	MDHS 72	5 ppm (18 mg/m³)	10 ppm (36 mg/m³)	24		50		8		TD, GC	ST 226-357 50
Methyl acrylate	MDHS 88	5 ppm (18 mg/m³)	10 ppm (36 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 84
Methyl acrylate	MDHS 96	5 ppm (18 mg/m³)	10 ppm (36 mg/m³)	varies		varies		varies		GC-FID	ST 226-01 46
Methyl cyanoacrylate	OSHA 55		0.3 ppm (1.4 mg/m³)	12	3	100	200	8	15	HPLC-UV	ST 226-98 48
Methyl ethyl ketone peroxide (MEKP)	OSHA 77		0.2 ppm (1.5 mg/m³)		15		1000		15	HPLC-UV	ST 226-93 48
Methyl isocyanate	OSHA 54		0.02 ppm	15		50		5		HPLC-FD	ST NA SKC

See page 224 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.
Methyl methacrylate	MDHS 72	50 ppm (208 mg/m³)	100 ppm (416 mg/m³)	24		50		8		TD, GC	ST 226-357 50
Methyl methacrylate	MDHS 80	50 ppm (208 mg/m³)	100 ppm (416 mg/m³ m³)	25		50		8		GC-ECD	ST 226-115 48
Methyl methacrylate	MDHS 88	50 ppm (208 mg/m³)	100 ppm (416 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 84
Methyl methacrylate	MDHS 96	50 ppm (208 mg/m³)	100 ppm (416 mg/m³)	5		20		4		GC-FID	ST 226-30-06 46
1-Methyl-2-pyrrolidone	MDHS 72	25 pm (103 mg/m³)	75 ppm (309 mg/m³)	24		50		8		TD, GC	ST 226-357 50
1-Methyl-2-pyrrolidone	MDHS 96	25 pm (103 mg/m³)	75 ppm (309 mg/m³)	10		200		8		GC-FID	ST 226-01 46
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 50
N-Methyl-2-pyrrolidone	MDHS 96	10 ppm (40 mg/m³)	20 ppm (80 mg/m³)	10		200		8		GC-FID	ST 226-01 46
Methylacryonitrile	OSHA 37	1 ppm (2.8 mg/m³)		20		200		100 min		GC-NPD	ST 226-01 46
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 69 IT 225-22 69
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 84
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 46
Methylcyclohexanol	MDHS 88	50 ppm (237 mg/m³)	75 ppm (356 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 84
Methylcyclohexanol	MDHS 96	50 ppm (237 mg/m³)	75 ppm (356 mg/m³)	12		25		8		GC-FID	ST 226-01 46
2-Methylcyclohexanone	MDHS 72, 80	50 ppm (233 mg/m³)	75 ppm (350 mg/m³)	24		50		8		TD, GC	ST 226-357 50
2-Methylcyclohexanone	MDHS 96	50 ppm (233 mg/m³)	75 ppm (350 mg/m³)	4		20		3.3		GC-FID	ST 226-01 46
4,4-Methylenebis(orthochloroaniline) (MbOCA)	MDHS 75/2			200		500				HPLC	IOM 225-70A 121 FLT 225-58F or F/CST 225-9004 67
4,4'-Methylenedianiline (MDA)	MDHS 75/2	0.01 ppm (0.08 mg/m³)		200		2000			100 min	HPLC	IOM 225-70A 121 FLT 225-58F or F/CST 225-9004 67
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 84
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 46
5-Methylhexan-2-one	MDHS 72	20 ppm (95 mg/m³)	100 ppm (475 mg/m³)	24		50		8		TD, GC	ST 226-357 50
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 84
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 84
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 46
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 50
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 84
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 46
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 46
2-Methylpropan-1-ol	MDHS 72	50 ppm (154 mg/m³)	75 ppm (231 mg/m³)	24		50		8		TD, GC	ST 226-357 50
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 84
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 46
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 84
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 46
Mica (total inhalable)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 121 FLT 225-58F 108
Mica (total respirable)	MDHS 14/4	0.8 mg/m³		1056		2200		8		GR	CYC 225-69 125 FLT 225-58F or IOM 225-70A 121 FOAM 225-772 121 FLT 225-58F 108
Molybdenum compounds (insoluble) (as Mo)	MDHS 91/2	10 mg/m³	20 mg/m³	240		1000		8		XRF	IOM 225-70A 121 FLT 225-1930 100
Molybdenum compounds (soluble) (as Mo)	MDHS 91/2	5 mg/m³	10 mg/m³	240		1000		8		XRF	IOM 225-70A 121 FLT 225-1930 100
Monochloroacetic acid	NIOSH 2008	0.3 ppm (1.2 mg/m³)		48		100		8		IC-ECN	ST 226-47-01 47
Nickel (insoluble compounds except nickel tetracarbonyl) (as Ni)	MDHS 91/2	0.5 mg/m³		960		2000		8		XRF	IOM 225-70A 121 FLT 225-1930 100
Nickel (soluble compounds except nickel tetracarbonyl) (as Ni)	MDHS 91/2	0.1 mg/m³		960		2000		8		XRF	IOM 225-70A 121 FLT 225-1930 100
Nicotine	MDHS 96	0.5 mg/m³	1.5 mg/m³	360		1000		6		GC-NPD	ST 226-30-04 46
Nitric acid	NIOSH 7903		1 ppm (2.6 mg/m³)	48	3	200	200	4	15	IC	ST 226-10-03 46
Nitrobenzene	MDHS 72	0.2 ppm (1 mg/m³)		24		50		8		TD, GC	ST 226-357 50
Nitrobenzene	MDHS 96	0.2 ppm (1 mg/m³)		48		100		8		GC-FID	ST 226-10 46
Nitrogen oxides	NIOSH 6014			1.5-6		25		1-4		VIS	ST 226-40 47
Nitromethane	NIOSH 2527	100 ppm (254 mg/m³)	150 ppm (381 mg/m³)	2.4		20		2		GC-NSD	ST 226-111A 48
2-Nitropropane	MDHS 96	5 ppm (19 mg/m³)				20		1.5		GC-FID	ST 226-110 48
di-n-Octyl phthalate	OSHA 104			240		1000		4		GC-FID	ST 226-56 46
Oil mist	MDHS 84/2			960	30	2000	2000	8	15	GR	IOM 225-70A 121 FLT 225-1930 100
Orthophosphoric acid	NIOSH 7903	1 mg/m³	2 mg/m³	48	3	200	200	4	15	IC	ST 226-10-03 46
Orthotoluidine	MDHS 75/2			200		500				HPLC	IOM 225-70A 121 FLT 225-58F 108 ST 226-35 46
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 121 FLT 225-1930 100
Oxalic acid	OSHA PV2115	1 mg/m³	2 mg/m³	100		1000		100 min		IC	FLT 225-701 108 CST 225-3LF 109 C/HLD 225-1 114
2,2'-Oxydiethanol	NIOSH 5523	23 ppm (101 mg/m³)		60		1000		1		GC-FID	ST 226-57 47
Ozone	OSHA ID-214		0.2 ppm (0.4 mg/m³)	90		500		3		IC	CF/CST 225-9014 67 C/HLD 225-1 114
Paracetamol (inhalable dust)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 121 FLT 225-58F 108
Paraffin wax (fume)	OSHA PV2047	2 mg/m³	6 mg/m³	100		1000		100 min		GC-FID	F/CST 225-706 108 C/HLD 225-1 114
Paraquat dichloride (ISO) (respirable dust)	MDHS 14/4	0.08 mg/m³		1056		2200		8		GR	CYC 225-69 125 FLT 225-58F or IOM 225-70A 121 FOAM 225-772 121 FLT 225-58F 108
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 69 IT 225-22 69

See page 224 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)		
Pentaerythritol (inhalable dust)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 121 FLT 225-58F 108
Pentaerythritol (respirable dust)	MDHS 14/4	4 mg/m³		1056		2200 (2000)		8		GR	CYC 225-69 125 FLT 225-58F or IOM 225-70A 121 FOAM 225-772 121 FLT 225-58F 108
Pentan-2-one	MDHS 88	200 ppm (716 mg/m³)	250 ppm (895 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 84
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 46
Pentan-3-one	MDHS 88	200 ppm (716 mg/m³)	250 ppm (895 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 84
Pentane	MDHS 72, 80	600 ppm (1800 mg/m³)		varies		varies		varies		TD, GC	ST 226-358 50
Pentane	MDHS 88	600 ppm (1800 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 84
Pentane	MDHS 96	600 ppm (1800 mg/m³)		varies		varies		varies		GC-FID	ST 226-01 46
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 84
Pentyl acetates (all isomers)	MDHS 96	50 ppm (270 mg/m³)	100 ppm (541 mg/m³)	varies		varies		varies		GC-FID	ST 226-01 46
Peroxodisulphate salts	MDHS 79/2			960	30	2000	2000	8	15	IC	IOM 225-70A 121 FLT 225-1930 100
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 48
p-Phenyldiamine	OSHA 87	0.1 mg/m³		100		1000		100 min		HPLC-UV	CF/CST 225-9004 67 C/HLD 225-1 114
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 50
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 84
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 46
Phorate (ISO)	NIOSH 5600	0.05 mg/m³	0.2 mg/m³	240		1000		4		GC-FPD	ST 226-58 47
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 48
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 49
Phosphorus pentachloride	OSHA CSI	0.1 ppm (0.87 mg/m³)	0.2 ppm (2 mg/m³)	48		200		4		CLR	F/CST 225-803 105 IMP 225-36-1 69 IT 225-22 69 SCN 225-26 115
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 69 IT 225-22 69
Phosphorus yellow	OSHA CSI	0.1 mg/m³	0.3 mg/m³	96		200		8		GC-FPD	ST 226-35-03 47
Phthalic anhydride	MDHS 62/2	4 mg/m³	12 mg/m³	960	30	2000	2000	8	15	HPLC	IOM 225-70A 121 FLT 225-58F 108 ST 226-35 46
Picloram (ISO)	OSHA PV2049	10 mg/m³	20 mg/m³	60		1000		1		GR	FLT 225-5-37-P 105 CST 225-3LF 109
Picric acid	OSHA CSI	0.1 mg/m³	0.3 mg/m³	180		1500		2		HPLC-UV	IOM 225-70A 121 FLT 225-1930 100
Piperazine	OSHA CSI	0.1 mg/m³	0.3 mg/m³	10		100		8		HPLC-UV	ST 226-30-18 46
Piperazine dihydrochloride	MDHS 14/4	0.1 mg/m³	0.3 mg/m³	120		1000		8		GC-NPD	IOM 225-70A 121 FLT 225-58F 108
Piperidine	OSHA CSI	1 ppm (3.5 mg/m³)		6		200		30 min		GC-FID	ST 226-01 46
Plaster of Paris (inhalable dust)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 121 FLT 225-58F 108
Plaster of Paris (respirable dust)	MDHS 14/4	4 mg/m³		1056		2200		8		GR	CYC 225-69 125 FLT 225-58F or IOM 225-70A 121 FOAM 225-772 121 FLT 225-58F 108
Polychlorinated biphenyls (PCB)	ASTM 4861	0.1 mg/m³		960		2000		8		GC-ECD	PUF 226-124 49 PUF 226-92 48
Polychlorinated biphenyls (PCB)	OSHA PV2088	0.1 mg/m³		60		1000		1		GC-ECD	ST 226-30-16 46
Polyvinylchloride (inhalable dust)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 121 FLT 225-58F 108
Polyvinylchloride (respirable dust)	MDHS 14/4	4 mg/m³		1056		2200		8		GR	CYC 225-69 125 FLT 225-58F or IOM 225-70A 121 FOAM 225-772 121 FLT 225-58F 108
Portland cement (inhalable dust)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 121 FLT 225-58F 108
Portland cement (respirable dust)	MDHS 14/4	4 mg/m³		1056		2200		8		GR	CYC 225-69 125 FLT 225-58F or IOM 225-70A 121 FOAM 225-772 121 FLT 225-58F 108
Potassium hydroxide	MDHS 14/4		2 mg/m³	10		2000		5		AA or AES	IOM 225-70A 121 FLT 225-1930 100
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 49
Propan-1-ol	MDHS 72	200 ppm (500 mg/m³)	250 ppm (625 mg/m³)	24		50		8		TD, GC	ST 226-358 50
Propan-1-ol	MDHS 72	200 ppm (500 mg/m³)	250 ppm (625 mg/m³)	24		50		8		TD, GC	ST 226-358 50
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 84
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 84
Propan-1-ol	MDHS 96	200 ppm (500 mg/m³)	250 ppm (625 mg/m³)	varies		varies		varies		GC-FID	ST 226-01 46
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 46
Propan-2-ol	MDHS 72	400 ppm (999 mg/m³)	500 ppm (1250 mg/m³)	24		50		8		TD, GC	ST 226-358 50
Propan-2-ol	MDHS 88	400 ppm (999 mg/m³)	500 ppm (1250 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 84
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 46
Propane-1,2-diol (particulates)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 121 FLT 225-58F 108
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 47
Propionic acid	OSHA CSI	10 ppm (31 mg/m³)	15 ppm (46 mg/m³)	10		20		8		GC-FID	ST 226-15 46
Propoxur (ISO)	NIOSH 5601	0.5 mg/m³	2 mg/m³	240		1000		4		HPLC-UV	ST 226-58 or ST 226-30-16 47
Propranolol	MDHS 14/4	2 mg/m³	6 mg/m³	960		2000		8		GR	IOM 225-70A 121 FLT 225-58F 108
n-Propyl acetate	MDHS 72	200 ppm (849 mg/m³)	250 ppm (1060 mg/m³)	24		50		8		TD, GC	ST 226-357 50
n-Propyl acetate	MDHS 88	200 ppm (849 mg/m³)	250 ppm (1060 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 84
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 46

See page 224 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)		
Propylene oxide	MDHS 72	5 ppm (12 mg/m³)		24		50		8		TD, GC	ST 226-357 50
Propylene oxide	MDHS 80, 88	5 ppm (12 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 84
Propylene oxide	MDHS 96	5 ppm (12 mg/m³)		5		20		4.2		GC-FID	ST 226-01 46
Pulverized fuel ash (inhalable)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 121 FLT 225-58F 108
Pulverized fuel ash (respirable)	MDHS 14/4	4 mg/m³		1056		2200 (2000)		8		GR	CYC 225-69 125 FLT 225-58F or IOM 225-70A 121 FOAM 225-772 121 FLT 225-58F 108
Pyrethrum	OSHA 70	1 mg/m³		60		1000		1		GC-ECD	ST 226-30-16 46
Pyridine	MDHS 72	5 ppm (16 mg/m³)	10 ppm (33 mg/m³)	24		50		8		TD, GC	ST 226-357 50
Pyridine	MDHS 88	5 ppm (16 mg/m³)	10 ppm (33 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 84
Pyridine	MDHS 96	5 ppm (16 mg/m³)	10 ppm (33 mg/m³)	40		100		8		GC-FID	ST 226-01 46
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 67
Pyrocatechol	OSHA PV2014	5 ppm (23 mg/m³)		100		1000		100 min		HPLC-UV	ST 226-57 47
Refractory ceramic & special purpose fibres		5 mg/m³ (1 fibre/mm)		240		1000		8		PCM	FLT/CL 225-54A 121 FLT 225-1913 100
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 121 FLT 225-1930 100
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 121 FLT 225-1930 100
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 108
Rotenone (ISO)	NIOSH 5007	5 mg/m³	10 mg/m³	120		1000		2		HPLC-UV	FLT 225-17-01 106 CST 225-2LF 109 C/HLD 225-1 114
Rouge (total inhalable)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 121 FLT 225-58F 108
Rouge (total respirable)	MDHS 14/4	4 mg/m³		1056		2200 (2000)		8		GR	CYC 225-69 125 FLT 225-58F or IOM 225-70A 121 FOAM 225-772 121 FLT 225-58F 108
Rubber fume	MDHS 47/3	0.6 mg/m³		960	500	2000	2000	8		GR + SE	IOM 225-70A 121 FLT 225-58F 108
Rubber process dust	MDHS 14/4	6 mg/m³		960	30	2000	2000	8	15	GR	IOM 225-70A 121 FLT 225-58F 108
Selenium & compounds (except hydrogen selenide) (as Se)	MDHS 91/2	0.1 mg/m³		960		2000		8		XRF	IOM 225-70A 121 FLT 225-1930 100
Silane		0.5 ppm (0.67 mg/m³)	1 ppm (1.3 mg/m³)	480		1000		4		AAS-GF	IMP 225-36-2 69 IMP 225-36-5 69
Silica amorphous (inhalable dust)	MDHS 14/4	6 mg/m³		960	30	2000	2000	8	15	GR	IOM 225-70A 121 FLT 225-5-25 105 IT 225-22 69
Silica amorphous (respirable dust)	MDHS 14/4	2.4 mg/m³		1056	30	2200 (2000)	2200/ 2000	8	15	GR	CYC 225-69 125 FLT 225-5-25 105 IOM 225-70A 121 FOAM 225-772 121 FLT 225-5-25 105
Silica fused (respirable dust)	MDHS 14/4	0.08 mg/m³		1056	33	2200	2200/ 2000	8	15	GR	CYC 225-69 125 FLT 225-5-25 105 IOM 225-70A 121 FOAM 225-772 121 FLT 225-5-25 105
Silica, crystalline (respirable)	MDHS 101/2	0.1 mg/m³		1056		2200 (2000)		8		IR / XRD	CYC 225-69 125 FLT 225-5-25 or IOM 225-70A 121 FOAM 225-772 121 FLT 225-5-25
Silica, crystalline (respirable)	MDHS 14/4	0.1 mg/m³		1056		2200 (2000)		8		GR	CYC 225-69 125 FLT 225-5-25 105 IOM 225-70A 121 FOAM 225-772 121 FLT 225-5-25 105
Silicone carbide (not whiskers) (total inhalable)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 121 FLT 225-58F 108
Silicone carbide (not whiskers) (total respirable)	MDHS 14/4	4 mg/m³		1056		2200		8		GR	CYC 225-69 125 FLT 225-58F or IOM 225-70A 121 FOAM 225-772 121 FLT 225-58F 108
Silver (soluble compounds as Ag)	MDHS 91/2	0.01 mg/m³		960	30	2000	2000	8	15	XRF	IOM 225-70A 121 FLT 225-1930 100
Silver, metallic	MDHS 91/2	0.1 mg/m³		240	60	2000	2000	0.5	2	XRF	IOM 225-70A 121 FLT 225-1930 100
Sodium azide (as NaN3)	OSHA ID-211	0.1 mg/m³	0.3 mg/m³		5		1000		5 min	IC-UV	ST 226-55 47 FLT 225-5-37-P 105 CST 225-2LF 109 SPC 225-23 115 C/HLD 225-1 114
Sodium hydrogen sulphite	OSHA ID-121	5 mg/m³		960		2000		8		AA or AES	F/CST 225-3-01 100 C/HLD 225-1 114
Sodium hydroxide	MDHS 14/4		2 mg/m³	960		2000		8		GR	IOM 225-70A 121 FLT 225-58F 108
Sodium-2-(2,4-dichlorophenoxy) ethyl sulphate	OSHA CSI	10 mg/m³	20 mg/m³	varies	varies	varies	varies			CLR	IOM 225-70A 121 FLT 225-1930 100
Softwood dust	MDHS 14/4	5 mg/m³		960	30	2000	2000	8	15	GR	IOM 225-70A 121 FLT 225-58F 108
Starch (respirable)	MDHS 14/4	4 mg/m³		1056		2200 (2000)		8		GR	CYC 225-69 125 FLT 225-58F or IOM 225-70A 121 FOAM 225-772 121 FLT 225-58F 108
Starch (total inhalable)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 121 FLT 225-58F 108
Styrene	MDHS 72, 80	100 ppm (430 mg/m³)	250 ppm (1080 mg/m³)	24		50		8		TD, GC	ST 226-357 50
Styrene	MDHS 88	100 ppm (430 mg/m³)	250 ppm (1080 mg/m³)	diffusive	diffusive	diffusive	diffusive	8	15	GC-FID	PS 575-006 84
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 46
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 121 FLT 225-58F 108
Sulfotep (tetraethyl dithisopyrophosphate, TEPD)	OSHA CSI	0.1 mg/m³		480		1000		100 min		GC-FPD	ST 226-30-16 46
Sulphuric acid	NIOSH 7903	0.05 mg/m³		48		200		4		IC	ST 226-10-03 46
Sulphuric acid	OSHA 113	0.05 mg/m³		480		2000		4		IC	PPI 225-3861 FLT 225-5 105 IS 225-388 SP 225-27 115
Sulphuryl difluoride	NIOSH 6012	5 ppm (21 mg/m³)	10 ppm (42 mg/m³)	10		20		8		IC-ECN	ST 226-16 46

See page 224 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)		
Talc (respirable dust)	MDHS 14/4	1 mg/m³		1056	33	2200	2200	8	15	GR	CYC 225-69 125 FLT 225-58F or IOM 225-70A 121 FOAM 225-772 121 FLT 225-58F 108
Tantalum	MDHS 91/2	5 mg/m³	10 mg/m³	240	6	2000	2000	0.5	2	XRF	IOM 225-70A 121 FLT 225-1930 100
Tellurium & compounds (except hydrogen telluride) as Te	MDHS 91/2	0.1 mg/m³		960		2000		8		XRF	IOM 225-70A 121 FLT 225-1930 100
Terphenyls (all isomers)	OSHA CSI		0.5 ppm (4.8 mg/m³)		8.5		1700		5	HPLC-FD	F/CST 225-709 108 C/HLD 225-1 114
1,1,2,2-Tetrabromomethane	MDHS 96	0.5 ppm (7.2 mg/m³)		96		200		8		GC-FID	ST 226-10 46
Tetracarbonylnickel	OSHA CSI		0.1 ppm (0.24 mg/m³)	480		1000		8		AA-GF	F/CST 225-709 108 C/HLD 225-1 114 IMP 225-36-2 69 IT 225-22 69
1,1,2,2-Tetrachloroethane	MDHS 88			diffusive	diffusive	diffusive	diffusive	8	15	GC-FID	PS 575-001 84
1,1,2,2-Tetrachloroethane	MDHS 96			10	3	20	200	8	15	GC-FID	ST 226-01 46
Tetrachloroethylene	MDHS 72, 80	50 ppm (345 mg/m³)	100 ppm (689 mg/m³)	24		50		8		TD, GC	ST 226-357 50
Tetrachloroethylene	MDHS 88	50 ppm (345 mg/m³)	100 ppm (689 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 84
Tetrachloroethylene	MDHS 96	50 ppm (345 mg/m³)	100 ppm (689 mg/m³)	3		20		2.5		GC-FID	ST 226-01 46
Tetrachlorophthalic anhydride	MDHS 62/2			240	7.5	500	500	8	15	HPLC	IOM 225-70A 121 FLT 225-58F 108 ST 226-35 46
Tetraethyl lead (as Pb)				960	120	2000	2000	8	60	AA	IOM 225-70A 121 FLT 225-1930 100
Tetrahydrofuran	MDHS 88	50 ppm (150 mg/m³)	100 ppm (300 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 84
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 46
Tetrasodium pyrophosphate	OSHA ID-111	5 mg/m³		960		2000		8		GR IC	FLT 225-5-37-P 105 CST 225-2LF 109 C/HLD 225-1 114
Thallium (soluble compounds) (as Tl)	MDHS 91/2	0.1 mg/m³		960		2000		8		XRF	IOM 225-70A 121 FLT 225-1930 100
Thionyl chloride	OSHA CSI		1 ppm (4.9 mg/m³)		15		1000		15	IC	IMP 225-36-2 or IMP 225-36-5 69 IT 225-22 69
Tin compounds (inorganic except SnH_4) (as Sn)	MDHS 91/2	2 mg/m³	4 mg/m³	960		2000		8		XRF	IOM 225-70A 121 FLT 225-1930 100
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 46 F/CST 225-706 108 C/HLD 225-1 114
Titanium dioxide - respirable	MDHS 14/4	4 mg/m³		1056		2200 (2000)		8		GR	CYC 225-69 125 FLT 225-58F or IOM 225-70A 121 FOAM 225-772 121 FLT 225-58F 108
Titanium dioxide (inhalable)	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 121 FLT 225-58F 108
Toluene	MDHS 72	50 ppm (191 mg/m³)	100 ppm (384 mg/m³)	24		50		8		TD, GC	ST 226-357 50
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 50
Toluene	MDHS 88	50 ppm (191 mg/m³)	100 ppm (384 mg/m³)	diffusive	diffusive	diffusive	diffusive	8	15	GC-FID	PS 575-001 84
Toluene	MDHS 96	50 ppm (191 mg/m³)	100 ppm (384 mg/m³)	6	3	100	200	1	15	GC-FID	ST 226-01 46
o-Toluidine	MDHS 75/2	0.2 ppm (0.89 mg/m³)		200		500				HPLC	IOM 225-70A 121 FLT 225-58F 108 ST 226-35
o-Toluidine	MDHS 96	0.2 ppm (0.89 mg/m³)		48		100		8		GC-FID	ST 226-10 46
o-Toluidine	MDHS 96			48		100		8		GC-FID	ST 226-10 46
Tributyl phosphate (all isomers)	NIOSH 5034	5 mg/m³	5 mg/m³	90		1500		1		GC-FPD	F/CST 225-3-01 100 C/HLD 225-1 114
1,2,4-Trichlorobenzene	MDHS 80	1 ppm	5 ppm	varies		varies		varies		GC-ECD	FLT 225-17-03 Special order 106 ST 226-30-04 46 CST C/HLD 225-1 114
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 50
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 84
1,1,1-Trichloroethane	MDHS 96	100 ppm (555 mg/m³)	200 ppm (1110 mg/m³)		3		200		15	GC-FID	ST 226-01 46
1,1,2-Trichloroethane	MDHS 72			24		50		8		TD, GC	ST 226-358 50
1,1,2-Trichloroethane	MDHS 88			diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 84
1,1,2-Trichloroethane	MDHS 96			10	3	20	200	8	15	GC-FID	ST 226-01 46
Trichloroethylene	MDHS 72, 80	100 ppm (550 mg/m³)	150 ppm (820 mg/m³)	24		50		8		TD, GC	ST 226-357 50
Trichloroethylene	MDHS 88	100 ppm (550 mg/m³)	150 ppm (820 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 84
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 46
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 48
Triethylamine	OSHA PV2060	2 ppm (8 mg/m³)	4 ppm (17 mg/m³)	5	3	100	200	50	15	GC-FID	ST 226-98 48
Triglycidyl isocyanurate (TGIC)	MDHS 85/2	0.1 mg/m³		960	30	2000	2000	8	15	HPLC	IOM 225-70A 121 FLT 225-58F 108
Trimellitic anhydride	MDHS 62/2	0.04 mg/m³	0.12 mg/m³	240	7.5	500	500	8	15	HPLC	IOM 225-70A 121 FLT 225-58F 108 ST 226-35 46
Trimethylbenzenes (all isomers or mixtures)	MDHS 72, 80	25 ppm (125 mg/m³)		24		50		8		TD, GC	ST 226-357 50
Trimethylbenzenes (all isomers or mixtures)	MDHS 88	25 ppm (125 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 84
3,5,5-Trimethylcyclohex-2-enone	MDHS 72		5 ppm (29 mg/m³)	24		50		8		TD, GC	ST 226-357 50
3,5,5-Trimethylcyclohex-2-enone	MDHS 88		5 ppm (29 mg/m³)	diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-002 84
3,5,5-Trimethylcyclohex-2-enone	MDHS 96		5 ppm (29 mg/m³)	10		20(50)		8(3.3)		GC-FID	ST 226-01 46
2,4,6-Trinitrotoluene	OSHA 44	0.5 mg/m³		60		1000		1		GC-TEA-EAP	ST 226-56 47
Tri-o-tolyl phosphate	NIOSH 5037	0.1 mg/m³	0.3 mg/m³	90		1000		1.5		GC-FPD	F/CST 225-3-01 100 C/HLD 225-1 114
Triphenyl phosphate	NIOSH 5038	3 mg/m³	6 mg/m³	240		1000		4		GC-FPD	F/CST 225-3-01 100 C/HLD 225-1 114
Tungsten & insoluble compounds (as W) & others	MDHS 91/2	5 mg/m³	10 mg/m³	960		2000		8		XRF	IOM 225-70A 121 FLT 225-1930 100
Tungsten & soluble compounds (as W)	MDHS 91/2	1 mg/m³	3 mg/m³	960		2000		8		XRF	IOM 225-70A 121 FLT 225-1930 100

See page 224 for abbreviations.

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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)		
Turpentine	NIOSH 1551	100 ppm (566 mg/m³)	150 ppm (850 mg/m³)	10		20(50)		8(3.3)		GC-FID	ST 226-01 46
Vanadium pentoxide	MDHS 91/2	0.05 mg/m³		960		2000		8		XRF	IOM 225-70A 121 FLT 225-1930 100
Vanadium pentoxide	NIOSH 7504	0.05 mg/m³		600		2600		4		XRD	F/CST 225-803 CYC 225-01-02 125 C/HLD 225-1 114
Vinyl chloride	MDHS 96	3 ppm (7.8 mg/m³)		5		50		1.6		GC-FID	ST 226-01 46
Vinylidene chloride	MDHS 88	10 ppm (40 mg/m³)		diffusive	diffusive	diffusive	diffusive			GC-FID	PS 575-001 84
Vinylidene chloride	MDHS 96	10 ppm (40 mg/m³)		5		20		4		GC-FID	ST 226-01 46
Welding fume	ISO 10882-1					750				GR	H/SET 225-6200 MINI 225-6201 CAL 225-6202 FLT 225-8050 108
Wood dust (inhalable)	MDHS 14/4			1056		2000		8		GR	IOM 225-70A 121 FLT 225-58F 108
Wood dust (respirable)	MDHS 14/4			1056		2200		8		GR	CYC 225-69 125 FLT 225-58F or IOM 225-70A 121 FOAM 225-772 121 FLT 225-58F 108
Wool process dust	MDHS 14/4	10 mg/m³		960		2000		8		GR	IOM 225-70A 121 FLT 225-58F 108
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 50
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 84
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 46
Yttrium	MDHS 91/2	1 mg/m³	3 mg/m³	960		2000		8		XRF	IOM 225-70A 121 FLT 225-1930 100
Zinc chloride (fume)	MDHS 91/2	1 mg/m³	2 mg/m³	960		2000		8		XRF	IOM 225-70A 121 FLT 225-1930 100
Zinc distearate (inhalable dust)	MDHS 91/2	10 mg/m³	20 mg/m³	960		2000		8		XRF	IOM 225-70A 121 FLT 225-1930 100
Zinc distearate (respirable dust)	MDHS 91/2	4 mg/m³		1056		2200 (2000)		8		XRF	CYC 225-69 125 FLT 225-1930 or IOM 225-70A 121 FOAM 225-772 121 FLT 225-1930 100
Zinc oxide	MDHS 14/4			960		2000		8		GR	IOM 225-70A 121 FLT 225-58F 108
Zirconium compounds (as Zr)	MDHS 91/2	5 mg/m³	10 mg/m³	960		2000		8		XRF	IOM 225-70A 121 FLT 225-1930 100

√ *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 224 for abbreviations.

Abbreviations

Collecting Equipment

AC	Accu-CAP Capsule
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
PT	Plastic Tubing
PUF	PUF Cartridge
SB	Sample Bag
SBLK	Bulk Sorbent
SC	Solu-CAP
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