Analytical methods

AA	Atomic absorption.
AAS	Atomic absorption spectroscopy.
AED	Atomic emission detection.
AES	Atomic emission spectroscopy.
CA	Chromotropic acid assay.
CI	Colorimetric.
CLR	Spectrophotometric method or colorimeter.
DET TB	Detector tube, color-indicating.
DID	Discharge ionization detector.
DPCSP	Differential pulse cathodic stripping polarography.
DR	Direct-reading.
DRI	Direct-reading instrument.
DPP	Differential pulse polarography.
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.
FD	Fluorescence detector.
FID	Flame ionization detector.
FPD	Flame photometric detector.
FLAG	Flame arsine generation.
FLUOR	Fluorescence.
GC	Gas chromatography.
GF	Graphite furnace.
GR	Gravimetric analysis.
HD	Heat desorption.
HPLC	High-pressure liquid chromatography
IC	Ion chromatography.
ICP-DCP	Inductively coupled plasma directly coupled plasma spectroscopy.
IR	Infrared spectrophotometry.
IRA	Immunoradiometric assay.
ISE	Ion-specific electrode.
MD	Multi-detector.
MS	Mass spectrometry.
N ACT	Neutron activation.
NPD	Nitrogen-phosphorus detector.
NSD	Nitrogen-specific detector.
NVM	No validated method.
PASV	Portable anodic stripping voltammetry.
PCM	Phase contrast microscopy.
PCR	Polymerase chain-reaction.
PES	Plasma emission spectrometry.
P GC	Portable gas chromatography.
PID	Photo-ionization detector.
SCD	Sulfur chemiluminescence detector.
SPOT	Chemical spot test.
TCD	Thermal conductivity detector.
TEA	Gas chromatography with thermal energy analyzer.
TEM	Transmission electron microscopy.
TITRA	Titration.
UV	UV detector.
VAS	Visible absorption spectrophotometry.
W	Wipe.
X DIF	X-ray diffraction.
X FL	X-ray fluorescence.

Using the Guides

*The paper guide is in 2 sections, with the **UK guide** appearing first.*
Both sections are alphabetical.
Before using the guide take a moment to review the notes, and familiarise yourself with the two keys - for collection media and for analytical methods.

UK Methods MDHS series from the HSE

The guide aimed to cover most common substances and the maximum exposure limits (WEL's) listed at the time of printing. For a full list of HSE occupational exposure standards (OES's) and WEL's, consult booklet EH 40 published by the HSE.

#	Where a sample relates to a respirable limit, in most cases, the IOM multi fraction sampler can be used with FOAM insert. If it is not listed in this guide against your hazard check with SKC before commencing. The cyclone could be used if you do not have an IOM multi fraction sampler. Crystalline respirable fractions are suggested to be sampled with a cyclone.
Σ	Weld fume – this limit is without prejudice to any occupational exposure limits for individual components in the fume.
FLT*	Treated filter required - refer to method. Not all filters listed are sold ready pre-treated, please check with SKC if in doubt. SKC recommends the use of a stainless steel cassette when using treated filters with the IOM
ST ‡	Thermal desorption capable tube may be required, refer to method.
†	CELLOSOLVE is a registered trademark of Union Carbide.
◊	New Indicative Occupational Exposure Limits brought in Dec 2001. Awaiting MDHS paper.

This guide should not be used as an alternative to obtaining EH40 and reading the relevant methodology publications referred to. These can be obtained from HSE Books, and major bookstores.

USA Methods OSHA NIOSH ASTM EPA

Agency standards for OSHA listings represent the OSHA PELS reported in the 29 CFR 1910.1000 part 1910, section 1000.

∞	The sampling parameters shown here 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 steps to adjust parameters so that the required detection limits can be obtained.
CSI	OSHA Chemical Sampling Information, OSHA CD-ROM A2000-4.
E L	Excursion Limit.
LFC	NIOSH standard: Lowest Feasible Concentration.
N.A.. SKC	Not currently available from SKC.
NON	Non-agency reference - call SKC to obtain a copy.
N V M	No validated method.
OEL	U.S. Army Occupational Exposure Limit.
SPECIAL ORDER	Because of limited shelf-life, certain sorbent tubes are available only as special order items. Contact the SKC Sales Department.
*	EPA methods usually do not involve sampling for TWA and STEL compliance levels, but rather for evaluating and maintaining air emissions compliance. For further details, see the method.
* *	Optional, use filter if particulates present.
†	Tube choice depends on VOCs in the atmosphere; see EPA Method TO-17 for details. Use two identical tubes, one at each flow rate.
‡	Filter must be chemically treated.
•	Other collection liquids may be more suited to target micro-organisms.
¥	Requires additional O-ring. Contact SKC Technical Support.
#	Sorbent tube must be chemically treated before sampling.
Δ	1.0 micron Teflon filter is a NIOSH recommended substitute filter for the 0.8 micron PVC filter (no longer available) originally recommended in NIOSH Method 7904.
§	FNL (filter funnel) is required for laboratory analysis only, not for air sampling.
Ω	Use 226-44-02 if RH > 50%.
Σ	Use an oxidizer tube if sampling in the presence of sulphur dioxide.
_	Use opaque cassettes if sampling in bright sunlight.
+	Method pending, call SKC Technical Support for details.

Collecting Equipment

SKC offers a wide range of media.
Most collecting equipment listed in the guide will be found in this catalogue.
If you cannot find a particular product call SKC Technical Support for assistance.

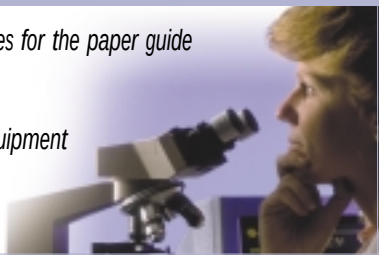
Products

AOC	Air-O-Cell Cassette
BI	Bioaerosol Impactor
BS	BioS ampler
C	Capsule
CAN	Canister
CF/CST	Coated Filter in Preloaded Cassette
C/HLD	Filter Cassette and Cyclone Holder
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	Preloaded Filter Cassette
FLT	Filter
FLT/CL	Filter Cassette with Cowl
FNL	Filter Funnel
IMP	Impinger
IOM	IOM 'Multidust' Particulate Sampler
IT	Impinger Trap
JAR	Jar
MEM	Micro-Environmental Monitor
PCH	Patch
PEM	Personal Environmental Monitor
PK	Passive kit
PS	Passive Sampler
PUF	PUF Cartridge
SB	Sample Bag
SCAN	Silcosteel cans
SCN	Screen
SH	Sampling Head
SM TB	Smear Tab
SP	Support Pads
SP C	Spacer
SPK	Silcosteel Passive Kit
SSC	Stainless Steel Cassette
ST	Sorbent Tube
T	Tape
TK	Test Kit
TMP	Template
VT	ViaTrap for use with BioSampler
W	Wipe

About the Guides

Ensure that you use the correct notes for the paper guide you are using!

Analytical method and collecting Equipment keys are the same for both Guides.



for updates ***www.skcltd.com***

Air Sampling Guide *to Health & Safety Executive methods*

A to 2-Bu Chemical Hazard	MDHS Method No	SAMPLING INFORMATION								Analytical Method	SKC Collecting Equipment and Part No
		OEL		Vol litre		Rate ml/min		Time			
		TWA (ppm)	STEL (ppm)	TWA	STEL	TWA	STEL	TWA hr	STEL min		
Acetaldehyde	70 (R12, 36/37, 40)	20ppm (37 mg/m³)	50ppm (92mg/m³)			1000		8	15	Iodoform reaction	IMP 225-36-5 IT 225-22
Acetic Anhydride	EH64 - see Osha 102	0.5ppm (2.5 mg/m³)	2ppm (10 mg/m³)	7.5	7.5	50	500	2.5	15	GC-NPD	CF/CST 225-9010 C/HLD 225-1
Acetone	88, 96	500ppm (1210 mg/m³)	1500ppm (3620 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
Acetonitrile	72, 80, 88, 96	40ppm (68 mg/m³)	60ppm (102 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
o-Acetylsalicylic acid	70	5mg/m³		120		1000		8		HPLC-UV	IOM 225-70A FLT 225-58F
Acrylaldehyde (Acrolein)	R11, 20/21/22, 36	0.1ppm (0.23 mg/m³)	0.3ppm (0.7 mg/m³)							GC-NPD	ST 226-118
Acetic acid	96			24		50		8		GC-FID	ST 226-01
Acrylamide	57	0.3 mg/m³		50	3	100	200	8	15	HPLC-UV	IMP 225-36-1 IT 225-22
Acrylonitrile	80	2ppm (4.4 mg/m³)		24		50		8		GC-ECD	ST ‡ 500 mg Porapak N
Acrylonitrile	88	2ppm (4.4 mg/m³)		Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	ST ‡ 500 mg Porapak N
Acrylonitrile	96	2ppm (4.4 mg/m³)		Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-002
Allyl Alcohol	88	2ppm (4.8 mg/m³)	4ppm (9.7 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
Allyl Alcohol	96 - see Niosh 1402	2ppm (4.8 mg/m³)	4ppm (9.7 mg/m³)	10	3	20(50)	200	8(3.3)	15	GC-FID	ST 226-01
Aluminium alkyl compounds	R14, 17, 34	2 mg/m³									
Aluminium metal inhalable dust	14/3	10 mg/m³		960		2000		8		GR	IOM 225-70A FLT 225-58F
Aluminium metal respirable dust	14/3	4 mg/m³		1056		2200		8		GR	CYC 225-69 FLT 225-58F
Aluminium oxides inhalable dust	14/3	10 mg/m³		960		2000		8		GR	IOM 225-70A FLT 225-58F
Aluminium oxides respirable dust	14/3	4 mg/m³		1056		2200		8		GR	CYC 225-69 FLT 225-58F
Aluminium salts, soluble	see Osha ID 121	2 mg/m³		960		2000		8		AA or AES	IOM 225-70A FLT 225-19
2-Aminoethanol	96	3ppm (7.6 mg/m³)	6ppm (15 mg/m³)	10		20		8		GC-FID	ST 226-10-04
Amines, Aromatic (see individual compounds)	75									CI	(skin) PCH 769-3001 or 769-1031 or 769-1005
Amines, Aromatic (see individual compounds)	75									CI	(surface) 769-1025 or 769-1005
2,2'-Aminodi(ethylamine)	see Niosh 2540	1ppm (4.3 mg/m³)		10		100		1.7		HPLC-UV	ST 226-30-18
Ammonia, anhydrous	CD156® - see Niosh 6015	25ppm (18 mg/m³)	35ppm (25 mg/m³)	72	3	150	200	8	15	VAS	ST 226-10-06 F/CST 225-3-01**
Ammonium chloride, fume	14/3 - see Osha ID 188	10 mg/m³	20 mg/m³	960	30	2000	2000	8	15	GR, IC-ECN	F/CST 225-803SC C/HLD 225-1
Ammonium sulphamidate	see Osha CSI	10 mg/m³	20 mg/m³	100		1000			100	IC	F/CST 225-709 C/HLD 225-1
Aniline	96	1ppm (4 mg/m³)		200		2000			100	HPLC	IOM 225-70A # FLT 225-58F*
Antimony & compounds (as Sb)	91	0.5 mg/m³				2000		8		AAS	IOM 225-70A FLT 225-19
Aromatic Carboxylic Acid Anhydrides (see individual compounds)	62										
Arsenic & Compounds (Except Arsine) as Se	41/2	0.1 mg/m³		960	30	2000	2000	8	15	AA	IOM 225-70A # FLT 225-58F*
Arsenic & Compounds (Except Arsine) as Se	91			240		2000		2		AAS	IOM 225-70A # FLT 225-19*
Arsine	see Niosh 6001	0.05ppm (0.16 mg/m³)		10	3	20	200	8	15	AA-GF	ST 226-01
Asbestos, Chrysotile alone	39/4			240	40	1000	4000	4	10	PCM	HLD 225-54 FLT 225-60F or 225-1913
Asbestos, w/Crocidolite/Amosite/mixtures	39/4			240	40	1000	4000	4	10	PCM	HLD 225-54 FLT 225-60F or 225-1913
Asphalt, petroleum fumes	see Niosh 5503	5 mg/m³	10 mg/m³	960		2000		8		HPLC-UV-FLV	FLT "tared" PTFE 2.0um FLT 225-16 ST 226-39
Azodicarbonamide	92	1 mg/m³	3 mg/m³	960	30	2000	2000	8	15	HPLC	225-79A FLT 225-58F, FLT 225-1708
Barium compounds soluble (as Ba)	91	0.5 mg/m³		960		2000		8		AA	IOM 225-70A #FLT 225-19
Barium sulphate inhalable dust	14/3	10 mg/m³		960		2000		8		GR	IOM 225-70A FLT 225-58F
Barium sulphate respirable dust	14/3	4 mg/m³		1056		2200		8		GR	CYC 225-69 FLT 225-58F
Benzene	80	1ppm		24		50		8		GC-ECD	ST 226-357
Benzene	60	1ppm		2.5		5		8		GC-FID	ST‡ 200mg Chromosorb/300mg Charcoal
Benzene	72	1ppm		2.5		5		8		GC-FID	ST various sorbents refer to method
Benzene	88	1ppm		Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
Benzene	96	1ppm		10	3	20	200	8	15	GC-FID	ST 226-01
Benzyl butyl phthalate	32	5 mg/m³		50		10		8		GC-FID	ST 226-35 (x 2)
Benzyl butyl phthalate	96	5 mg/m³		50		10		8		GC-FID	ST 226-35 (x 2)
Benzyl Chloride	28, 72, 88, 96	0.5ppm (2.6 mg/m³)	1.5ppm (7.9 mg/m³)	refer to method						GC-FID	ST 226-01
Beryllium & Beryllium compounds (as Be)	29/2	0.002 mg/m³		960	120	2000	2000	8	60	AA	IOM 225-70A FLT 225-19 or 225-58F
Bis(chloromethyl) ether	Pending	0.001ppm (0.005 mg/m³)									
Bis (2-Ethylhexyl) Phthalate (Dioctyl phthalate)	32	5 mg/m³	10 mg/m³	50	50	100	500	8	100	GC-FID	ST 226-35 (x 2)
Bis (2-Ethylhexyl) Phthalate (Dioctyl phthalate)	96	5 mg/m³	10 mg/m³	50		10		8		GC-FID	ST 226-35 (x 2)
Bornan-2-one	88	2ppm (13 mg/m³)	3ppm (19 mg/m³)	10		20(50)		8(3.3)		GC-FID	ST 226-01
Bornan-2-one	96	2ppm (13 mg/m³)	3ppm (19 mg/m³)	10		20(50)		8(3.3)		GC-FID	ST 226-01
Boron Tribromide	70		1ppm (10 mg/m³)		5		1000		5	IC	IMP 225-36-2 or 225-36-5 IT 225-22
Bromacil (ISO)	see Osha CSI	1ppm (11 mg/m³)	2ppm (22 mg/m³)	50		1000		50		HPLC-UV	IMP 225-36-1 IT 225-22
Bromine	see Niosh 6011	0.1ppm (0.66 mg/m³)	0.3ppm (2 mg/m³)	250	15	1000	1000	4	15	IC	CF/CST 225-9006 C/HLD 225-1
Bromomethane	EH72/3 - see Niosh 2520	5ppm (20 mg/m³)	15ppm (59 mg/m³)	3		50		1		GC-FID	ST 226-38-02 & ST 226-44-02 (if RH 50%+)
1,3-Butadiene	53	10ppm (22 mg/m³)		5	7.5	10	500	8	15	GC-FID	ST‡ 900 mg 13X MOLECULAR SIEVE
1,3-Butadiene	63/2	10ppm (22 mg/m³)		Diffusive	Diffusive	Diffusive	Diffusive	8	15	GC-FID	ST‡ 900mg 13X MOLE SIEVE with silicon membrane
1,3-Butadiene	88	10ppm (22 mg/m³)				10	20	8	15	GC-FID	ST 226-37
1,3-Butadiene	80	10ppm (22 mg/m³)		24		50		8		GC-ECD	ST 226-358
1,3-Butadiene	88	10ppm (22 mg/m³)		Diffusive	Diffusive	Diffusive	Diffusive	8	15	GC-FID	PS 575-001
1,3-Butadiene	96	10ppm (22 mg/m³)		10		20		8		GC-FID	ST 226-09
Butan-1-ol	72		50ppm (154 mg/m³)	24		50		8		GC-ECD	ST 226-358
Butan-1-ol	80		50ppm (154 mg/m³)	24		50		8		GC-ECD	ST 226-358
Butan-1-ol	88		50ppm (154 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
Butan-1-ol	96		50ppm (154 mg/m³)	10	3	20-50	200	8	15	GC-FID	ST 226-01
Butan-2-ol	72★	200ppm (600 mg/m³)	300ppm (899 mg/m³)	24		50		8		GC-ECD	ST 226-357 or ST 226-358
Butan-2-ol	88★	200ppm (600 mg/m³)	300ppm (899 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
Butan-2-one (MEK)	96	200ppm (600 mg/m³)	300ppm (899 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-002
2-Butoxyethanol acetate											
2-Butoxyethanol	72	25ppm	50ppm	24		50		8		GC-ECD	ST 226-358
2-Butoxyethanol	80	25ppm	50ppm	24		50		8		GC-ECD	ST 226-358
2-Butoxyethyl acetate		20pppm	50ppm	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-002

Air Sampling Guide to Health & Safety Executive methods

n-B to Ch Chemical Hazard	MDHS Method No	SAMPLING INFORMATION								Analytical Method	SKC Collecting Equipment and Part No
		OEL		Vol litre		Rate ml/min		Time			
		TWA (ppm)	STEL (ppm)	TWA	STEL	TWA	STEL	TWA hr	STEL min		
n-Butylacrylate	80★	1ppm (5 mg/m³)	5ppm (26 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	ST ‡ 200 mg Tenax
n-Butylacrylate	88★	1ppm (5 mg/m³)	5ppm (26 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
n-Butyl chloroformate		1ppm (5.7 mg/m³)									
Butyl acetate	72	150ppm (724 mg/m³)	200ppm (966 mg/m³)	10	3	20	200	8	15	GC-FID	ST 226-01
Butyl acetate	80	150ppm (724 mg/m³)	200ppm (966 mg/m³)	24		50		8		GC-ECD	ST 226-358
Butyl acetate	88	150ppm (724 mg/m³)	200ppm (966 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
Butyl acetate	96	150ppm (724 mg/m³)	200ppm (966 mg/m³)	10	3	20-50	200	8(3.3)	15	GC-FID	ST 226-01
Butyl lactate		5ppm (30 mg/m³)		10		200		8		GC-FID	ST 226-01
sec-Butyl acetate	88	200ppm (966 mg/m³)	250ppm (1210 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
sec-Butyl acetate	96	200ppm (966 mg/m³)	250ppm (1210 mg/m³)	10	0.75	20	50	8	15	GC-FID	ST 226-01
tert-Butyl acetate	72	200ppm (966 mg/m³)	250ppm (1210 mg/m³)	10	3	20	200	8	15	GC-FID	ST 226-01
tert-Butyl acetate	88	200ppm (966 mg/m³)	250ppm (1210 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
Butyl CELLOSOLVE®	72							8		GC-FID	ST‡ 200mg Tenax
Butyl CELLOSOLVE® acetate				10	7.5	20	500	8	15	GC-FID	ST 226-01
Butyl CELLOSOLVE® solvent				10	7.5	20	500	8	15	GC-FID	ST 226-01
2-sec-Butylphenol	see Osha CSI	5ppm (31 mg/m³)		10		100		106 mins		HPLC-UV	ST 226-95
Cadmium & Compounds (Except oxide fume and sulphide pigments)	10/2	0.025 mg/m³		960	30	2000	2000	8	15	AAS	IOM 225-70A FLT 225-19
Cadmium & Compounds (Except oxide fume and sulphide pigments)	91	0.025 mg/m³		960	30	2000	2000	8	15	AAS	IOM 225-70A FLT 225-19
Cadmium oxide fume (as Cd)	10/2	0.025 mg/m³	0.05 mg/m³	960	30	2000	2000	8	15	AAS	IOM 225-70A FLT 225-19
Cadmium oxide fume (as Cd)	91	0.025 mg/m³	0.05 mg/m³	960		2000		8		XF L	IOM 225-70A FLT 225-19
Cadmium sulphide and pigments (as Cd)	10/2	0.03 mg/m³		1056		2000		8		AAS	IOM 225-70A FOAM * 225-772
Cadmium sulphide and pigments (as Cd)	10/2	0.03 mg/m³		1056		2000		8		AAS	CYC 225-69 FLT 225-19
Cadmium sulphide and pigments (as Cd)	91	0.03 mg/m³		960		2000		8		GR	CYC 225-69 FLT 225-19
Caesium hydroxide	91	2 mg/m³		960		2000		8		GR	IOM 225-70A FLT 225-19
Calcium carbonate – inhalable	14/3	10 mg/m³		960		2000		8		GR	IOM 225-70A FLT 225-58F
Calcium carbonate – respirable	14/3	4 mg/m³		1056		2200		8		GR	CYC 225-69 FLT 225-58F
Calcium cyanamide	see Osha ID 121	0.05 mg/m³	1 mg/m³	960		2000		8		AA or AES	IOM 225-70A FLT 225-19
Calcium hydroxide	see Niosh 7020	5 mg/m³		240		1000		4		AA-F	IOM 225-70A FLT 225-19
Calcium oxide	see Niosh 7020	2 mg/m³		240		1000		4		AA-F	IOM 225-70A FLT 225-19
Calcium silicate – inhalable	14/3	10 mg/m³		960		2000		8		GR	IOM 225-70A FLT 225-58F
Calcium silicate – respirable	14/3	4 mg/m³		1056		2200		8		GR	CYC 225-69 FLT 225-58F
e-Caprolactam (as dust) 1,6-hexanolactam	14/3★										
e-Caprolactam (as dust & vapour)											
1,6-hexanolactam	pending★										
Captan (ISO)	94	5 mg/m³	15 mg/m³	240		500		8		HPLC-UV	IOM 225-70A FLT 225-58F #ST 226-35
Carbon black (see 'Dusts')	14/3	3.5 mg/m³	7 mg/m³								
Carbon dioxide	refer to NIOSH/OSHA	5000ppm (9150 mg/m³)	15000ppm (27400 mg/m³)								DET TB call for details
Carbon disulphide	EH64, EH1 refers			10	7.5	20	500	8	15	GC-FPD	ST 226-01
Carbon monoxide	refer to NIOSH/OSHA	30ppm (35 mg/m³)	200ppm (232 mg/m³)								DET TB call for details
Carbon tetrachloride	72	2ppm (13 mg/m³)			12		200		60	GC-FID	ST 226-01
Carbon tetrachloride	80	2ppm (13 mg/m³)		24		50		8		GC-ECD	ST 226-332
Carbon tetrachloride	88	2ppm (13 mg/m³)		15	3	50	200	5	15	GC-FID	ST 226-01
Carbon tetrachloride	96	2ppm (13 mg/m³)		10		20-50		8		GC-FID	ST 226-01
Cellulose – inhalable dust	14/3	10 mg/m³	20 mg/m³	960		2000		8		GR	IOM 225-70A FLT 225-58F
Cellulose – respirable dust	14/3	4 mg/m³		1056		2200		8		GR	CYC 225-69 FLT 225-58F
Chlorine	70	0.5ppm (1.5 mg/m³)	1ppm (2.9 mg/m³)	240		1000		4		CLR	IMP 225-36-2 or 225-36-5 IT 225-22
Chlorine dioxide	EH64 - see Osha ID 202	0.1ppm (0.28 mg/m³)	0.3ppm (0.84 mg/m³)	120	7.5	500	500	4	15	IC-ECN	IMP 225-36-2 or 225-36-5 IT 225-22
Chloroacetaldehyde	70		1ppm (3.3 mg/m³)	480		1000		8		Iodorm reaction	IMP 225-36-2 or 225-36-5 IT 225-22
2-Chloroacetophenone	see Osha CSI	0.05ppm (0.32 mg/m³)		12		200		1		HPLC-UV	ST 226-35-02
Chlorobenzene	72	1ppm	3ppm	10		20(50)		8(3.3)		GC-FID	ST 226-01
Chlorobenzene	88	1ppm	3ppm	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
Chlorobenzene	96	1ppm	3ppm	10		20-50		8		GC-FID	ST 226-01
Chlorodifluoromethane	96	1000ppm (3590 mg/m³)		5		50		20 mins		GC-FID	ST 226-121
Chloroethane	96	50ppm		3		50		1		GC-FID	ST 226-09
2-Chloroethanol	88		1ppm (3.4 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
2-Chloroethanol	96		1ppm (3.4 mg/m³)	10		20(50)		8(3.3)		GC-FID	ST 226-38
1-Chloro-2,3-epoxypropane (Epichlorohydrin)	88	0.5ppm (1.9 mg.m³)	1.5 ppm (5.8 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
1-Chloro-2,3-epoxypropane (Epichlorohydrin)	80	0.5ppm (1.9 mg.m³)	1.5 ppm (5.8 mg/m³)	24		50		8		GC-ECD	ST 226-358
1-Chloro-2,3-epoxypropane (Epichlorohydrin)	96	0.5ppm (1.9 mg.m³)	1.5 ppm (5.8 mg/m³)	10		20-50		8		GC-FID	ST 226-01
Chloroform	80	2ppm (9.9 mg/m³)		24		50		8		GC-ECD	ST 226-357
Chloroform	88	2ppm (9.9 mg/m³)		Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
Chloroform	96	2ppm (9.9 mg/m³)		10		200		8		GC-FID	ST 226-01
Chloromethane	see Niosh 1001	50ppm (105 mg/m³)	100ppm (210 mg/m³)		0.5		100		5	GC-FID	ST 226-09 ST 226-01
1-Chloro-4-nitrobenzene	see Niosh 2005	1 mg/m³	2 mg/m³	96		200		8		GC-FID	ST 226-10
Chlorosulphonic acid	70	1 mg/m³		refer to method							
Chloropyrifos (ISO)	94	0.2 mg/m³	0.6 mg/m³	240		500		8		HPLC-UV	IOM 225-70A FLT 225-58F #ST 226-35
Chromium and Inorganic Compounds											
Chromium	12/2	0.5 mg/m³		960		2000		8		AAS	IOM 225-70A FLT 225-19
Chromium	91	0.5 mg/m³		960		2000		8		XF L	IOM 225-70A FLT 225-19
Chromium II compounds (as Cr)	12/2	0.5 mg/m³		960		2000		8		AAS	IOM 225-70A FLT 225-19
Chromium II compounds (as Cr)	91	0.5 mg/m³		960		2000		8		XF L	IOM 225-70A FLT 225-19
Chromium III compounds (as Cr)	12/2	0.5 mg/m³		960		2000		8		AAS	IOM 225-70A FLT 225-19
Chromium III compounds (as Cr)	91	0.5 mg/m³		960		2000		8		XF L	IOM 225-70A FLT 225-19

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Air Sampling Guide to Health & Safety Executive methods

Ch to Di Chemical Hazard	MDHS Method No	SAMPLING INFORMATION								Analytical Method	SKC Collecting Equipment and Part No
		OEL		Vol litre		Rate ml/min		Time			
		TWA (ppm)	STEL (ppm)	TWA	STEL	TWA	STEL	TWA hr	STEL min		
Chromium (III) Compounds in Chromium Plating Mist				960	120	2000	2000	8	60	CLR	IOM 225-70A # FLT 225-8-05*
Chromium VI compounds (as Cr)	52/3	0.05mg/m³		240	30	2000	2000	2	15	CLR	IOM 225-70A FLT 225-8-05‡ or Chromic acid test kit
Chromium VI compounds (as Cr)	61	0.05mg/m³		960		2000		8		CLR	IOM 225-70A FLT 225-8-05‡ or Chromic acid test kit
Chromium (Total and Speciated) in Chromium Plating Mist				960	120	2000	2000	8	60	CLR	IOM 225-70A # FLT 225-8-05*
Chromium (Total Hexavalent) Compounds in air	61			960	120	2000	2000	8	60	CLR	IOM 225-70A # FLT 225-8-05*
Chromium (VI) in Chromium Plating Mist	52/3			960	120	2000	2000	8	60	CLR	IOM 225-70A # FLT 225-8-05*
Coal Tar Pitch Volatiles	68			960		2000		8		GR + SE	Sample head NA SKC FLT 225-47
Cobalt & Cobalt Compounds (as Co)	30/2	0.1 mg/m³		960	30	2000	2000	8	15	AA	IOM 225-70A FLT 225-19
Cobalt & Cobalt Compounds (as Co)	91	0.1 mg/m³		240		2000		2		AAS	IOM 225-70A # FLT 225-19*
Colophony	83			960	30	2000	2000	8	15	GC-FID	HLD 225-8050K (kit) FLT MCE 13mm
Copper fume	91	0.2 mg/m³		960		2000		8		ICP-AES	IOM 225-70A FLT 225-19
Copper dust & mists (as Cu)	91	1 mg/m³	2 mg/m³	960		2000		8		AES	IOM 225-70A FLT 225-19
Cotton dust	14/3	2.5 mg/m³		960		2000		8		GR	IOM 225-70A FLT 225-58F
Cristobalite (Respirable)	76		1250ppm (8890 mg/m³)	See Guidance Note EH42						X DIF	CYC 225-69 FLT 225-8-05 CST 225-62
Cryofluorane (INN)	96	1000ppm (7110 mg/m³)	50ppm (250 mg/m³)	3		20		2.5		GC-FID	ST 226-01 ST 226-09
Cumene	72	25ppm (125 mg/m³)	50ppm (250 mg/m³)	24		50		8		GC-ECD	ST 226-358
Cumene	80	25ppm (125 mg/m³)	50ppm (250 mg/m³)	24		50		8		GC-ECD	ST 226-358
Cumene	88	25ppm (125 mg/m³)	50ppm (250 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
Cumene	96	25ppm (125 mg/m³)		10		20	50	8	15	GC-FID	ST 226-01
Cyanamide	see Osha CSI	2 mg/m³		10		100		100 mins		HPLC-UV	ST 226-30-18
Cyanides (except HCN, Cyanogens & Cyanogens chloride)	see Niosh 7904	5 mg/m³		120		500		4		ISE	FLT 225-705 CST 225-2LF IMP 225-36-2 IT 225-22 C/HLD 225-1
Cyanogen chloride	EH64 - see Osha CSI		0.3ppm (0.77 mg/m³)		1		200		5	GC-NPD	ST 226-117
Cyclohexane	88	100ppm (350 mg/m³)	300ppm (1050 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
Cyclohexane	96	100ppm (350 mg/m³)	300ppm (1050 mg/m³)	10		20		8		GC-FID	ST 226-01
Cyclohexanol	88	50ppm (208 mg/m³)		Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
Cyclohexanol	96	50ppm (208 mg/m³)		10		20-50		8(3.3)		GC-FID	ST 226-01
Cyclohexanone	72	10ppm	20ppm	24		50		8		GC-ECD	ST 226-357
Cyclohexanone	88	10ppm	20ppm	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-003
Cyclohexanone	96	10ppm	20ppm	10		20	50	8	15	GC-FID	ST 226-01
Cyclohexylamine	see Osha PV2016	10ppm (41 mg/m³)		20		200		100 mins		GC-FID	ST 226-98
2,4-D (ISO)	see Niosh 5602	10 mg/m³	20 mg/m³	480		1000		8		GC-ECD	ST 226-58
Diallyl 79 phthalate		5 mg/m³									
Diallyl phthalate	see Osha CSI	5 mg/m³		60		1000		1		GC-FID	ST 226-30-16
Diatomaceous earth - natural respirable dust	14/3	1.2 mg/m³		1056		2200		8		GR	CYC 225-69 FLT 225-58F
Dibenzoyl peroxide	see Niosh 5009	5 mg/m³		90		1500		1		HPLC-UV	FLT 225-17-04 CST 225-2LF C/HLD 225-1
Dibismuth tritelluride	91	10 mg/m³	20 mg/m³	960		2000		8		X FL	IOM 225-70A FLT 225-19
Diboron trioxide	see Niosh 0500 & 0600	10 mg/m³	20 mg/m³	375 or 120		2500 or 2000		2.5 or 1		GR	FLT 225-8-01SC CYC 225-01-02 CST 225-3LF C/HLD225-1
1,2-Dibromoethane (see Ethylene dibromide)	88	0.5ppm (3.9 mg/m³)		Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
1,2-Dibromoethane (see Ethylene dibromide)	96	0.5ppm (3.9 mg/m³)		10	3	20	200	8	15	GC-ECD	ST 226-01
Dibutyl hydrogen phosphate	see Niosh 5017	1ppm (8.7 mg/m³)	2ppm (17 mg/m³)	240		2000		2		GC-FPD	FLT 225-17-01 CST 225-2LF C/HLD 225-1
Dibutyl phthalate	32	5 mg/m³	10 mg/m³	50		100		8		GC-FID	ST 226-35 (x 2)
Dichloroacetylene	EH64 refers - see Osha CSI		0.1ppm (0.39 mg/m³)		1		200		5	GC-FID	ST 226-01
2,2-Dichloro-4,4'-methylene dianiline (MbOCA)	75	0.005 mg/m³			200		2000		Each 100 mins	HPLC	IOM 225-70A # FLT 225-58F*
1,2-Dichlorobenzene (ortho-dichlorobenzene)	96	25ppm (153 mg/m³)	50ppm (306 mg/m³)	10	3	20	200	8	15	GC-FID	ST 226-01
1,2-Dichlorobenzene (ortho-dichlorobenzene)	88	25ppm (153 mg/m³)	50ppm (306 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
1,4-Dichlorobenzene (para-dichlorobenzene)	88	25ppm (153 mg/m³)	50ppm (306 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
1,4-Dichlorobenzene (para-dichlorobenzene)	96	25ppm (153 mg/m³)	50ppm (306 mg/m³)	3		20		2.5		GC-FID	ST 226-01
1,3-Dichloro-5,5-dimethyl-hydantoin		0.2 mg/m³	0.4 mg/m³								
1,1-Dichloroethane	88	100ppm		Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
1,1-Dichloroethane	96	100ppm		10	3	200	200	8	15	GC-FID	ST 226-01
1,2-Dichloroethane (ethylene dichloride)	72	5ppm (21 mg/m³)		24		50		8		GC-ECD	ST 226-358
1,2-Dichloroethane (ethylene dichloride)	80	5ppm (21 mg/m³)		24		50		8		GC-ECD	ST 226-358 or Spherocarb sorbent
1,2-Dichloroethane (ethylene dichloride)	88	5ppm (21 mg/m³)		Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
1,2-Dichloroethane (ethylene dichloride)	96	5ppm (21 mg/m³)		10	3	20	200	8	15	GC-FID	ST 226-01
1,2-Dichloroethylene cis:trans isomers 60:40	88	200ppm (806 mg/m³)	250ppm (1010 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
1,2-Dichloroethylene cis:trans isomers 60:40	96	200ppm (806 mg/m³)	250ppm (1010 mg/m³)	5		50		100 mins		GC-FID	ST 226-01
Dichlorofluoromethane	96	10ppm (43 mg/m³)		3		20		2.5		GC-FID	ST 226-01
Dichloromethane	72	100ppm (350 mg/m³)	300ppm (1060 mg/m³)	24		50		8		GC-ECD	ST 226-358
Dichloromethane	80	100ppm (350 mg/m³)	300ppm (1060 mg/m³)	24		50		8		GC-ECD	ST 226-358
Dichloromethane	88	100ppm (350 mg/m³)	300ppm (1060 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001, 575-001MC, 575-002
Dichloromethane	96	100ppm (350 mg/m³)	300ppm (1060 mg/m³)	2	1.5	20	100	1.6	15	GC-FID	ST 226-01
2,2'-Dichloro-4,4'-methylene dianiline (MbOCA)	75	0.005 mg/m³		100		1000		100 mins		GC-ECD	CF/FLT 225-9004 C/HLD 225-1
Dicylohexyl phthalate	32	5 mg/m³		50		100		8		GC-FID	ST 226-35 (x 2)
Dicylopentadiene	see Niosh 2523	5ppm (27 mg/m³)		5		50		1.7		GC-FID	ST Special order
Diethylamine	96	10ppm (30 mg/m³)	25ppm (76 mg/m³)	24	3	50	200	8	15	GC-FID	ST 226-10
Diethyl ether	88	100ppm (310 mg/m³)	200ppm (620 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
Diethyl ether	96	100ppm (310 mg/m³)	200ppm (620 mg/m³)	3		20		2.5		GC-FID	ST 226-01
Diethyl phthalate	32	5 mg/m³	10 mg/m³	50		100		8		GC-FID	ST 226-35 (x 2)
Diethyl sulphate	89	0.05ppm (0.32 mg/m³)								GC-MS	ST‡ 200mg Tenax
Dihydrogen selenide (as Se)	CD156 refers - see Osha CSI	0.02ppm	0.05ppm	480		1000		8		AA	IMP 225-36-2 or 225-36-5 IT 225-22
Diisobutyl phthalate	32	5 mg/m³		50		100		8		GC-FID	ST 226-35 (x 2)
Diisodecyl phthalate	32	5 mg/m³		50		100		8		GC-FID	ST 226-35 (x 2)
Diisononyl phthalate	32	5 mg/m³		50		100		8		GC-FID	ST 226-35 (x 2)

Air Sampling Guide to Health & Safety Executive methods

Di to Et

Chemical Hazard	MDHS Method No	OEL TWA (ppm)	OEL STEL (ppm)	Vol litre TWA	Vol litre STEL	Rate ml/min TWA	Rate ml/min STEL	Time TWA hr	Time STEL min	Analytical Method	SKC Collecting Equipment and Part No
Diisooctyl phthalate	32	5 mg/m³		50	50	100	500	8	100	GC-FID	ST 226-35 (x 2)
Diisopropylamine	see Osha CSI	5ppm (21 mg/m³)		120		1000		1		GC-ECD	IMP 225-36-2 IT 225-22
Diisopropyl ether	88	250ppm (1060 mg/m³)	310ppm (1310 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
Diisopropyl ether	96	250ppm (1060 mg/m³)	310ppm (1310 mg/m³)	3		20		2.5		GC-FID	ST 226-01
N,N-Dimethylacetamide	96	10ppm (36 mg/m³)	20ppm (72 mg/m³)	48		100		8		GC-FID	ST 226-10
N,N-Dimethylethylamine	70	10ppm (30 mg/m³)	15ppm (46 mg/m³)	480		1000		8		Iodoform reaction	IMP 225-36-2 or 225-36-5 IT 225-22
N,N-Dimethylaniline	88	5ppm (25 mg/m³)	10ppm (50 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
N,N-Dimethylaniline	96	5ppm (25 mg/m³)	10ppm (50 mg/m³)	24	3	50	200	8	15	NSD	ST 226-10
Dimethoxymethane	88	1000ppm (3160 mg/m³)	1250ppm (3950 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
Dimethoxymethane	96	1000ppm (3160 mg/m³)	1250ppm (3950 mg/m³)	2		20		1.5		GC-FID	ST 226-01
Dimethylamine	EH64 refers	2ppm (3.8 mg/m³)	6ppm (11 mg/m³)	10		200		50 mins		HPLC-UV	ST 226-96
2-Dimethylaminoethanol	EH64 refers	2ppm (7.4 mg/m³)	6ppm (22 mg/m³)	24		200		8		GC-FID	ST 226-10-04
Dimethyl ether	CD156 refers	400ppm (766 mg/m³)	500ppm (958 mg/m³)								
Dimethylformamide	88	10ppm (30 mg/m³)	20ppm (61 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-002
2,6-Dimethylheptan-4-one	88	25ppm (148 mg/m³)		Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-002
2,6-Dimethylheptan-4-one	96	25ppm (148 mg/m³)		10		20(50)		8(3.3)		GC-FID	ST 226-01
Dimethyl phthalate	see Osha CSI	5 mg/m³	10 mg/m³	240		1000		4		GC-FID	ST 226-56
Dimethyl sulphate	96	0.05ppm (0.26 mg/m³)		12		50		4		GC-ECN	ST 226-114
Dinitrobenzene all isomers	see Osha CSI	0.15ppm (1 mg/m³)	0.5ppm (3.5 mg/m³)	60		1000		1		HPLC-UV	ST 226-30-16
Dinonyl phthalate	32	5 mg/m³		50		100		8		GC-FID	ST 226-35 (x 2)
1,4-Dioxane	80	25ppm (91 mg/m³)	100ppm (366 mg/m³)	refer to method							ST Spherocarb
1,4-Dioxane	88	25ppm (91 mg/m³)	100ppm (366 mg/m³)	diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-002
1,4-Dioxane	96	25ppm (91 mg/m³)	100ppm (366 mg/m³)	10		20		8		GC-FID	ST 226-01
Diphenylamine	see Osha 78	10 mg/m³	20 mg/m³	100		1000		100 mins		HPLC-UV	CF/CST 225-9005 C/HLD 225-1
Diphenyl ether (vapour)	88	1ppm (7.1 mg/m³)		Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
Diphenyl ether (vapour)	96	1ppm (7.1 mg/m³)		30		100		5		GC-FID	ST 226-35-01
Diphosphorus pentasulphide	TR30 refers - see Osha ID 128SG	1 mg/m³	3 mg/m³	960	30	2000	2000	8	15	IC	F/CST 225-802SC C/HLD 225-1
Diphosphorus pentoxide	EH64 & TR30 refers - see Osha ID 111		2 mg/m³	480		1000		8		IC	IOM 225-70A FLT 225-19
Diquat dibromide (ISO)		0.5mg/m³	1 mg/m³	120		1000		8		HPLC-UV	IOM 225-70A FLT 225-58F
Disodium disulphite	see Osha ID 121	5 mg/m³		960		2000		8		AA or AES	IOM 225-70A FLT 225-19
Disodium tetraborate (anhydrous)	see Osha ID 125SG	1 mg/m³		960		2000		8		ICP-AES	FLT 225-8-01SC CST 225-2LF C/HLD 225-1
Disodium tetraborate (decahydrate)	see Osha ID 125SG	5 mg/m³		960		2000		8		ICP-AES	FLT 225-8-01SC CST 225-2LF C/HLD 225-1
Disodium tetraborate (pentahydrate)	see Osha ID 125SG	1 mg/m³		960		2000		8		ICP-AES	FLT 225-8-01SC CST 225-2LF C/HLD 225-1
Disulphur dichloride	70		1ppm (5.6 mg/m³)	480		1000		8		Iodoform reaction	IMP 225-36-2 or 225-36-5 IT 225-22
2,6-Di-tert-butyl-p-cresol	see Osha PV2108	10 mg/m³		100		1000		100 mins		GC-FID	ST 226-57
6,6'-Di-tert-butyl-4,4'-thiodi-m-cresol	see Osha CSI	10 mg/m³	20 mg/m³	60		1000		1		HPLC-UV	F/CST 225-706 C/HLD 225-1 CYC 225-01-02
Diuron (ISO)	see Niosh 5601	10 mg/m³		240		1000		4		HPLC-UV	ST 226-58 or ST 226-30-16
Dusts (general-direct reading)	under review									DR	SPLIT2 770-300K
Dusts (Respirable)	14/3			1056		2200		8		GR	CYC 225-69 FLT 225-58F
Dusts (Respirable)	14/3			1056		2000		8		GR	IOM 225-70A FOAM * 225-772
Dusts (thoracic)	under review									GR	IOM 225-70A FOAM * 225-771
Dusts (Total Inhalable)	14/3			960		2000		8		GR	IOM 225-70A FLT 225-58F
Emery – inhalable dust	14/3	10 mg/m³		960		2000		8		GR	IOM 225-70A FLT 225-58F
Emery – respirable dust	14/3	4 mg/m³		1056		2200		8		GR	CYC 225-69 FLT 225-58F
Endosulfan (ISO)	94	0.1 mg/m³	0.3 mg/m³	240		500		8		HPLC-UV	IOM 225-70A FLT 225-58F# ST 226-35
Enflurane	80	50ppm (383 mg/m³)		24		50		8		GC-ECD	ST 226-357
Enflurane	88	50ppm (383 mg/m³)		Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-002
Ethane-1,2-Diol (particulate)	14/3	10 mg/m³		960		2000		8		GR	IOM 225-70A FLT 225-58F
Ethane-1,2-Diol (vapour)	88	20ppm (52 mg/m³)	40ppm (104 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
Ethanethiol	88	0.5ppm (1.3 mg/m³)	2ppm (5.2 mg/m³)	48	12	100	200	8	60	GC-FPD	CF/CST 225-9007 C/HLD 225-1
Ethanol	70	1000ppm (1920 mg/m³)		480		1000		8		Iodoform reaction	IMP 225-36-2 or 225-36-5 IT 225-22
Ethanol	72	1000ppm (1920 mg/m³)		24		50		8		GC-ECD	ST 226-358
Ethanol	80	1000ppm (1920 mg/m³)		24		50		8		GC-ECD	ST 226-357
Ethanol	88	1000ppm (1920 mg/m³)		Diffusive	Diffusive	Diffusive	Diffusive	8	15	GC-FID	PS 575-002
Ethanol	96	1000ppm (1920 mg/m³)		1		50		20 mins		GC-FID	ST 226-01
2-Ethoxyethanol		10ppm (37 mg/m³)									
2-Ethoxyethanol	72	10ppm (37 mg/m³)		24		50		8		GC-ECD	ST 226-357
2-Ethoxyethanol	80	10ppm (37 mg/m³)		24		50		8		GC-ECD	ST 226-357
2-Ethoxyethanol	88	10ppm (37 mg/m³)		Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
2-Ethoxyethanol	96	10ppm (37 mg/m³)		5		20		4		GC-FID	ST 226-01
2-Ethoxyethyl acetate (see Ethyl CELLOSOLVE**O** acetate)											
2-Ethoxyethyl acetate	72	10ppm (55 mg/m³)		24		50		8		GC-ECD	ST 226-357
2-Ethoxyethyl acetate	80	10ppm (55 mg/m³)		24		50		8		GC-ECD	ST 226-357 or ST 226-358
2-Ethoxyethyl acetate	88	10ppm (55 mg/m³)		Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
2-Ethylhexyl chloroformate		1ppm (8 mg/m³)									
Ethyl acetate	80	200ppm	400ppm	24		50		8		GC-ECD	ST 226-357 or ST 226-358
Ethyl acetate	88	200ppm	400ppm	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
Ethyl acetate	96	200ppm	400ppm	10		20		8		GC-FID	ST 226-01
Ethyl acrylate	72	5ppm (21 mg/m³)	15ppm (62 mg/m³)	24		50		8		GC-ECD	ST 226-357
Ethyl acrylate	88	5ppm (21 mg/m³)	15ppm (62 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-002
Ethyl acrylate	96	5ppm (21 mg/m³)	15ppm (62 mg/m³)	10		20		8		GC-FID	ST 226-01
Ethylamine	see Osha 36	2ppm (3.8 mg/m³)	6ppm (11 mg/m³)	10		200		50 mins		HPLC-UV	ST 226-96
Ethylbenzene	72 ★	100ppm (441 mg/m³)	125ppm (552 mg/m³)	24		50		8		GC-ECD	ST 226-357
Ethylbenzene	80★	100ppm (441 mg/m³)	125ppm (552 mg/m³)	24		50		8		GC-ECD	ST 226-357
Ethylbenzene	88 ★	100ppm (441 mg/m³)	125ppm (552 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001

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Air Sampling Guide *to Health & Safety Executive methods*

Et to I Chemical Hazard	MDHS Method No	SAMPLING INFORMATION								Analytical Method	SKC Collecting Equipment and Part No
		OEL		Vol litre		Rate ml/min		Time			
		TWA (ppm)	STEL (ppm)	TWA	STEL	TWA	STEL	TWA hr	STEL min		
Ethylbenzene	96★	100ppm (441 mg/m³)	125ppm (552 mg/m³)	12		50		4		GC-FID	ST 226-01
Ethyl CELLOSOLVE® acetate				10	7.5	20	500	8	15	GC-FID	ST 226-01 or ST ‡ 200 mg TENAX
Ethyl CELLOSOLVE® solvent				10	7.5	20	500	8	15	GC-FID	ST 226-01 or ST ‡ 200 mg TENAX
Ethyl chloroformate		1ppm (4.5 mg/m³)									
Ethyl cyanoacrylate			0.3ppm (1.5 mg/m³)								
Ethyl formate	96	100ppm (308 mg/m³)	150ppm (462 mg/m³)	10		20		8		GC-FID	ST 226-01
Ethylene dibromide	45			6	1.5	12	100	8	15	GC-ECD	ST 226-35-03
Ethylene dibromide	88			Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
Ethylene glycol monobutyl ether acetate (see Butyl CELLOSOLVE® acetate)											
Ethylene glycol monobutyl ether (See Butyl CELLOSOLVE® solvent)											
Ethylene glycol monoethyl ether acetate (see Ethyl CELLOSOLVE® acetate)											
Ethylene glycol monoethyl ether (see Ethyl CELLOSOLVE® solvent)											
Ethylene glycol monomethyl ether acetate (see Methyl CELLOSOLVE® acetate)											
Ethylene glycol monomethyl ether (see Methyl CELLOSOLVE® solvent)											
Ethylene oxide	72	5ppm (9.2 mg/m³)									
Ethylene oxide	80	5ppm (9.2 mg/m³)									ST Spherocarb
Ethylene oxide	88	5ppm (9.2 mg/m³)		Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-005
4-Ethylmorpholine	see Osha CSI	5ppm (24 mg/m³)	20ppm (96 mg/m³)	10		20		8		GC-FID	ST 226-10
Ferrous Foundry Particulate – inhalable	14/3	10 mg/m³		960		2000		8		GR	IOM 225-70A FLT 225-58F
Ferrous Foundry Particulate – respirable	14/3	4 mg/m³		1056		2200		8		GR	CYC 225-69 FLT 225-58F
Flour Dust	14/3	10 mg/m³	30 mg/m³			2000	2000	8	15	GR	IOM 225-70A FLT 225-58F
Fluoride (inorganic as F)	35/2	2.5 mg/m³		960	30	2000	2000	8	15	SPIEL	IOM 225-70A FLT 225-19
Fluorine	70★	1ppm	1ppm	480		1000		8		Iodoform reaction	IMP 225-36-2 or 225-36-5 IT 225-22
Formaldehyde	78	2ppm (2.5 mg/m³)	2ppm (2.5 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive				PS 500-100
Formamide	see Osha CSI	20ppm (37 mg/m³)	30ppm (56 mg/m³)	10	1.5	100	100	100 mins	100 mins	GC-NPD	ST 226-10
Formic acid	see Niosh 2011	5ppm (9.6 mg/m³)		24		200		2		IC-ECN	FLT 225-1708 CST 225-3-25LF ST 226-10-03 C/HLD 225-1
2-Furaldehyde (Furfural)	72	2ppm (8 mg/m³)	5ppm (20 mg/m³)	24		50		8		GC-ECD	ST 226-357
2-Furaldehyde (Furfural)	80	2ppm (8 mg/m³)	5ppm (20 mg/m³)	10		20		8		GC-FID	ST 226-27
Germane	see Osha CSI	0.2ppm (0.64 mg/m³)	0.6ppm (1.9 mg/m³)	48		200		4		AA-GF	ST 226-01
Glutaraldehyde	93	0.05ppm (0.2 mg/m³)	0.05ppm (0.2 mg/m³)			200				HPLC	C/HLD 225-1 CF/CST 225-9003*
Glycerol mist	see Niosh 0600	10 mg/m³		375		2500		2.5		GR	FLT 225-8-01SC C/HLD 225-1 CYC 225-01-02 CST 225-3LF
Grain Dust	14/3	10 mg/m³		960		2000		8		GR	IOM 225-70A FLT 225-58F
Graphite – inhalable dust	14/3	10 mg/m³		960		2000		8		GR	IOM 225-70A FLT 225-58F
Graphite – respirable dust	14/3	4 mg/m³		1056		2200		8		GR	CYC 225-69 FLT 225-58F
Gypsum – inhalable dust	14/3	10 mg/m³		960		2000		8		GR	IOM 225-70A FLT 225-58F
Gypsum – respirable dust	14/3	4 mg/m³		1056		2200		8		GR	CYC 225-69 FLT 225-58F
Halogeno Platinum compounds (complex – halide groups) as Pt	46/2	0.002 mg/m³		30		50		8		AAS	IOM 225-70A FLT 225-19
Halothane	80	10ppm (82 mg/m³)		24		50		8		GC-ECD	ST 226-357 or ST 226-358
Halothane	88	10ppm (82 mg/m³)		9		100		1.5		GC-FID	ST 226-01
Hardwood dust	14/3	5 mg/m³								GC-FID	
n-Heptane	CD156 refers	500ppm		4	4	20	200	3.3	20	GC-FID	ST 226-01
Heptan-2-one	88	50ppm (237 mg/m³)	100ppm (475 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
Heptan-2-one	96	50ppm (237 mg/m³)	100ppm (475 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-002
Heptan-3-one	88	35ppm (166 mg/m³)	100ppm (475 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001 or PS 575-002
Heptan-3-one	96	35ppm (166 mg/m³)	100ppm (475 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-ECD	PS 575-001 or PS 575-002
n-Hexane	72	20ppm (72 mg/m³)		24		50		8		GC-ECD	ST 226-357
n-Hexane	80	20ppm (72 mg/m³)		24		50		8		GC-FID	ST 226-358
n-Hexane	88	20ppm (72 mg/m³)		Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
n-Hexane	96	20ppm (72 mg/m³)		4		20		3.3		GC-FID	ST 226-01
1,6-Hexanolactam – dust only	14/3	1 mg/m³	3 mg/m³	1056		2200		8		GR	CYC 225-69 FLT 225-58F
1,6-Hexanolactam – dust and vapour	14/3	10 mg/m³	20 mg/m³	100	15	1000	1000	8	15	HPLC-UV	ST 226-58
Hexan-2-one	88	5ppm (21 mg/m³)		Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
Hexan-2-one	96	5ppm (21 mg/m³)		10		20		8		GC-FID	ST 226-01
Hydrazine	86	0.02ppm (0.03 mg/m³)	0.1ppm (0.13 mg/m³)	240		1000		4		IC-UV	CF/CST 225-9012 C/HLD 225-1
Hydrogen bromide	70		3ppm (10 mg/m³)	48	4.5	200	300	4	15	IC	ST 226-10-03
Hydrogen chloride (gas & aerosol mists)	70	1ppm (2 mg/m³)	5ppm (8 mg/m³)	48	4.5	200	300	4	15	IC	ST 226-10-03
Hydrocarbons, Mixed C3 – C10				3	5	200	200	8	15	GC-FID	ST ‡ 200 mg Chromosorb 106 ST 300 mg Coconut Charcoal Depends on individual components
Hydrocarbons, Mixed C5 – C10				Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	ST ‡ 200mg Chromosorb 106 Depends on individual components
Hydrogen cyanide	56/2		10ppm (11 mg/m³)	40	15	200	1000	3	15	SPIEL	IOM 225-70A FLT 225-19 IMP 225-36-2 + IT 225-22
Hydrogen fluoride (as F)	35/2	1.8ppm (1.5 mg/m³)	3ppm (2.5 mg/m³)		30		2000		15	SPIEL	IOM 225-70A # FLT 225-19*
Hydrogen peroxide	see Osha ID 126SG	1ppm (1.4 mg/m³)	2ppm (2.8 mg/m³)	100		1000		100 mins		DPP	IMP 225-36-2 or 225-36-5 IT 225-22
Hydrogen sulphide	See CD157	5ppm (7 mg/m³)	10ppm (14 mg/m³)							Iodene oxidation	IMP 225-36-2 or 225-36-5 IT 225-22
Hydroquinone	See CD157 - see Niosh 5004	0.5 mg/m³			30		2000		15	HPLC-UV	IOM 225-70A FLT 225-19
4-Hydroxy-4-methylpentan-2-one	88	50ppm (241 mg/m³)	75ppm (362 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-002
4-Hydroxy-4-methylpentan-2-one	96	50ppm (241 mg/m³)	75ppm (362 mg/m³)	10		20		8	15	GC-FID	ST 226-01
2-Hydroxypropyl acrylate	see Osha PV2078	0.5ppm (2.7 mg/m³)		10		100		100 mins		GC-FID	ST 226-73
Indene	see Osha CSI	10ppm (48 mg/m³)	15ppm (72 mg/m³)	10		20		8		GC-FID	ST 226-110
Indium & compounds (as In)	91	0.1 mg/m³	0.3 mg/m³	960		2000		8		ICP-DCP	IOM 225-70A # FLT 225-19*
Iodine	70		0.1ppm (1.1 mg/m³)	15		1000		15		IC	ST 226-67
Iodoform	see Osha CSI	0.6ppm (9.8 mg/m³)	1ppm (16 mg/m³)	10	Diffusive	100		100 mins		GC-ECD	IOM 225-70A FLT 225-58F ST 226-93

Air Sampling Guide to Health & Safety Executive methods

Chemical Hazard	MDHS Method No	SAMPLING INFORMATION								Analytical Method	SKC Collecting Equipment and Part No
		OEL		Vol litre		Rate ml/min		Time			
		TWA (ppm)	STEL (ppm)	TWA	STEL	TWA	STEL	TWA hr	STEL min		
Iodomethane	88	2ppm (12 mg/m³)		Diffusive		Diffusive	Diffusive			GC-FID	PS 575-001
Iodomethane	96	2ppm (12 mg/m³)		10		20		8		GC-FID	ST 226-01
Iron oxide – fume (as Fe)	91	5 mg/m³	10 mg/m³	960		2000		8		X FL	IOM 225-70A FLT 225-19
Iron salts (as Fe)	91	1 mg/m³	2 mg/m³	960		2000		8		X FL	IOM 225-70A FLT 225-19
Isobutyl acetate	72	150ppm (724 mg/m³)	187 ppm (903 mg/m³)	24	Diffusive	50		8		GC-ECD	ST 226-357
Isobutyl acetate	88	150ppm (724 mg/m³)	187 ppm (903 mg/m³)	Diffusive		Diffusive	Diffusive			GC-FID	PS 575-001
Isobutyl acetate	96	150ppm (724 mg/m³)	187 ppm (903 mg/m³)	10		20		8		GC-FID	ST 226-01
Isocyanates – all (as –NCO)	25/3	0.02 mg/m³	0.07 mg/m³	960		2000		8		HPLC	IOM 225-70A CST 225-75A C/FLT 225-9011
Isoflurane	80	50ppm (383 mg/m³)		24	Diffusive	50		8		GC-ECD	ST 226-357
Isoflurane	88	50ppm (383 mg/m³)		Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-002
Isooctyl alcohol (mixed isomers)	88	50ppm (271 mg/m³)		Diffusive		Diffusive	Diffusive			GC-FID	PS 575-002
Isopropyl acetate	72		200ppm (849 mg/m³)	24		50		8		GC-ECD	ST 226-357
Isopropyl acetate	96		200ppm (849 mg/m³)	9		50		3		GC-FID	ST 226-01
Isopropyl chloroformate		1ppm (5.1 mg/m³)									
Kaolin – respirable dust	14/3	2 mg/m³		1056	15	2200		8		GR	CYC 225-69 FLT 225-58F
Ketene	see Osha CSI	0.5ppm (0.87 mg/m³)	1.5ppm (2.6 mg/m³)	50	30	1000	1000	50 mins		CLR	IMP 225-36-2 or 225-36-5 IT 225-22
Lead (Alkyls)				960	30	2000	2000	8		AA	IOM 225-70A FLT refer to method
Lead & inorganic Compounds				960	30	2000	2000	8	15	XRFS	IOM 225-70A FLT 225-19
Lead & inorganic Compounds				960		2000	2000	8	15	CLR	IOM 225-70A FLT 225-19
Limestone – total inhalable	14/3	10 mg/m³		960		2000		8	15	GR	IOM 225-70A FLT 225-58F
Limestone – total respirable	14/3	4 mg/m³		1056		2200		8	15	GR	CYC 225-69 FLT 225-58F
Liquified petroleum gas	see Osha CSI	1000ppm (1750 mg/m³)	1250ppm (2180 mg/m³)							DET TB	DT 810-100A
Lithium hydride	14/3	0.025 mg/m³		1056		2200		8		GR	CYC 225-69 FLT 225-58F
Lithium hydroxide	see Osha ID 121		1 mg/m³	960		2000		8		AA or AES	IOM 225-70A FLT 225-19
Magnesite – inhalable dust	14/3	10 mg/m³		960		2000		8		GR	IOM 225-70A FLT 225-58F
Magnesite – respirable dust	14/3	4 mg/m³		1056		2200		8		GR	CYC 225-69 FLT 225-58F
Magnesium oxide (as Mg) – inhalable dust	14/3	10 mg/m³		960		2000		8		GR	IOM 225-70A FLT 225-58F
Magnesium oxide (as Mg) – respirable dust	14/3	4 mg/m³		1056		2200		8		GR	CYC 225-69 FLT 225-58F
Malathion	MS17 - see Osha 62	10 mg/m³		60		1000		1		GC-FPD	ST 226-30-16
Maleic anhydride	72	1 mg/m³	3 mg/m³	24		50		8		GC-ECD	ST 226-357
Manganese & its inorganic compounds	91	0.5 mg/m³		960		2000		8		XF L	IOM 225-70A FLT 225-19
Marble – total inhalable	14/3	10 mg/m³		960		2000		8		GR	IOM 225-70A FLT 225-58F
Marble – total respirable	14/3	4 mg/m³		1056		2200		8		GR	CYC 225-69 FLT 225-58F
MbOCA (see Dichloro-4,4'-methylene dianiline)											
Mercaptoacetic acid	see Osha CSI	1ppm (3.8 mg/m³)		120		1000		2		HPLC-UV	IMP 225-36-1 IT 225-22
Mercury & Compounds (except Alkyl compounds)	16			100 or 120		200-2000		8 or 1		AA	ST 226-17-1A or ST 226-17-3A
Methacrylic acid	see Osha PV2005	20ppm (72 mg/m³)	40ppm (143 mg/m³)	24		100		4		HPLC-UV	ST 226-58
Methacryonitrile	see Osha 37	1 ppm (2.8 mg/m³)		20		200		100 mins		GC-NPD	ST 226-01
Methanethiol	70	0.5ppm (1 mg/m³)		480		1000		8		Iodoform reaction	IMP 225-36-2 or 225-36-5 IT 225-22
Methanol	72	200ppm (266 mg/m³)	250ppm (333 mg/m³)	24		50		8		GC-ECD	ST 226-358
Methanol	80	200ppm (266 mg/m³)	250ppm (333 mg/m³)	24	3	50		8		GC-ECD	ST 226-357
Methanol	96	200ppm (266 mg/m³)	250ppm (333 mg/m³)	5		20	200	4		GC-FID	ST 226-51
2-Methoxyethanol	72	5ppm (16 mg/m³)		24		50		8		GC-ECD	ST 226-358
2-Methoxyethanol	80	5ppm (16 mg/m³)		24	Diffusive	50		8	15	GC-ECD	ST 226-358
2-Methoxyethanol	88	5ppm (16 mg/m³)		Diffusive		Diffusive	Diffusive			GC-FID	PS 575-002
2-Methoxyethanol	96	5ppm (16 mg/m³)		10		20		8		GC-FID	ST 226-01
2-Methoxyethyl acetate	see Osha 79	5ppm (16 mg/m³)		48		100		8		GC-FID	ST 226-01
(2-methoxymethylethoxy) propanol	72	50ppm (308 mg/m³)		24		50		8		GC-ECD	ST 226-357 or ST 226-358
2-Methoxypropanol-2(propylene glycol monomethyl ether	Pending★										
1-Methoxypropan-2-ol	CD156 refers - Osha 99	100ppm (375 mg/m³)	150ppm (560 mg/m³)	10		100		8		GC-FID	ST 226-01
1-Methoxypropan-2-ol	see Niosh 2554			24	3	100	200	4	15	GC-FID	ST 226-81A
1-Methoxypropan-2-ol				Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-002
1-methoxypropyl acetate	72	50ppm (274 mg/m³)	100ppm (548 mg/m³)	10		100		100 mins		GC-FID	ST 226-01
Methyl CELLOSOLVE® acetate	21			10	7.5	20	500	8	15	GC-FID	ST 226-01
Methyl CELLOSOLVE® acetate	23			8		15		8		GC-FID	ST ‡ 200 mg TENAX
Methyl CELLOSOLVE® acetate	88			Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-002, 575-001
Methyl CELLOSOLVE® solvent	21			10	7.5	20	500	8	15	GC-FID	ST 226-01
Methyl CELLOSOLVE® solvent	23			3		5		8		GC-FID	ST ‡ 200 mg TENAX
Methyl CELLOSOLVE® solvent	88			Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-002
Methyl acetate	72	200ppm (616 mg/m³)	250ppm (770 mg/m³)	24		50		8		GC-ECD	ST 226-358
Methyl acetate	80	200ppm (616 mg/m³)	250ppm (770 mg/m³)	24		50		8		GC-ECD	ST 226-358
Methyl acetate	88	200ppm (616 mg/m³)	250ppm (770 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-ECD	PS 575-002
Methyl acetate	96	200ppm (616 mg/m³)	250ppm (770 mg/m³)	5	3	20	200	4	15	GC-FID	ST 226-01
3-Methylbutan-1-ol	88	100ppm (366 mg/m³)	125ppm (458 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-002
3-Methylbutan-1-ol	96	100ppm (366 mg/m³)	125ppm (458 mg/m³)	10	3	20(50)	200	8(3.3)	15	GC-FID	ST 226-01
Methyl cyanocrylate	see Osha 55		0.3ppm (1.4 mg/m³)	12	3	100	200	8	15	HPLC-UV	ST 226-98
4,4'-Methylenedianiline (MDA)	75	0.01ppm (0.08 mg/m³)		200		2000		100 mins		HPLC	IOM 225-70A # FLT 225-58F*
Methyl ethyl ketone peroxides (MEKP)	EH64 refers		0.2ppm (1.5 mg/m³)		12		100		120	VAS	IMP 225-36-1 IT 225-22
Methyl methacrylate	72	50ppm (208 mg/m³)	100ppm (416 mg/m³)	24		50		8		GC-ECD	ST 226-357
Methyl methacrylate	80	50ppm (208 mg/m³)	100ppm (416 mg/m³)	25		50		8		GC-ECD	(Poropak Q) ST 226-115 (no Perkin Elmer equivalent tube available)
Methyl methacrylate	88	50ppm (208 mg/m³)	100ppm (416 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive	Diffusive		GC-FID	PS 575-002
Methyl methacrylate	96	50ppm (208 mg/m³)	100ppm (416 mg/m³)	5		20		4		GC-FID	ST 226-30-06
2-Methylcyclohexanone	96	50ppm (233 mg/m³)	75ppm (350 mg/m³)	4		20		3.3		GC-FID	ST 226-01
Methylcyclohexanol	88	50ppm (237 mg/m³)	75ppm (356 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-002

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Air Sampling Guide to Health & Safety Executive methods

2-Me to 2-Ph Chemical Hazard	MDHS Method No	SAMPLING INFORMATION								Analytical Method	SKC Collecting Equipment and Part No
		OEL		Vol litre		Rate ml/min		Time			
		TWA (ppm)	STEL (ppm)	TWA	STEL	TWA	STEL	TWA hr	STEL min		
Methylcyclohexanol	96			12		25		8		GC-FID	ST 226-01
N-Methylaniline see Niosh 3511		0.5ppm (2.2 mg/m³)		100		1000		100 mins		GC-FID	IMP 225-36-2 or 225-36-5 IT 225-22
Methyl chloroform (see 1,1,1-Trichloroethane)											
5-Methylheptane-3-one	88★	10ppm	20ppm	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
5-Methylhexan-2-one	72	20ppm (95 mg/m³)	100ppm (475 mg/m³)	24		50		8		GC-ECD	ST 226-357
5-Methylhexan-2-one	88	20ppm (95 mg/m³)	100ppm (475 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
2-Methylpentane-2,4-diol		25ppm (123 mg/m³)	25ppm (123 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-002
4-Methylpentan-2-ol	88	25ppm (106 mg/m³)	40ppm (170 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
4-Methylpentan-2-ol	96	25ppm (106 mg/m³)	40ppm (170 mg/m³)	10	3	20	200	8	15	GC-FID	ST 226-01
4-Methylpentan-2-one	80	50ppm (208 mg/m³)	100ppm (416 mg/m³)	24		50		8		GC-ECD	ST 226-357
4-Methylpentan-2-one	88	50ppm (208 mg/m³)	100ppm (416 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-002
4-Methylpentan-2-one	96	50ppm (208 mg/m³)	100ppm (416 mg/m³)	10	3	20	200	8	15	GC-FID	ST 226-01
2-Methylpropan-1-ol	72	50ppm (154 mg/m³)	75ppm (231 mg/m³)	24		50		8		GC-ECD	ST 226-357
2-Methylpropan-1-ol	88	50ppm (154 mg/m³)	75ppm (231 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-002
2-Methylpropan-1-ol	96	50ppm (154 mg/m³)	75ppm (231 mg/m³)	10		20(50)		8(3.3)		GC-FID	ST 226-01
2-Methylpropan-2-ol see Niosh 1400		100ppm (308 mg/m³)	150ppm (462 mg/m³)	10		20(50)		8(3.3)		GC-FID	ST 226-01
1-Methyl-2-pyrrolidone	72	25ppm (103 mg/m³)	75ppm (309 mg/m³)	24		50		8		GC-ECD	ST 226-357
1-Methyl-2-pyrrolidone	80	25ppm (103 mg/m³)	75ppm (309 mg/m³)	24		50		8		GC-ECD	ST 226-357
1-Methyl-2-pyrrolidone	88	25ppm (103 mg/m³)	75ppm (309 mg/m³)								3M badge only
1-Methyl-2-pyrrolidone	96	25ppm (103 mg/m³)	75ppm (309 mg/m³)	10		200		8		GC-FID	ST 226-01
Methyl-tert-butyl-ether	88	25ppm (92 mg/m³)	75ppm (275 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
Methyl-tert-butyl-ether	96	25ppm (92 mg/m³)	75ppm (275 mg/m³)	96		200		8		GC-FID	ST 226-09
Methylene chloride (see Dichloromethane)											
Mica – total inhalable	14/3	10 mg/m³		960		2000		8		GR	IOM 225-70A FLT 225-58F
Mica – total respirable	14/3	0.8 mg/m³		1056		2200		8		GR	CYC 225-69 FLT 225-58F
Machine Made Mineral Fibre (MMMF) – except for ceramic refractory	59	5 mg/m3 & 2 fibres/mm		240		1000		8		GR + PCM	HLD 225-54 (MIC CT) FLT 225-1913
Machine Made Mineral Fibre (MMMF) – except for ceramic refractory	14/3	5 mg/m3 & 2 fibres/mm		1056		2200		8 8		GR	CYC 225-69 FLT 225-58F
Molybdenum compounds – soluble compounds (as Mo)	91	5 mg/m³	10mg/m³	240		1000				PCM	HLD 225-54 FLT 225-1913
Molybdenum compounds – insoluble compounds (as Mo)	91	10 mg/m³	20 mg/m³	240		1000		8		PCM	HLD 225-54 FLT 225-1913
Monochloroacetic acid	70	0.3ppm (1.2 mg/m³)		48		100		8		IC-ECN	ST 226-47-01
Morpholine	88	20ppm (72 mg/m³)	30ppm (109 mg/m³)	refer to method				8			No diffusive sampler available
Nickel (Insoluble Compounds) - except nickel tetracarbonyl (as Ni)	42/2	0.5mg/m³		960	30	2000	2000	8	15	AA	IOM 225-70A FLT 225-19
Nickel (Insoluble Compounds) - except nickel tetracarbonyl (as Ni)	91	0.5mg/m³		960		2000		8		AAS	IOM 225-70A #FLT 225-19
Nickel (Soluble compounds only) - except nickel tetracarbonyl (as Ni)	42/2	0.1 mg/m³		960	30	2000	2000	8	15	AA	IOM 225-70A FLT 225-19
Nickel (Soluble compounds only) - except nickel tetracarbonyl (as Ni)	91	0.1 mg/m³		960		2000		8		AAS	IOM 225-70A #FLT 225-19
Nicotine	96	0.5 mg/m³	1.5 mg/m³	360		1000		6		GC-NPD	ST 226-30-04
Nitric acid see Niosh 7903		2ppm (5.2 mg/m³)	4ppm (10 mg/m³)	48	3	200	200	4	15	IC	ST 226-10-03
Nitrobenzene	72	1ppm (5.1 mg/m³)	2ppm (10 mg/m³)	24		50		8		GC-ECD	ST 226-357
Nitrobenzene	96	1ppm (5.1 mg/m³)	2ppm (10 mg/m³)	48		100		8		GC-FID	ST 226-10
Nitromethane see Niosh 2527		100ppm (254 mg/m³)	150ppm (381 mg/m³)	2.4		20		2		GC-NSD	ST 226-111A
Nitrous oxide	80	100ppm (183 mg/m³)		refer to method							No thermal desorber tube for Mole Sieve 5A available
Nitrogen oxides refer to NIOSH/OSHA											ST 226-40
2-Nitropropane	96	5ppm (19 mg/m³)				20		1.5		GC-FID	ST 226-110
Oil Mist Under review 84		(5 mg/m³)		960	30	2000	2000	8	15	GR	IOM 225-70A FLT 225-19
Orthochloroaniline (OCA)	75			200		500				HPLC	IOM 225-70A # FLT 225-58F* ST 226-35
Orthophosphoric acid CD156 & TR30 refers - see Niosh 7903		1 mg/m³	2 mg/m³	48	3	200	200	4	15	IC	ST 226-10-03
Orthotoluidine	75			200		500				HPLC	IOM 225-70A # FLT 225-58F* ST 226-35
Osmium tetraoxide (as Os) see Osha CSI		0.0002ppm (0.002 mg/m³)	0.0006ppm (0.0062 mg/m³)	480	15	1000	1000	8	15	ICP	IOM 225-70A FLT 225-19 IMP 225-36-2 + IT 225-22
Oxalic acid see Osha PV2115		1 mg/m³		100		1000		100 mins		IC	IOM 225-70A FLT 225-19
2,2'-Oxydiethanol	70	23ppm (101 mg/m³)		60		1000		1		GC-FID	ST 226-57
Ozone EH38, EH64 & D83 refers - see Osha ID 214			0.2ppm (0.4 mg/m³)	90		500		3		IC	CF/CST 225-9014 C/HLD 225-1
Paracetamol – inhalable dust	14/3	10 mg/m³		960		2000		8		GR	IOM 225-70A FLT 225-58F
Paraffin wax, fume see Osha PV2047		2 mg/m³	6 mg/m³	100		1000		100 mins		GC-FID	F/CST 225-706 C/HLD 225-1
Paraquat dichloride (ISO) – respirable dust	14/3	0.08 mg/m³		1056		2200		8		GR	CYC 225-69 FLT 225-58F
PCB (see Polychlorinated Diphenyl)											
Pentacarbonyliron (as Fe) see Osha CSI		0.01ppm (0.08 mg/m³)		480	30	2000	2000	4	15	CLR	IMP 225-36-2 or 225-36-5 IT 225-22
Pentaerythritol – inhalable dust	14/3	10 mg/m³		960		2000		8		GR	IOM 225-70A FLT 225-58F
Pentaerythritol – respirable dust	14/3	4 mg/m³		1056		2200		8		GR	CYC 225-69 FLT 225-58F
Pentan-2-one	88	200ppm (716 mg/m³)	250ppm (895 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-002
Pentan-2-one	96	200ppm (716 mg/m³)	250ppm (895 mg/m³)	10		20(50)		8(3.3)		GC-FID	ST 226-01
Pentan-3-one	88	200ppm (716 mg/m³)	250ppm (895 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
Pentyl acetates (all isomers) EH64 refers		50ppm (270 mg/m³)	100ppm (541 mg/m³)	10		20(50)		8(3.3)		GC-FID	ST 226-01
Peroxodisulphate salts	79			960	30	2000	2000	8	15	IC	IOM 225-70A FLT 225-19
Phenol	96	2ppm		24	3	100	200	4	15	GC-FID	ST 226-95
2-Phenylpropene (alpha-methyl styrene)	72 ★	50ppm (246 mg/m³)	100ppm (491 mg/m³)	24		50		8		GC-ECD	ST 226-357
2-Phenylpropene (alpha-methyl styrene)	88 ★	50ppm (246 mg/m³)	100ppm (491 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
2-Phenylpropene (alpha-methyl styrene)	96★	50ppm (246 mg/m³)	100ppm (491 mg/m³)	10	3	20	200	8	15	GC-FID	ST 226-01
p-Phenyldiamine see Osha 87		0.1 mg/m³		100		1000		100 mins		HPLC-UV	CF/CST 225-9004 C/HLD 225-1
Phorate (ISO) MS17 refers		0.05 mg/m³	0.2 mg/m³	240		1000		4		GC-FPD	ST 226-58
Phosgene CD156 refers - see Osha 61		0.02ppm (0.08 mg/m³)	0.06ppm (0.25 mg/m³)	240		1000		4		GC-NPD	ST 226-117
Phosphine EH64 & D53 refers			0.3ppm (0.42 mg/m³)	12	3	100	200	2	15	UV-VAS	ST 226-165

Air Sampling Guide to Health & Safety Executive methods

p-Ph to Si

Chemical Hazard	MDHS Method No	SAMPLING INFORMATION								Analytical Method	SKC Collecting Equipment and Part No
		OEL		Vol litre		Rate ml/min		Time			
		TWA (ppm)	STEL (ppm)	TWA	STEL	TWA	STEL	TWA hr	STEL min		
Phosphorus pentachloride	TR30 refers - see Osha CSI	0.1ppm (0.87 mg/m³)		48		200		4		CLR	F/CST 225-803SC IMP 225-36-1 IT 225-22 SCN 225-26
Phosphorus trichloride	TR30 refers - see Osha CSI	0.2ppm (1.1 mg/m³)	0.5ppm (2.9 mg/m³)	240		1000		4		IC	IMP 225-36-2 or 225-36-5 IT 225-22
Phosphorus yellow	see Osha CSI	0.1 mg/m³	0.3 mg/m³	96		200		8		GC-FPD	ST 226-35-03
Phosphoryl trichloride	TR30 refers - see Osha CSI	0.2ppm (1.3 mg/m³)	0.6ppm (3.8 mg/m³)	240		1000		4		IC	IMP 225-36-2 or 225-36-5 IT 225-22
Phthalic anhydride	62	4 mg/m³	12 mg/m³	960	30	2000	2000	8	15	HPLC	IOM 225-70A FLT 225-58F ST 226-35
Picloram (ISO)		10 mg/m³	20 mg/m³	60		1000		1		GR	FLT 225-8-01SC C/HLD 225-1 CST 225-3LF CYC 225-01-02
Picric acid	see Osha CSI	0.1 mg/m³	0.3 mg/m³	180		1500		2		HPLC-UV	IOM 225-70A FLT 225-19
Piperazine dihydrochloride	72	0.1 mg/m³	0.3 mg/m³	120		1000		8		GC-NPD	IOM 225-70A FLT 225-58F
Piperazine dihydrochloride	96	0.1 mg/m³	0.3 mg/m³	refer to method							
Piperazine	72	0.1 mg/m³	0.3 mg/m³	10		100		8		HPLC-UV	ST 226-30-18
Piperazine	96	0.1 mg/m³	0.3 mg/m³	refer to method							
Piperidine	70	1ppm (3.5 mg/m³)		6		200		30 mins		GC-FID	ST 226-01
Plaster of Paris – inhalable dust	14/3	10 mg/m³		960		2000		8		GR	IOM 225-70A FLT 225-58F
Plaster of Paris – respirable dust	14/3	4 mg/m³		1056		2200		8		GR	CYC 225-69 FLT 225-58F
Platinum as metal	46/2	5 mg/m³		960	120	2000	2000	8	60	AA	IOM 225-70A FLT 225-19
Platinum (Soluble compounds)	46/2	0.002 mg/m³		960	120	2000	2000	8	60	AA	IOM 225-70A FLT 225-19
Polychlorinated biphenyls (PCB)	see ASTM D4861	0.1 mg/m³		960		2000		8		GC-ECD	PUF 226-124, 226-92
Polychlorinated biphenyls (PCB)	see OSHA CSI	0.1 mg/m³		60		1000		1		GC-ECD	ST 226-30-16
Polyvinylchloride – inhalable dust	14/3	10 mg/m³		960		2000		8		GR	IOM 225-70A FLT 225-58F
Polyvinylchloride – respirable dust	14/3	4 mg/m³		1056		2200		8		GR	CYC 225-69 FLT 225-58F
Portland cement – inhalable dust	14/3	10 mg/m³		960		2000		8		GR	IOM 225-70A FLT 225-58F
Portland cement – respirable dust	14/3	4 mg/m³		1056		2200		8		GR	CYC 225-69 FLT 225-58F
Potassium hydroxide	14/3		2 mg/m³	10		2000		5		AA or AES	IOM 225-70A FLT 225-19
Propane-1,2-diol – total vapour and particulates	14/3	150ppm (474 mg/m³)		1056		2200		8		GR	CYC 225-69 FLT 225-58F
Propane-1,2-diol – total particulates	14/3	10 mg/m³		960		2000		8		GR	IOM 225-70A FLT 225-58F
Propan-1-ol	72	200ppm (500 mg/m³)	250ppm (625 mg/m³)	24		50		8		GC-ECD	ST 226-358
Propan-1-ol	88	200ppm (500 mg/m³)	250ppm (625 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001 or PS 575-002
Propan-1-ol	96	200ppm (500 mg/m³)	250ppm (625 mg/m³)	10	3	20(50)	200	8(3.3)	15	GC-FID	ST 226-01
Propan-2-ol	72	400ppm (999 mg/m³)	500ppm (1250 mg/m³)	24		50		8		GC-ECD	ST 226-358
Propan-2-ol	80	400ppm (999 mg/m³)	500ppm (1250 mg/m³)	refer to method							ST Spherocarb
Propan-2-ol	88	400ppm (999 mg/m³)	500ppm (1250 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001 or PS 575-002
Propan-2-ol	96	400ppm (999 mg/m³)	500ppm (1250 mg/m³)	3	3	20	200	2.5	15	GC-FID	ST 226-01
Propionic acid		10ppm (31 mg/m³)	15ppm (46 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
Propoxur (ISO)	see Niosh 5601	0.5 mg/m³	2 mg/m³	240		1000		4		HPLC-UV	ST 226-58
Propranolol	EH64 & EH65 refers	2 mg/m3	6 mg/m³								
n-Propyl acetate	72	200ppm (849 mg/m³)	250ppm (1060 mg/m³)	24		50		8		GC-ECD	ST 226-357
n-Propyl acetate	88	200ppm (849 mg/m³)	250ppm (1060 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
n-Propyl acetate	96	200ppm (849 mg/m³)	250ppm (1060 mg/m³)	10	3	20(50)	200	8(3.3)	15	GC-FID	ST 226-01
Propylene oxide	72	5ppm (12 mg/m³)		24		50		8		GC-ECD	ST 226-357
Propylene oxide	80	5ppm (12 mg/m³)		Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
Propylene oxide	88	5ppm (12 mg/m³)		Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
Propylene oxide	96	5ppm (12 mg/m³)		5		20		4.2		GC-FID	ST 226-01
Prop-2-yn-1-ol	see Osha 97	1ppm (2.3 mg/m³)	3ppm (7 mg/m³)	6		50		2		GC-ECD	ST 226-38-03
Pulverized fuel ash (Respirable)	14/3	4 mg/m³		1056		2200		8		GR	CYC 225-69 FLT 225-58F
Pulverized fuel ash (Respirable)	14/3	4 mg/m³		1056		2000		8		GR	IOM 225-70A FOAM * 225-772
Pulverized fuel ash (Total Inhalable)	14/3	10 mg/m³		960		2000		8		GR	IOM 225-70A FLT 225-58F
Pyrethrins (ISO)	see ASTM D 4861	5 mg/m³	10 mg/m³	240 to 7200		1000 to 5000		4 to 24		GC-ECD	PUF 226-92
Pyridine	72	5ppm (16 mg/m³)	10ppm (33 mg/m³)	24		50		8		GC-ECD	ST 226-357
Pyridine	88	5ppm (16 mg/m³)	10ppm (33 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
Pyridine	96	5ppm (16 mg/m³)	10ppm (33 mg/m³)	40		100		8		GC-FID	ST 226-01
2-Pyridylamine	see Osha CSI	0.5ppm (2 mg/m³)	2ppm (7.8 mg/m³)	12		200		1		GC-FID	ST 226-35-02
Pyrocatechol	see Osha PV2014	5ppm (23 mg/m³)		100		1000		100 mins		HPLC-UV	ST 226-95
Refractory Ceramic special purpose fibres & special purpose fibres		5 mg/m³ (1 fibre/mm)		240		1000		8		PCM	HLD 225-54 FLT 225-1913
Resorcinol	88	10ppm (46 mg/m³)	20ppm (92 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive				3M badge only
Rhodium (metal fume & dust) as Rh	91	0.1 mg/m³	0.3 mg/m³	960	30	2000	2000	8	15	X FL	IOM 225-70A FLT 225-19
Rhodium (soluble salts) as Rh	91	0.001 mg/m³	0.003 mg/m³	960	30	2000	2000	8	15	X FL	IOM 225-70A FLT 225-19
Rosin Solder Flux Fume	83	0.05 mg/m³	0.15 mg/m³	960	30	2000	2000	8	15	GC-FID	HLD 225-8050K (kit) FLT MCE 13mm
Rotenone (ISO)	see Niosh 5007	5 mg/m³	10 mg/m³	120		1000		2		HPLC-UV	FLT 225-17-01 CST 225-2LF C/HLD 225-1
Rouge – total inhalable	14/3	10 mg/m³		960		2000		8		GR	IOM 225-70A FLT 225-58F
Rouge – total respirable	14/3	4 mg/m³		1056		2200		8		GR	CYC 225-69 FLT 225-58F
Rubber fume	47	0.6 mg/m³		960	500	2000	2000	8	15	GR + SE	IOM 225-70A FLT 225-58F
Rubber Process Dust	14/3	6 mg/m³		960	30	2000	2000	8	15	GR	IOM 225-70A FLT 225-58F
Selenium & compounds – except hydrogen selenide (as Se)	91	0.1 mg/m³		960		2000		8		AA-GF	IOM 225-70A FLT 225-19
Silane		0.5ppm (0.67 mg/m³)	1ppm (1.3 mg/m³)	480		1000		4		AAS-GF	IMP 225-36-2 or 225-36-5 IT 225-22
Silica amorphous (respirable dust)	14/3	2.4 mg/m³		960	30	2000	2000	8	15	GR	IOM 225-70A FOAM * 225-772
Silica amorphous (respirable dust)	14/3	2.4 mg/m³		1056	30	2200	2200	8	15	GR	CYC 225-69 FLT 225-8-04
Silica amorphous (total inhalable dust)	14/3	6 mg/m³		960	30	2000	2000	8	15	GR	IOM 225-70A FLT 225-8-04
Silica, Crystalline (Respirable)	14/3	0.3 mg/m³		1056		2200		8		GR	CYC 225-69 FLT 225-58F
Silica fused (respirable dust)	14/3	0.08 mg/m³		960	30	2000	2000	8	15	GR	IOM 225-70A FOAM * 225-772
Silica fused (respirable dust)	14/3	0.08 mg/m³		1056	33	2200	2200	8	15	GR	CYC 225-69 FLT 225-8-04
Silicone carbide (not whiskers) - total inhalable	14/3	10 mg/m³		960		2000		8		GR	IOM 225-70A FLT 225-58F
Silicone carbide (not whiskers) - total respirable	14/3	4 mg/m³		1056		2200		8		GR	CYC 225-69 FLT 225-58F
Silver, metallic	91★	0.1 mg/m³		240	60	2000	2000	0.5	2	X FL	IOM 225-70A FLT 225-19
Silver, metallic	14/3	0.1 mg/m³		960		2000		8		GR	IOM 225-70A FLT 225-58F

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Air Sampling Guide *to Health & Safety Executive methods*

Si to Tri Chemical Hazard	MDHS Method No	SAMPLING INFORMATION								Analytical Method	SKC Collecting Equipment and Part No
		OEL		Vol litre		Rate ml/min		Time			
		TWA (ppm)	STEL (ppm)	TWA	STEL	TWA	STEL	TWA hr	STEL min		
Silver (soluble compounds as Ag)	91	0.01 mg/m³		960	30	2000	2000	8	15	X FL	IOM 225-70A FLT 225-19
Sodium azide (as NaN3)	70★	0.1 mg/m³	0.3 mg/m³	refer to method							
Sodium-2-(2,4-dichlorophenoxy) ethyl sulphate	see Osha CSI	10 mg/m³	20 mg/m³	Varies	Varies	Varies	Varies			CLR	IOM 225-70A FLT 225-19
Sodium hydrogen sulphite	see Osha ID 121	5 mg/m³		960		2000		8		AA or AES	IOM 225-70A FLT 225-19
Sodium Hydroxide	14/3		2 mg/m³	1056		2200		8		GR	CYC 225-69 FLT 225-58F
Softwood Dust	14/3	5 mg/m³		960	30	2000	2000	8	15	GR	IOM 225-70A FLT 225-58F
Starch – total inhalable	14/3	10 mg/m³		960		2000		8		GR	IOM 225-70A FLT 225-58F
Starch – total respirable	14/3	4 mg/m³		1056		2200		8		GR	CYC 225-69 FLT 225-58F
Styrene	72	100ppm (430 mg/m³)	250ppm (1080 mg/m³)	24		50		8		GC-ECD	ST 226-357
Styrene	80	100ppm (430 mg/m³)	250ppm (1080 mg/m³)	24		50		8		GC-ECD	ST 226-357 or ST 226-358
Styrene	88	100ppm (430 mg/m³)	250ppm (1080 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive	8	15	GC-FID	PS 575-003
Styrene	96	100ppm (430 mg/m³)	250ppm (1080 mg/m³)	10	5	20(50)	330	8(3.3)	15	GC-FID	ST 226-01
Subtilisins (Bacillus subtilis BPN & Carlsberg)	14/3	0.00004 mg/m³						8		FLUOR polarization	Contact HSE for more details on sampling & analysis
Sucrose	14/3	10 mg/m³	20 mg/m³	960		2000		8		ICP-AES	FLT 225-8-01SC CST 225-2LF C/HLD 225-1
Sulfotep (tetraethyl dithisopyrophosphate), TEPD)	see CD157 pending ★	0.1 mg/m³		480		1000		100 mins		GC-FID	ST 226-57
Sulphur hexafluoride	see Niosh 6602	1000ppm (6070 mg/m³)	1250ppm (7590 mg/m³)	Varies		20 to 100		Varies		P GC-ECD	SB 232-03 or SB 231-03
Sulphuryl difluoride	see Niosh 6012	5ppm (21 mg/m³)	10ppm (42 mg/m³)	10		20		8		IC-ECN	ST 226-09
Sulphuric acid	see NIOSH 7903 or OSHA ID165SG			96		200		8		IC	ST 226-10-03
Talc (Respirable Dust)	14/3	1 mg/m³		1056	33	2200	2200	8	15	GR	CYC 225-69 FLT 225-58F
Talc (Respirable Dust)	14/3	1 mg/m³		960	30	2000	2000	8	15	GR	IOM 225-70A FOAM * 225-772
Tantalum	91	5 mg/m³	10 mg/m³	240	6	2000	2000	0.5	2	X FL	IOM 225-70A FLT 225-19
Tellurium & compounds (except hydrogen telluride) as Te	91	0.1 mg/m³		960		2000		8		AA or AES	IOM 225-70A FLT 225-19
Terphenyls – all isomers	EH64 refers		0.5ppm (4.8 mg/m³)		8.5		1.7		5	HPLC-FD	F/CST 225-709 C/HLD 225-1
1,1,2,2-Tetrabromomethane	96	0.5ppm (7.2 mg/m³)		96		200		8		GC-FID	ST 226-10
Tetracarbonylnickel	EH60 refers		0.1ppm (0.24 mg/m³)	480		1000		8		AA-GF	F/CST 225-709 C/HLD 225-1 IMP 225-36-2 IT 225-22
1,1,2,2-Tetrachloroethane28				10	3	20	200	8	15	GC-FID	ST 226-38
1,1,2,2-Tetrachloroethane88				Diffusive	Diffusive	Diffusive	Diffusive	8	15	GC-FID	PS 575-001
Tetrachloroethylene	72	50ppm (345 mg/m³)	100ppm (689 mg/m³)	24		50		8		GC-ECD	ST 226-357
Tetrachloroethylene	80	50ppm (345 mg/m³)	100ppm (689 mg/m³)	24		50		8		GC-ECD	ST 226-357
Tetrachloroethylene	88	50ppm (345 mg/m³)	100ppm (689 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-002
Tetrachloroethylene	96	50ppm (345 mg/m³)	100ppm (689 mg/m³)	3		20		2.5		GC-FID	ST 226-01
Tetrachlorophthalic anhydride	62			240	7.5	500	500	8	15	HPLC	IOM 225-70A FLT 225-58F ST 226-35
Tetraethyl lead (as Pb)	9			960	120	2000	2000	8	60	AA	IOM 225-70A+225-75A FLT 225-58F*
1,1,1,2-Tetrafluoroethane (HFC 134a)	EH64 & EH65 refers	1000ppm (4240 mg/m³)									
1,1,2,2-Tetrachloroethane	88			Diffusive	Diffusive	Diffusive	Diffusive	8	15	GC-FID	PS 575-001
Tetrahydrofuran	88	50ppm (150 mg/m³)	100ppm (300 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
Tetrahydrofuran	96	50ppm (150 mg/m³)	100ppm (300 mg/m³)	9	1.5	20(50)	100	7(3)	15	GC-FID	ST 226-01
Tetrasodium pyrophosphate	see Osha ID 111	5 mg/m³		960		2000		8		GR IC	FLT 225-8-01SC C/HLD 225-1 CST 225-2LF
Thallium – soluble compounds (as Tl)	91	0.1 mg/m³		960		2000		8		AA or AES	IOM 225-70A FLT 225-19
Thionyl chloride	see Osha CSI		1ppm (4.9 mg/m³)		15		1000		15	IC	IMP 225-36-2 or 225-36-5 IT 225-22
Tin compounds – inorganic except SnH4 (as Sn)	91	2 mg/m³	4 mg/m³	960		2000		8		AA or AES	IOM 225-70A FLT 225-19
Tin compounds – organic except Cyhexatin (ISO) (as Sn)	see Niosh 5504	0.1 mg/m³	0.2 mg/m³	480		1000		8		HPLC AA-GF	ST 226-30 F/CST 225-706 C/HLD 225-1
Titanium dioxide – total inhalable	14/3	10 mg/m³		960		2000		8		GR	IOM 225-70A FLT 225-58F
Titanium dioxide – total respirable	14/3	4 mg/m³		1056		2200		8		GR	CYC 225-69 FLT 225-58F
Toluene	72	50ppm (191 mg/m³)	150ppm (574 mg/m³)	24		50		8		GC-ECD	ST 226-357
Toluene	80	50ppm (191 mg/m³)	150ppm (574 mg/m³)	24		50		8		GC-ECD	ST 226-357 or ST 226-358
Toluene	88	50ppm (191 mg/m³)	150ppm (574 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive	8	15	GC-FID	PS 575-001
Toluene	96	50ppm (191 mg/m³)	150ppm (574 mg/m³)	6	3	100	200	1	15	GC-FID	ST 226-01
p-Toluenesulphonyl chloride	70		5 mg/m³	refer to method							
o-Toluidine	96	0.2ppm (0.89 mg/m³)		48		100		8		GC-FID	ST 226-10
Tributyl phosphate – all isomers	see Niosh 5034	5 mg/m³	5 mg/m³	90		1500		1		GC-FPD	IOM 225-70A FLT 225-19
1,2,4-Trichlorobenzene	72	1ppm	5ppm	24		50		8		GC-ECD	ST 226-357
1,2,4-Trichlorobenzene	80	1ppm	5ppm	Varies		Varies		Varies		GC-ECD	FLT 225-17-03 ST 226-30-04 CST 225-33 C/HLD 225-1
1,1,1-Trichloroethane	72	100ppm (555 mg/m³)	200ppm (1110 mg/m³)	24		50		8		GC-ECD	ST 226-358
1,1,1-Trichloroethane	80	100ppm (555 mg/m³)	200ppm (1110 mg/m³)	24		50		8		GC-ECD	ST 226-358
1,1,1-Trichloroethane	88	100ppm (555 mg/m³)	200ppm (1110 mg/m³)			12	200	8	15	GC-FID	ST 226-01
1,1,1-Trichloroethane	96	100ppm (555 mg/m³)	200ppm (1110 mg/m³)		3		200		15	GC-FID	ST 226-01
1,1,1-Trichloroethane88				Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
1,1,2-Trichloroethane28	under review			10	3	20	200	8	15	GC-FID	ST 226-01
Trichloroethylene	72	100ppm (550 mg/m³)	150ppm (820 mg/m³)	24		50		8		GC-ECD	ST 226-357
Trichloroethylene	80	100ppm (550 mg/m³)	150ppm (820 mg/m³)	24		50		8		GC-ECD	ST 226-357
Trichloroethylene	88	100ppm (550 mg/m³)	150ppm (820 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
Trichloroethylene	96	100ppm (550 mg/m³)	150ppm (820 mg/m³)	10	3	20(50)	200	8(3.3)	15	GC-FID	ST 226-01
Trichloronitromethane	see Osha PV2103	0.1ppm (0.68 mg/m³)	0.3ppm (2.1 mg/m³)	3		200		15 mins		GC-ECD	ST 226-93
Triethylamine	CD157 refers⊗	2ppm (8 mg/m³)	4ppm (17 mg/m³)								
Triglycidyl isocyanurate (TGIC)	85	0.1 mg/m³		960	30	2000	2000	8	15		IOM 225-70A # FLT 225-58F*
Trimellitic anhydride	62	0.04 mg/m³	0.12 mg/m³	240	7.5	500	500	8	15	HPLC	IOM 225-70A FLT 225-58F ST 226-35
Trimethylbenzenes – all isomers or mixtures	72	25ppm (125 mg/m³)		24		50		8		GC-ECD	ST 226-357
Trimethylbenzenes – all isomers or mixtures	80	25ppm (125 mg/m³)		24		50		8		GC-ECD	ST 226-357
Trimethylbenzenes – all isomers or mixtures	88	25ppm (125 mg/m³)		Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
3,5,5-Trimethylcyclohex-2-one	72		5ppm (29 mg/m³)	24		50		8		GC-ECD	ST 226-357
3,5,5-Trimethylcyclohex-2-one	88		5ppm (29 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-002
3,5,5-Trimethylcyclohex-2-one	96		5ppm (29 mg/m³)	10		20(50)		8(3.3)		GC-FID	ST 226-01
Trimethyl phosphite	see Niosh 5037	2ppm (10 mg/m³)		90		1000		1.5		GC-FPD	IOM 225-70A FLT 225-19
2,4,6-Trinitrotoluene	70	0.5 mg/m³		60		1000		8		GC-TEA-ECP	ST 226-56

Air Sampling Guide *to Health & Safety Executive methods*

Tri to Z **Chemical Hazard**	MDHS Method No	SAMPLING INFORMATION								Analytical Method	SKC Collecting Equipment and Part No
		OEL		Vol *litre*		Rate *ml/min*		Time			
		TWA *(ppm)*	STEL *(ppm)*	TWA	STEL	TWA	STEL	TWA *hr*	STEL *min*		
Tri-o-tolyl phosphate		0.1 mg/m³	0.3 mg/m³								
Triphenyl phosphate	*see Niosh 5038*	3 mg/m³	6 mg/m³	240		1000		4		GC-FPD	IOM 225-70A FLT 225-19
Tungsten & compounds (as W) - soluble compounds	*91*	1 mg/m³	3 mg/m³	960		2000		8		AA or AES	IOM 225-70A FLT 225-19
Tungsten & compounds (as W) - insoluble compounds & others	*91*	5 mg/m³	10 mg/m³	960		2000		8		AA or AES	IOM 225-70A FLT 225-19
Turpentine	*see Niosh 1551*	100ppm (566 mg/m³)	150ppm (850 mg/m³)	10		20(50)		8(3.3)		GC-FID	ST 226-01
Vanadium Pentoxide	*14/3*	0.05 mg/m³		1056		2200		8		GR	IOM 225-70A FLT 225-58F
Vanadium Pentoxide	*91*			960		2000		8		AA or AES	IOM 225-70A FLT 225-19
Vinyl chloride	*80*	3ppm		refer to method							ST Spherocarb
Vinyl chloride	*88*	3ppm		Diffusive	Diffusive	Diffusive	Diffusive			CLR	DT 810-174D
Vinyl chloride	*96*	3ppm		5		50		1.6		GC-FID	ST 226-01
Vinylidene chloride	*80*	10ppm (40 mg/m³)		refer to method							
Vinylidene chloride	*88*	10ppm (40 mg/m³)		Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
Vinylidene chloride	*96*	10ppm (40 mg/m³)		5		20		4		GC-FID	ST 226-01
Welding Fume				960	30	2000	2000	8	15	GR	IOM 225-70A FLT 225-58F
Wood dust (Respirable)	*14/3*			1056		2000		8		GR	IOM 225-70A FOAM *225-772
Wood dust (Respirable)	*14/3*			1056		2200		8		GR	CYC 225-69 FLT 225-58F
Wool process dust	*14/3*	10 mg/m³		960		2000		8		GR	IOM 225-70A FLT 225-58F
Xylene (o-, m-, p- or mixed isomers)	*72*	50ppm (220 mg/m³)	100ppm (441 mg/m³)	24		50		8		GC-ECD	ST 226-357
Xylene (o-, m-, p- or mixed isomers)	*80*	50ppm (220 mg/m³)	100ppm (441 mg/m³)	24		50		8		GC-ECD	ST 226-357
Xylene (o-, m-, p- or mixed isomers)	*88*	50ppm (220 mg/m³)	100ppm (441 mg/m³)	Diffusive	Diffusive	Diffusive	Diffusive			GC-FID	PS 575-001
Xylene (o-, m-, p- or mixed isomers)	*96*	50ppm (220 mg/m³)	100ppm (441 mg/m³)	21	3	50	200	7	15	GC-FID	ST 226-01
Yttrium	*91*	1 mg/m³	3 mg/m³	960		2000		8		AA or AES	IOM 225-70A FLT 225-19
Zinc chloride, fume	*91*	1 mg/m³	2 mg/m³	960		2000		8		AA or AES	IOM 225-70A FLT 225-19
Zinc distearate - inhalable dust	*91*	10 mg/m³	20 mg/m³	960		2000		8		GR	IOM 225-70A FLT 225-19
Zinc distearate - respirable dust	*91*	4 mg/m³		1056		2200		8		GR	CYC 225-69 FLT 225-19
Zinc Oxide	*14/3*										
Zirconium compounds (as Zr)	*91*	5 mg/m³	10 mg/m³	960		2000		8		AA or AES	IOM 225-70A FLT 225-19

Key to abbreviations

* Lower than the NIOSH-accepted guideline

\# NIOSH Short-Term Exposure Limit (STEL)

⧓ Depends on detector sensitivity

‡ NIOSH Recommended Exposure Limit (REL)

• Occidental Chemical corporate exposure limits

◓ Valid for PEL samples greater than 4 hours duration. If more than 1000 ppm of other contaminants are present reduce max. sample time to 4 hours.

¶ OSHA construction industry standards

\+ Use tape 578-003 for attaching patch to skin; 578-004 for attaching patch to clothing

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

▲ Validation based on NIOSH 3500

⊗ Data with other compounds indicate that Anasorb 747 (575-002) might be better for this Compound. Activated charcoal (575-001) would also be acceptable.

O Validated by Swedish National Institute of Working Life to meet limit values in Sweden (150 mg/m3 each compound)

§ The values given for desorption efficiency were obtained in SKC Inc. laboratories. Call SKC for details on the desorption solvent used. Values obtained by other workers may differ from these by at least the precision of the analysis.

◮ Valid for STEL samples up to 4 hours duration

◘ Measuring ranges for color diffusion tubes are listed as the widest measuring range. These ranges may vary with shorter sample times. usually, lower measuring ranges may be obtained with shorter sample times. See the instructions included with the diffusion tube package for detailed information or contact SKC Technical Support.

⬓ Abbreviations are found on pages 104 / 105.

** In accordance with ASTM D6346-98 and ANSI 104-1998 standards, use of samplers outside the range of conditions used in these validation tests does not assure accurate results and is not recommended. It is the user's responsibility to determine whether the conditions of the sampling site fall within the range tested. For bi-level validations, it can be assumed that the applicable range is that used for testing the lower member of the homologous series.

◖ Sampling rate generated by OSHAS SL Tech Center. SKC in-house validation produced a similar sampling rate. SKC recommends using the OSHA rate for compliance sampling.