

## SKC Passive Sampling Guide for the Industrial Hygienist

SKC passive samplers are ready to use and provide a reliable and economical method for air sampling. Available for personal and area sampling, SKC offers samplers for a wide variety of chemical hazards to meet OSHA, NIOSH, and ASTM International methods. Use the information below to select a passive sampler that fits your application(s).

### Validation for Compliance Sampling

Due to design, passive (diffusive) samplers require extensive testing to ensure sample validity. Passive samplers can be validated to different protocols including OSHA, NIOSH, ANSI, and ASTM International.

SKC offers passive samplers for many OSHA Methods including: Benzene, MEK, Formaldehyde, Hydrogen Cyanide, Mercury, and more!

### Passive Samplers for Long-term Sampling

Some SKC passive samplers have been validated for long-term sampling. See the *Environmental Sampling Guide* on pages 190-195.

### Passive Samplers for VOCs

For VOCs listed in EPA Method TO-17, see passive sampler entries in the *Environmental Sampling Guide* on pages 190-195.

### SKC Validation of 575 Series Passive (Diffusive) Samplers

SKC has validated its 575 Series Passive Samplers for organic vapors to the rigorous NIOSH and ANSI testing protocols. SKC validations include the following:

- **Full** - Passed all NIOSH Partial validation protocol and factorial study, including interfering compounds; most rigorous test; includes all parameters affecting sampling accuracy
- **Bi-level** - A key member of a homologous series passed Full validation, all others passed Partial. Validity shown by Guild et al (reference available).
- **Partial** - Passed NIOSH protocol for sampling rate, desorption efficiency, humidity effects, reverse diffusion, and storage stability
- **Calculated** - Uptake Rate =  $D \times (A/L)$ . "D" is a diffusion coefficient calculated from the Hirschfelder Equation. "A/L" is a constant based on the geometry of the sampler.

Chemical Hazard	Validation Level	Research Report	OSHA PELs $\Delta$		Sampling Rate (ml/min)	Sampling Time		Analytical Method	DE % $\S$	SKC Catalog No. and Page No.
			TWA (ppm)	CLG&STEL (ppm)		Min (min)	Max (hrs)			
Acetaldehyde	Partial		200		23.1	15	8	HPLC-UV	100	500-100 67
Acetic acid	EPA TO-17				19.6	8 hrs	8	TD, GC $\S$		690-101 71
Acetic acid	Calculated		10	15 #	19.6			GC-FID	99.2	575-001 65
Acetone	EPA TO-17				15.2	8 hrs	8	TD, GC $\S$		690-103 71
Acetone	Full	1303	1000		15.2 $\approx$	240	8	GC-FID	90.2	575-002 65
Acetone	Full	1303	1000		20.3 $\sqrt{\phantom{x}}$	15	4	GC-FID	90.2	575-002 65
Acetonitrile	Calculated		40		22.4			GC-FID	103	575-001 65
Acetonitrile	Calculated		40		22.4			GC-FID	108	575-002 65
Acrylonitrile	EPA TO-17				20.4	8 hrs	8	TD, GC $\S$		690-101 71
Acrylonitrile	Full		2	10	20.4	15	8	GC-FID	81	575-002 65
Aldehydes (see specific compounds)		1759				30	8	HPLC-UV		500-100 67
Allyl alcohol	Calculated		2	4	18.4			GC-FID	76	575-002 65
Allyl amine	Partial	1759			22.4	30	8	HPLC-UV	107	500-400 66
Allyl chloride	Calculated		1	2 #	17.8			GC-FID	95.1	575-001 65
Allyl chloride	Calculated		1	2 #	17.8			GC-FID	101.3	575-002 65
n-Amyl acetate	Calculated		100		11.8			GC-FID	93.5	575-001 65
n-Amyl acetate	Calculated		100		11.8			GC-FID	96	575-002 65
sec-Amyl acetate (2-pentyl acetate)	Calculated		125		11.9			GC-FID		575-001 65
n-Amyl alcohol	Calculated				13.9			GC-FID	87.3	575-001 65
n-Amyl alcohol	Calculated				13.9			GC-FID	100.6	575-002 65
t-Amyl methyl ether (methyl tert-amyl ether)	Bilevel	1355			13.1	30	8	GC-FID	99	575-001 65
Aniline	EPA TO-17				13.72	8 hrs	8	TD, GC $\S$		690-101 or 690-103 or 690-104 71
Benzaldehyde	Partial				14.1	15	8	HPLC-UV	100	500-100 67
Benzene	EPA TO-17				16	8 hrs	8	TD, GC $\S$		690-101 or 690-103 or 690-104 71
Benzene	Full	1312	1	5	16	15	8	GC-FID	93.5	575-001 65
Benzene	OSHA 1005		1	5	17.1	15	8	GC-FID	93.6	575-002 65
Benzotrifluoride (trifluoromethyl benzene; OXSOL 2000)	Bilevel		100 $\diamond$		13.3	15	8	GC-FID	106	575-001 65
Benzotrifluoride (trifluoromethyl benzene; OXSOL 2000)	Bilevel		100 $\diamond$		13.3	15	8	GC-FID	107	575-002 65
Benzyl acetate	Calculated				10.8			GC-FID	91.2	575-002 65
Benzyl chloride	Calculated		1		12.3			GC-FID	98.7	575-001 65
Benzyl chloride	Calculated		1		12.3			GC-FID	98.9	575-002 65
Bromoethane	Calculated		200		18.1			GC-FID		575-001 65
Bromoform	Calculated		0.5		21.2			GC-FID		575-001 65
1-Bromopropane	Full	1740			14.4	15	8	GC-FID	100	575-001 65
1-Bromopropane	Full	1740			14.7	15	8	GC-FID	107	575-002 65
n-Butanol	EPA TO-17		100	50	15.59	8 hrs	8	TD, GC $\S$		690-101 or 690-103 or 690-104 71
1-Butanol (n-butyl alcohol)	Calculated		100	50 #	15.59			GC-FID	94	575-001 65
1-Butanol (n-butyl alcohol)	Calculated		100	50 #	15.59			GC-FID	100	575-002 65
2-Butanol (sec-butyl alcohol)	Calculated		150	50 #	15.6			GC-FID	93	575-001 65
2-Butanol (sec-butyl alcohol)	Calculated		150	50 #	15.6			GC-FID	100	575-002 65

Chemical Hazard	Validation Level	Research Report	OSHA PELs Δ		Sampling Rate (ml/min)	Sampling Time		Analytical Method	DE %	SKC Catalog No. and Page No.
			TWA (ppm)	CLGSTEL (ppm)		Min (min)	Max (hrs)			
2-Butanone (methyl ethyl ketone, MEK)	EPA TO-17				16.88	8 hrs	8	TD, GC £		690-101 or 690-103 or 690-104
2-Butanone (methyl ethyl ketone, MEK)	Bilevel	1306	200		17.1	15	8	GC-FID	100	575-002
2-Butanone (methyl ethyl ketone, MEK)	OSHA 1004		200		16.88		8	GC-FID	92.3	575-002
2-Butoxyethanol	EPA TO-17				12	8 hrs	8	TD, GC £		690-103
2-Butoxyethanol (butyl CELLOSOLVE solvent)	Calculated		50		12			GC-FID	89.7	575-002
2-Butoxyethanol acetate	EPA TO-17				10.5	8 hrs	8	TD, GC £		690-101 or 690-103 or 690-104
n-Butyl acetate	EPA TO-17				12.6	8 hrs	8	TD, GC £		690-101 or 690-103 or 690-104
n-Butyl acetate	Full		150	200 #	12.3	15	8	GC-FID	90.4	575-001
n-Butyl acetate	Full		150	200 #	13.2	15	8	GC-FID	98.7	575-002
n-Butyl acetate	OSHA 1009		150	200 #	13.07	15	8	GC-FID	99.2	575-002
sec-Butyl acetate	Calculated		200		12.9			GC-FID	96.2	575-001
sec-Butyl acetate	Calculated		200		12.9			GC-FID	96.6	575-002
sec-Butyl acetate	OSHA 1009		200		12.74	15	8	GC-FID	98.9	575-002
t-Butyl acetate	EPA TO-17				12.9	8 hrs	8	TD, GC £		690-101 or 690-103
t-Butyl acetate	Calculated		200		12.9			GC-FID	95.1	575-001
t-Butyl acetate	Calculated		200		12.9			GC-FID	94.8	575-002
t-Butyl acetate	OSHA 1009		200		13.09	15	8	GC-FID	98.9	575-002
Butyl acrylate	Bilevel		10 ‡		11.7	30	8	GC-FID	95	575-002
t-Butyl alcohol	Calculated		100	150	15.8			GC-FID	84	575-002
n-Butyl alcohol (1-butanol)	EPA TO-17				15.59	8 hrs	8	TD, GC £		690-101 or 690-103 or 690-104
n-Butyl alcohol (1-butanol)	Calculated		100	50 #	15.59			GC-FID	94	575-001
n-Butyl alcohol (1-butanol)	Calculated		100	50 #	15.59			GC-FID	100	575-002
sec-Butyl alcohol (2-butanol)	Calculated		150	50 #	15.6			GC-FID	93	575-001
sec-Butyl alcohol (2-butanol)	Calculated		150	50 #	15.6			GC-FID	100	575-002
n-Butyl amine	Partial	1759		5	18.1	30	8	HPLC-UV	106	500-400
Butyl CELLOSOLVE acetate (ethylene glycol monobutyl ether acetate)	Calculated		5 ‡		10.5			GC-FID		575-002
Butyl CELLOSOLVE solvent (2-butoxyethanol)	Calculated		50		12			GC-FID	89.7	575-002
t-Butyl ethyl ether (ethyl tert-butyl ether)	Bilevel	1356			13.1	30	8	GC-FID	101	575-001
n-Butyl glycidyl ether	Calculated		50		11.6			GC-FID	104	575-002
t-Butyl methyl ether	EPA TO-17				13.6	8 hrs	8	TD, GC £		690-101 or 690-103
p-tert-Butyl toluene	Bilevel		10		10.4	15	8	GC-FID	100	575-001
Butyraldehyde	Partial				16.5	15	8	HPLC-UV	100	500-100
Butyrolactone	Calculated				15.8			GC-FID	80.9	575-002
Camphor	Calculated		2 mg/m³		10.8			GC-FID	94.2	575-001
Camphor	Calculated		2 mg/m³		10.8			GC-FID	113	575-002
Carbon tetrachloride	EPA TO-17			25	14.1	8 hrs	8	TD, GC £		690-101 or 690-103 or 690-104
Carbon tetrachloride	Bilevel		10	25	14.1	30	8	GC-FID	98.3	575-001
delta-3-Carene	Partial				11.4	30	8	GC-FID	90	575-003
CELLOSOLVE solvent (2-ethoxyethanol)	Calculated		200		14.4			GC-FID	100.9	575-001
CELLOSOLVE solvent (2-ethoxyethanol)	Calculated		200		14.4			GC-FID	111.2	575-002
1-Chloro-2-methylbenzene (monochlorotoluene; OXSOL 10)	Bilevel		50 ‡		13	15	8	GC-FID	91.8	575-001
1-Chloro-2-methylbenzene (monochlorotoluene; OXSOL 10)	Bilevel		50 ‡		13	15	8	GC-FID	91	575-002
1-Chloro-4-(trifluoromethyl)benzene (parachlorobenzotrifluoride; OXSOL 100)	Bilevel		25 ◊		11.8	15	8	GC-FID	102	575-001
1-Chloro-4-(trifluoromethyl)benzene (parachlorobenzotrifluoride; OXSOL 100)	Bilevel		25 ◊		11.8	15	8	GC-FID	108	575-002
Chlorobenzene	EPA TO-17				14.2	8 hrs	8	TD, GC £		690-101 or 690-103 or 690-104
Chlorobenzene	Calculated		75		14.2			GC-FID	93.3	575-001
Chlorobenzene	Partial		75		14.41	15	8	GC-FID	87.6	575-002
Chlorobromomethane	Calculated		200		15.4			GC-FID		575-001
Chloroform	Bilevel			50 (C)	13	60	8	GC-FID	97.3	575-001
o-Chlorostyrene	Bilevel	1374	50 ‡		9.8	15	8	GC-FID	75.2	575-002
o-Chlorostyrene	Bilevel	1382	50 ‡		9.8	15	8	GC-FID	94	575-003
Crotonaldehyde	Partial	1813	2		9.71	15	8	HPLC-UV	100	500-100
Cumene (isopropyl benzene)	EPA TO-17				12.8	8 hrs	8	TD, GC £		690-101 or 690-104
Cumene (isopropyl benzene)	Bilevel		50		12.8	15	8	GC-FID	99.3	575-001
Cumene (isopropyl benzene)	Bilevel		50		12.8	15	8	GC-FID	106	575-002
Cyclohexane	Bilevel		300		15.6	15	8	GC-FID	105	575-001
Cyclohexane	Bilevel		300		15.6	15	8	GC-FID	109	575-002
Cyclohexanol	Calculated		50		13.5			GC-FID	98	575-001
Cyclohexanol	Calculated		50		13.5			GC-FID	105	575-002
Cyclohexanone	EPA TO-17				15.1	8 hrs	8	TD, GC £		690-101 or 690-103 or 690-104
Cyclohexanone	Partial		50		15.1	15	8	GC-FID	88.6	575-003
Cyclohexene	Calculated		300		15.4			GC-FID	102	575-001
Cyclohexene	Calculated		300		15.4			GC-FID	106	575-002
Cyclopentane	Calculated		600 ‡		16.1			GC-FID		575-001
n-Decane	Calculated				10.2			GC-FID	102	575-001
n-Decane	Calculated				10.2			GC-FID	104	575-002
n-Decane	EPA TO-17				10.2	8 hrs	8	TD, GC £		690-101 or 690-103 or 690-104
1-Decanol (decyl alcohol)	Calculated				9.6			GC-FID	97.3	575-002
Decyl alcohol (1-decanol)	Calculated				9.6			GC-FID	97.3	575-002
Desflurane	Calculated				14.8			GC-FID		575-002
Diacetone alcohol	Calculated		50		12.4			GC-FID	92.9	575-002
1,2-Dibromoethane (ethylene dibromide)	Calculated		20	30	14.7			GC-FID	92.3	575-001

See page 196 for abbreviations.

See the Environmental Sampling Guide for passive ambient air samplers — pages 190-195.

Chemical Hazard	Validation Level	Research Report	OSHA PELs Δ		Sampling Rate (ml/min)	Sampling Time		Analytical Method	DE %	SKC Catalog No. and Page No.		
			TWA (ppm)	CLGSTEL (ppm)		Min (min)	Max (hrs)					
1,2-Dibromoethane (ethylene dibromide)	Calculated		20	30	14.7			GC-FID	99.4	575-002		65
o-Dichlorobenzene (1,2-dichlorobenzene)	Calculated			50	12.6			GC-FID	79.2	575-001		65
o-Dichlorobenzene (1,2-dichlorobenzene)	Calculated			50	12.6			GC-FID	77.1	575-002		65
m-Dichlorobenzene (1,3-dichlorobenzene)	Calculated				12.7			GC-FID	91.8	575-001		65
m-Dichlorobenzene (1,3-dichlorobenzene)	Calculated				12.7			GC-FID	92.7	575-002		65
p-Dichlorobenzene (1,4-dichlorobenzene)	Calculated		75		12.7			GC-FID	91.1	575-001		65
p-Dichlorobenzene (1,4-dichlorobenzene)	Calculated		75		12.7			GC-FID	94.7	575-002		65
1,3-Dichlorobenzene (m-dichlorobenzene)	Calculated				12.7			GC-FID	91.8	575-001		65
1,3-Dichlorobenzene (m-dichlorobenzene)	Calculated				12.7			GC-FID	92.7	575-002		65
1,2-Dichlorobenzene (o-dichlorobenzene)	Calculated			50	12.6			GC-FID	79.2	575-001		65
1,2-Dichlorobenzene (o-dichlorobenzene)	Calculated			50	12.6			GC-FID	77.1	575-002		65
1,4-Dichlorobenzene (p-dichlorobenzene)	Calculated		75		12.7			GC-FID	91.1	575-001		65
1,4-Dichlorobenzene (p-dichlorobenzene)	Calculated		75		12.7			GC-FID	94.7	575-002		65
1,2-Dichloroethane (ethylene dichloride)	Bilevel		50	100	14.2	60	8	GC-FID	95.8	575-001		65
1,2-Dichloroethane (ethylene dichloride)	EPA TO-17				14.2	8 hrs	8	TD, GC £		690-101 or 690-104	or 690-103 or 71	
1,1-Dichloroethene (vinylidene chloride)	Bilevel		LFC ‡		12.3	60	8	GC-FID	95.2	575-001		65
Dichloroethyl ether	Calculated		5 ‡	15 (C)	12.7			GC-FID		575-001		65
1,2-Dichloroethylene	Full		200		14.8	15	8	GC-FID	97.1	575-001		65
Dichloromethane	EPA TO-17				14.7	8 hrs	8	TD, GC £		690-101		71
1,2-Dichloropropane (propylene dichloride)	Bilevel		75		14.3	15	8	GC-FID	97.7	575-001		65
cis-1,3-Dichloropropene	Calculated		1 ‡		15.2			GC-FID	91.4	575-001		65
cis-1,3-Dichloropropene	Calculated		1 ‡		15.2			GC-FID	94.3	575-002		65
Dicyclopentadiene	Calculated		5		11.8			GC-FID		575-001		65
Diethyl ether (ethyl ether)	Calculated		400		16.3			GC-FID		575-001		65
Diethyl ketone (3-pentanone)	Calculated		200 ‡		14.8			GC-FID	83.9	575-001		65
Diethyl ketone (3-pentanone)	Calculated		200 ‡		14.8			GC-FID	100.3	575-002		65
Diethylene glycol monobutyl ether	Calculated				9.97			GC-FID		575-002		65
Diethylene glycol monoethyl ether	Calculated				11.27			GC-FID		575-002		65
Diisobutyl ketone (DIBK)	Bilevel	1305	50		10.3	15	8	GC-FID	98.3	575-002		65
Dimethoxymethane (methylal)	Calculated		1000		17.1			GC-FID		575-001		65
Dimethylamine	Partial	1759	10		18.2	30	8	HPLC-UV	111	500-400		66
N,N-Dimethylaniline	Calculated		5	10	12			GC-FID		575-001		65
trans-1,2-Dimethylcyclohexane	Calculated				12.4			GC-FID	106.1	575-001		65
trans-1,2-Dimethylcyclohexane	Calculated				12.4			GC-FID	110.6	575-002		65
N,N-Dimethylformamide (DMF)	Calculated		10		16.4			GC-FID		575-002		65
Dimethylsulfoxide	Calculated				15.96			GC-FID		575-001		65
1,4-Dioxane	Calculated		100		16			GC-FID	91.4	575-002		65
Diphenyl oxide (phenyl ether)	Calculated		1		10.4			GC-FID		575-001		65
Dipropyl ketone (4-heptanone)	Calculated		50 ‡		12.3			GC-FID	85.3	575-001		65
Dipropyl ketone (4-heptanone)	Calculated		50 ‡		12.3			GC-FID	112.2	575-002		65
Dipropylene glycol methyl ether	Calculated		100	150 #	10.8			GC-FID	84.3	575-002		65
n-Dodecane	EPA TO-17				9.11	8 hrs	8	TD, GC £		690-101 or 690-104		71
1-Dodecyl alcohol (lauryl alcohol)	Calculated				8.7			GC-FID	107.5	575-001		65
1-Dodecyl alcohol (lauryl alcohol)	Calculated				8.7			GC-FID	107.5	575-001		65
1-Dodecyl alcohol (lauryl alcohol)	Calculated				8.7			GC-FID	103	575-002		65
1-Dodecyl alcohol (lauryl alcohol)	Calculated				8.7			GC-FID	103	575-002		65
Enflurane (ethrane)	Calculated		2 ‡		13.8			GC-FID		575-002		65
Epichlorohydrin	Calculated		5		16			GC-FID	70.8	575-001		65
Epichlorohydrin	Calculated		5		16			GC-FID	88.2	575-002		65
2,3-Epoxy-1-propanol	Calculated		50		16.7			GC-FID		575-002		65
Ethanol (ethyl alcohol)	Partial		1000		20.3	15	8	GC-FID	99	575-002		65
2-Ethoxyethanol (CELLOSOLVE solvent)	EPA TO-17				14.4	8 hrs	8	TD, GC £		690-101 or 690-104	or 690-103 or 71	
2-Ethoxyethanol (CELLOSOLVE solvent)	Calculated		200		14.4			GC-FID	100.8	575-001		65
2-Ethoxyethanol (CELLOSOLVE solvent)	Calculated		200		14.4			GC-FID	111.2	575-002		65
2-Ethoxyethyl acetate (CELLOSOLVE acetate)	EPA TO-17				12	8 hrs	8	TD, GC £		690-101 or 690-104	or 690-103 or 71	
2-Ethoxyethyl acetate (CELLOSOLVE acetate)	Calculated		100		12			GC-FID	95.4	575-002		65
Ethane (enflurane)	Calculated				13.8			GC-FID		575-002		65
Ethyl acetate	EPA TO-17				13.1	8 hrs	8	TD, GC £		690-101 or 690-104	or 690-103 or 71	
Ethyl acetate	Bilevel		400		13.1	15	8	GC-FID	92.8	575-001		65
Ethyl acetate	Bilevel		400		14.4	15	8	GC-FID	100	575-002		65
Ethyl acrylate	EPA TO-17				13.7	8 hrs	8	TD, GC £		690-101 or 690-104	or 690-103 or 71	
Ethyl acrylate	Bilevel		25		13.7	15	8	GC-FID	94.2	575-002		65
Ethyl alcohol (ethanol)	Partial		1000		20.3	15	8	GC-FID	99	575-002		65
Ethyl amyl ketone	Calculated		25		11.4			GC-FID	87.51	575-001		65
Ethyl amyl ketone	Calculated		25		11.4			GC-FID	110.7	575-002		65
Ethyl benzene	EPA TO-17				12.9	8 hrs	8	TD, GC £		690-101 or 690-104	or 690-103 or 71	
Ethyl benzene	Bilevel		100		12.9	15	6	GC-FID	100	575-001		65
Ethyl benzene	Bilevel		100		12.9	15	6	GC-FID	104	575-002		65
Ethyl benzene	OSHA 1002		100		13.83 ▲		8	GC-FID	99.1	575-002		65
Ethyl bromide (bromoethane)	Calculated		200		18.1			GC-FID		575-001		65
Ethyl butyl ketone (3-heptanone)	Calculated		50		12.3			GC-FID	87.9	575-001		65
Ethyl butyl ketone (3-heptanone)	Calculated		50		12.3			GC-FID	103.4	575-002		65
Ethyl CELLOSOLVE solvent (2-ethoxyethanol)	Calculated		200		14.4			GC-FID	100.8	575-001		65
Ethyl CELLOSOLVE solvent (2-ethoxyethanol)	Calculated		200		14.4			GC-FID	111.2	575-002		65
Ethyl formate	Calculated		100		17.7			GC-FID		575-001		65
Ethyl methacrylate	Full				13.1	15	8	GC-FID	84.7	575-001		65

See the Environmental Sampling Guide for passive ambient air samplers — pages 190-195.

See page 196 for abbreviations.

Chemical Hazard	Validation Level	Research Report	OSHA PELs Δ		Sampling Rate (ml/min)	Sampling Time		Analytical Method	DE %	SKC Catalog No. and Page No.	
			TWA (ppm)	CLGSTEL (ppm)		Min (min)	Max (hrs)				
Ethyl methacrylate	Full				13.1	15	8	GC-FID	104	575-002	65
Ethyl propionate	Calculated				14			GC-FID		575-001	65
Ethyl tert-butyl ether (tert-butyl ethyl ether)	Bilevel	1356			13.1	30	8	GC-FID	101	575-001	65
2-Ethyl toluene	EPA TO-17				11.65	8 hrs	8	TD, GC £		690-101 or 690-104	71
3-Ethyl toluene	EPA TO-17				10.42	8 hrs	8	TD, GC £		690-101 or 690-104	71
4-Ethyl toluene	EPA TO-17				11.65	8 hrs	8	TD, GC £		690-101 or 690-104	71
Ethyl-2-methyl benzene (2-ethyltoluene)	Calculated				11.65			GC-FID		575-001	65
Ethyl-4-methyl benzene (4-ethyltoluene)	Calculated				11.65			GC-FID		575-001	65
Ethylene dibromide (1,2-dibromoethane)	Calculated		20	30	14.7			GC-FID	92.3	575-001	65
Ethylene dibromide (1,2-dibromoethane)	Calculated		20	30	14.7			GC-FID	99.4	575-002	65
Ethylene dichloride (1,2-dichloroethane)	EPA TO-17				14.2	8 hrs	8	TD, GC £		690-101 or 690-103 or 690-104	71
Ethylene dichloride (1,2-dichloroethane)	Bilevel		50	100	14.2	60	8	GC-FID	95.8	575-001	65
Ethylene glycol monobutyl ether acetate	Calculated		5 ‡		10.5			GC-FID		575-002	65
Ethylene glycol monohexyl ether	Calculated				10.5			GC-FID		575-001	65
Ethylene glycol monomethyl ether acetate	Calculated		25		13.1			GC-FID	92.4	575-002	65
Ethylene oxide	Full	1543	1	5 EL	21.2	15	8	GC-ECD	102	575-005	65
2-Ethylhexanol	Calculated				10.9			GC-FID		575-002	65
Ethylhexyl acetate	Calculated				9.8			GC-FID		575-002	65
Formaldehyde	Full	1608	0.016	0.1	28.6	15	24	HPLC-UV	100	500-100	67
Formaldehyde	Partial		0.016	0.1	20.4	7 days	7 days	HPLC-UV		500-100	67
Formaldehyde	NIOSH 3500		0.016	0.1		5 days	7 days	VAS		526-100	68
Formaldehyde	NIOSH 3500		0.016	0.1		15	8	VAS		526-200	68
Formaldehyde	NIOSH 3500		0.016	0.1			8	VAS		526-201	68
Formaldehyde	OSHA 1007		0.75	2	28.6	15	8	HPLC-UV		500-100	67
Furfural	EPA TO-17				14.62	8 hrs	8	TD, GC £		690-101 or 690-104	71
Glutaraldehyde	Partial			0.2 #	14.3	15	8	HPLC-UV	100	500-100	67
Glycidol (2,3-epoxy-1-propanol)	Calculated		50		16.7			GC-FID		575-002	65
Halothane	Calculated		2 ‡		15.3			GC-FID		575-002	65
n-Heptane	EPA TO-17				13.9	8 hrs	8	TD, GC £		690-101 or 690-103 or 690-104	71
n-Heptane	Bilevel		500		13.9	15	8	GC-FID	105	575-001	65
n-Heptane	Bilevel		500		13.9	15	8	GC-FID	108	575-002	65
4-Heptanone (dipropyl ketone)	Calculated		50 ‡		12.3			GC-FID	85.3	575-001	65
4-Heptanone (dipropyl ketone)	Calculated		50 ‡		12.3			GC-FID	112.2	575-002	65
3-Heptanone (ethyl butyl ketone)	Calculated		50		12.3			GC-FID	87.9	575-001	65
3-Heptanone (ethyl butyl ketone)	Calculated		50		12.3			GC-FID	103.4	575-002	65
2-Heptanone (methyl amyl ketone)	Calculated		100		12.2			GC-FID		575-002	65
1-Heptene	Calculated				13.1			GC-FID		575-001	65
Hexachloroethane	Calculated		1		11.5			GC-FID		575-001	65
Hexafluorobenzene	EPA TO-17				12.99	8 hrs	8	TD, GC £		690-101 or 690-103 or 690-104	71
Hexanaldehyde	Partial	1814			9.66	15	8	HPLC-UV	99	500-100	67
n-Hexane	EPA TO-17				14.3	8 hrs	8	TD, GC £		690-101 or 690-103	71
n-Hexane	Bilevel		500		14.3	15	8	GC-FID	100	575-001	65
n-Hexane	Bilevel		500		14.3	15	8	GC-FID	112	575-002	65
Hexanol (hexyl alcohol)	Calculated				12.6			GC-FID		575-002	65
2-Hexanone (methyl butyl ketone MBK)	Calculated		100		13.4			GC-FID		575-002	65
Hexone (methyl isobutyl ketone MIBK)	EPA TO-17				13.62	8 hrs	8	TD, GC £		690-101 or 690-103 or 690-104	71
Hexone (methyl isobutyl ketone MIBK)	Bilevel	1304	100	300 #	13.5	15	8	GC-FID	94.6	575-002	65
Hexone (methyl isobutyl ketone, MIBK)	OSHA 1004		100	300 #	13.62		8	GC-FID	92.9	575-002	65
sec-Hexyl acetate	Calculated		50		11.1			GC-FID		575-002	65
Hexyl alcohol (hexanol)	Calculated				12.6			GC-FID		575-002	65
Hexylene glycol	Calculated			25 #	11.5			GC-FID		575-002	65
Hydrogen cyanide	OSHA 1015		10		28.4	15	8	IC-ELCHIM	97.9	590-400	69
Isoamyl acetate	Calculated		100		11.9			GC-FID	91.9	575-001	65
Isoamyl acetate	Calculated		100		11.8			GC-FID	108.0	575-002	65
Isoamyl alcohol	Calculated		100	125 #	13.9			GC-FID		575-002	65
Isobutyl acetate	EPA TO-17				12.8	8 hrs	8	TD, GC £		690-101 or 690-103 or 690-104	71
Isobutyl acetate	Calculated		150		12.8			GC-FID		575-002	65
Isobutyl acetate	OSHA 1009		150		13.16	15	8	GC-FID	99.1	575-002	65
Isobutyl acrylate	Calculated				12.1			GC-FID		575-002	65
Isobutyl alcohol	Calculated		100		15.6			GC-FID	93.0	575-001	65
Isobutyl alcohol	Calculated		100		15.6			GC-FID	100.0	575-002	65
Isobutyl alcohol	Calculated				13.7			GC-FID		575-002	65
Isobutyl alcohol	Calculated		100		11.1			GC-FID		575-002	65
Isopentane	Calculated		1000	610 #	15.8			GC-FID		575-001	65
Isophorone	EPA TO-17				11.3	8 hrs	8	TD, GC £		690-101 or 690-104	71
Isophorone	Calculated		25		11.3			GC-FID		575-002	65
Isopropanol (isopropyl alcohol)	EPA TO-17				17.8	8 hrs	8	TD, GC £		690-101 or 690-103	71
Isopropanol (isopropyl alcohol)	Partial		400	400 #	18.42	15	8	GC-FID	100	575-002	65
Isopropyl acetate	EPA TO-17				14.1	8 hrs	8	TD, GC £		690-101 or 690-103 or 690-104	71
Isopropyl acetate	Calculated		250		14.1			GC-FID	88.5	575-001	65
Isopropyl acetate	Calculated		250		14.1			GC-FID	101	575-002	65
Isopropyl alcohol (2-propanol)	EPA TO-17				17.8	8 hrs	8	TD, GC £		690-101 or 690-103	71
Isopropyl alcohol (2-propanol)	Partial		400	400 #	18.42	15	8	GC-FID	100	575-002	65
Isopropyl amine	Partial	1759	5		13	30	8	HPLC-UV	100	500-400	66
Isopropyl benzene (cumene)	Bilevel		50		12.8	15	8	GC-FID	99.3	575-001	65
Isopropyl benzene (cumene)	Bilevel		50		12.8	15	8	GC-FID	106	575-002	65

See page 196 for abbreviations.

See the Environmental Sampling Guide for passive ambient air samplers — pages 190-195.

Chemical Hazard	Validation Level	Research Report	OSHA PELs Δ		Sampling Rate (ml/min)	Sampling Time		Analytical Method	DE %	SKC Catalog No. and Page No.
			TWA (ppm)	CLGSTEL (ppm)		Min (min)	Max (hrs)			
Isopropyl ether	Calculated		500		13.2			GC-FID		575-001 65
Isopropyl glycidyl ether (IGE)	Calculated		50	50 #	12.8			GC-FID		575-001 65
Isopropyl benzene	EPA TO-17				12.8	8 hrs	8	TD, GC £		690-101 or 690-104 71
Lauryl alcohol (1-dodecanol)	Calculated				8.7			GC-FID	107.5	575-001 65
Lauryl alcohol (1-dodecanol)	Calculated				8.7			GC-FID	103	575-002 65
Limonene	Calculated				11.4			GC-FID		575-003 65
Limonene	EPA TO-17				11.57	8 hrs	8	TD, GC £		690-103 71
Maleic anhydride	EPA TO-17				15.17	8 hrs	8	TD, GC £		690-101 or 690-103 or 690-104 71
Mercury	OSHA ID 140		0.1 mg/m <sup>3</sup>		20		8	AAS		520-02A and 520-03 68
Mesityl oxide	Calculated		25	15	13.7			GC-FID		575-001 65
Mesitylene (1,3,5-trimethylbenzene)	Calculated		25		12.1			GC-FID	93.6	575-001 65
Mesitylene (1,3,5-trimethylbenzene)	Calculated		25		12.1			GC-FID	96	575-002 65
Mesitylene (1,3,5-trimethylbenzene)	EPA TO-17				12.1	8 hrs	8	TD, GC £		690-101 or 690-103 or 690-104 71
2-Methoxy-1-propyl acetate	Calculated				12			GC-FID		575-002 65
1-Methoxy-2-propanol	Calculated		100 ‡	150 #	14.6			GC-FID	100	575-002 65
1-Methoxy-2-propanol	EPA TO-17				13.1	8 hrs	8	TD, GC £		690-103 71
1-Methoxy-2-propyl acetate	Calculated				12.2			GC-FID		575-002 65
2-Methoxyethanol (methyl CELLOSOLVE solvent)	EPA TO-17				16.1	8 hrs	8	TD, GC £		690-101 or 690-103 or 690-104 71
2-Methoxyethanol (methyl CELLOSOLVE solvent)	Calculated		25		16.1			GC-FID	94.7	575-001 65
2-Methoxyethanol (methyl CELLOSOLVE solvent)	Calculated		25		16.1			GC-FID	91.1	575-002 65
2-Methoxyethyl acetate	EPA TO-17				13.1	8 hrs	8	TD, GC £		690-101 or 690-103 or 690-104 71
Methoxypropanol	EPA TO-17				14.38	8 hrs	8	TD, GC £		690-101 or 690-103 or 690-104 71
Methyl acetate	EPA TO-17				17.8	8 hrs	8	TD, GC £		690-101 or 690-103 71
Methyl acetate	Calculated		200	250 #	17.8			GC-FID		575-002 65
Methyl acrylate	EPA TO-17				15.7	8 hrs	8	TD, GC £		690-101 or 690-103 or 690-104 71
Methyl acrylate	Full		10 ‡		15.7	15	8	GC-FID	94.3	575-002 65
Methyl amine	Partial	1759	10		18.4	30	8	HPLC-UV	101	500-400 66
Methyl amyl ketone (2-heptanone)	Calculated		100		12.2			GC-FID		575-002 65
2-Methyl butane	Calculated				15.8			GC-FID		575-001 65
Methyl butyl ketone (MBK 2-hexanone)	Calculated		100		13.4			GC-FID		575-002 65
Methyl CELLOSOLVE acetate (ethylene glycol monomethyl ether acetate)	Calculated		25		13.1			GC-FID	92.4	575-002 65
Methyl CELLOSOLVE solvent (2-methoxyethanol)	Calculated		25		16.1			GC-FID	94.7	575-001 65
Methyl CELLOSOLVE solvent (2-methoxyethanol)	Calculated		25		16.1			GC-FID	91.1	575-002 65
Methyl chloroform (1,1,1-trichloroethane)	EPA TO-17				14.1	8 hrs	8	TD, GC £		690-101 or 690-103 71
Methyl chloroform (1,1,1-trichloroethane)	Bilevel		350	350	14.1	15	8	GC-FID	99.9	575-001 65
Methyl cyclohexane	Bilevel		500		14.2	15	8	GC-FID	106	575-001 65
Methyl ethyl ketone (2-butanone)	EPA TO-17				16.88	8 hrs	8	TD, GC £		690-101 or 690-103 or 690-104 71
Methyl ethyl ketone (2-butanone)	Bilevel	1306	200		17.1	15	8	GC-FID	100	575-002 65
Methyl ethyl ketone (2-butanone)	OSHA 1004		200		16.88		8	GC-FID	92.3	575-002 65
Methyl iodide	Calculated		5		18.7			GC-FID		575-001 65
Methyl isoamyl ketone	Calculated		100		12.3			GC-FID		575-002 65
Methyl isobutyl carbinal (methyl amyl alcohol)	Calculated		25	40 #	12.8			GC-FID		575-002 65
Methyl isobutyl ketone (hexone)	Bilevel	1304	100	300 #	13.5	15	8	GC-FID	94.6	575-002 65
Methyl isobutyl ketone (hexone)	OSHA 1004		100	300 #	13.62		8	GC-FID	92.9	575-002 65
Methyl isobutyl ketone (hexone)	EPA TO-17				13.62	8 hrs	8	TD, GC £		690-101 or 690-103 or 690-104 71
Methyl isopropyl ketone	Calculated		200 ‡		14.8			GC-FID		575-002 65
Methyl methacrylate (MMA)	EPA TO-17				13.1	8 hrs	8	TD, GC £		690-101 or 690-103 or 690-104 71
Methyl methacrylate (MMA)	Bilevel	1308	100		13.1	15	8	GC-FID	100.5	575-002 65
Methyl n-amyl ketone (2-heptanone)	EPA TO-17				13.43	8 hrs	8	TD, GC £		690-103 71
Methyl n-amyl ketone (2-heptanone)	Calculated		100		12.2			GC-FID		575-002 65
2-Methyl pentane	Calculated				14.1			GC-FID		575-001 65
Methyl propyl ketone (2-pentanone)	Calculated		200	250	15.7			GC-FID	92.6	575-002 65
Methyl styrene	EPA TO-17				12.3	8 hrs	8	TD, GC £		690-101 or 690-104 71
alpha-Methyl styrene	Bilevel	1359	50 ‡	100 (C)	12.6	15	8	GC-FID	95.7	575-002 65
alpha-Methyl styrene	Bilevel	1373	50 ‡	100 (C)	12.6	15	8	GC-FID	94	575-003 65
Methyl t-butyl ether (MTBE)	Full	1352			13.6	15	8	GC-FID	97.4	575-001 65
Methyl t-butyl-ether (MTBE)	EPA TO-17				13.6	8 hrs	8	TD, GC £		690-101 or 690-103 71
Methyl tert-amyl ether (tert-amyl methyl ether)	Bilevel	1355			13.1	30	8	GC-FID	99	575-001 65
1-Methyl-2-ethyl benzene	EPA TO-17				11.65	8 hrs	8	TD, GC £		690-101 or 690-104 71
1-Methyl-3-ethyl benzene	EPA TO-17				11.69	8 hrs	8	TD, GC £		690-101 or 690-104 71
5-Methyl-3-heptanone	Calculated		25 ‡		11.4			GC-FID	87.5	575-001 65
5-Methyl-3-heptanone	Calculated		25 ‡		11.4			GC-FID	110.7	575-002 65
1-Methyl-4-ethyl benzene	EPA TO-17				11.65	8 hrs	8	TD, GC £		690-101 or 690-104 71
Methylal (dimethoxymethane)	Calculated		1000		17.1			GC-FID		575-001 65
1-Methylcyclohexanol	Full		100		12.5	15	8	GC-FID	94.7	575-001 65
1-Methylcyclohexanol	Full		100		12.5	15	8	GC-FID	108	575-002 65
Methylcyclopentane	Calculated				14.37			GC-FID		575-001 65
Methylene chloride	EPA TO-17				14.7	8 hrs	8	TD, GC £		690-101 71
Methylene chloride	Full	1323	25	125	16	15	4	GC-FID	96	575-001 65
Methylene chloride	Full	1323	25	125	14.7	241	8 π	GC-FID	96	575-001 65
3-Methylhexane	Calculated				12.8			GC-FID		575-001 65
Monochlorotoluene (1-chloro-2-methyl benzene; OXSOL 10)	Bilevel		50 ‡		13	15	8	GC-FID	91.8	575-001 65

See the Environmental Sampling Guide for passive ambient air samplers — pages 190-195.

See page 196 for abbreviations.

Chemical Hazard	Validation Level	Research Report	OSHA PELs Δ		Sampling Rate (ml/min)	Sampling Time		Analytical Method	DE %	SKC Catalog No. and Page No.
			TWA (ppm)	CLGSTEL (ppm)		Min (min)	Max (hrs)			
Monochlorotoluene (1-chloro-2-methyl benzene; OXSOL 10)	Bilevel		50 ‡		13	15	8	GC-FID	91	575-002 65
Naphthalene	Calculated		10		12.2			GC-FID		575-003 65
Nitrobenzene	EPA TO-17				12.26	8 hrs	8	TD, GC £		690-104 71
Nitrogen dioxide	Partial			5	17.5	15	8	IC	95.1	500-200 66
Nitrous oxide	Partial	1762	25 ‡		0.81	15	8	TD, GC-ECD	100	590-300 69
Nonane	Bilevel		200 ‡		10.6	15	8	GC-FID	103	575-001 65
Nonane	EPA TO-17				10.6	8 hrs	8	TD, GC £		690-101 or 690-103 or 690-104 71
Nonyl alcohol	Calculated				10.2			GC-FID		575-002 65
Octadecane	Calculated				7.1			GC-FID		575-001 65
Octafluorotoluene	EPA TO-17				11.57	8 hrs	8	TD, GC £		690-101 or 690-103 or 690-104 71
n-Octane	EPA TO-17				12.7	8 hrs	8	TD, GC £		690-101 or 690-103 or 690-104 71
n-Octane	Bilevel		500		12.7	15	8	GC-FID	106	575-001 65
n-Octane	Bilevel		500		12.7	15	8	GC-FID	110	575-002 65
Octanol	EPA TO-17				10.86	8 hrs	8	TD, GC £		690-104 71
Octyl alcohol	EPA TO-17				10.86	8 hrs	8	TD, GC £		690-104 71
Parachlorobenzotrifluoride (1-chloro-4-[trifluoromethyl] benzene; OXSOL 100)	Bilevel		25 ◊		11.8	15	8	GC-FID	102	575-001 65
Parachlorobenzotrifluoride (1-chloro-4-[trifluoromethyl] benzene; OXSOL 100)	Bilevel		25 ◊		11.8	15	8	GC-FID	108	575-002 65
n-Pentane	EPA TO-17				14.9	8 hrs	8	TD, GC £		690-103 71
n-Pentane	Full	1311	1000		14.9	15	8	GC-FID	105.2	575-001 65
3-Pentanone (diethyl ketone)	Calculated		200 ‡		14.8			GC-FID	83.9	575-001 65
3-Pentanone (diethyl ketone)	Calculated		200 ‡		14.8			GC-FID	100.3	575-002 65
2-Pentanone (methyl propyl ketone)	Calculated		200		15.7			GC-FID	92.6	575-002 65
1-Pentene	Calculated				16.3			GC-FID		575-001 65
2-Pentyl acetate (sec-amyl acetate)	Calculated		125		11.9			GC-FID		575-001 65
Perchloroethylene (tetrachloroethylene)	EPA TO-17				13.1	8 hrs	8	TD, GC £		690-101 or 690-103 or 690-104 71
Perchloroethylene (tetrachloroethylene)	Full		100	200 (C)	13.1	15	8	GC-FID	101	575-001 65
Perchloroethylene (tetrachloroethylene)	OSHA 1001		100	200 (C)	13.06 ▲	5	8	GC-FID	95.4	575-002 65
Phenol	EPA TO-17				13.77	8 hrs	8	TD, GC £		690-104 71
Phenyl ether (diphenyl oxide)	Calculated		1		10.4			GC-FID		575-001 65
Phenyl glycidyl ether	Calculated		10		11.1			GC-FID		575-001 65
alpha-Pinene †	Partial				11.3	15	8	GC-FID	100	575-002 65
alpha-Pinene †	Partial				11.4	30	8	GC-FID		575-003 65
beta-Pinene †	Partial				11.4	30	8	GC-FID	95	575-003 65
2-Propanol (isopropyl alcohol)	Partial		400	400 #	18.42	15	8	GC-FID	100	575-002 65
n-Propanol (propyl alcohol)	Calculated		200		17.7			GC-FID	87.3	575-001 65
n-Propanol (propyl alcohol)	Calculated		200		17.7			GC-FID	97.8	575-002 65
n-Propanol (propyl alcohol)	EPA TO-17				17.6	8 hrs	8	TD, GC £		690-101 or 690-103 71
Propionaldehyde	Partial	1815	20 ppm		14	15	8	HPLC-UV	100	500-100 67
Propionic acid	Calculated		10 ‡	15 #	16.8			GC-FID		575-003 65
Propionitrile	EPA TO-17				18.61	8 hrs	8	TD, GC £		690-101 71
n-Propyl acetate	EPA TO-17				14.6	8 hrs	8	TD, GC £		690-101 or 690-103 or 690-104 71
n-Propyl acetate	Calculated		200		14.6			GC-FID	87.5	575-001 65
n-Propyl acetate	Calculated		200		14.6			GC-FID	101.1	575-002 65
Propyl alcohol (n-propanol)	EPA TO-17				17.6	8 hrs	8	TD, GC £		690-101 or 690-103 71
n-Propyl benzene	EPA TO-17				11.69	8 hrs	8	TD, GC £		690-101 or 690-104 71
Propyl bromide	Full	1740			14.4	15	8	GC-FID	100	575-001 65
Propyl bromide	Full	1740			14.7	15	8	GC-FID	107	575-002 65
Propylene dichloride (1,2-dichloro propane)	Bilevel		75		14.3	15	8	GC-FID	97.7	575-001 65
Propylene glycol monomethyl ether	Calculated		100 ‡	150 #	14.5			GC-FID	82.9	575-001 65
Propylene glycol monomethyl ether	Calculated		100 ‡	150 #	14.5			GC-FID	75.6	575-002 65
Propylene glycol monomethyl ether	Calculated		100 ‡	150 #	14.5	15	8	GC-FID	102	575-002 65
Propylene glycol monomethyl ether acetate	Calculated				12.2			GC-FID		575-001 65
Propylene oxide	Calculated		100		19.9			GC-FID	98	575-001 65
Propylene oxide	Calculated		100		19.9			GC-FID	99.7	575-002 65
Pyridine	EPA TO-17				16.3	8 hrs	8	TD, GC £		690-101 or 690-103 or 690-104 71
Pyridine	Calculated		5		16.3			GC-FID	88.2	575-002 65
Styrene	EPA TO-17				13.7	8 hrs	8	TD, GC £		690-101 or 690-104 71
Styrene	Full	1315	100	200 (C)	13.7	15	8	GC-FID	86.3	575-002 65
Styrene	Full	1313	100	200 (C)	13.7	15	8	GC-FID	100	575-003 65
Styrene	OSHA 1014		100	200 (C)	13.55	15	8	GC-FID	96.7	575-006 ● 65
Sulfur dioxide	Partial		5		15.1	15	8	IC	99.5	500-200 66
Terpineol	Calculated		1	0.5 #	10.5			GC-FID		575-003 65
1,1,1,2-Tetrachloroethane	EPA TO-17				11.8	8 hrs	8	TD, GC £		690-101 or 690-103 or 690-104 71
1,1,2,2-Tetrachloroethane	EPA TO-17				11.8	8 hrs	8	TD, GC £		690-101 or 690-103 or 690-104 71
1,1,2,2-Tetrachloroethane	Bilevel		5		11.8	480 ∞	8	GC-FID	64.4 *	575-001 65
Tetrachloroethylene (perchloroethylene)	EPA TO-17				13.1	8 hrs	8	TD, GC £		690-101 or 690-103 or 690-104 71
Tetrachloroethylene (perchloroethylene)	Full		100	200 (C)	13.1	15	8	GC-FID	101	575-001 65
Tetrachloroethylene (perchloroethylene)	OSHA 1001		100	200 (C)	13.06 ▲	5	8	GC-FID	95.4	575-002 65
Tetrahydrofuran	Calculated		200		17.4			GC-FID	88.8	575-001 65
Tetrahydrofuran	Partial		200		17.7	15	8	GC-FID	100	575-002 65
1,2,3,4-Tetramethylbenzene	Calculated				11.1			GC-FID		575-001 65

See page 196 for abbreviations.

See the Environmental Sampling Guide for passive ambient air samplers — pages 190-195.

Chemical Hazard	Validation Level	Research Report	OSHA PELs $\Delta$		Sampling Rate (ml/min)	Sampling Time		Analytical Method	DE % $\S$	SKC Catalog No. and Page No.	
			TWA (ppm)	CLG/STEL (ppm)		Min (min)	Max (hrs)				
1,2,3,5-Tetramethylbenzene	Calculated				11.2			GC-FID		575-001	65
1,2,4,5-Tetramethylbenzene	Calculated				11.2			GC-FID		575-001	65
Toluene	EPA TO-17				14.5	8 hrs	8	TD, GC $\text{£}$		690-101 or 690-103 or 690-104	71
Toluene	Bilevel		200	300 (C)	14.5	15	8	GC-FID	97.9	575-001	65
Toluene	OSHA 111		200	300 (C)	14.89 $\blacktriangle$	10	8	GC-FID	97	575-002	65
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	Calculated		1000	1250 #	14.1			GC-FID		575-001	65
1,1,1-Trichloroethane	EPA TO-17				14.1	8 hrs	8	TD, GC $\text{£}$		690-101 or 690-103	71
1,1,2-Trichloroethane	EPA TO-17				12.5	8 hrs	8	TD, GC $\text{£}$		690-101 or 690-103 or 690-104	71
1,1,2-Trichloroethane	Bilevel		10		12.5	15	8	GC-FID	96.7	575-001	65
1,1,1-Trichloroethane (methyl chloroform)	Bilevel		350	350 #	14.1	15	8	GC-FID	99.9	575-001	65
Trichloroethylene	EPA TO-17				14.9	8 hrs	8	TD, GC $\text{£}$		690-101 or 690-103 or 690-104	71
Trichloroethylene	Full		100	200 (C)	14.9	15	8	GC-FID	102	575-001	65
Trichloroethylene	OSHA 1001		100	200 (C)	14.24 $\blacktriangle$	5	8	GC-FID	97.5	575-002	65
1,2,3-Trichloropropane	Bilevel		50		11.9	15	8	GC-FID	98.1	575-001	65
Trifluoromethyl benzene (benzotrifluoride; OXSOL 2000)	Bilevel		100 $\diamond$		13.3	15	8	GC-FID	106	575-001	65
Trifluoromethyl benzene (benzotrifluoride; OXSOL 2000)	Bilevel		100 $\diamond$		13.3	15	8	GC-FID	107	575-002	65
1,2,3-Trimethylbenzene	EPA TO-17				12	8 hrs	8	TD, GC $\text{£}$		690-101 or 690-104	71
1,2,3-Trimethylbenzene	Calculated		25 $\uparrow$		12			GC-FID	91.1	575-001	65
1,2,3-Trimethylbenzene	Calculated		25 $\uparrow$			15	8	GC-FID	93.8	575-002	65
1,2,4-Trimethylbenzene	EPA TO-17				12.1	8 hrs	8	TD, GC $\text{£}$		690-101 or 690-104	71
1,2,4-Trimethylbenzene	Calculated		25 $\uparrow$		13.05			GC-FID	88.4	575-001	65
1,2,4-Trimethylbenzene	Partial		25 $\uparrow$		13.05	15	8	GC-FID	88.9	575-002	65
1,3,5-Trimethylbenzene (mesitylene)	EPA TO-17				12.1	8 hrs	8	TD, GC $\text{£}$		690-101 or 690-103 or 690-104	71
1,3,5-Trimethylbenzene (mesitylene)	Calculated		25 $\uparrow$		12.1			GC-FID	93.6	575-001	65
1,3,5-Trimethylbenzene (mesitylene)	Calculated		25 $\uparrow$		12.1			GC-FID	96	575-002	65
2,2,4-Trimethylpentane	Calculated				11.89			GC-FID		575-001	65
n-Undecane	Calculated				9.62			GC-FID		575-001	65
n-Undecane	EPA TO-17				9.62	8 hrs	8	TD, GC $\text{£}$		690-101 or 690-104	71
Vinyl acetate	Full			4 (C) #	16.3	30	8	GC-FID	92	575-002	65
Vinyl bromide	Calculated		LFC $\ddagger$		18.2			GC-FID		575-001	65
Vinyl toluene	EPA TO-17				12.3	8 hrs	8	TD, GC $\text{£}$		690-101 or 690-104	71
Vinyl toluene	Calculated		100		12.3			GC-FID		575-001	65
Vinyl-2-pyrrolidone	Calculated				12.87			GC-FID		575-001	65
Vinylidene chloride (1,1-dichloroethene)	Bilevel		LFC $\ddagger$		12.3	60	8	GC-FID	95.2	575-001	65
m-Xylene	EPA TO-17				12.5	8 hrs	8	TD, GC $\text{£}$		690-101 or 690-103 or 690-104	71
m-Xylene	Bilevel		100		12.5	15	8	GC-FID	96.6	575-001	65
m-Xylene	Bilevel		100		12.5	15	8	GC-FID	101	575-002	65
m-Xylene	OSHA 1002		100		13.82 $\blacktriangle$		8	GC-FID	96.1	575-002	65
o-Xylene	EPA TO-17				11.9	8 hrs	8	TD, GC $\text{£}$		690-101 or 690-103 or 690-104	71
o-Xylene	Bilevel		100		11.9	15	8	GC-FID	91	575-001	65
o-Xylene	OSHA 1002		100		14.24 $\blacktriangle$		8	GC-FID	89.4	575-002	65
p-Xylene	EPA TO-17				12.8	8 hrs	8	TD, GC $\text{£}$		690-101 or 690-103 or 690-104	71
p-Xylene	Bilevel		100		12.8	15	8	GC-FID	95.6	575-001	65
p-Xylene	Bilevel		100		12.8	15	8	GC-FID	103	575-002	65
p-Xylene	OSHA 1002		100		13.94 $\blacktriangle$		8	GC-FID	95.3	575-002	65

\* Lower than the NIOSH-accepted guideline  
 # NIOSH Short-Term Exposure Limit (STEL)  
 $\infty$  Depends on detector sensitivity  
 $\ddagger$  NIOSH Recommended Exposure Limit (REL)  
 $\diamond$  Occidental Chemical corporate exposure limits  
 $\approx$  Valid for PEL samples greater than 4 hours duration. If more than 1000 ppm of other contaminants are present, reduce maximum sample time to 4 hours.  
 $\Delta$  Agency standards for OSHA listings represent the OSHA PELs reported in 29 CFR 1910.1000 Part 1910, Section 1000.  
 $\dagger$  Validated by Swedish National Institute of Working Life to meet limit values in Sweden (150 mg/m<sup>3</sup> each compound)

$\S$  The values given for the desorption efficiency were obtained in SKC Inc. laboratories. Call SKC for details on the desorption solvent used.  
 $\uparrow$  OSHA construction industry standards  
 $\checkmark$  Valid for STEL samples up to 4 hours duration  
 $\bullet$  Cannot be used for peak of 5 minutes  
 $\pi$  If more than 1000 ppm contaminants are present, reduce maximum sample time to 4 hours.  
 $\blacktriangle$  Sampling rate generated by OSHA SLC Tech Center. SKC in-house validation produced a similar sampling rate. SKC recommends using the OSHA rate for compliance sampling.  
 EL Excursion Limit  
 LFC Lowest feasible concentration  
 $\text{£}$  TD, GC - Samples are extracted by thermal desorption then analyzed by gas chromatography.