

SKC Passive Sampling Guide

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.

Validation for 24-hour Passive Sampling

Initially validated for eight-hour personal sampling only, SKC 575 Series Passive Samplers (575-001 and 575-002) have been validated for 24-hour sampling of specific indoor air pollutants in the 10- to 200-ppb concentration range. See page 62 for a list of compounds and ordering information.

Passive Samplers for VOCs

For VOCs listed in EPA Method TO-17, see passive sampler entries in the Environmental Sampling Guide on pages 123 to 128.

For compliance sampling, it is recommended that only those passive samplers with agency, Full, or Bi-level validation be used. Passive samplers with lower validation levels should be used only if verified by sorbent tube methods.

Validation of 575 Series Passive (Diffusive) Samplers

SKC 575 Series Passive Samplers for organic vapors have been validated to the rigorous NIOSH and ANSI testing protocols.

- **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 (reactive compounds).
- **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 Δ		Sampling Rate (ml/min)	Measuring Range ∇ (ppm)	Sampling Time		Analytical Method £	DE % $\text{\$}$	SKC Catalog No. And Page No.
			TWA (ppm)	CLG/STEL (ppm)			Min (min)	Max (hr)			
Acetaldehyde			200			4-1200		8	DR		810-151D
Acetaldehyde			200			1.2-360		8	DR		810-152D
Acetaldehyde			200			0.1-20		8	DR		810-91D
Acetic acid	Calculated		10	15#	19.6				GC-FID	99.2	575-001 62
Acetic acid	EPA TO-17(u)				13		8 hrs	8	TD, GC		590-259 and 590-262 63
Acetic acid	EPA TO-17(u)				13		24 hrs	24	TD, GC		590-259 and 590-262 63
Acetic acid			10	15#		1.3-200	60	8	DR		800-01071
Acetic acid			10	15#		0.5-100		8	DR		810-81D
Acetic anhydride			5			0.45-90		8	DR		810-81D
Acetone	Full	1303	1000		15.2 \approx		240	8 π	GC-FID	90.2	575-002 62
Acetone	Full	1303	1000		20.3 \sqrt		15	4	GC-FID	90.2	575-002 62
Acetone	EPA TO-17(u)				13		24 hrs	24	TD, GC		590-259 and 590-261 63
Acetone	EPA TO-17(u)				13		8 hrs	8	TD, GC		590-259 and 590-261 63
Acetone			1000			5-1500		8	DR		810-151D
Acetone						5-1500		8	DR		810-151D
Acetone			1000			1.4-420		8	DR		810-152D
Acetonitrile	Calculated		40		22.4				GC-FID	103	575-001 Ω 62
Acetonitrile	Calculated		40		22.4				GC-FID	108	575-002 Ω 62
Acetyl methyl carbinol (acetoin)	Calculated		1000		14.9				GC-FID		575-001 62
Acrylonitrile	Full		2	10	20.4		15	8	GC-FID	81	575-002 62
Acrylonitrile	EPA TO-17(u)				13		24 hrs	24	TD, GC		590-259 and 590-262 63
Acrylonitrile	EPA TO-17(u)				13		8 hrs	8	TD, GC		590-259 and 590-262 63
Aldehydes (see specific compounds)							30	8	HPLC-UV		500-400 65
Allyl alcohol	Calculated		2	4	18.4				GC-FID	76	575-002 Ω 62
Allyl amine	Partial				22.4		30	8	HPLC-UV	107	500-400 65
Allyl chloride	Calculated		1	2#	17.8				GC-FID	95.1	575-001 62
Allyl chloride	Calculated		1	2#	17.8				GC-FID	101.3	575-002 62
Ammonia			50	35#		2.5-1500	60	8	DR		800-01301
Ammonia			50	35#		2.5-1000		8	DR		810-3D
Ammonia			50	35#		0.1-10		8	DR		810-3DL
iso-Amyl acetate	Calculated		100		11.8				GC-FID		575-002 Ω 62
n-Amyl acetate	Calculated		100		11.8				GC-FID	93.5	575-001 62
n-Amyl acetate	Calculated		100		11.8				GC-FID	96	575-002 62
sec-Amyl acetate	Calculated		125		11.9				GC-FID		575-002 Ω 62
n-Amyl alcohol	Calculated				13.9				GC-FID	87.3	575-001 62
n-Amyl alcohol	Calculated				13.9				GC-FID	100.6	575-002 62
t-Amyl methyl ether	Calculated				13.2				GC-FID		575-001 62
Aniline	EPA TO-17(u)				13		8 hrs	8	TD, GC		590-259 and 590-260 or 590-261 and 590-262 63
Aniline	EPA TO-17(u)				13		24 hrs	24	TD, GC		590-259 and 590-260 or 590-261 and 590-262 63
Aroclor (chlorinated & organonitrogen herbicides)	NIOSH 9201				varies		varies	varies	GC-ECD		578-002 Σ
Atrazine (chlorinated & organonitrogen herbicides)	NIOSH 9201				varies		varies	varies	GC-ECD		578-002 Σ
Benzene	Full	1312	1	5	16		15	8	GC-FID	93.5	575-001 62
Benzene	OSHA 1005		1	5	17.1		15	4	GC-FID	93.6	575-002 62
Benzene	EPA TO-17(u)				13		8 hrs	8	TD, GC		590-259 and 590-260 or 590-261 and 590-262 63
Benzene	EPA TO-17(u)				11.48		24 hrs	24	TD, GC		590-259 and 590-260 or 590-261 and 590-262 63
Benzene						2.4-600		8	DR		810-122DL
Benzotrifluoride (trifluoromethylbenzene; OXSOL 2000)	Bilevel		100 \diamond		13.3		15	8	GC-FID	106	575-001 62

See page 183 for abbreviations.

Chemical Hazard	Validation** Level	Research Report	OSHA PELs Δ		Sampling Rate (ml/min)	Measuring Range ▼ (ppm)	Sampling Time		Analytical Method £	DE % §	SKC Catalog No. And Page No.		
			TWA (ppm)	CLG/STEL (ppm)			Min (min)	Max (hr)					
Benzotrifluoride (trifluoromethylbenzene; OXSOL 2000)	Bilevel		100		13.3		15	8	GC-FID	107	575-002		62
Benzyl acetate	Calculated				10.8				GC-FID	91.2	575-002Ω		62
Benzyl chloride	Calculated		1		12.3				GC-FID	98.7	575-001		62
Benzyl chloride	Calculated		1		12.3				GC-FID	98.9	575-002		62
Bromoethane	Calculated		200		18.1				GC-FID		575-001		62
Bromoform	Calculated		0.5		21.2				GC-FID		575-001		62
1-Bromopropane	Full				14.5		15	8	GC-FID	100	575-001		62
1-Bromopropane	Full				14.5		15	8	GC-FID	107	575-002		62
Butadiene			1	5		1.3-300	60	8	DR		800-01161		
1,3-Butadiene			1	5		1.3-200		8	DR		810-174D		
n-Butanol	EPA TO-17(u)				13.49		8 hrs	8	TD, GC		590-259 590-261	and or	590-260 590-262 63
n-Butanol	EPA TO-17(u)				13		24 hrs	24	TD, GC		590-259 590-261	and or	590-260 590-262 63
1-Butanol (n-butyl alcohol)	Calculated		100	50	15.5				GC-FID	94	575-001		62
1-Butanol (n-butyl alcohol)	Calculated		100	50	15.5				GC-FID	100	575-002		62
2-Butanol (sec-butyl alcohol)	Calculated		150		15.6				GC-FID	93	575-001Ω		62
2-Butanol (sec-butyl alcohol)	Calculated		150		15.6				GC-FID	100	575-002Ω		62
2-Butanone	EPA TO-17(u)				13		8 hrs	8	TD, GC		590-259 590-261	and or	590-260 590-262 63
2-Butanone	EPA TO-17(u)				13		24 hrs	24	TD, GC		590-259 590-261	and or	590-260 590-262 63
2-Butanone (methyl ethyl ketone, MEK)	OSHA 1004		200		16.88		15	4	GC-FID	92.3	575-002		62
2-Butanone (methyl ethyl ketone, MEK)	Bilevel	1306	200		17.1		15	8	GC-FID	100	575-002		62
2-Butoxyethanol	EPA TO-17(u)				13.06		8 hrs	8	TD, GC		590-200 590-261	or	590-259 63
2-Butoxyethanol					13.06		8 hrs	8	TD, GC		590-200 590-261	or	590-259 63
2-Butoxyethanol	EPA TO-17(u)				12.88		24 hrs	24	TD, GC		590-200 590-261	or	590-259 63
2-Butoxyethanol (butyl CELLOSOLVE solvent)	Calculated		50		12				GC-FID	89.7	575-002		62
2-Butoxyethanol acetate	EPA TO-17(u)				13		8 hrs	8	TD, GC		590-259 590-261	and or	590-260 590-262 63
2-Butoxyethanol acetate	EPA TO-17(u)				13		24 hrs	24	TD, GC		590-259 590-261	and or	590-260 590-262 63
n-Butyl acetate	Full		150	200#	12.3		15	8	GC-FID	90.4	575-001		62
n-Butyl acetate	Full		150	200#	13.2		15	8	GC-FID	98.7	575-002		62
n-Butyl acetate	EPA TO-17(u)				13.05		24 hrs	24	TD, GC		590-259 590-261	and or	590-260 590-262 63
n-Butyl acetate	EPA TO-17(u)				12.6		8 hrs	8	TD, GC		590-259 590-261	and or	590-260 590-262 63
sec-Butyl acetate	Calculated		200		12.9				GC-FID	96.2	575-001		62
sec-Butyl acetate	Calculated		200		12.9				GC-FID	96.6	575-002		62
t-Butyl acetate	EPA TO-17(u)				13		24 hrs	24	TD, GC		590-259 590-261	and	590-261 or 63
t-Butyl acetate	EPA TO-17(u)				13		8 hrs	8	TD, GC		590-259 590-262	and	590-261 or 63
tert-Butyl acetate	Calculated		200		12.9				GC-FID	95.1	575-001		62
tert-Butyl acetate	Calculated		200		12.9				GC-FID	94.8	575-002		62
Butyl acrylate	Bilevel				11.7		30	8	GC-FID	95	575-002		62
tert-Butyl alcohol	Calculated		100	150	15.8				GC-FID	84	575-002Ω		62
n-Butyl alcohol (1-butanol)	Calculated		100	50	15.5				GC-FID	94	575-001		62
n-Butyl alcohol (1-butanol)	Calculated		100	50	15.5				GC-FID	100	575-002		62
n-Butyl alcohol (1-butanol)	EPA TO-17(u)				13		8 hrs	8	TD, GC		590-259 590-261	and or	590-260 590-262 63
n-Butyl alcohol (1-butanol)	EPA TO-17(u)				13		24 hrs	24	TD, GC		590-259 590-261	and or	590-260 590-262 63
sec-Butyl alcohol (2-butanol)	Calculated		150		15.6				GC-FID	93	575-001Ω		62
sec-Butyl alcohol (2-butanol)	Calculated		150		15.6				GC-FID	100	575-002Ω		62
n-Butyl amine	Partial			5	18.1		30	8	HPLC-UV	106	500-400		65
n-Butyl benzene	Calculated				11.23				GC-FID		575-001		62
Butyl CELLOSOLVE acetate (ethylene glycol monobutyl ether acetate)	Calculated				10.5				GC-FID		575-002		62
Butyl CELLOSOLVE ether	Calculated				10.5				GC-FID		575-002		62
Butyl CELLOSOLVE solvent (2-butoxyethanol)	Calculated		50		12				GC-FID	89.7	575-002		62
tert-Butyl ethyl ether (ethyl tert-butyl ether)	Bilevel	1356			13.1		30	8	GC-FID	101	575-001		62
n-Butyl glycidyl ether	Calculated		50		11.6				GC-FID	104	575-002		62
t-Butyl methyl ether	EPA TO-17 (u)				13		8 hrs	8	TD, GC		590-259 590-262	and	590-261 or 63
t-Butyl methyl ether	EPA TO-17 (u)				13		24 hrs	24	TD, GC		590-259 590-262	and	590-261 or 63
p-tert-Butyl toluene	Bilevel		10		10.4		15	8	GC-FID	100	575-001		62
Butyrolactone	Calculated				15.8				GC-FID	80.9	575-002		62
Camphor	Calculated				10.8				GC-FID	94.2	575-001		62
Camphor	Calculated		2 mg/m ³		10.8				GC-FID	113	575-002Ω		62
Carbon dioxide			5000			0.13-30 vol%	60	8	DR		800-01051		
Carbon dioxide			5000			65-2000	60	8	DR		800-01381		
Carbon dioxide			5000			0.2-12%		8	DR		810-2D		
Carbon monoxide			50			6-600	60	8	DR		800-33191		
Carbon monoxide			50			1.04-2000		8	DR		810-1D		
Carbon monoxide			50			0.4-400		8	DR		810-1DL		
Carbon tetrachloride	Bilevel		10	25	14.1		30	8	GC-FID	98.3	575-001		62
Carbon tetrachloride	EPA TO-17 (u)				13		8 hrs	8	TD, GC		590-259 590-261	and or	590-260 590-262 63
Carbon tetrachloride	EPA TO-17 (u)				13		24 hrs	24	TD, GC		590-259 590-261	and or	590-260 590-262 63
delta-3-Carene	Partial				11.4		30	8	GC-FID	> 90	575-003		62

See page 183 for abbreviations.

Chemical Hazard	Validation** Level	Research Report	OSHA PELs Δ		Sampling Rate (ml/min)	Measuring Range ∇ (ppm)	Sampling Time		Analytical Method \pounds	DE % \pounds	SKC Catalog No. And Page No.	
			TWA (ppm)	CLG/STEL (ppm)			Min (min)	Max (hr)				
CELLOSOLVE solvent (2-ethoxyethanol)	Calculated		200		14.4				GC-FID	100.9	575-001 62	
CELLOSOLVE solvent (2-ethoxyethanol)	Calculated		200		14.4				GC-FID	111.2	575-002 62	
Chlorinated & organonitrogen herbicides (see specific compounds)	NIOSH 9201				varies			varies	varies		GC-ECD	578-002 Σ 62
Chlorinated herbicides (see specific compounds)	NIOSH 9201				varies			varies	varies		GC-ECD	578-002 Σ 62
Chlorine				1 (C)		2.4-240			8		DR	810-132D 62
Chlorine				1 (C)		0.08-100			8		DR	810-8D 62
1-Chloro-2-methyl benzene (monochlorotoluene; OXSOL 10)	Bilevel		50 \diamond		13			15	8		GC-FID	91.8 575-001 62
1-Chloro-2-methyl benzene (monochlorotoluene; OXSOL 10)	Bilevel		50 \diamond		13			15	8		GC-FID	91 575-002 62
1-Chloro-4-(trifluoromethyl)benzene (parachlorobenzotrifluoride; OXSOL 100)	Bilevel		25 \diamond		11.8			15	8		GC-FID	102 575-001 62
1-Chloro-4-(trifluoromethyl)benzene (parachlorobenzotrifluoride; OXSOL 100)	Bilevel		25 \diamond		11.8			15	8		GC-FID	108 575-002 62
Chlorobenzene	Calculated		75		14.2						GC-FID	93.3 575-001 62
Chlorobenzene	Calculated		75		14.2						GC-FID	99 575-002 62
Chlorobenzene	EPA TO-17 (u)				13			8 hrs	8		TD, GC	590-259 and 590-260 or 590-261 or 590-262 63
Chlorobenzene	EPA TO-17 (u)				13			24 hrs	24		TD, GC	590-259 and 590-260 or 590-261 or 590-262 63
Chlorobromomethane	Calculated		200		15.4						GC-FID	575-001 62
Chloroform	Bilevel			50 (C)	13			60	8		GC-FID	97.3 575-001 62
o-Chlorostyrene	Bilevel	1374			9.8			15	8		GC-FID	75.2 575-002 62
o-Chlorostyrene	Bilevel	1382			9.8			15	8		GC-FID	94 575-003 62
Cumene (isopropyl benzene)	Bilevel		50		12.8			15	8		GC-FID	99.3 575-001 62
Cumene (isopropyl benzene)	Bilevel		50		12.8			15	8		GC-FID	106 575-002 62
Cumene (isopropyl benzene)	EPA TO-17 (u)				13			24 hrs	24		TD, GC	590-259 and 590-260 or 590-262 63
Cumene (isopropyl benzene)	EPA TO-17 (u)				13			8 hrs	8		TD, GC	590-259 and 590-260 or 590-262 63
Cumene (isopropyl benzene)			50			3.4-850			8		DR	810-122DL 62
Cyanazine (chlorinated and organonitrogen herbicides)	NIOSH 9201				varies			varies	varies		GC-ECD	578-002 62
Cyclohexane	Bilevel		300		15.6			15	8		GC-FID	105 575-001 62
Cyclohexane	Bilevel		300		15.6			15	8		GC-FID	109 575-002 62
Cyclohexanol	Calculated		50		13.5						GC-FID	98 575-001 Ω 62
Cyclohexanol	Calculated		50		13.5						GC-FID	105 575-002 Ω 62
Cyclohexanone	Partial		50		15.1			15	8		GC-FID	88.6 575-003 62
Cyclohexanone	EPA TO-17 (u)				13			8 hrs	8		TD, GC	590-259 and 590-260 or 590-261 or 590-262 63
Cyclohexanone	EPA TO-17 (u)				13			24 hrs	24		TD, GC	590-259 and 590-260 or 590-261 or 590-262 63
Cyclohexene	Calculated		300		15.4						GC-FID	102 575-001 62
Cyclohexene	Calculated		300		15.4						GC-FID	106 575-002 62
Cyclopentane	Calculated				16.1						GC-FID	575-001 62
2,4-D acid (chlorinated & organonitrogen herbicides)	NIOSH 9201				varies			varies	varies		GC-ECD	578-002 Σ 62
2,4-D BE (chlorinated & organonitrogen herbicides)	NIOSH 9201				varies			varies	varies		GC-ECD	578-002 Σ 62
2,4-D EH (chlorinated & organonitrogen herbicides)	NIOSH 9201				varies			varies	varies		GC-ECD	578-002 Σ 62
2,4-D ME (chlorinated & organonitrogen herbicides)	NIOSH 9201				varies			varies	varies		GC-ECD	578-002 Σ 62
n-Decane	Calculated				10.2						GC-FID	102 575-001 62
n-Decane	Calculated				10.2						GC-FID	104 575-002 62
n-Decane	EPA TO-17 (u)				13			8 hrs	8		TD, GC	590-259 and 590-260 or 590-261 or 590-262 63
n-Decane	EPA TO-17 (u)				13			24 hrs	24		TD, GC	590-259 and 590-260 or 590-261 or 590-262 63
1-Decanol (decyl alcohol)	Calculated				9.6						GC-FID	97.3 575-002 62
Decyl alcohol (1-decanol)	Calculated				9.6						GC-FID	97.3 575-002 62
Desflurane	Calculated				14.8						GC-FID	575-002 62
Diacetone alcohol	Calculated		50		12.4						GC-FID	92.9 575-002 62
1,2-Dibromoethane (ethylene dibromide)	Calculated		20	30	14.7						GC-FID	92.3 575-001 62
1,2-Dibromoethane (ethylene dibromide)	Calculated		20	30	14.7						GC-FID	99.4 575-002 62
m-Dichloro benzene (1,3-dichlorobenzene)	Calculated				50	12.7					GC-FID	91.8 575-001 62
1,2-Dichloro benzene (o-dichlorobenzene)	Calculated				50	12.6					GC-FID	79.2 575-001 62
1,2-Dichloro benzene (o-dichlorobenzene)	Calculated				50	12.6					GC-FID	77.1 575-002 62
1,2-Dichloro propane (propylene dichloride)	Bilevel		75		14.3			15	8		GC-FID	97.7 575-001 62
m-Dichlorobenzene	Calculated			50	12.7						GC-FID	92.7 575-002 62
o-Dichlorobenzene	Calculated			50	12.6						GC-FID	79.2 575-001 62
o-Dichlorobenzene	Calculated			50	12.6						GC-FID	77.1 575-002 62
p-Dichlorobenzene (1,4-dichlorobenzene)	Calculated			75	12.7						GC-FID	91.1 575-001 62
p-Dichlorobenzene (1,4-dichlorobenzene)	Calculated			75	12.7						GC-FID	94.7 575-002 62
1,2-Dichloroethane	EPA TO-17 (u)				13			8 hrs	8		TD, GC	590-259 and 590-260 or 590-261 or 590-262 63
1,2-Dichloroethane	EPA TO-17 (u)				13			24 hrs	24		TD, GC	590-259 and 590-260 or 590-261 or 590-262 63
1,2-Dichloroethane (ethylene dichloride)	Bilevel		50	100	14.2			60	8		GC-FID	95.8 575-001 62
Dichloroethyl ether	Calculated		5 \ddagger	15 (C)	12.7						GC-FID	575-001 62
1,2-Dichloroethylene	Full		200		14.8			15	8		GC-FID	97.1 575-001 62
trans-1,2-Dichloroethylene						3.9-600			8		DR	810-174D 62
Dichloromethane	EPA TO-17 (u)				13			8 hrs	8		TD, GC	590-259 and 590-262 63
Dichloromethane	EPA TO-17 (u)				13			24 hrs	24		TD, GC	590-259 and 590-262 63
cis-1,3-Dichloropropene	Calculated				15.2						GC-FID	91.4 575-001 62
cis-1,3-Dichloropropene	Calculated				15.2						GC-FID	94.3 575-002 62
Dicyclopentadiene	Calculated		5		11.8						GC-FID	575-001 62
Diethyl ether (ethyl ether)	Calculated		400		16.3						GC-FID	575-001 62
Diethyl ketone (3-pentanone)	Calculated				14.8						GC-FID	83.9 575-001 62
Diethyl ketone (3-pentanone)	Calculated				14.8						GC-FID	100.3 575-002 62
Diethylene glycol monobutyl ether	Calculated				9.97						GC-FID	575-002 62
Diethylene glycol monoethyl ether	Calculated				11.27						GC-FID	575-002 62
Diisobutyl ketone (DIBK)	Bilevel	1305	50		10.3			15	8		GC-FID	98.3 575-002 62

See page 183 for abbreviations.

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			TWA (ppm)	CLG/STEL (ppm)			Min (min)	Max (hr)					
Dimethoxymethane (methylal)	Calculated		1000		17.1				GC-FID		575-001	62	
2,6-Dimethyl heptane-4-one (isovalerone)	Calculated				10.7				GC-FID		575-002	62	
Dimethylamine	Partial		10		18.2		30	8	HPLC-UV	111	500-400	65	
Dimethylamine			10			1.9-750		8	DR		810-3D		
N,N-Dimethylamine			25			4-1600		8	DR		810-3D		
N,N-Dimethylaniline	Calculated		5	10	12				GC-FID		575-001	62	
trans-1,2-Dimethylcyclohexane	Calculated				12.4				GC-FID	106.1	575-001	62	
trans-1,2-Dimethylcyclohexane	Calculated				12.4				GC-FID	110.6	575-002	62	
N,N-Dimethylformamide (DMF)	Calculated		10		16.1				GC-FID		575-002Ω	62	
2,2-Dimethylhexane	Calculated				11.86				GC-FID		575-001	62	
Dimethylsulfoxide	Calculated				15.96				GC-FID		575-001	62	
1,4-Dioxane	Calculated		100		16				GC-FID	91.4	575-002	62	
Diphenyl oxide (phenyl ether)	Calculated		1		10.4				GC-FID		575-001	62	
Dipropyl ketone (4-heptanone)	Calculated				12.3				GC-FID	85.3	575-001	62	
Dipropyl ketone (4-heptanone)	Calculated				12.3				GC-FID	112.2	575-002	62	
Dipropylene glycol methyl ether	Calculated		100	150#	10.8				GC-FID	84.3	575-002	62	
n-Dodecane	EPA TO-17 (u)				13			24 hrs	24	TD, GC	590-259 590-262	and 590-260 or 63	
n-Dodecane	EPA TO-17 (u)				13			8 hrs	8	TD, GC	590-259 590-262	and 590-260 or 63	
1-Dodecanol	Calculated				8.7				GC-FID	107.5	575-001	62	
1-Dodecanol	Calculated				8.7				GC-FID	103	575-002	62	
Dodecene	Calculated				9.29				GC-FID		575-001	62	
n-Dodecene	Calculated				9.11				GC-FID		575-001	62	
1-Dodecyl alcohol	Calculated				8.7				GC-FID	107.5	575-001	62	
1-Dodecyl alcohol	Calculated				8.7				GC-FID	103	575-002	62	
Enflurane (ethrane)	Calculated		1		13.8				GC-FID		575-002	62	
Epichlorohydrin	Calculated		5		16				GC-FID	70.8	575-001	62	
Epichlorohydrin	Calculated		5		16				GC-FID	88.2	575-002	62	
2,3-Epoxy-1-propanol	Calculated				16.7				GC-FID		575-002	62	
Ethanol						125-25000		60	8	DR	800-01151		
Ethanol (ethyl alcohol)	Calculated		1000		20.9				GC-FID	99	575-002	62	
2-Ethoxyethanol (CELLOSOLVE solvent)	Calculated		200		14.4				GC-FID	100.8	575-001	62	
2-Ethoxyethanol (CELLOSOLVE solvent)	Calculated		200		14.4				GC-FID	111.2	575-002	62	
2-Ethoxyethanol (CELLOSOLVE solvent)	EPA TO-17 (u)				13			8 hrs	8	TD, GC	590-259 590-261	and 590-260 or 63	
2-Ethoxyethanol (CELLOSOLVE solvent)	EPA TO-17 (u)				13			24 hrs	24	TD, GC	590-259 590-261	and 590-260 or 63	
2-Ethoxyethyl acetate (CELLOSOLVE acetate)	Calculated		100		12				GC-FID	95.4	575-002	62	
2-Ethoxyethyl acetate (CELLOSOLVE acetate)	EPA TO-17 (u)				13			8 hrs	8	TD, GC	590-259 590-261	and 590-260 or 63	
2-Ethoxyethyl acetate (CELLOSOLVE acetate)	EPA TO-17 (u)				13			24 hrs	24	TD, GC	590-259 590-261	and 590-260 or 63	
Ethane (enflurane)	Calculated				13.8				GC-FID		575-002	62	
Ethyl acetate	Bilevel		400		13.1			15	8	GC-FID	92.8	575-001	62
Ethyl acetate	Bilevel		400		14.4			15	8	GC-FID	100	575-002	62
Ethyl acetate	EPA TO-17 (u)				9.82			24 hrs	24	TD, GC	590-259 590-261	and 590-260 or 63	
Ethyl acetate	EPA TO-17 (u)				12.14			8 hrs	8	TD, GC	590-259 590-261	and 590-260 or 63	
Ethyl acrylate	Bilevel		25		13.7			15	8	GC-FID	94.2	575-002	62
Ethyl acrylate	EPA TO-17 (u)				13			8 hrs	8	TD, GC	590-259 590-261	and 590-260 or 63	
Ethyl acrylate	EPA TO-17 (u)				13			24 hrs	24	TD, GC	590-259 590-261	and 590-260 or 63	
Ethyl alcohol (ethanol)	Calculated		1000		20.9				GC-FID	99	575-002	62	
Ethyl alcohol (ethanol)			1000			100-25000			8	DR	810-112D		
Ethyl amyl ketone	Calculated		25		11.4				GC-FID	87.54	575-001	62	
Ethyl amyl ketone	Calculated		25		11.4				GC-FID	110.7	575-002	62	
Ethyl benzene	Bilevel		100		12.9			15	6	GC-FID	100	575-001	62
Ethyl benzene	OSHA 1002		100		13.83▲			15	8	GC-FID	99.1	575-002	62
Ethyl benzene	Bilevel		100		12.9			15	6	GC-FID	104	575-002	62
Ethyl benzene	EPA TO-17 (u)				13			24 hrs	24	TD, GC	590-259 590-261	and 590-260 or 63	
Ethyl benzene	EPA TO-17 (u)				13			8 hrs	8	TD, GC	590-259 590-261	and 590-260 or 63	
Ethyl benzene			100			2.8-700			8	DR	810-122DL		
Ethyl bromide (bromoethane)	Calculated		200		18.1				GC-FID		575-001	62	
Ethyl butyl ketone (3-heptanone)	Calculated		50		12.3				GC-FID	87.9	575-001	62	
Ethyl butyl ketone (3-heptanone)	Calculated		50		12.3				GC-FID	103.4	575-002	62	
Ethyl CELLOSOLVE solvent (2-ethoxyethanol)	Calculated		200		14.4				GC-FID	111.2	575-002	62	
Ethyl formate	Calculated		100		17.7				GC-FID		575-001	62	
Ethyl methacrylate	Full				13.1			15	8	GC-FID	84.7	575-001	62
Ethyl methacrylate	Full				13.1			15	8	GC-FID	104	575-002	62
Ethyl propionate	Calculated				14				GC-FID		575-001	62	
Ethyl tert-butyl ether (tert-butyl ethyl ether)	Bilevel	1356			13.1			30	8	GC-FID	101	575-001	62
2-Ethyl toluene	EPA TO-17 (u)				13			8 hrs	8	TD, GC	590-259 590-262	and 590-260 or 63	
2-Ethyl toluene	EPA TO-17 (u)				13			24 hrs	24	TD, GC	590-259 590-262	and 590-260 or 63	
3-Ethyl toluene	EPA TO-17 (u)				13			8 hrs	8	TD, GC	590-259 590-262	and 590-260 or 63	
3-Ethyl toluene	EPA TO-17 (u)				13			24 hrs	24	TD, GC	590-259 590-262	and 590-260 or 63	
4-Ethyl toluene	EPA TO-17 (u)				13			8 hrs	8	TD, GC	590-259 590-262	and 590-260 or 63	
4-Ethyl toluene	EPA TO-17 (u)				13			24 hrs	24	TD, GC	590-259 590-262	and 590-260 or 63	

See page 183 for abbreviations.

Chemical Hazard	Validation** Level	Research Report	OSHA PELs Δ		Sampling Rate (m/min)	Measuring Range ▼ (ppm)	Sampling Time		Analytical Method £	DE % \$	SKC Catalog No. And Page No.
			TWA (ppm)	CLG/STEL (ppm)			Min (min)	Max (hr)			
Ethyl-2-methyl benzene (2-ethyltoluene)	Calculated				11.65				GC-FID		575-001 62
Ethyl-4-methyl benzene (4-ethyltoluene)	Calculated				11.65				GC-FID		575-001 62
Ethylene						1.56-240		8	DR		810-174D
Ethylene dibromide (1,2-dibromoethane)	Calculated		20	30	14.7				GC-FID	92.3	575-001 62
Ethylene dibromide (1,2-dibromoethane)	Calculated		20	30	14.7				GC-FID	99.4	575-002 62
Ethylene dichloride (1,2-dibromoethane)	Bilevel		50	100	14.2		60	8	GC-FID	95.8	575-001 62
Ethylene dichloride (1,2-dibromoethane)	EPA TO-17 (u)				13		8 hrs	8	TD, GC		590-259 and 590-260 or 590-261 or 590-262 63
Ethylene dichloride (1,2-dibromoethane)	EPA TO-17 (u)				13		24 hrs	24	TD, GC		590-259 and 590-260 or 590-261 or 590-262 63
Ethylene dichloride (1,2-dibromoethane)						3.9-600			DR		810-174D
Ethylene glycol	Calculated				17.4				GC-FID		575-001 62
Ethylene glycol diethyl ether	Calculated				12.3				GC-FID		575-002 62
Ethylene glycol monobutyl ether acetate	Calculated				10.5				GC-FID		575-002 62
Ethylene glycol monohexyl ether	Calculated				10.5				GC-FID		575-001 62
Ethylene glycol monohexyl ether	Calculated				10.5				GC-FID		575-002 62
Ethylene oxide	Full	1543	1	5 EL	21.2		15	8	GC-ECD	102	575-005 62
2-Ethylhexanol	Calculated				10.9				GC-FID		575-002Ω 62
Ethylhexyl acetate	Calculated				9.8				GC-FID		575-002Ω 62
2-Fluorotoluene	Calculated				13.39				GC-FID		575-001 62
Formaldehyde	Partial		0.016	0.1	20.4		7 days	7 days	HPLC-UV		500-100 65
Formaldehyde	Full	1608	0.016	0.1	28.6		15	24	HPLC-UV	100*	500-100 65
Formaldehyde	NIOSH 3500*		0.016	0.1			5 days	7 days	VAS		526-100 64
Formaldehyde	NIOSH 3500*		0.016	0.1			15	8	VAS		526-200 64
Formaldehyde	NIOSH 3500*		0.016	0.1				8	VAS		526-201 64
Formaldehyde			0.75	2		0.1-20		8	DR		810-91D
Formic acid			5			0.55-110		8	DR		810-81D
Freon 113	Calculated				14.1				GC-FID		575-001 62
Furfural	EPA TO-17 (u)				13		24 hrs	24	TD, GC		590-259 and 590-260 or 590-262 63
Furfural	EPA TO-17 (u)				13		8 hrs	8	TD, GC		590-259 and 590-260 or 590-262 63
Furfural			5			0.2-40		8	DR		810-91D
Glycidol (2,3-epoxy-1-propanol)	Calculated		50		16.7				GC-FID		575-002 62
Halothane	Calculated				15.3				GC-FID		575-002 62
Heptane	Bilevel		500		13.9		15	8	GC-FID	105	575-001 62
Heptane	Bilevel		500		13.9		15	8	GC-FID	108	575-002 62
n-Heptane	EPA TO-17 (u)				13		8 hrs	8	TD, GC		590-259 and 590-260 or 590-261 or 590-262 63
n-Heptane	EPA TO-17 (u)				12.83		24 hrs	24	TD, GC		590-259 and 590-260 or 590-261 or 590-262 63
2-Heptanone	Calculated				12.06				GC-FID		575-002 62
4-Heptanone (dipropyl ketone)	Calculated				12.3				GC-FID	85.3	575-001 62
4-Heptanone (dipropyl ketone)	Calculated				12.3				GC-FID	112.2	575-002 62
3-Heptanone (ethyl butyl ketone)	Calculated				12.3				GC-FID	87.9	575-001 62
3-Heptanone (ethyl butyl ketone)	Calculated				12.3				GC-FID	103.4	575-002 62
1-Heptene	Calculated				13.1				GC-FID		575-001 62
Herbicides (chlorinated & organonitrogen) (see specific compounds)	NIOSH 9201				varies		varies	varies	GC-ECD		578-002
Hexachloroethane	Calculated		1		11.5				GC-FID		575-001 62
Hexadecane	Calculated				7.67				GC-FID		575-001 62
n-Hexane	Bilevel		500		14.3		15	8	GC-FID	100	575-001 62
n-Hexane	Bilevel		500		14.3		15	8	GC-FID	112	575-002 62
n-Hexane	EPA TO-17 (u)				12.27		8 hrs	8	TD, GC		590-259 and 590-260 or 590-261 or 590-262 63
n-Hexane	EPA TO-17 (u)				13		24 hrs	24	TD, GC		590-259 and 590-260 or 590-261 or 590-262 63
Hexanol (hexyl alcohol)	Calculated				12.6				GC-FID		575-002Ω 62
2-Hexanone (methyl butyl ketone MBK)	Calculated		100		13.4				GC-FID		575-002 62
Hexone	EPA TO-17 (u)				13		8 hrs	8	TD, GC		590-259 and 590-260 or 590-261 or 590-262 63
Hexone	EPA TO-17 (u)				13		24 hrs	24	TD, GC		590-259 and 590-260 or 590-261 or 590-262 63
Hexone (methyl isobutyl ketone MIBK)	Bilevel	1304	100		13.5		15	8	GC-FID	94.6	575-002 62
Hexone (methyl isobutyl ketone, MIBK)	OSHA 1004				13.62		15	4	GC-FID	92.9	575-002 62
sec-Hexyl acetate	Calculated		50		11.1				GC-FID		575-002Ω 62
Hexyl alcohol (hexanol)	Calculated				12.6				GC-FID		575-002Ω 62
Hexylene glycol	Calculated		25		11.5				GC-FID		575-002 62
Hydrazine			1			16-650		8	DR		810-3D
Hydrochloric acid			5			1.3-200	60	8	DR		800-33111
Hydrocyanic acid			10			2.5-200	60	8	DR		800-33221
Hydrogen chloride			5			1.8-180		8	DR		810-132D
Hydrogen chloride			5			1-100		8	DR		810-14D
Hydrogen cyanide			10			1-200		8	DR		810-12D
Hydrogen fluoride			3			1-100		8	DR		810-17D
Hydrogen peroxide			1			0.5-40		8	DR		810-32D
Hydrogen sulfide			20			1.3-300	60	8	DR		800-33091
Hydrogen sulfide			20			0.2-200		8	DR		810-4D
Isoamyl acetate	Calculated				91.9				GC-FID		575-001 62
Isoamyl acetate	Calculated		100		11.9				GC-FID	108	575-002Ω 62
Isoamyl alcohol	Calculated		100	125#	13.9				GC-FID		575-002 62
Isobutyl acetate	Calculated		150		12.8				GC-FID		575-002Ω 62
Isobutyl acetate	EPA TO-17 (u)				13		8 hrs	8	TD, GC		590-259 and 590-260 or 590-261 or 590-262 63
Isobutyl acetate	EPA TO-17 (u)				13		24 hrs	24	TD, GC		590-259 and 590-260 or 590-261 or 590-262 63
Isobutyl acrylate	Calculated				12.1				GC-FID		575-002 62

See page 183 for abbreviations.

Chemical Hazard	Validation** Level	Research Report	OSHA PELs Δ		Sampling Rate (ml/min)	Measuring Range ▼ (ppm)	Sampling Time		Analytical Method £	DE % §	SKC Catalog No. And Page No.		
			TWA (ppm)	CLG/STEL (ppm)			Min (min)	Max (hr)					
Isobutyl alcohol	Calculated		50		15.6				GC-FID		575-002Ω	62	
Isoflurane	Calculated				13.7				GC-FID		575-002	62	
Isooctyl alcohol	Calculated		100		11.1				GC-FID		575-002Ω	62	
Isopentane	Calculated				15.8				GC-FID		575-001	62	
Isophorone	Calculated		25		11.3				GC-FID		575-002	62	
Isophorone	EPA TO-17 (u)				13			8 hrs	8	TD, GC	590-259 590-262	and 590-260 or 63	
Isophorone	EPA TO-17 (u)				13			24 hrs	24	TD, GC	590-259 590-262	and 590-260 or 63	
Isoprene						2.6-400			8	DR		810-174D	
Isopropanol (isopropyl alcohol)	Calculated		400	500#	17.8				GC-FID	75	575-002	62	
Isopropanol (isopropyl alcohol)	EPA TO-17 (u)				13			24 hrs	24	TD, GC	590-259 590-262	and 590-261 or 63	
Isopropanol (isopropyl alcohol)	EPA TO-17 (u)				8.57			8 hrs	8	TD, GC	590-259 590-262	and 590-261 or 63	
Isopropyl acetate	Calculated		250		14.1				GC-FID	88.5	575-001	62	
Isopropyl acetate	Calculated		250		14.1				GC-FID	101	575-002	62	
Isopropyl acetate	EPA TO-17 (u)				13			8 hrs	8	TD, GC	590-259 590-261	and 590-260 or 590-262	
Isopropyl acetate	EPA TO-17 (u)				13			24 hrs	24	TD, GC	590-259 590-261	and 590-260 or 590-262	
Isopropyl alcohol (2-propanol)	Calculated		400	500#	17.8				GC-FID	75	575-002	62	
Isopropyl alcohol (2-propanol)	EPA TO-17 (u)				8.57			8 hrs	8	TD, GC	590-259 590-262	and 590-261 or 63	
Isopropyl alcohol (2-propanol)	EPA TO-17 (u)				13			24 hrs	24	TD, GC	590-259 590-262	and 590-261 or 63	
Isopropyl amine	Partial		5		13			30	8	HPLC-UV	100	500-400	65
Isopropyl benzene (cumene)	Bilevel		50		12.8			15	8	GC-FID	99.3	575-001	62
Isopropyl benzene (cumene)	Bilevel		50		12.8			15	8	GC-FID	106	575-002	62
Isopropyl ether	Calculated		500		13.2				GC-FID		575-001	62	
Isopropyl glycidyl ether (IGE)	Calculated		50	50#	12.8				GC-FID		575-001	62	
Isoropyl benzene	EPA TO-17 (u)				13			8 hrs	8	TD, GC	590-259 590-262	and 590-260 or 63	
Isoropyl benzene	EPA TO-17 (u)				13			24 hrs	24	TD, GC	590-259 590-262	and 590-260 or 63	
Isovalerone (2,6-dimethyl heptane-4-one)	Calculated				10.7				GC-FID		575-002	62	
Lauryl alcohol	Calculated				8.7				GC-FID	107.5	575-001	62	
Lauryl alcohol	Calculated				8.7				GC-FID	103	575-002	62	
Limonene	Calculated				11.4				GC-FID		575-003	62	
Limonene					11.57			8 hrs	8	TD, GC	590-200 590-261	or 590-259 and 63	
Limonene					12.14			24 hrs	24	TD, GC	590-200 569-261	or 590-259 and 63	
Maleic anhydride	EPA TO-17 (u)				13			24 hrs	24	TD, GC	590-259 590-261	and 590-260 or 590-262	
Maleic anhydride	EPA TO-17 (u)				13			8 hrs	8	TD, GC	590-259 590-261	and 590-260 or 590-262	
Mercury	OSHA ID 140		0.1 mg/m ³		20				8	AAS	520-02A	and 520-03	64
Mesityl oxide	Calculated		25	15	13.7				GC-FID		575-001	62	
Mesitylene	EPA TO-17 (u)				13			24 hrs	24	TD, GC	590-259 590-261	and 590-260 or 590-262	
Mesitylene	EPA TO-17 (u)				13			8 hrs	8	TD, GC	590-259 590-261	and 590-260 or 590-262	
Mesitylene (1,3,5-trimethyl benzene)	Calculated				12.1				GC-FID	93.6	575-001	62	
Mesitylene (1,3,5-trimethyl benzene)	Calculated				12.1				GC-FID	96	575-002	62	
2-Methoxy-1-propanol	Calculated				14.4				GC-FID		575-002Ω	62	
2-Methoxy-1-propyl acetate	Calculated				12				GC-FID		575-002Ω	62	
1-Methoxy-2-propanol	Calculated				14.6				GC-FID	100	575-002	62	
1-Methoxy-2-propanol					11.16			24 hrs	24	TD, GC	590-200 590-261	or 590-259 and 63	
1-Methoxy-2-propanol					13.1			8 hrs	8	TD, GC	590-200 590-261	or 590-259 and 63	
1-Methoxy-2-propyl acetate	Calculated				12.2				GC-FID		575-002Ω	62	
2-Methoxyethanol	EPA TO-17 (u)				13			8 hrs	8	TD, GC	590-259 590-261	and 590-260 or 590-262	
2-Methoxyethanol	EPA TO-17 (u)				13			24 hrs	24	TD, GC	590-259 590-261	and 590-260 or 590-262	
2-Methoxyethanol (methyl CELLOSOLVE solvent)	Calculated		25		16.1				GC-FID	94.7	575-001	62	
2-Methoxyethanol (methyl CELLOSOLVE solvent)	Calculated		25		16.1				GC-FID	91.1	575-002	62	
2-Methoxyethyl acetate	EPA TO-17 (u)				13			24 hrs	24	TD, GC	590-259 590-261	and 590-260 or 590-262	
2-Methoxyethyl acetate	EPA TO-17 (u)				13			8 hrs	8	TD, GC	590-259 590-261	and 590-260 or 590-262	
Methoxypropanol	EPA TO-17 (u)				13			8 hrs	8	TD, GC	590-259 590-261	and 590-260 or 590-262	
Methoxypropanol	EPA TO-17 (u)				13			24 hrs	24	TD, GC	590-259 590-261	and 590-260 or 590-262	
Methyl acetate	Calculated		200	250#	17.8				GC-FID		575-002	62	
Methyl acetate	EPA TO-17 (u)				13			24 hrs	24	TD, GC	590-259 590-262	and 590-261 or 63	
Methyl acetate	EPA TO-17 (u)				13			8 hrs	8	TD, GC	590-259 590-262	and 590-261 or 63	
Methyl acrylate	Full		10‡		15.7			15	8	GC-FID	94.3	575-002	62
Methyl acrylate	EPA TO-17 (u)				13			8 hrs	8	TD, GC	590-259 590-261	and 590-260 or 590-262	
Methyl acrylate	EPA TO-17 (u)				13			24 hrs	24	TD, GC	590-259 590-261	and 590-260 or 590-262	
Methyl amine	Partial		10		18.4			30	8	HPLC-UV	101	500-400	65
Methyl amine			10			0.19-19			8	DR		810-3DL	

See page 183 for abbreviations.

Passive Sampling Guide

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Chemical Hazard	Validation** Level	Research Report	OSHA PELs Δ		Sampling Rate (ml/min)	Measuring Range ∇ (ppm)	Sampling Time		Analytical Method $\text{\textcircled{E}}$	DE % $\text{\textcircled{\$}}$	SKC Catalog No. And Page No.	
			TWA (ppm)	CLG/STEL (ppm)			Min (min)	Max (hr)				
Methyl amyl ketone	Calculated				12.8				GC-FID		575-002	62
2-Methyl butane	Calculated				15.8				GC-FID		575-001	62
Methyl butyl ketone (MBK 2-hexanone)	Calculated		100		13.4				GC-FID		575-002	62
Methyl CELLOSOLVE acetate (ethylene glycol monomethyl ether acetate)	Calculated		25		13.1				GC-FID	92.4	575-002	62
Methyl CELLOSOLVE solvent (2-methoxyethanol)	Calculated		25		16.1				GC-FID	94.7	575-001	62
Methyl CELLOSOLVE solvent (2-methoxyethanol)	Calculated		25		16.1				GC-FID	91.1	575-002	62
Methyl chloroform (1,1,1-trichloroethane)	Bilevel		350	350	14.1		15	8	GC-FID	99.9	575-001	62
Methyl chloroform (1,1,1-trichloroethane)	EPA TO-17 (u)				13		8 hrs	8	TD, GC		590-259 590-262	and 590-261 or 63
Methyl chloroform (1,1,1-trichloroethane)	EPA TO-17 (u)				13		24 hrs	24	TD, GC		590-259 590-262	and 590-261 or 63
Methyl cyclohexane	Bilevel		500		14.2		15	8	GC-FID	106	575-001	62
tert-amyl-Methyl ether (methyl tert-amyl ether)	Bilevel	1355			13.1		30	8	GC-FID	99	575-001	62
Methyl ethyl ketone (MEK 2-butanone)	Bilevel	1306	200		17.1		15	8	GC-FID	100	575-002	62
Methyl ethyl ketone (MEK 2-butanone)	OSHA 1004		200		16.88		15	4	GC-FID	92.3	575-002	62
Methyl ethyl ketone (MEK 2-butanone)	EPA TO-17 (u)				12.84		8 hrs	8	TD, GC		590-259 590-261	and 590-260 or 590-262
Methyl ethyl ketone (MEK 2-butanone)	EPA TO-17 (u)				9.37		24 hrs	24	TD, GC		590-259 590-261	and 590-260 or 590-262
Methyl ethyl ketone (MEK 2-butanone)			200			6.5-1950		8	DR		810-151D	
Methyl ethyl ketone (MEK 2-butanone)			200			2-600		8	DR		810-152D	
Methyl ethyl ketone (MEK 2-butanone)			200			0.125-25		8	DR		810-91D	
3-Methyl hexane	Calculated				12.8				GC-FID		575-001	62
Methyl iodide	Calculated		5		18.7				GC-FID		575-001	62
Methyl isoamyl ketone	Calculated		100		12.3				GC-FID		575-002	62
Methyl isobutyl carbinol (methyl amyl alcohol)	Calculated		25	40#	12.8				GC-FID		575-002	62
Methyl isobutyl ketone (MIBK, hexone)			100			4-1200		8	DR		810-152D	
Methyl isobutyl ketone (MIBK, hexone)	Bilevel	1304	100		13.5		15	8	GC-FID	94.6	575-002	62
Methyl isobutyl ketone (MIBK, hexone)	OSHA 1004				13.62		15	4	GC-FID	92.9	575-002	62
Methyl isobutyl ketone (MIBK, hexone)	EPA TO-17 (u)				13.11		24 hrs	24	TD, GC		590-259 590-261	and 590-260 or 590-262
Methyl isobutyl ketone (MIBK, hexone)	EPA TO-17 (u)				12.71		8 hrs	8	TD, GC		590-259 590-261	and 590-260 or 590-262
Methyl isobutyl ketone (MIBK, hexone)			100			11.5-3450		8	DR		810-151D	
Methyl isopropyl ketone	Calculated				14.8				GC-FID		575-002	62
Methyl methacrylate (MMA)	Bilevel	1308	100		13.1		15	8	GC-FID	100.5	575-002	62
Methyl methacrylate (MMA)	EPA TO-17 (u)				13		8 hrs	8	TD, GC		590-259 590-261	and 590-260 or 590-262
Methyl methacrylate (MMA)	EPA TO-17 (u)				13		24 hrs	24	TD, GC		590-259 590-261	and 590-260 or 590-262
Methyl n-amyl ketone (2-heptanone)	Calculated		100		12.2				GC-FID		575-002	62
2-Methyl pentane	Calculated				14.1				GC-FID		575-001	62
Methyl propyl ketone (2-pentanone)	Calculated		200	250	15.7				GC-FID	92.6	575-002	62
Methyl styrene	EPA TO-17 (u)				13		24 hrs	24	TD, GC		590-259 590-262	and 590-260 or 63
Methyl styrene	EPA TO-17 (u)				13		8 hrs	8	TD, GC		590-259 590-262	and 590-260 or 63
alpha-Methyl styrene	Bilevel	1359		100 (C)	12.6		15	8	GC-FID	95.7	575-002	62
alpha-Methyl styrene	Bilevel	1373		100 (C)	12.6		15	8	GC-FID	94	575-003	62
Methyl t-butyl ether (MTBE)	Full	1352			13.6		15	8	GC-FID	97.4	575-001	62
Methyl tert-amyl ether (tert-amyl methyl ether)	Bilevel	1355			13.1		30	8	GC-FID	99	575-001	62
1-Methyl-2-ethyl benzene	EPA TO-17 (u)				13		8 hrs	8	TD, GC		590-259 590-262	and 590-260 or 63
1-Methyl-2-ethyl benzene	EPA TO-17 (u)				13		24 hrs	24	TD, GC		590-259 590-262	and 590-260 or 63
1-Methyl-3-ethyl benzene	EPA TO-17 (u)				13		8 hrs	8	TD, GC		590-259 590-262	and 590-260 or 63
1-Methyl-3-ethyl benzene	EPA TO-17 (u)				13		24 hrs	24	TD, GC		590-259 590-262	and 590-260 or 63
5-Methyl-3-heptanone	Calculated				11.4				GC-FID	87.5	575-001	62
5-Methyl-3-heptanone	Calculated				11.4				GC-FID	110	575-002	62
1-Methyl-4-ethyl benzene	EPA TO-17 (u)				13		24 hrs	24	TD, GC		590-259 590-262	and 590-260 or 63
1-Methyl-4-ethyl benzene	EPA TO-17 (u)				13		8 hrs	8	TD, GC		590-259 590-262	and 590-260 or 63
Methyl-n-amyl ketone (2-heptanone)					13.43		8 hrs	8	TD, GC		590-200 590-261	or 590-259 and 63
Methyl-n-amyl ketone (2-heptanone)					13.7		24 hrs	24	TD, GC		590-200 590-261	or 590-259 and 63
Methyl-t-butyl-ether (MTBE)	EPA TO-17 (u)				13		8 hrs	8	TD, GC		590-259 590-262	and 590-261 or 63
Methyl-t-butyl-ether (MTBE)	EPA TO-17 (u)				13		24 hrs	24	TD, GC		590-259 590-262	and 590-261 or 63
Methylal (dimethoxymethane)	Calculated		1000		17.1				GC-FID		575-001	62
1-Methylcyclohexanol	Full		100		12.5		15	8	GC-FID	108	575-001	62
1-Methylcyclohexanol	Full		100		12.5		15	8	GC-FID	94.7	575-002	62
Methylcyclopentane	Calculated				14.37				GC-FID		575-001	62
Methylene chloride	Full	1323	25	125	14.7		241	8 π	GC-FID	96	575-001	62
Methylene chloride	Full	1323	25	125	16		15	4	GC-FID	96	575-001	62
Methylene chloride	EPA TO-17 (u)				6.83		8 hrs	8	TD, GC		590-259	and 590-262
Methylene chloride	EPA TO-17 (u)				0.13		24 hrs	24	TD, GC		590-259	and 590-262
Metolachlor (chlorinated & organonitrogen herbicides)	NIOSH 9201				varies		varies	varies	GC-ECD		578-002 Σ	
Monochlorotoluene (1-chloro-2-methyl benzene; OXSOL 10)	Bilevel		50 \diamond		13		15	8	GC-FID	91.8	575-001	62
Monochlorotoluene (1-chloro-2-methyl benzene; OXSOL 10)	Bilevel		50 \diamond		13		15	8	GC-FID	91	575-002	62
Naphthalene	Calculated		10		12.2				GC-FID		575-003	62
Nitric acid			2			0.8-80		8	DR		810-14D	
Nitric acid			2			0.32-32		8	DR		810-17D	

See page 183 for abbreviations.

Chemical Hazard	Validation** Level	Research Report	OSHA PELs Δ		Sampling Rate (ml/min)	Measuring Range ▼ (ppm)	Sampling Time		Analytical Method £	DE % §	SKC Catalog No. And Page No.	
			TWA (ppm)	CLG/STEL (ppm)			Min (min)	Max (hr)				
Nitrobenzene	EPA TO-17 (u)				13		8 hrs	8	TD, GC		590-259 and 590-260	63
Nitrobenzene	EPA TO-17 (u)				13		24 hrs	24	TD, GC		590-259 and 590-260	63
Nitrogen dioxide			5			1.3-200	60	8	DR		800-01111	
Nitrogen dioxide			5			0.1-30		8	DR		810-9D	
Nitrogen dioxide			5			0.01-3		8	DR		810-9DL	
Nonane	Bilevel				10.6		15	8	GC-FID	103	575-001	62
Nonane	EPA TO-17 (u)				13		8 hrs	8	TD, GC		590-259 and 590-260 or 590-261	63
Nonane	EPA TO-17 (u)				13		24 hrs	24	TD, GC		590-259 and 590-260 or 590-261	63
Nonyl alcohol	Calculated				10.2				GC-FID		575-002Ω	62
Octadecane	Calculated				7.1				GC-FID		575-001	62
Octane	Bilevel		500		12.7		15	8	GC-FID	106	575-001	62
Octane	Bilevel		500		12.7		15	8	GC-FID	110	575-002	62
n-Octane	EPA TO-17 (u)				13		8 hrs	8	TD, GC		590-259 and 590-260 or 590-261	63
n-Octane	EPA TO-17 (u)				13		24 hrs	24	TD, GC		590-259 and 590-260 or 590-261	63
Octanol	EPA TO-17 (u)				13		24 hrs	24	TD, GC		590-259 and 590-260	63
Octanol	EPA TO-17 (u)				13		8 hrs	8	TD, GC		590-259 and 590-260	63
Octyl alcohol	EPA TO-17 (u)				13		8 hrs	8	TD, GC		590-259 and 590-260	63
Octyl alcohol	EPA TO-17 (u)				13		24 hrs	24	TD, GC		590-259 and 590-260	63
Organonitrogen herbicides (see specific compounds)	NIOSH 9201				varies		varies	varies	GC-ECD		578-002	
Ozone			0.1			0.045- 0.105		10 min	DR		526-300	64
Parachlorobenzotrifluoride (1-chloro-4-[trifluoromethyl]benzene; OXSOL 100)	Bilevel		25◇		11.8		15	8	GC-FID	102	575-001	62
Parachlorobenzotrifluoride (1-chloro-4-[trifluoromethyl]benzene; OXSOL 100)	Bilevel		25◇		11.8		15	8	GC-FID	108	575-002	62
Pentane	Full	1311	1000		14.9		15	8	GC-FID	105.2	575-001	62
n-Pentane	EPA TO-17 (u)				13		8 hrs	8	TD, GC		590-259 and 590-261	63
n-Pentane	EPA TO-17 (u)				13		24 hrs	24	TD, GC		590-259 and 590-261	63
3-Pentanone (diethyl ketone)	Calculated				14.8				GC-FID	83.9	575-001	62
3-Pentanone (diethyl ketone)	Calculated				14.8				GC-FID	100.3	575-002	62
2-Pentanone (methyl propyl ketone)	Calculated		200		15.7				GC-FID	92.6	575-002	62
1-Pentene	Calculated				16.3				GC-FID		575-001	62
2-Pentyl acetate (sec-amyl acetate)	Calculated		125		11.9				GC-FID		575-002Ω	62
Perchloroethylene (tetrachloroethylene)	Full		100	200 (C)	13.1		15	8	GC-FID	101	575-001	62
Perchloroethylene (tetrachloroethylene)	OSHA 1001		100	200 (C)	13.06▲		15	4	GC-FID	95.4	575-002	62
Perchloroethylene (tetrachloroethylene)	EPA TO-17 (u)				13		8 hrs	8	TD, GC		590-259 and 590-260 or 590-261	63
Perchloroethylene (tetrachloroethylene)	EPA TO-17 (u)				13		24 hrs	24	TD, GC		590-259 and 590-260 or 590-261	63
Perchloroethylene (tetrachloroethylene)			100	200 (C)		25-1500	60	8	DR		800-01401	
Phenol	EPA TO-17 (u)				13		8 hrs	8	TD, GC		590-259 and 590-260	63
Phenol	EPA TO-17 (u)				13		24 hrs	24	TD, GC		590-259 and 590-260	63
Phenyl ether (diphenyl oxide)	Calculated		1		10.4				GC-FID		575-001	62
Phenyl glycidyl ether	Calculated		10		11.1				GC-FID		575-001	62
alpha-Pinene†	Partial				11.4		30	8	GC-FID	> 95	575-003	62
beta-Pinene†	Partial				11.4		30	8	GC-FID	> 80	575-003	62
2-Propanol (isopropyl alcohol)	Calculated		400	500#	17.8				GC-FID	75	575-002	62
n-Propanol (propyl alcohol)	Calculated		200		17.6				GC-FID	87.3	575-001	62
n-Propanol (propyl alcohol)	Calculated		200		17.6				GC-FID	97.8	575-002	62
n-Propanol (propyl alcohol)	EPA TO-17 (u)				13		24 hrs	24	TD, GC		590-259 and 590-260 or 590-261	63
n-Propanol (propyl alcohol)	EPA TO-17 (u)				13		8 hrs	8	TD, GC		590-259 and 590-260 or 590-261	63
Propionic acid	Calculated				16.8				GC-FID		575-003	62
Propionitrile	EPA TO-17 (u)				13		8 hrs	8	TD, GC		590-259 and 590-260	63
Propionitrile	EPA TO-17 (u)				13		24 hrs	24	TD, GC		590-259 and 590-260	63
n-Propyl acetate	Calculated		200		14.6				GC-FID	87.5	575-001	62
n-Propyl acetate	Calculated		200		14.6				GC-FID	101.1	575-002	62
n-Propyl acetate	EPA TO-17 (u)				13		8 hrs	8	TD, GC		590-259 and 590-260 or 590-261	63
n-Propyl acetate	EPA TO-17 (u)				13		24 hrs	24	TD, GC		590-259 and 590-260 or 590-261	63
Propyl alcohol (n-propanol)	EPA TO-17 (u)				13		24 hrs	24	TD, GC		590-259 and 590-260 or 590-261	63
Propyl alcohol (n-propanol)	EPA TO-17 (u)				13		8 hrs	8	TD, GC		590-259 and 590-260 or 590-261	63
n-Propyl benzene	EPA TO-17 (u)				13		24 hrs	24	TD, GC		590-259 and 590-260 or 590-261	63
n-Propyl benzene	EPA TO-17 (u)				13		8 hrs	8	TD, GC		590-259 and 590-260 or 590-261	63
Propyl bromide	Full				14.5		15	8	GC-FID	100	575-001	62
Propyl bromide	Full				14.5		15	8	GC-FID	107	575-002	62
Propylene dichloride (1,2-dichloro propane)	Bilevel		75		14.3		15	8	GC-FID	97.7	575-001	62
Propylene glycol monomethyl ether	Calculated				14.6		15	8	GC-FID	102	575-002	62
Propylene glycol monomethyl ether acetate	Calculated				12.2				GC-FID		575-001	62
Propylene oxide	Calculated		100		19.9				GC-FID	98	575-001	62
Propylene oxide	Calculated		100		19.9				GC-FID	99.7	575-002	62
Pyridine	Calculated		5		16.3				GC-FID	88.18	575-002	62
Pyridine	EPA TO-17 (u)				13		24 hrs	24	TD, GC		590-259 and 590-260 or 590-261	63
Pyridine	EPA TO-17 (u)				13		8 hrs	8	TD, GC		590-259 and 590-260 or 590-261	63
Sevoflurane	Calculated				13.1				GC-FID		575-002	62
Simazine (chlorinated & organonitrogen herbicides)	NIOSH 9201				varies		varies	varies	GC-ECD		578-002 Σ	
Styrene	Full	1315	100	200 (C)	13.7		15	8	GC-FID	86.3	575-002	62

See page 183 for abbreviations.

Chemical Hazard	Validation** Level	Research Report	OSHA PELs Δ		Sampling Rate (ml/min)	Measuring Range (ppm)	Sampling Time		Analytical Method ‡	DE % §	SKC Catalog No. And Page No.	
			TWA (ppm)	CLG/STEL (ppm)			Min (min)	Max (hr)				
Styrene	Full	1313	100	200 (C)	13.7		15	8	GC-FID	100	575-003	62
Styrene	EPA TO-17 (u)				10.36		8 hrs	8	TD, GC		590-259 or 590-262	and 590-260 or 63
Styrene	EPA TO-17 (u)				11.01		24 hrs	24	TD, GC		590-259 or 590-262	and 590-260 or 63
Sulfur dioxide			5				60	8	DR		800-01091	
Sulfur dioxide			5				0.2-100	8	DR		810-5D	
Sulfur dioxide			5				10-600	8	DR		810-5DH	
Terpineol	Calculated				10.5				GC-FID		575-003	62
1,1,1,2-Tetrachloroethane	EPA TO-17 (u)				13		8 hrs	8	TD, GC		590-259 or 590-261	and 590-260 or 590-262 63
1,1,1,2-Tetrachloroethane	EPA TO-17 (u)				13		24 hrs	24	TD, GC		590-259 or 590-261	and 590-260 or 590-262 63
1,1,2,2-Tetrachloroethane	Bilevel		5		11.8		480∞	8	GC-FID	64.4*	575-001	62
1,1,2,2-Tetrachloroethane	EPA TO-17 (u)				13		24 hrs	24	TD, GC		590-259 or 590-261	and 590-260 or 590-262 63
1,1,2,2-Tetrachloroethane	EPA TO-17 (u)				13		8 hrs	8	TD, GC		590-259 or 590-261	and 590-260 or 590-262 63
Tetrachloroethylene (perchloroethylene)	Full		100	200 (C)	13.1		15	8	GC-FID	101	575-001	62
Tetrachloroethylene (perchloroethylene)	OSHA 1001		100	200 (C)	13.06		15	4	GC-FID	95.4	575-002	62
Tetrachloroethylene (perchloroethylene)	EPA TO-17 (u)				12.18		24 hrs	24	TD, GC		590-259 or 590-261	and 590-260 or 590-262 63
Tetrachloroethylene (perchloroethylene)	EPA TO-17 (u)				12.18		8 hrs	8	TD, GC		590-259 or 590-261	and 590-260 or 590-262 63
Tetrachloroethylene (perchloroethylene)							3-150		DR		810-133D	
Tetradecane	Calculated				8.3				GC-FID		575-001	62
Tetrahydrofuran	Calculated		200		17.4				GC-FID	88.8	575-001	62
Tetrahydrofuran	Calculated		200		17.4				GC-FID	99	575-002	62
1,2,3,4-Tetramethylbenzene	Calculated				11.1				GC-FID		575-001	62
1,2,3,5-Tetramethylbenzene	Calculated				11.2				GC-FID		575-001	62
1,2,4,5-Tetramethylbenzene	Calculated				11.2				GC-FID		575-001	62
Tetramethylbenzidine					12.8		8 hrs	8	TD, GC		590-200 or 590-261	and 590-259 or 590-262 63
Tetramethylbenzidine					13.27		24 hrs	24	TD, GC		590-200 or 590-261	and 590-259 or 590-262 63
Toluene	Bilevel		200	300 (C)	14.5		15	8	GC-FID	97.9	575-001	62
Toluene	OSHA 111		200	300 (C)	14.9▲		10	4	GC-FID	97	575-002	62
Toluene	EPA TO-17 (u)				13.26		8 hrs	8	TD, GC		590-259 or 590-261	and 590-260 or 590-262 63
Toluene	EPA TO-17 (u)				13.67		24 hrs	24	TD, GC		590-259 or 590-261	and 590-260 or 590-262 63
Toluene			200	300 (C)			13-300	60	DR		800-01401	
Toluene			200	300 (C)			2-500	8	DR		810-122DL	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	Calculated		1000	1250#	14.1				GC-FID		575-001	62
1,1,1-Trichloroethane	EPA TO-17 (u)				13		24 hrs	24	TD, GC		590-259 or 590-262	and 590-261 or 63
1,1,1-Trichloroethane	EPA TO-17 (u)				13		8 hrs	8	TD, GC		590-259 or 590-262	and 590-261 or 63
1,1,2-Trichloroethane	Bilevel		10		12.5		15	8	GC-FID	96.7	575-001	62
1,1,2-Trichloroethane	EPA TO-17 (u)				13		8 hrs	8	TD, GC		590-259 or 590-261	and 590-260 or 590-262 63
1,1,2-Trichloroethane	EPA TO-17 (u)				13		24 hrs	24	TD, GC		590-259 or 590-261	and 590-260 or 590-262 63
1,1,1-Trichloroethane (methyl chloroform)	Bilevel		350	350#	14.1		15	8	GC-FID	99.9	575-001	62
Trichloroethylene	Full		100	200 (C)	14.9		15	8	GC-FID	102	575-001	62
Trichloroethylene	OSHA 1001		100	200 (C)	14.26▲		15	4	GC-FID	97.5	575-002	62
Trichloroethylene	EPA TO-17 (u)				10.18		24 hrs	24	TD, GC		590-259 or 590-261	and 590-260 or 590-262 63
Trichloroethylene	EPA TO-17 (u)				13		8 hrs	8	TD, GC		590-259 or 590-261	and 590-260 or 590-262 63
Trichloroethylene			100	200			25-1000	60	DR		800-01441	
Trichloroethylene			100	200			3-300	8	DR		810-132D	
Trichloromethylbenzene (benzotrifluoride; OXSOL 2000)	Bilevel		100◇		13.4		15	8	GC-FID	106	575-001	62
Trichloromethylbenzene (benzotrifluoride; OXSOL 2000)	Bilevel		100◇		13.4		15	8	GC-FID	107	575-002	62
1,2,3-Trichloropropane	Bilevel		50		11.9		15	8	GC-FID	98.1	575-001	62
Tridecane	Calculated				8.68				GC-FID		575-001	62
Triethylamine			25				5.3-2100	8	DR		810-3D	
Triethylamine							0.23-23		DR		810-3DL	
1,2,3-Trimethylbenzene	Calculated		25¶		12				GC-FID		575-001	62
1,2,3-Trimethylbenzene	EPA TO-17 (u)				13		24 hrs	24	TD, GC		590-259 or 590-262	and 590-260 or 63
1,2,3-Trimethylbenzene	EPA TO-17 (u)				13		8 hrs	8	TD, GC		590-259 or 590-262	and 590-260 or 63
1,2,4-Trimethylbenzene	Calculated		25¶		12.1				GC-FID	88.4	575-001	62
1,2,4-Trimethylbenzene	Calculated		25¶		12.1				GC-FID	88.9	575-002	62
1,2,4-Trimethylbenzene	EPA TO-17 (u)				13		24 hrs	24	TD, GC		590-259 or 590-262	and 590-260 or 63
1,2,4-Trimethylbenzene	EPA TO-17 (u)				13		8 hrs	8	TD, GC		590-259 or 590-262	and 590-260 or 63
1,3,5-Trimethylbenzene (mesitylene)	Calculated		25¶		12.1				GC-FID	93.6	575-001	62
1,3,5-Trimethylbenzene (mesitylene)	Calculated		25¶		12.1				GC-FID	96	575-002	62
1,3,5-Trimethylbenzene (mesitylene)	EPA TO-17 (u)				13		8 hrs	8	TD, GC		590-259 or 590-261	and 590-260 or 590-262 63
1,3,5-Trimethylbenzene (mesitylene)	EPA TO-17 (u)				13		24 hrs	24	TD, GC		590-259 or 590-261	and 590-260 or 590-262 63
3,5,5-Trimethylcyclohex-2-enone	EPA TO-17 (u)				13		8 hrs	8	TD, GC		590-259 or 590-262	and 590-260 or 63
3,5,5-Trimethylcyclohex-2-enone	EPA TO-17 (u)				13		24 hrs	24	TD, GC		590-259 or 590-262	and 590-260 or 63

See page 183 for abbreviations.

Chemical Hazard	Validation**	Research Report	OSHA PELs Δ		Sampling Rate (ml/min)	Measuring Range ▼ (ppm)	Sampling Time		Analytical Method £	DE % §	SKC Catalog No. And Page No.	
			TWA (ppm)	CLG/STEL (ppm)			Min (min)	Max (hr)				
2,2,4-Trimethylpentane	Calculated				11.89				GC-FID		575-001	62
Undecane	Calculated				9.62				GC-FID		575-001	62
Undecane	EPA TO-17 (u)				10.57		24 hrs	24	TD, GC		590-259 590-262	and 590-260 or 63
n-Undecane	EPA TO-17 (u)				10.41		8 hrs	8	TD, GC		590-259 590-262	and 590-260 or 63
Vinyl acetate	Full			4 (C)#	16.3		30	8	GC-FID	92	575-002	62
Vinyl bromide	Calculated			LFC‡	18.2				GC-FID		575-001	62
Vinyl chloride				1		1.56-240		8	DR		810-174D	
Vinyl toluene	Calculated			100	50	12.3			GC-FID		575-002	62
Vinyl toluene	EPA TO-17 (u)					13	24 hrs	24	TD, GC		590-259 590-262	and 590-260 or 63
Vinyl toluene	EPA TO-17 (u)					13	8 hrs	8	TD, GC		590-259 590-262	and 590-260 or 63
Vinyl-2-pyrrolidone	Calculated					12.87			GC-FID		575-002	62
Vinylidene chloride	Bilevel			LFC‡		12.3	60	8	GC-FID	95.2	575-001	62
Vinylidene chloride				LFC‡				8	DR		810-132D	
Xylene				100				8	DR		810-122DL	
m-Xylene	Bilevel			100		12.5	15	8	GC-FID	96.6	575-001	62
m-Xylene	OSHA 1002			100		13.82▲	15	8	GC-FID	96.1	575-002	62
m-Xylene	Bilevel			100		12.5	15	8	GC-FID	101	575-002	62
m-Xylene	EPA TO-17 (u)					13.81	24 hrs	24	TD, GC		590-259 590-261	and 590-260 or 590-262 63
m-Xylene	EPA TO-17 (u)					13.26	8 hrs	8	TD, GC		590-259 590-261	and 590-260 or 590-262 63
o-Xylene	Bilevel			100		11.9	15	8	GC-FID	91	575-001	62
o-Xylene	OSHA 1002			100		14.24▲	15	8	GC-FID	89.4	575-002	62
o-Xylene	EPA TO-17 (u)					13	24 hrs	24	TD, GC		590-259 590-261	and 590-260 or 590-262 63
o-Xylene	EPA TO-17 (u)					13	8 hrs	8	TD, GC		590-259 590-261	and 590-260 or 590-262 63
p-Xylene	Bilevel			100		12.8	15	8	GC-FID	95.6	575-001	62
p-Xylene	OSHA 1002			100		13.94▲	15	8	GC-FID	95.3	575-002	62
p-Xylene	Bilevel			100		12.8	15	8	GC-FID	103	575-002	62
p-Xylene	EPA TO-17 (u)					13	24 hrs	24	TD, GC		590-259 590-261	and 590-260 or 590-262 63
p-Xylene	EPA TO-17 (u)					13	8 hrs	8	TD, GC		590-259 590-261	and 590-260 or 590-262 63

* 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 hrs duration. If more than 1000 ppm of other contaminants are present, reduce max. sample time to 4 hrs.

¶ OSHA construction industry standards

Σ Use tape 578-003 for attaching patch to skin; 578-004 for attaching patch to clothing.

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

♣ Validation based on NIOSH 3500

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

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

√ Valid for STEL samples up to 4 hrs duration

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

▼ 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 page 183.

** 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 OSHA SL Tech Center. SKC in-house validation produced a similar sampling rate. SKC recommends using the OSHA rate for compliance sampling.

π If more than 1000 ppm contaminants are present, reduce maximum sample time to 4 hrs.

EL Excursion Limit

LFC Lowest feasible concentration

(u) SKC update: 13 ml/min is the average flow rate for TO-17. 590-259 is the Ultra II empty housing only, packaged in reusable pouch, requires sorbent in vial 590-260, 590-261, or 590-262. Select sorbent according to the chemical of interest. Refer to the method for details.

SKC — The World Leader in Sampling Technologies



See page 183 for abbreviations.