

# 2021 Liberty Mutual Insurance Industrial Hygiene Lab sampling guide

AIHA-LAP, LLC Laboratory ID # LAP-100045

Contact us for assistance: Imihlaboratory@libertymutual.com or 1-800-230-6263



Liberty Mutual Insurance Industrial Hygiene Laboratory (LMIHL) provides analytical services to assist customers with safety issues related to occupational disease exposure in their workplace.

# **Comprehensive service includes:**

- Method development or validation
- Technical consultation
- Training
- Sample Analyses:
  - Aldehydes
  - Organic and Inorganic acids
  - Amines
  - Pharmaceuticals
  - Asbestos fiber counting and bulk identification
  - Silica
  - Medical gas analysis

- Common and specialty metals
- Grade D breathing air analysis
- Common and specialty organic solvents
- Scans metals, solvent, acids, aldehydes, isocyanates, etc.
- Gravimetrics for total, respirable or inhalable dust

Liberty Mutual SafetyNet<sup>™</sup> is your source for chain of custody and media order forms as well as the Fee Schedule. You may also contact the lab.

#### Telephone assistance: 1-800-230-6263

Telephone assistance is available to all our customers from 7:30AM – 6PM, Eastern Time. We encourage our customers to call us with their technical questions relating to proper sampling and media selection. Listed below is our support team.

- Ethel T. Patricio, MS, Laboratory Director, ext. 27352 or 508-544-5352
- · Laura Melton, MS, Lab. Supervisor, ext 27348 or 508-544-5348
- Eva Longo, MS, Prod/QC Chemist Consultant, ext 27338 or 508-544-5338
- Neela Joshi, MS Prod/QC Chemist Consultant, ext. 27360 or 508-544-5360

# Analysis turnaround time

The Laboratory's standard turnaround time is 5 business days or better from the receipt of samples. Samples received after 3PM are considered next day's samples. Results are provided by email only. Rush analysis for routine samples can be arranged with prior notification. Verbal results are also available after data has been approved for release by the QC coordinator.

#### The following surcharges apply for RUSH requests:

One business day200% surchargeTwo business days150% surchargeThree business days75% surcharge

**Note:** Certain Specialty Analysis cannot be done on a rush basis. Contact the laboratory at least 24 hours before shipping your samples for RUSH analysis.

# Discounts for multiple analytes on the same media

The price listed for each individual analyte is the price for a single analyte per sample. Analysis for multiple compatible analytes collected on the same media is available at a discounted fee. The higher priced analyte is billed at the published fee with additional analytes discounted as follows:

Organics on OVM/sorbent tubes \$32 Metals by ICP \$26 IC \$44 HPLC/Specialty see Fee Schedule

# **Payment terms**

The total cost of the services provided by the LMIH Laboratory will be based on the quoted rate. Prices are subject to change without notice. Payment term is net 30 days if you are paying by check.

### **Blanks**

Blanks are required by all analytical methods and are good insurance for dealing with contamination. Contamination can occur during handling, storing or shipping samples. Therefore, as standard good IH practice, field blanks are recommended. The recommended number of field blanks per sample set is 10% of the total number of samples, or a minimum of 1 blank per set of 10 samples. Since blanks are analyzed as any other sample, they are priced according to the analysis requested.

### Media

Common media such as charcoal tubes, pre-weighed filters, etc. are provided at no extra cost as long as the samples and unused media are returned to the laboratory for analysis within 30 days. Unreturned media after 30 days will be charged at cost. Specialty media that cannot be reused, such as isocyanate filters, aldehyde badges and tubes, ozone filters, etc. will be invoiced at cost. Media are shipped UPS ground at no charge to the client. Rush and international shipments will be billed to the client at cost.

- · Request by email using the media order form.
- · Return shipping is the responsibility of the customer.

Please note that there will be media charge for specialty filters (e.g. hydrogen peroxide) and sampling devices such as PPI.

### Sample collection and sample submission

#### **Sampling collection supplies**

We provide free collection supplies (wipes, templates, gloves, plastic bags, coolers, etc.) and ship them to you via UPS ground. Clients requesting Rush delivery either within or outside the U.S. will be billed at cost. It is the client's responsibility to ensure proper sampling, handling, packing (returning the cooler with frozen packs) and return shipping to the laboratory.

Chain-of-custody forms will be provided with every media and equipment order; please complete the form and submit with your samples. The chain-of-custody forms are also available on Liberty Mutual SafetyNet<sup>™</sup>.

#### Sample minimum

When Preparing samples for analysis, please note that some analyses require a three (3) sample minimum fee to cover the cost of method set-up for non-routine analysis.

### Special handling and shipping

Most NIOSH and OSHA methods indicate that solvent samples are stable at room temperature. LM IH Laboratory recommends shipping samples cold overnight especially during the summer months. Please refer to the list of Analytes for additional instructions. These guidelines must be followed in order to ensure the integrity and validity of the samples.

### **Bulk sample submissions**

Certain analysis requires the submission of bulks. Bulks should always be packaged and shipped separately from the samples. Safety Data Sheets (SDS) must accompany the bulk samples.

### **Analytical results**

LMIHL reserves the right to determine appropriate format in which the analytical results are reported. All results are provided for the exclusive use of our client. LMIHL accepts no responsibility or liability for the client's use of the analytical results.

LMIHL may release verbal or email results in ahead of the written report. These results are tentative and subject to subsequent confirmation or modification during LMIHL peer review process.

LMIHL requires precise and complete instruction before it releases any reports. Any later request will require written permission from submitter.

# Free pump loan program

We loan pre-calibrated sampling pumps and accessories to customers for a period of two (2) weeks at no cost if the samples are returned to the lab for analysis. All equipment is loaned on a first-come, first-serve basis. As a result, there may be instances when the equipment is not available at the time of your request. We suggest submitting your request for equipment at least one week prior to your scheduled sampling activity.

At the end of the two week period, all equipment must be returned and collected samples sent for analysis to the LMIH Lab. Equipment not returned after the two week period will incur an equipment rental charge. Contact your local Loss Control Representative or the LMIH lab for information/questions (<u>lmihlaboratory@libertymutual.com</u> or 800-230-6263 ext. 27371) regarding your sampling needs.

### Scans

# The scans performed by the laboratory are listed below. We can also customize scans.

Aldehyde scan (Glutaraldehyde is collected and analyzed separately)							
Acetaldehyde	Benzaldehyde		Formaldehyde		Valeraldehyde		
Acrolein	n-Butyra	aldehyde	Propionaldehyde				
Aliphatic amine scan (NI	OSH 2010	))					
(Please call Lab for other aliphatic amines)							
Ethylamine		Diethylamine		Trieth	ylamine		
Aromatic amine scan							
(Please call Lab for other	aromatic	amines)					
Aniline		Methyl aniline		o-Tolu	iidine		
Anesthetic gases scan (Nitrous oxide is collected and analyzed separately)							
Desflurane (Suprane)		Halothane (Fluo	thane)	Sevof	lurane (Sevofrane)		
Enflurane (Ethrane) Isoflurane (Fora		1e)					
Inorganic acid scan							
Bromide		Fluoride		Phosp	phate		
Chloride		Nitrate	Sulfate		e		
Isocyanate scan							
Hexamethylene diisocyar	nate (HDI)		Isophorone diisocyanate (IPDI)				
4,4-Methylene bisphenyl	isocyanat	e (MDI)	2,4-Toluene diisocyanate (2,4-TDI)				
2,6-Toluene diisocyanate	(2,6-TDI)						
Metals — Liberty's 20-M	Metals — Liberty's 20-Metal scan						
Aluminum Cadmium		Lead		Tin			
Antimony	Chromiu	m	Magnesium		Titanium		
Arsenic	Cobalt		Manganese		Thallium		
Beryllium	Copper		Nickel		Vanadium pentoxide as V		
Calcium Iron		Selenium		Zinc			

Metals – 13-Metal scan (welding fume scan)						
Antimony	Cobalt		Manganese		Vanadium pentoxide as V	
Beryllium	Copper		Molybdenum		Zinc	
Cadmium	Iron		Nickel			
Chromium	Lead					
Organic acid scan						
Acetic acid	Butyric a	acid	Formic acid		Propionic acid	
Organic solvents (GC/MS	s) scan					
(Qualitative analysis. For	quantitati	ve analysis pleas	e call lab.)			
Acetone	-	Dimethyl forma	mide (DMF)	Meth	yl amyl ketone (MAK)	
Acetonitrile		1,4-Dioxane		Meth	yl cyclopentane	
Acrylonitrile		Epichlorohydrir	1	Meth	yl ethyl ketone (MEK)	
n-Amyl acetate		Ethanol		Meth	yl isoamyl ketone (MIAK)	
Benzene		Ethyl acetate		Meth	yl isobutyl ketone (MIBK)	
Sec-Butanol		Propylene alvo	ol methyl	Meth	yl propyl ketone (MPK)	
n-Butyl acetate		ether acetate (I	PGMEA)	Methyl t-butyl ether (MTBE)		
s-Butyl acetate		Propylene alvo	ol monomethyl	a-Methyl styrene		
n-Butyl acrylate		ether (PGME)		Methylene chloride		
n-Butyl alcohol		Styrene		Methyl methacrylate		
Butyl cellosolve (2-Butoxyethanol)		Tetrahydrofuran		Nitromethane		
Butyl cellosove acetate		Toluene		3-Pe	3-Pentanone (Diethyl ketone)	
Carbon tetrachloride		1,1,1-Trichlorethane		Perc	hloroethylene	
Cellosolve (2-Ethoxyetha	nol)	Propylene glyco	ol butyl ether (PGBE)	a-Pir	iene	
Cellosolve acetate		Ethyl lactate		n-Pro	opanol	
Chlorobenzene		Ethyl benzene		2-Propoxyethanol		
Chloroform		1-Ethoxy-2-propyl acetate		n-Propyl acetate		
o-Chlorotoluene		Heptane		Ethyl acrylate		
Cumene		Hexane		1,1,2-Trichloroethane		
Cyclohexanone		Isobutanol		Trichloroethylene		
Diacetone alcohol		Isobutyl acetate		1,2,4-Trimethylbenzene		
1,1-Dichloroethane		Isopropanol		1,3,5-Trimethylbenzene		
1,2-Dichloroethane		Isopropyl acetate		Vinyl acetate		
1,2-Dichloroethylene		d-Limonene		Xylene		
Diisobutyl ketone		Methyl acetate				
PNAs (NIOSH 5506)						
Acenaphthene	Benzo[b	]fluoranthene	Chrysene		Indeno[1,2,3-cd]pyrene	
Acenaphthylene	Benzo[k	fluoranthene	Dibenz[a,h]anthracene		Naphthalene	
Anthracene	Benzo[ghi]perylene		Fluoranthene		Phenanthrene	
Benz[a]anthracene	Benzo[a]pyrene		Fluorene		Pyrene	

PNAs (OSHA 58)						
Anthracene	Chrysene	Pyrene				
Benzo[a]pyrene	Phenanthrene					

# Sampling guide analyte descriptions and abbreviations

The following information is included in the Sample Guide's alphabetical listing of analytes:

Analyte	Analytes are listed by their common name in alphabetical order in this sampling guide. The synonyms are listed within parenthesis. TVOC stands for Total Volatile Organic Compounds. VM&P Naphtha stands for Varnish Makers and Painters Naphtha.
CAS#	Chemical Abstract Service number for the compound to be sampled.

# **Analytical method**

This specifies the preferred analytical method used by Liberty Mutual for the analysis of the compound.

ASTM	American Society for Testing and Materials
Ciba-Geigy	Ciba-Geigy In-House Method for 1,3,5-triglycidyl isocyanurate
DuPont	DuPont In-House Method for Perfluorooctanoic Acid
HSE MDHS	UK Health & Safety Executive Methods for the Determination of Hazardous Substances
LMI	Liberty Mutual Insurance "in-house" analytical methods
NIOSH	NIOSH Manual of Analytical Methods
OSHA	OSHA Manual of Analytical Methods
YAMATE LEVEL II	Airborne Asbestos by Transmission Electron Microscopy
Analytical technique	
AA	Atomic absorption spectrophotometry
AA-CV	Cold vapor atomic absorption spectrophotometry
EGA-TDA	Evolved gas analysis-thermo dilatometric analyzer
FTIR	Fourier Transform Infrared spectrophotometry
GC-DID	Gas chromatography with pulsed discharge ionization detector
GC-ECD	Gas chromatography with electron capture detector
GC-FID	Gas chromatography with flame ionization detector
GC-MS	Gas chromatography-mass spectrometry
GC-NPD	Gas chromatography with nitrogen phosphorus detector
GC-TCD	Gas chromatography with thermal conductivity detector
GC-XSD	Gas chromatography with halogen specific detector
GFAA	Graphite furnace atomic absorption spectrophotometry
GRAV	Gravimetric analysis
HPLC	High performance liquid chromatography
IC	lon chromatography
ICP	Inductively coupled plasma spectroscopy
ICP-MS	Inductively coupled plasma spectroscopy – mass spectrometry
ISE	Ion selective electrode

LC-MS	High performan	ce liquid chromato	graphy – mass	spectrometry
				/

- PCM Phase contrast microscopy
- PLM Polarized light microscopy
- **TEM** Transmission Electron Microscopy; Energy dispersive X-ray (EDX) analyzer
- UV/VIS UV/VIS spectrophotometry
  - **XRD** X-ray diffractometry

# Sampling media

The recommended sampling media for each of the methods in this sampling guide are:

AgMF	25mm 0.45um Silver membrane filter (SKC 225-1802)
Anasorb708	SKC Anasorb 708 sorbent tube (SKC 226-30-08)
Anasorb747	SKC Anasorb 747 sorbent tube (SKC 226-81A)
Anasorb747/Anasorb747	SKC Anasorb 747 sorbent tube in series (SKC 226-82)
Anasorb747, Treated	SKC Anasorb 747 treated with tert-Butyl catechol (SKC 575-006)
AT Monitor	Assay Technology monitor for aldehydes (N517AT)
AT N2O Monitor	Assay Technology monitor for nitrous oxide (X575AT)
Bulk	Bulk sample tube
Cellulose Nitrate,Na2CO3	Cellulose nitrate filter treated with sodium carbonate (SKC 225-9031)
Carulite	Sorbent tube for mercury, replaces Hopcalite (SKC 226-17-1A/3A)
CS106	Chromosorb 106 sorbent tube (SKC 226-111A)
СТ	Charcoal tube (SKC 226-01, 226-09)
CT-CT	2 Charcoal tubes in series
СТ, КОН	Potassium hydroxide treated Anasorb CSC coconut charcoal tube (SKC 226-67)
Cylinder	300cc Aluminum cylinder
di H2O	Deionized water
GFF	Glass fiber filter
GFF, 1-2PP	1-(2-Pyridyl)piperazine treated glass fiber filter
GFF, Acid	Sulfuric acid treated glass fiber filter
GFF, HBr	Hydrogen bromide treated glass fiber filter
GFF-Florisil	Millipore Swinnex 13 with glass fiber filter (SX0001300/-01/ AP2001300) -Florisil tube (SKC 226-39) in series
GFF, IOM	IOM sampler with glass fiber filter
GFF-SGT	Millipore Swinnex 13 with glass fiber filter (SX0001300/-01 / AP2001300) -silica gel tube (SKC 226-10) in series
GFF, NaNO2	Sodium nitrite treated glass fiber filter
GFF,Vamine	Glass fiber filter coated with 10 mg of veratrylamine
GFF- PE,HgCl2	Glass fiber filter -polyester filter treated with mercuric chloride in series (SKC 225-9018)
Ghost wipe	SKC wipe for surface lead or other metals (SKC 225-2414)
IABC	Impregnated activated beaded carbon (SKC 226-80)
Impinger 4	Midget fritted glass bubbler containing 0.02% potassium iodide in sodium carbonate/sodium bicarbonate buffer

IOM	Personal inhalable sampler developed at the Institute of Occupational Medicine (IOM) in Scotland
MCE	Mixed cellulose ester filter membrane ((Zefon 728 MCE))
MCE2	Mixed cellulose ester filter membrane, 0.8µm, 25mm (Zefon 528 MCE) Mixed cellulose nitrate (SKC 225-9032)
MCE, 25mm 0.8um	Zefon PCM air sampling cassettes with conductive cowl (ZEFON Z008BA)
MCE, 25mm 0.45um	Zefon TEM air sampling cassettes with conductive cowl (ZEFON Z045BA)
MCE,carbonate	Mixed cellulose ester filter treated with 20:1 sodium carbonate: glycerol solution
MCE-CS102	Mixed cellulose ester filter-Chromosorb 102 tube (SKC 226-104)
MCE, SGT**	Mixed cellulose ester filter – SKC specially cleaned silica gel tube (226-10-03)
ORBO 34	Supelco specially treated charcoal tube for H2S (20211)
ORBO 77	Supelco carbon beads treated with sulfuric acid for ammonia(20036)
ORBO 78	Supelco Carboxen-564 carbon molecular sieve treated with hydrogen bromide (20355)
ORBO 92	Supelco Carboxen-564 carbon molecular sieve (20362)
OVM	3M 3500 organic vapor monitor
OVM 3520	3M 3520 organic vapor monitor with backup section
OVM 3551	3M 3551 organic vapor monitor for ethylene oxide
OVS-2/GFF	SKC XAD-2/glass fiber filter sorbent tube (226-30-16 OVS)
OVS-2/QF	SKC XAD-2/quartz filter sorbent tube (226-58 OVS)
OVS-7	SKC XAD-7/glass fiber filter sorbent tube (226-57 OVS)
OVS-Tenax	SKC tenax/glass fiber filter sorbent tube (226-56 OVS)
Oxidizer	SKC oxidizer with TEA-IMS for nitric oxide sampling
PS	SKC 520 inorganic mercury passive sampler (520-02A/03)
Paint chips	Paint chips sample in polyethylene bag
Porapak-P	SKC Porapak-P tube (226-114)
Porapak-Q	SKC Porapak-Q tube (226-115)
PTFE	25mm 0.5um Polytetrafluoroethylene (PTFE) filter (SKC 225-1708)
PTFE1	37mm 1.0um Polytetrafluoroethylene (PTFE) filter (Zefon FPTFE137)
PTFE3	37mm 5.0um Polytetrafluoroethylene (PTFE) filter (SKC 225-17A)
PTFE4	PALL Life Sciences 47mm, 0.45um polytetrafluoroethylene (Teflon) filter (TF-450, P/N 66149)
PTFE5	25mm 1.0um Polytetrafluoroethylene (PTFE) filter (SKC 225-2714)
PTFE-SGT	Teflon filter-silica gel tube in series
PTFE/XAD2	Teflon filter-XAD-2 tube in series
PTFE-AgMF	SKC polytetrafluoroethylene (Teflon) filter-silver membrane filter in series (225-1708) (225-1802)
PVC	37mm 5.0um pre-weighed polyvinyl chloride filter (SKC 225-5-37-P)
PVC-KOH	Polyvinyl chloride filter- Midget fritted glass bubbler containing 0.1 N potassium hydroxide in series
QFF	Quartz fiber filter (Millipore AQFA03700)
QFF, titanium oxysulfate	Quartz fiber filter (SKC 225-9030)
QFF, Na2CO3	Quartz fiber filter (Millipore AQFA03700) treated with sodium carbonate (SKC 225-9032)

Sep-Pak	Waters dinitrophenylhydrazine (DNPH) treated cartridge for aldehydes (WAT047205)
SGT	Silica gel tube (SKC 226-10) with sorbent 75/150 mg
SGT	Silica gel tube (SKC 226-51) with sorbent 50/100 mg
SGT**	SKC specially cleaned silica gel tube (226-10-03)
SGT/GFF	SKC silver nitrate coated silica gel tube with GFF coated with Na2CO3/glycerol) (SKC 226-177)
SGT,Acid	SKC sulfuric acid treated silica gel tube (226-10-06)
SGT, DNPH	SKC dinitrophenylhydrazine impregnated silica gel tube (226-119)
SGT/GFF-SGT/GFF	2 specially washed and dried silica gel tubes in series (SKC 226-183)
SGT, HgCl2	SKC mercuric chloride coated silica gel tube (226-10-02)
Soda Lime	SKC soda lime tube (226-210)
TEA-IMS	Triethanolamine-impregnated molecular sieve tube (SKC 226-40-02 / 226-40A with oxidizer)
Tenax	SKC tenax tube (226-35/226-35-01)
Whatman 42	Whatman 1442-070
XAD-2	SKC sorbent tube (226-30/226-30-04/226-30-06)
XAD-2,NITC	SKC sorbent tube coated with 10% 1-naphthylisothiocyanate (NITC) (226-30-18)
XAD-2,p-An	SKC sorbent tube (50/100) coated with 0.5mg of p-Anisidine (226-30-07)
XAD-7	SKC sorbent tube (226-95)
XAD-7, Acid	SKC XAD-7 sorbent (1,2-Dichloroethane) t tube treated with 10% phosphoric acid (226-98)

### Sampling rate (flow rate)

For passive monitors (OVM and AT monitor): cc/min. For all other compounds listed in the guide: liters per minute (lpm).

The sampling time in minutes for passive monitors and the sampling volume range indicates the minimum and maximum volume in liters. For bulk samples, the amount needed is listed in grams in this column. Minimum volumes are typically calculated to allow quantification at 10% of the occupational exposure limits unless otherwise stated.

# LOQ (Limit of Quantitation)/LOD (Limit of Detection)

Limit of Quantification and Limit of Detection are reported to two significant digits: %-Percent for bulk sample, fib/fld- Fibers per field, and µg- Micrograms/sample.

# **Compatibility code**

This code indicates analytes that can be collected and analyzed simultaneously on a single sample. The absence of a code means that the analyte is not compatible with other analytes and would need to be collected on separate samples. The codes are as follows:

1%DMF/CS<sub>2</sub> Desorption in 1% dimethylformamide in carbon disulfide 1%IPA/CS<sub>2</sub> Desorption in 1% isopropanol in carbon disulfide 1%PRO/CS<sub>2</sub> Desorption in 1% n-propanol in carbon disulfide **5%IPA** Desorption in 5% isopropanol in deionized water Desorption in 5% isopropanol in carbon disulfide 5% IPA/ CS<sub>2</sub> 5%PRO/CS<sub>2</sub> Desorption in 5% n-propanol in carbon disulfide 95%EtOH Desorption in 95% ethanol in deionized water AC/CS<sub>2</sub> Desorption in 2% acetone in carbon disulfide AC/MeOH Desorption in 1% methanol in acetone

Acid1	Inorganic acids group 1 (see List of Scans for Inorganic Acids)
Acid2	Organic acids group 2 (formic acid, acetic acid, butyric acid, and propionic acid)
ACN	Desorption in acetonitrile
ACN/TOL	Desorption in 50% acetonitrile/toluene
ACN/DMSO	Desorption in 90% acetonitrile/dimethylsulfoxide
Acetone	Desorption in acetone
Aldehyde	Aldehyde group
Amine1	Aliphatic amine group by GC-FID
Amine2	Aliphatic amine group by HPLC
Amine3	Aromatic amine group
Benzene	Desorption in benzene
BUT/CS <sub>2</sub>	Desorption in 1% 2-butanol in carbon disulfide
CCl <sub>4</sub>	Desorption in carbon tetrachloride
Cl <sub>2</sub> &Br <sub>2</sub>	Chlorine and bromine
CS <sub>2</sub>	Desorption in carbon disulfide
dil acid	Diluted sulfuric acid
DMF/CS <sub>2</sub>	Desorption in 50% dimethylformamide in carbon disulfide
EA	Ethanolamine/diethanolamine/triethanolamine
Ethyl Acetate	Desorption in ethyl acetate
Ethyl Ether	Desorption in ethyl ether
FA	Desorption in formic acid
Isocyanate	Isocyanate and diisocyanate group
MC	Desorption in methylene chloride
MeOH	Desorption in methanol
MeOH/CS <sub>2</sub>	Desorption in 1% methanol in carbon disulfide
%MeOH/MC	Desorption in mixture of methanol and methylene chloride
Metals	Metal group by either NIOSH 7301 or OSHA ID-125G
Metal1	Compatible metal group by modified NIOSH 7300 method
Metal2	Compatible metal group by modified OSHA ID-121 method
NO&NO <sub>2</sub>	Nitric oxide and nitrogen dioxide
Phenol&cresol	Phenol and cresol group
PNAs	Polynuclear aromatic hydrocarbons
Silica	Silica by XRD
Tol	Desorption in toluene

# Interferences

This column lists the possible interferences as stated in the analytical method.

### Comments

This column contains special instructions for sample collection and handling.

### Notes for gas analysis in comments

#### Note 1, Breathing air: Grade D and Grade E, Collected in Cylinders

Use when sampling a compressed gas line at 50 psig (i.e., before it goes into the regulator of the SCBA). If the pressure is lower than 50 psig, be sure to record the line pressure. This method reports CO,  $CO_2$ ,  $&O_2$ , total hydrocarbons as  $CH_4$  (TH), total halogenated hydrocarbons as  $CCI_4$  (HH) and dew point (DP) in ppm and degrees F at 0 psig. See Procedure for Removing the Cylinder and LOQ at end of notes. Gravimetric analysis for condensed oil (total particulate) requires a 47mm Teflon filter.

#### Note 2, Medical gases - Contamination (NFPA 99)

Use when sampling a compressed medical gas line at 50 psig. When testing medical air, this method reports CO,  $CO_2$ ,  $&O_2$ , total hydrocarbons as  $CH_4$  (TH), total halogenated hydrocarbons as  $CCI_4$  (HH) and dew point (DP) in ppm and degrees C at 50 psig. When testing nitrogen, this method reports CO,  $CO_2$ , total hydrocarbons as  $CH_4$  (TH), total halogenated hydrocarbons as  $CCI_4$  (HH) and dew point (DP) in ppm and degrees C at 50 psig. When testing nitrogen as  $CCI_4$  (HH) and dew point (DP) in ppm and degrees C at 50 psig. For oxygen, this method reports the same as medical air, except dew point. For nitrous oxide, this method reports CO, &Air and total halogenated hydrocarbons as  $CCI_4$ . See Procedure for Removing the Cylinder and LOQ at end of notes. Gravimetric analysis for condensed oil (total particulate) requires a 47-mm Teflon filter. The minimum sampling time for the gravimetric sample is 10 minutes in order to sample at least 1000 liters of gas, at 50 psig.

### Procedure for removing the cylinder

A common mistake is removing the cylinder and the "A" fixture together. The correct steps are: Remove fixture "B." The pop-off valve will activate. Remove the cylinder from fixture "A", then remove fixture "A" from the gas line. Please refer to sampling instructions. Failure to follow the sampling instructions will result in the cylinder not being pressurized. **Samples that are not pressurized cannot be analyzed.** 

	Grav.	Air	СО	<b>CO</b> <sub>2</sub>	Dew Pt	<b>0</b> <sub>2</sub>	тн	нн
GAS	µg/s	%	ppm	ppm	see notes	%	ppm	ppm
Grade D&E	50	NA	0.50	25	200ppm, -32.6°F	0.30	0.50	0.50
Medical Air	50	NA	0.50	25	200ppm, -21.5°C	0.30	0.50	0.50
Nitrogen	50	NA	0.50	25	200ppm, -21.5°C	NA	0.50	0.50
Oxygen	50	NA	0.50	25	NA	0.30	0.50	0.50
Nitrous Oxide	50	0.15	0.50	NA	NA	NA	NA	0.50

### Limits of quantification

# Fee schedule for common analyses

This fee schedule gives a listing of prices for the most frequently requested analyses, effective May 1, 2021 to December 2022. If the analysis you require is not listed, please contact us for a price estimate.

Metals	First	Additional
Common metals by ICP <sup>1,4</sup>	\$36	\$26
Beryllium oxide	\$55	
Chromium VI (paint) <sup>1</sup>	\$100	
Chromium VI ( soluble) <sup>1</sup>	\$75	
13 metal scan (welding fume scan) <sup>1,2,4</sup>	\$150	
20 metal scan <sup>1,2,4</sup>	\$190	

# Microscopy

Asbestos fiber count (PCM)	\$35	
Asbestos fiber identification (PLM)	\$40	

# **Gravimetric analysis**

Dust (carbon black (NIOSH 5000), oil mist, respirable, welding fume)	\$27	
Inhalable dust <sup>3</sup>	\$35	
Condensed oil/particulate	\$50	

# High performance liquid chromatography (HPLC)

Common HPLC (aldehydes & isocyanates)	\$95	\$45
Anhydrides (maleic & trimellitic) <sup>3</sup>	\$100	\$50
Amines (if collected on NITC tubes) <sup>3</sup>	\$90	\$45
Aldehyde scan	\$230	
Isocyanate scan	\$190	
Pharmaceuticals <sup>3</sup>	\$110	\$50

# Ion chromatography (IC)

Common IC (inorganic acids, anion & cation) <sup>4</sup>	\$65	\$44
Chlorine dioxide <sup>3</sup>	\$80	
Chlorine & bromine <sup>3</sup>	\$85	
Fluorides (gaseous and particulate) <sup>3,4</sup>	\$115	
Organic acids (such as formic, acetic, butyric, lactic, propionic)	\$70	\$44
Inorganic and organic acid scan	\$165	

Silica (by XRD)	Air	Bulk	
Quartz	\$70	\$100	
Quartz and cristobalite	\$85	\$130	
Quartz, Cristobalite and tridymite	\$105	\$140	

# Solvents

Common solvents	First	Additional
Solid sorbent tubes (CT, SGT, etc.)	\$55	\$32
Organic vapor monitors (3M 3500/ 3520)	\$72	\$32
GC/MS Scan (15 analytes quantified)	\$250	

#### **Other solvents**

Amines <sup>3</sup>	\$85	\$50
Diacetyl or acetoin	\$95	\$45
Ethylene oxide (sorbent tube/passive monitor)	\$105/\$120	
Glycols and phthalates	\$105	\$120
Organo sulfur compounds <sup>3</sup>	\$105	\$55
Mixtures on tubes or sorbent tubes in series	\$70	\$32
PCBs <sup>3</sup>	\$90	\$45
1,3,5 Triglycidyl isocyanurate <sup>3</sup>	\$105	

# **Special methods analyses**

Aminoethanols	\$88	\$45
Asphalt fume (NIOSH 5042)	\$75	
Carbon black (OSHA 196)	\$80	
Coal tar pitch volatile, BSF	\$90	
Cyanide (NIOSH 7904)	\$75	
Gas analysis (medical and Grade D Air)	\$165	
Hydrogen peroxide (OSHA VI-6)/filter <sup>4</sup>	\$90	
Metal working fluids (NIOSH 5524)	\$80	
Oil mist mineral by FTIR (NIOSH 5026) <sup>3</sup>	\$75	
PNA scan (NIOSH 5506)	\$280	
PNA scan (OSHA 58)	\$190	
Specialty metals by ICP	\$55	\$32
Specialty metals by AA (includes mercury)	\$65	\$32
Metals by ICP/MS <sup>3</sup>	\$50	\$32
Organic tin <sup>3</sup>	\$80	
Ozone	\$70	

# Prices are subject to change without notice.

# **Special charges**

- 1. Preparation charge applies to bulk and wipes: \$10 per sample.
- 2. Customized reporting: \$40 per report.
- 3. Three sample minimum required.
- 4. Media charge applies to some specialty media such as PPI and treated filters.

### Method development/validation

We partner with our customers to develop new methods for analytical testing, as well as validate existing methods. Please contact the lab for quote on method development or validation costs.

#### **Sample blanks**

Sample blanks are recommended for all sampling activities and are charged at the same rate as the sample.

#### Sampling guide

Sampling Guide provides further information about air sampling and our lab services. The Sampling Guide may be accessed by contacting the lab (lmihlaboratory@libertymutual.com) or for our policy holders via Liberty Mutual SafetyNet<sup>™</sup>.

#### **Terms and conditions**

The following statements describes the terms and conditions under which the Liberty Mutual Industrial Hygiene Laboratory (LMIHL) operates.

The client is responsible for the condition and custody of all samples prior to receipt, inspection and acceptance by LMIHL.

Methods used by LMIHL to analyze your samples are compliant with NIOSH, OSHA and other regulatory agencies. LMIHL reserves the right to interpret these methodologies when applying them to the analysis of client's samples based on reasonable, professional judgment of LMIHL personnel and recognized industry standards.

LMIHL reserves the right to use our standard template in reporting analytical results. Where reasonable, we will make every effort to honor requests for special hardcopy or electronic formats if requested in advance. LMIHL requires authorization in writing when requesting additional distribution of lab reports to other than the client

LMIHL may release reports upon the request of the client either verbally or by email. Such reports are considered tentative and may be subject to modification after completion of QA/QC review.

Report will only contain analytical data. LMIHL is not in the position to interpret data as they pertain to regulations, calculation of time-weighted average exposures from analytical results, etc.

#### **Equipment rental**

Inhalable Samplers: \$20 each per week (two week maximum); Calibrator adaptor: \$10 per week additional.

#### Sampling devices and media

Sampling pumps and compressed gas analysis media

Pre-calibrated air sampling pumps and gas analysis (Grade D, E or Medical Gas) air sampling equipment are loaned at no charge for two weeks. At least one week notice prior to your "need by date" is required by the lab. After two weeks, charges of \$15 per day, per pump, or per gas cylinder or filter will apply.

#### **Return policy**

Media is provided at no cost when returned to laboratory for analysis within 30 days. After 30 days, unreturned media will be invoiced at cost plus shipping. Returned unused specialty media that cannot be reused (isocyanates filters, aldehyde badges, sorbent tubes, ozone filters, etc.) will be charged at cost plus shipping.

#### Shipping

UPS ground shipping within the 48 states is provided for sampling media at no extra charge. Return shipping is the client's responsibility. Rush and international shipping charges will be added to analysis fees. Media orders for same day shipping must be submitted by 2 p.m. Eastern Time, Monday through Friday. Media requiring cold shipping cannot be delivered over the weekend. Order the media by contacting the lab.

#### **Common analytes**

**Common aldehydes:** Acetaldehyde, acrolein, formaldehyde, benzaldehyde, butyraldehyde, valeraldehyde, and propionaldehyde.

**Common Isocyanates:** Hexamethylene diisocyanate (HDI), Isophorone diisocyanate (IPDI), Methylene bisphenyl isocyanate (MDI), Toluene-2,4-diisocyanate (2,4-TDI), Toluene-2,6-diisocyanate (2,6-TDI).

**Common metals:** Aluminum, Antimony, Arsenic, Barium, Beryllium, Calcium, Cadmium, Chromium, Cobalt, Copper, Iron, Lanthanum, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Platinum, Potassium, Selenium, Sodium, Silver, Strontium, Tellurium, Tin, Titanium, Thallium, Vanadium, Zinc, Zirconium

**Specialty metals:** Arsenic Trioxide, Arsine, Beryllium Oxide, Bismuth, Boron, Gallium, Germanium, Germane, Gold, Indium, Palladium, Phosphine, Rhodium, Silane, Titanium dioxide, Tungsten, Yttrium

Welding fume: Includes antimony, beryllium, cadmium, chromium, cobalt, copper, iron, lead, manganese, molybdenum, nickel, vanadium, zinc.

**20 metal scan:** Aluminum, Antimony, Arsenic, Beryllium, Calcium, Cadmium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Nickel, Selenium, Tin, Titanium, Thallium, Vanadium, Zinc. Can be customized. Please contact lab.

**Inorganic acid scan:** hydrogen bromide, hydrogen chloride, hydrogen fluoride, nitric acid, phosphoric acid, sulfuric acid.

Organic acid scan: acetic acid, butyric acid, formic acid, propionic acid.

Organo sulfur compounds: carbon disulfide, dimethyl sulfide, etc.

Solvent mixtures: mineral spirits, naphthas, Stoddard solvents, TVOC, kerosene, etc.

# **Alphabetical list of analytes**

- 22 Acenaphthene (see PNA scan)
- 22 Acenaphthylene (see PNA scan)
- 22 Acetaldehyde
- 22 Acetaldehyde
- 23 Acetic Acid
- 23 Acetic Acid
- 23 Acetic Anhydride
- 23 Acetone
- 24 Acetone
- 24 Acetonitrile
- 24 Acetonitrile
- 24 Acrolein
- 25 Acrolein
- 25 Acrolein
- 25 Acrylamide
- 25 Acrylic Acid
- 26 Acrylonitrile (Vinyl Cyanide)
- **26** Acrylonitrile (Vinyl Cyanide)
- 26 Aldehyde scan
- 26 Aliphatic Amine scan
- 27 Allyl Alcohol
- 27 Allyl Alcohol
- 27 Allyl Bromide
- 27 Allyl Bromide
- 27 Allyl Chloride
- 28 Allyl Chloride
- **28** Aluminum Metal and insoluble compounds
- 28 Aluminum Oxide
- 28 Amines, Aliphatic (see scan for aliphatic amines)
- 29 Amines, Aromatic (see scan for aromatic amines)
- 29 Ammonia
- 29 Ammonium Chloride Fume
- 29 Amyl Acetate
- 30 Amyl Acetate
- 30 Anesthetic Gases scan
- 30 Aniline

- **30** Anthracene (see PNA scan)
- 31 Anthracene (see PNA scan)
- 31 Antimony and compounds as Sb
- 31 Antimony and compounds as Sb
- 31 Aromatic 100
- 32 Aromatic Amine scan
- 32 Arsenic and inorganic compounds, as As
- 32 Arsenic and inorganic compounds, as As
- **32** Arsenic and inorganic compounds, as As
- 33 Arsenic Trioxide as As
- 33 Arsine
- 33 Arsine
- 33 Asbestos (bulk), all forms
- 34 Asbestos (Fibers)
- 34 Asbestos, all forms
- 34 Asbestos, all forms
- 34 Asphalt Fume
- 35 Asphalt Fume as Benzene-Soluble Aerosol
- 35 Barium and soluble compounds as Ba
- 35 Benz[a]anthracene (see PNA scan)
- 35 Benzaldehyde
- 36 Benzaldehyde
- 36 Benzaldehyde
- 36 Benzene
- 36 Benzene
- **37** Benzo[a]pyrene (see PNA scan)
- 37 Benzo[a]pyrene (see PNA scan)
- **37** Benzo[b]fluoranthene (see PNA scan)
- 37 Benzo[e]pyrene
- **38** Benzo[ghi]perylene (see PNA scan)
- **38** Benzo[k]fluoranthene (see PNA scan)
- 38 Benzyl Alcohol
- 38 Benzyl Alcohol
- 39 Benzyl Chloride
- 39 Benzyl Chloride
- **39** Beryllium and compounds as Be
- **39** Beryllium and Compounds as Be
- 40 Beryllium and Compounds as Be

- 40 Biphenyl (Diphenyl)
- 40 Bismuth
- 40 Bisphenol A
- 41 Borate compounds, inorganic
- 41 Breathing Air Grade D, Grade E
- 41 Bromine
- 41 Bromo(1-)-2-Chloroethane
- 42 Bromoform
- 42 Bromoform
- 42 Bromopropane(1-)
- **42** Bromopropane(1-)
- 42 Butadiene(1,3-)
- 43 Butadiene(1,3-)
- **43** Butanedione(2,3-); (Butadione(2,3-), Diacetyl, Diketobutane, Dimethyl Diketone, Dimethylglyoxal)
- **43** Butanone(2-); (Methyl Ethyl Ketone)
- 43 Butanone(2-); (Methyl Ethyl Ketone)
- **44** Butoxyethanol(2-); (Butyl Cellosolve); (EGBE)
- **44** Butoxyethanol(2-); (Butyl Cellosolve); (EGBE)
- 44 Butoxyethoxy(2-(2-)) Ethanol
- 44 Butoxyethoxy(2-(2-)) Ethyl Acetate
- 44 Butoxyethyl(2-) Acetate; (Butyl Cellosolve Acetate); (EGBEA)
- 45 Butoxyethyl(2-) Acetate; (Butyl Cellosolve Acetate); (EGBEA)
- 45 Butyl Acrylate
- 45 Butyl Acrylate
- 45 Butyl Cellosolve Acetate; (2-Butoxyethyl acetate); (EGBEA)
- 45 Butyl Cellosolve Acetate; (2-Butoxyethyl acetate); (EGBEA)
- **46** Butyl Cellosolve; (2-Butoxyethanol); (EGBE)
- **46** Butyl Cellosolve; (2-Butoxyethanol); (EGBE)
- 46 Butyl(n-) Acetate
- 46 Butyl(n-) Acetate
- 46 Butyl(n-) Alcohol
- 47 Butyl(n-) Alcohol
- 47 Butyl(n-) Glycidyl Ether
- 47 Butyl(n-) Glycidyl Ether
- 47 Butyl(sec-) Acetate
- 47 Butyl(sec-) Acetate
- 48 Butyl(sec-) Alcohol
- 48 Butyl(sec-) Alcohol
- 48 Butyl(tert-) Acetate
- 48 Butyl(tert-) Acetate
- 48 Butyl(tert-) Alcohol
- 49 Butyl(tert-) Alcohol
- **49** Butyraldehyde(n-)
- **49** Butyraldehyde(n-)
- **49** Butyraldehyde(n-)
- 50 Butyric Acid

- 50 Cadmium and compounds as Cd
- 50 Cadmium and compounds as Cd
- 50 Cadmium and compounds as Cd
- 51 Calcium
- 51 Calcium Carbonate
- 51 Calcium Carbonate
- 52 Calcium Hydroxide
- 52 Calcium Oxide
- 52 Calcium Oxide
- 53 Calcium Silicate Synthetic Nonfibrous
- 53 Calcium Sulfate (Gypsum)
- 53 Camphor
- 53 Camphor
- 53 Caprolactam
- 54 Carbaryl (SEVIN)
- 54 Carbon Black
- 54 Carbon Black
- 54 Carbon Disulfide
- 55 Carbon Disulfide
- 55 Carbon Tetrachloride (tetrachloromethane)
- 55 Carbon Tetrachloride (tetrachloromethane)
- **55** Cellosolve (2-Ethoxyethanol)
- 56 Cellosolve (2-Ethoxyethanol)
- 56 Ceramic Fibers
- 56 Chlorine
- 56 Chlorine Dioxide
- 57 Chloro(2-)naphthalene
- 57 Chlorobenzene
- 57 Chlorobenzene
- 57 Chlorodiphenyl (Polychlorobiphenyl, 42% Chlorine)
- 58 Chlorodiphenyl (Polychlorobiphenyl, 54% Chlorine)
- 58 Chloroform (Trichloromethane)
- 58 Chloroform (Trichloromethane)
- 58 Chlorophenol(p-)
- 58 Chloroprene(beta-); (2-Chloro-1,3-butadiene)
- 59 Chloroprene(beta-); (2-Chloro-1,3-butadiene)
- **59** Chlorotoluene(o-)
- **59** Chlorotoluene(o-)
- 59 Chlorpyrifos (Dursban)
- 60 Chromium and Inorganic Compounds as Cr
- 60 Chromium and Inorganic compounds as Cr
- 60 Chromium and Inorganic compounds as Cr
- 61 Chromium, Hexavalent compounds as Cr
- 61 Chromium, Hexavalent Compounds as Cr
- 61 Chrysene (see PNA scan)
- 62 Chrysene (see PNA scan)
- 62 Coal Dust Anthracite
- 62 Coal Dust Bituminous
- 62 Coal Tar Pitch Volatiles, as Benzene Soluble Aerosol

- 63 Cobalt and Inorganic compounds as Co
- 63 Cobalt and Inorganic compounds as Co
- 63 Cobalt and Inorganic compounds as Co
- 64 Copper (Fume, Dusts and Mists) as Cu
- 64 Copper (Fume, Dusts and Mists) as Cu
- 64 Copper (Fume, Dusts and Mists) as Cu
- 65 Cotton Dust, Raw
- 65 Cresol, all Isomers
- 65 Cumene
- 65 Cumene
- 66 Cyclohexane
- 66 Cyclohexane
- 66 Cyclohexanol
- 66 Cyclohexanol
- 66 Cyclohexanone
- 67 Cyclohexanone
- 67 Cyclohexylamine
- 67 Cyclopentane
- 67 Cyclopentane
- 68 Desflurane (Suprane)
- 68 Desflurane (Suprane)
- 68 Diacetone Alcohol (4-Hydroxy-4-methyl-2-pentanone)
- 68 Diacetone Alcohol (4-Hydroxy-4-methyl-2-pentanone)
- 69 Diacetyl (Biacetyl, 2,3-Butadione, 2,3-Butanedione, Diketobutane, Dimethyl Diketone, Dimethylglyoxal)
- 69 Dibenzo[a,h]anthracene (see PNA scan)
- 69 Dibromochloropropane (DBCP)
- 69 Dibutyl Ether
- 70 Dibutyl Phthalate
- 70 Dichlorobenzene(o-)
- 70 Dichlorobenzene(o-)
- 70 Dichlorobenzene(p-)
- 70 Dichlorobenzene(p-)
- 71 Dichloroethane(1,1)
- **71** Dichloroethane(1,1)
- 71 Dichloroethylene(1,2-)(trans); (Acetylene dichloride)
- 71 Dichloroethylene(1,2-)(cis); (Acetylene dichloride)
- 71 Dichloroethylene(1,2-)(cis); (Acetylene dichloride)
- 72 Dichloroethylene(1,2-)(trans); (Acetylene dichloride)
- 72 Dichloromethane (Methylene chloride)
- 72 Dichloromethane (Methylene chloride)
- 72 Diesel Exhaust
- 73 Diethanolamine
- 73 Diethyl Ketone (3- Pentanone)
- 73 Diethyl Ketone
- 73 Diethyl Phthalate

- 73 Diethyl Sulfate
- 74 Diethylamine
- 74 Diethylenetriamine
- 74 Diglycidyl Ether of Bisphenol A
- 74 Dimethyl Acetamide
- 75 Dimethyl Acetamide
- **75** Dimethyl Disulfide
- 75 Dimethyl Sulfide
- 75 Dimethyl(2,6-)-4-heptanone (Diisobutyl ketone)
- 75 Dimethyl(2,6-)-4-heptanone (Diisobutyl ketone)
- 76 Dimethylformamide
- 76 Dimethylformamide
- 76 Dioctyl Phthalate
- 76 Dioxane(p-)
- 76 Dioxane(p-)
- 77 Diphenyl (Biphenyl)
- 77 Dipropylene Glycol Methyl Ether (DPGME)
- 77 Dipropylene Glycol Methyl Ether (DPGME)
- 77 Dipropylene Glycol Methyl Ether Acetate (DPGMEA)
- 77 Divinyl Benzene
- 78 Divinyl Benzene
- 78 Enflurane (Ethrane)
- 78 Enflurane (Ethrane)
- **78** Epichlorohydrin (1-Chloro-2,3-epoxy propane)
- 78 Epichlorohydrin (1-Chloro-2,3-epoxy propane)
- 79 Ethanolamine (2-Aminoethanol)
- 79 Ethoxyethanol(2-) (Cellosolve)
- 79 Ethoxyethanol(2-) (Cellosolve)
- 79 Ethoxyethyl(2-) Acetate (Cellosolve acetate)
- 79 Ethoxyethyl(2-) Acetate (Cellosolve acetate)
- 80 Ethyl 2-cyanoacrylate
- 80 Ethyl 3-ethoxypropionate
- 80 Ethyl 3-ethoxypropionate
- 80 Ethyl Acetate
- 80 Ethyl Acetate
- 81 Ethyl Acrylate
- 81 Ethyl Acrylate
- 81 Ethyl Alcohol (Ethanol)
- 81 Ethyl Alcohol (Ethanol)
- 82 Ethyl Benzene
- 82 Ethyl Benzene
- 82 Ethyl Ether
- 82 Ethyl Ether
- 83 Ethyl Lactate
- 83 Ethyl Methacrylate
- 83 Ethylamine
- 83 Ethylene Chlorohydrin (2-Chloroethanol)

- 84 Ethylene Chlorohydrin (2-Chloroethanol)
- 84 Ethylene Dichloride (1,2-Dichloroethane)
- **84** Ethylene Dichloride (1,2-Dichloroethane)
- 84 Ethylene Glycol
- 84 Ethylene Oxide
- 85 Ethylene Oxide
- 85 Ethylene Oxide
- 85 Ethylenediamine
- 85 Flour Dust
- 86 Fluoranthene (see PNA scan)
- 86 Fluorene (see PNA scan)
- 86 Fluorides, Particulate/Hydrogen Fluoride
- **86** Forane (Isoflurane)
- 87 Forane (Isoflurane)
- 87 Formaldehyde
- 87 Formaldehyde
- 87 Formaldehyde
- 88 Formamide
- 88 Formic Acid
- 88 Furfural
- 88 Furfuryl Alcohol
- 89 Gasoline
- 89 Gasoline
- 89 Germanium
- 89 Glutaraldehyde
- 90 Glutaraldehyde
- 90 Glutaraldehyde
- 90 Gold
- 90 Grain Dust
- 91 Graphite
- 91 Halothane (Fluothane)
- 91 Halothane (Fluothane)
- 91 Heptane
- 91 Heptane
- 92 Heptanone(2-) (Methyl Amyl Ketone)
- 92 Heptanone(2-) (Methyl Amyl Ketone)
- 92 Hexamethylene Diisocyanate (1,6-) Homopolymer (HDI Homo)
- 92 Hexamethylene Diisocyanate (1,6-) Homopolymer (HDI Homo)
- 93 Hexamethylene Diisocyanate (1,6-) (HDI)
- **93** Hexamethylene Diisocyanate (1,6-) (HDI)
- 93 Hexane(n-)
- 93 Hexane(n-)
- 94 Hexyl Acrylate
- 94 Hexylene Glycol (2-Methyl-2,4-pentanediol)

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- 94 Hydrazine
- 94 Hydrogen Bromide
- 95 Hydrogen Bromide
- 95 Hydrogen Chloride
- 95 Hydrogen Chloride
- 95 Hydrogen Cyanide

- 96 Cyanide Salts as CN
- 96 Hydrogen Fluoride, as F
- 96 Hydrogen Peroxide
- 96 Hydrogen Sulfide
- **97** Hydroquinone (Dihydroxybenzene)
- **97** Hydroquinone (Dihydroxybenzene)
- 97 Indium and Compounds as In
- 97 Inorganic Acid Scan
- 98 lodine and lodides as l
- 98 Iron Oxide
- 98 Iron Oxide
- 98 Iron
- 99 Isobutyl Acetate
- 99 Isobutyl Acetate
- 99 Isobutyl Alcohol
- 99 Isobutyl Alcohol
- 100 Isocyanate Scan
- **100** Isoflurane (Forane)
- **100** Isoflurane (Forane)
- 100 Isooctane
- 100 Isooctane
- 101 Isophorone
- 101 Isophorone
- **101** Isophorone Diisocyanate (IPDI)
- **101** Isophorone Diisocyanate (IPDI)
- **102** Isopropyl Acetate
- **102** Isopropyl Acetate
- 102 Isopropyl Alcohol (Isopropanol)
- 102 Isopropyl Alcohol (Isopropanol)
- 103 Kaolin
- 103 Kerosene
- 103 Kerosene
- 103 Lactic Acid
- 104 Lanthanum
- 104 Lead and Inorganic Compounds as Pb
- 104 Lead and Inorganic Compounds as Pb
- 104 Lead and Inorganic Compounds as Pb
- 105 Lead and Inorganic Compounds as Pb
- **105** Lead Chromate as Cr(VI)
- 105 Limonene(d-)
- 105 Limonene(d-)
- 106 Lithium Salts
- 106 Magnesium
- **106** Magnesium Oxide
- 107 Magnesium Oxide
- 107 Magnesium Oxide
- 107 Maleic Anhydride
- **107** Maleic Anhydride
- 108 Manganese, Elemental and Inorganic compounds as Mn
- 108 Manganese, Elemental and Inorganic compounds as Mn

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- 108 Manganese, elemental and Inorganic compounds as Mn
- 109 Medical Gases
- **109** Mercury as Hg (Elemental and inorganic forms)
- 109 Mercury as Hg (Elemental and inorganic forms)
- 109 Mercury as Hg Particulate
- 110 Mesityl Oxide
- 110 Metalworking Fluids
- 110 Methanol (Methyl alcohol)
- 110 Methanol (Methyl alcohol)
- 111 Methoxy(1-)-2-propanol (Propylene glycol monomethyl ether, PGME)
- 111 Methoxy(1-)-2-propanol (Propylene glycol monomethyl ether, PGME)
- 111 Methoxyethanol(2-) (Methyl cellosolve, EGME)
- 111 Methoxyethanol(2-) (Methyl cellosolve, EGME)
- 111 Methoxyethoxy(2-(2-)) Ethanol (Diethylene glycol methyl ether)
- 112 Methoxyethoxy(2-(2-)) Ethanol (Diethylene glycol methyl ether)
- 112 Methoxyethyl(2-) Acetate (Methyl cellosolve acetate, EGMEA)
- 112 Methoxyethyl(2-) Acetate (Methyl cellosolve acetate, EGMEA)
- 112 Methoxyethyl(2-) Ether (Diethylene glycol dimethyl ether)
- 112 Methoxyethyl(2-) Ether (Diethylene glycol dimethyl ether)
- 113 Methyl Acetate
- 113 Methyl Acetate
- 113 Methyl Acrylate
- 113 Methyl Acrylate
- 114 Methyl Alcohol (Methanol)
- 114 Methyl Alcohol (Methanol)
- 114 Methyl Amyl Ketone (2-Heptanone)
- 114 Methyl Amyl Ketone (2-Heptanone)
- 115 Methyl Aniline
- **115** Methyl Chloroform (1,1,1-Trichloroethane)
- **115** Methyl Chloroform (1,1,1-Trichloroethane)
- 115 Methyl Cyclopentane
- 115 Methyl Cyclopentane
- 116 Methyl Ethyl Ketone (2-Butanone, MEK)
- 116 Methyl Ethyl Ketone (2-Butanone, MEK)
- 116 Methyl Isoamyl Ketone
- 116 Methyl Isoamyl Ketone
- 116 Methyl Isobutyl Ketone (MIBK)
- 117 Methyl Isobutyl Ketone (MIBK)
- 117 Methyl Isopropyl Ketone
- 117 Methyl Isopropyl Ketone
- 117 Methyl Methacrylate

- 117 Methyl Propyl Ketone (2-Pentanone)
- 118 Methyl Propyl Ketone (2-Pentanone)
- 118 Methyl Styrene(a-)
- 118 Methyl Styrene(a-)
- 118 Methyl Tert-butyl Ether (MTBE)
- **119** Methyl Tert-butyl ether (MTBE)
- 119 Methyl Vinyl Ketone
- 119 Methyl(1-)-2-pyrrolidinone
- 119 Methyl(1-)-2-pyrrolidinone
- 120 Methylacrylonitrile
- 120 Methylcyclohexane
- 120 Methylcyclohexane
- 120 Methylene Bis(4-
- cyclohexylisocyanate) (HMDI)
- 121 Methylene Bisphenyl Isocyanate (MDI)
- 121 Methylene Bisphenyl Isocyanate (MDI)
- 121 Methylene Chloride (Dichloromethane)
- **121** Methylene Chloride (Dichloromethane)
- **122** Methylene(4,4'-) Dianiline (MDA)
- 122 Methylene(4,4'-)-bis(2 chloroaniline) (MOCA)
- 122 Methylnaphthalene(2-)
- 122 Mica
- 123 Mineral Oil (Oil mist)
- 123 Mineral Oil, excluding Metal Working Fluids, Pure, highly and severely refined.
- 123 Mineral Oil, used in metal working
- 123 Mineral Spirits (Stoddard Solvent)
- 124 Mineral Spirits (Stoddard Solvent)
- 124 Mineral Wool Fiber
- 124 Molybdenum as Mo
- 124 Molybdenum as Mo
- 125 Molybdenum as Mo
- 125 Morpholine
- 125 Naphthalene
- 125 Naphthalene
- 126 Naphthalene (see PNA scan)
- 126 Naproxen Sodium
- 126 Naproxen Sodium
- 126 Nickel and inorganic compounds as Ni
- 127 Nickel and inorganic compounds as Ni
- 127 Nickel and inorganic compounds as Ni
- 127 Nicotine
- 127 Nitric Acid
- 128 Nitric acid
- 128 Nitric Oxide and Nitrogen Dioxide
- 128 Nitroethane
- 128 Nitrogen Dioxide
- 129 Nitromethane
- 129 Nitrous Oxide
- 129 Organic Solvent Scan
- 129 Oxalic Acid

- 130 Ozone
- 130 Palladium
- 130 Paraffin Wax Fume
- 131 Particles (insoluble or poorly soluble) Not otherwise specified; inhalable
- 131 Particles (insoluble or poorly soluble) Not otherwise specified; respirable
- 131 Particles (insoluble or poorly soluble) Not otherwise specified; total
- 131 Pentane(n-)
- 132 Pentane(n-)
- 132 Pentanedione(2,3-)
- 132 Pentanedione(2,4-)
- **132** Pentanone(2-) (Methyl propyl ketone)
- **133** Pentanone(2-) (Methyl propyl ketone)
- 133 Peracetic Acid
- **133** Perchloroethylene (Tetrachloroethylene)
- **133** Perchloroethylene (Tetrachloroethylene)
- 134 Perfluorooctanoic Acid
- 134 Petroleum Ether
- 134 Petroleum Ether
- 134 Phenanthrene (see PNA scan)
- **135** Phenanthrene (see PNA scan)
- 135 Phenol
- 135 Phenylcyclohexene(4-)
- 135 Phenylcyclohexene (4-)
- **136** Phenylene(1,3-) diamine
- 136 Phosphine
- 136 Phosphoric Acid
- **136** Phosphoric Acid
- 137 Phosphorus (elements)
- 137 Phthalic Anhydride
- 137 Piperazine
- 137 Platinum Metal and Soluble Salts as Pt
- 138 PNA Scan (NIOSH 5506)
- 138 PNA Scan (OSHA 58)
- 138 Polychlorobiphenyl (Chlorodiphenyl, 54% Chlorine) (PCB)
- 138 Polychlorobiphenyl (Chlorodiphenyl, 42% Chlorine) (PCB)
- 139 Polyvinyl Chloride (PVC)
- 139 Portland Cement
- 139 Potassium Hydroxide
- 139 Propanol(n-)
- 140 Propanol(n-)
- 140 Propionaldehyde
- 140 Propionaldehyde
- 140 Propionaldehyde
- 141 Propionic Acid
- 141 Propoxyethanol(2-) (Ethylene glycol monopropyl ether)
- 141 Propoxyethanol(2-) (Ethylene glycol monopropyl ether)

- 141 Propyl Bromide
- 141 Propyl Bromide
- 142 Propyl(n-) Acetate
- 142 Propyl(n-) Acetate
- 142 Propyl(n-) Alcohol
- 142 Propyl(n-) Alcohol
- 142 Propylene Glycol Monomethyl Ether (PGME, 1-Methoxy-2-propanol)
- 143 Propylene Glycol Monomethyl Ether (PGME, 1-Methoxy-2-propanol)
- 143 Propylene Glycol Monomethyl Ether Acetate (PGMEA)
- 143 Propylene Glycol Monomethyl Ether Acetate (PGMEA)
- 143 Propylene Glycol (1,2-Propanediol)
- 143 Propylene Oxide (1,2-Epoxypropane)
- **144** Propylene Oxide (1,2-Epoxypropane)
- 144 Pyrene (see PNA scan)
- 144 Pyrene (see PNA scan)
- 144 Pyrethrum
- 145 Pyridine
- 145 Resin Acids
- 145 Resorcinol
- 145 Rhodium as Rh
- 146 Scan for Aldehydes
- 146 Scan for Aliphatic Amines
- 146 Scan for Anesthetic Gases
- 146 Scan for Aromatic Amines
- 147 Scan for Inorganic Acids
- **147** Scan for Isocyanates
- 147 Scan for Organic Solvents
- 147 Scan for PNAs (NIOSH 5506)
- 148 Scan for PNAs (OSHA 58)
- 148 Selenium and Compounds as Se
- 148 Selenium and Compounds as Se
- 148 Sevoflurane (Sevofrane)
- 149 Sevoflurane (Sevofrane)
- 149 Silica Cristobalite
- 149 Silica Quartz
- 149 Silver Metal and Soluble Compounds as Ag
- 150 Soapstone
- 150 Soapstone
- 150 Sodium
- 150 Sodium Hydroxide
- 151 Starch
- 151 Stoddard Solvent
- 151 Stoddard Solvent
- 151 Strontium
- 152 Strontium Chromate as Cr
- 152 Styrene (Vinyl benzene)
- 152 Styrene (Vinyl benzene)
- 152 Sulfur Dioxide

- 153 Sulfuric Acid
- 153 Sulfuric Acid
- 153 Sulfuric Acid
- **153** Synthetic Vitreous Fibers
- 154 Talc
- 154 Tantalum and Tantalum Oxide Dust as Ta
- 154 Tellurium and Compounds as Te
- **154** Tetrachloroethylene (Perchloroethylene)
- **155** Tetrachloroethylene (Perchloroethylene)
- **155** Tetrahydrofuran [THF]
- 155 Tetrahydrofuran
- 155 Thallium and Compounds, as Tl
- 156 Thallium and Compounds, as TI
- 156 Thiram
- 156 Tin and Compounds as Sn
- 157 Tin and Compounds as Sn
- 157 Tin Organic Compounds as Sn
- 157 Titanium
- 158 Titanium
- 158 Titanium Dioxide
- 158 Toluene
- 158 Toluene
- 159 Toluene-2,4-diioscyanate (2,4-TDI)
- 159 Toluene-2,4- diisocyanate (2,4-TDI)
- **159** Toluene-2,6-diisocyanate (2,6-TDI)
- 159 Toluene-2,6- diisocyanate (2,6-TDI)
- **160** Toluidine(o-)
- **160** Tributyl Phosphate
- 160 Trichloro(1,1,2-)-1,2,2-trifluoroethane
- 160 Trichloro(1,1,2-)-1,2,2-trifluoroethane
- 160 Trichlorobenzene(1,2,4-)
- **161** Trichlorobenzene(1,2,4-)
- **161** Trichloroethane(1,1,1-) (Methyl Chloroform)
- **161** Trichloroethane(1,1,1-) (Methyl Chloroform)
- **161** Trichloroethane(1,1,2-)
- **161** Trichloroethane(1,1,2-)
- 162 Trichloroethylene
- 162 Trichloroethylene
- 162 Triethanolamine
- 162 Triethylamine
- 163 Triethylamine

- 163 Triethylenetetramine
- **163** Triglycidyl Isocyanurate(1,3,5)
- 163 Trimellitic Anhydride
- 164 Trimethylbenzene(1,2,4-)
- **164** Trimethylbenzene(1,2,4-)
- 164 Trimethylbenzene(1,3,5-)
- **164** Trimethylbenzene(1,3,5-)
- 165 Tungsten and Compounds as W (in the absence of Cobalt)
- 165 Tungsten, as W Soluble Compounds
- 165 TVOC as n-Hexane
- 165 TVOC as n-Hexane
- 166 Valeraldehyde
- 166 Valeraldehyde
- 166 Valeraldehyde
- 166 Vanadium Pentoxide as V
- 167 Vanadium Pentoxide as V
- 167 Vanadium
- 167 Vegetable Oil Mist
- 167 Vinyl Acetate
- 168 Vinyl Acetate
- 168 Vinyl Chloride (Chloroethylene)
- **168** Vinyl Chloride (Chloroethylene)
- **168** Vinyl(1-)-2-pyrrolidinone
- **169** Vinyl(1-)-2-pyrrolidinone
- 169 Vinylidene Chloride (1,1-Dichloroethylene)
- 169 VM & P Naphtha
- 169 VM & P Naphtha
- 170 Welding Fume Scan
- 170 Welding Fumes, Total
- 170 Wood Dust
- 170 Wood Dust
- 171 Xylene (Dimethyl benzene)
- 171 Xylene (Dimethyl benzene)
- 171 Yttrium and compounds, as Y
- 171 Zinc
- 172 Zinc
- 172 Zinc
- 172 Zinc Chloride Fume
- 173 Zinc Oxide
- 173 Zinc Oxide

Acenaphthene (see PNA scan)								
CAS # Analytical Method A			Analytica	l Technique	Sampling Media			
83-32-9	NIOS	SH 5506	HPLC		PTFE2/XAD-2 (PALL P5PJ037, SKC 226-30-04)			
Sampling	Rate†	tet Sampling Vol		LOQ	LOD	Compatibility Code		
2		200-10	00 0.33 μg 0.17 μg PNAs			PNAs		
l	nterferenc	es	Comments					
Asphalt fumes will interfere. After sampling, separate filter from sorbent tube. Cap an wrap individually in aluminum foil. Ship and store cold.					ent tube. Cap and and store cold.			

Acenaphth	າ <mark>ylene</mark> (s	see PNA so	an)				
CAS #	Analytic	cal Method	Analytica	lytical Technique Sampling Media			
208-96-8	NIOSH 5506		HPLC		PTFE2/XAD-2 (PALL P5PJ037, SKC 226-30-04)		
Sampling	Rate†	Sampling Volumett		olumett LOQ LOD Cor			
2	2 200-100		000	0.45 µg	0.23 µg	PNAs	
Interferences			Comments				
Asphalt fumes will interfere.			e. After sampling, separate filter from sorbent tube. Cap and wrap individually in aluminum foil. Ship and store cold.				

Acetaldeh	yde						
CAS #	AS # Analytical Method A		Analytica	I Technique	Sampling Media		
75-07-0	NIOS	SH 2016	HPLC		AT Monitor (N571AT)		
Sampling	Rate†	Sampling V	/olumett	LOQ	LOD	Compatibility Code	
11.7		15-4	15-480		0.015 µg	Aldehyde	
Interferences			Comments				
Other aldehydes and ketones will react with the 2,4-DNPH but can be chromatographically resolved.				ate media be mples cold ove	fore and after sam ernight.	ipling.	

Acetaldeh	yde						
CAS #	Analytical Method		Analytical Technique		Sampling Media		
75-07-0	NIOS	SH 2016	HPLC		SGT, DNPH (SKC 226-119)		
Sampling	Rate†	Sampling	J Volumett LOQ LOD Compatib			Compatibility Code	
0.1-1.	5	1-15		0.058 µg	0.029 µg	Aldehyde	
Interferences			Comments				
Other aldehyd react with the be chromatog	tones will I but can resolved.	Refrigerate overnight.	e media before Preferred for S	e and after samplir STEL sampling. Sa	ng. Ship samples cold Imple at 1 lpm for STEL.		

Acetic Aci	d						
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
64-19-7	NIOS	SH 2011	IC		PT (SKC 225-1	PTFE3-SGT** (SKC 225-17A, SKC 226-10-03)	
Sampling Ratet Sampling Vol			/olumett	LOQ	LOD	Compatibility Code	
0.05-0	).5	5-10	0 2.3 μg		1.2 µg	Acid2	
Interferences				Comments			
Particulate sa give a positive	acid will nce.	Preferre Use 0.2	<b>Preferred method for STEL and also Lab-preferred method.</b> Use 0.2 Ipm for flow rate. Do not sample with inorganic acids.				

Acetic Aci	d						
CAS #	Analytic	cal Method	Analytica	l Technique	Sampling Media		
64-19-7	7 OSHA ID-PV2119		IC		CT (S	SKC 226-01)	
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code		
0.2		5-1	00	2.3 µg	1.2 µg		
Interferences					Comments		

Acetic Anl	nydride						
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
108-24-7	OSH	HA 102	HPLC		GFF, vamine		
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code	
0.05-0	.5	20		14 µg	7.0 µg	ACN/DMS0	
-	nterferenc	es		Comments			
		Samplir the lab a media.	n <mark>g media has</mark> at least 5 days Media are pre	short shelf-life. Pless prior to survey date pared as requested	ease contact ite to order d.		

Acetone							
CAS #	Analytic	cal Method	Analytica	l Technique	Sam	oling Media	
67-64-1	54-1 NIOSH 1300		GC	C-FID	CT (SK	C 226-01, -09)	
Sampling	Rate†	Sampling V	olumett	LOQ	LOD	Compatibility Code	
0.01-0	.2	0.5-	3	0.91 µg	0.46 µg	CS <sub>2</sub>	
Interferences				Comments			
			Store ar	nd ship cold o	vernight.		

Acetone						
CAS #	Analyti	cal Method	Analytica	l Technique	Sam	pling Media
67-64-1	4-1 3M Method		GC-FID		OVN	1 (3M 3520)
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code	
40.1		15-12	20	1.4 µg	0.70 µg	CS <sub>2</sub>
I	Interferences Comments					
			Store a	nd ship cold o	vernight.	

Acetonitri	е						
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
75-05-8	NIOS	NIOSH 1606		-FID	CT (SKC 226-09)		
Sampling Ratet Sampling Vol			/olumett	LOQ	LOD	Compatibility Code	
0.01-0	0.01-0.2 3-25		5	1.0 µg	0.50 µg	15%MeOH/MC	
Interferences					Comments		
Samples containing greater than 15% methanol or other alcohols			Large cl breakth tubes. If Paks. De	harcoal tubes rough volume f also samplir <b>o not use DNF</b>	are required for ar is lower compared ig for aldehydes, us PH tubes as they m	nalyte collection since d with smaller charcoal se AT monitors or Sep- nay off-gas acetonitrile.	

Acetonitri	е							
CAS #	Analytic	Analytical Method A		l Technique	Sampling Media			
75-05-8	3M	Method	GC	-FID	OV	M (3M 3520)		
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code			
48.2	48.2 15-120		20	1.5 µg 0.75 µg		DMF/CS <sub>2;</sub> CS <sub>2</sub>		
l	nterferenc	es		Comments				
Pre sec cap alde DNI			Preferre section cap imn aldehyd DNPH tu	ed method. Us of the monito nediately afte es, use AT mo ubes as they r	se 3M 3520. Sepa r from the back s r sampling. If als onitors or Sep-Pa may off-gas acet	arate front section and o sampling for ks. <b>Do not use</b> onitrile.		

Acro	loin
ACTO	lein

CAS #	Analytical Method A		Analytica	Technique	Sampling Media		
107-02-8	NIOS	NIOSH 2016		PLC	AT Monitor (N571AT)		
Sampling Rate† Sampling Vol		olumett/	LOQ	LOD	Compatibility Code		
10.3	.3 15-480		80	0.027 µg 0.014 µg		Aldehyde	
lı	nterferenc	es			Comments		
Other aldehydes and ketones will react with the 2,4-DNPH but can be chromatographically resolved			Refriger Ship sar	ate media bef nples cold ov	fore and after sam ernight.	pling.	

Acrolein							
CAS #	# Analytical Method A		Analytica	l Technique	Sampling Media		
107-02-8	107-02-8 NIOSH 2016		Н	PLC	SGT, DNF	SGT, DNPH (SKC 226-119)	
Sampling Ratet Sampling Vol			/olumett	LOQ	LOD	Compatibility Code	
0.1-1.	5	1-1	5	0.054 μg 0.027 μg Aldehyde		Aldehyde	
l	nterferenc	es			Comments		
Other aldehyd react with the chromatograp	les and ket 2,4-DNPH phically res	tones will I but can be solved.	Refriger overnig	Refrigerate media before and after sampling. Ship samples cold overnight. <b>Preferred for STEL sampling</b> . Use flow rate of 1 lpm.			

# Acrolein

Acroicin							
CAS #	AS # Analytical Method A		Analytica	l Technique	Sampling Media		
107-02-8	NIOSH 2016		HPLC		Sep-Pak (WAT047205)		
Sampling Ratet Sampling Vol			/olumett	LOQ	LOD	Compatibility Code	
0.1-1.	5	10-1	00	0.14 µg	0.070 µg	Aldehyde	
Interferences					Comments		
Other aldehydes and ketones will react with the 2,4-DNPH but can be chromatographically resolved.			Refriger overnig	Refrigerate media before and after sampling. Ship samples cold overnight. Preferred for STEL sampling. Use flow rate of 1 lpm.			

Acrylamid	е						
CAS #	CAS # Analytical Method A		Analytica	l Technique	Sampling Media		
79-06-1	OSHA 21		GC	-FID	GFF-SGT (SKC	225-16; SKC226-10)	
Sampling Rate† Sampling Vol		/olumett	LOQ	LOD	Compatibility Code		
1		12	0	0.62 µg 0.31 µg MeOH		MeOH	
l	nterferenc	es		Comments			
			Sample TWA = (	separately fro ).03ppm(IFV)	om CS <sub>2</sub> compatible , Skin;DSEN;A2 ado	e solvents. 2019 NIC, opted in 2020.	

Acrylic Acid								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
79-10-7	OSHA	PV2005	Н	PLC	Anasorb708/ Anasorb708 (SKC 226-30- 08)			
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
0.1		24		0.33 µg	0.17 µg			
Interferences				Comments				
Propanoic acid will interfere.			Sample Separat	Sample with 2 Anasorb 708 tubes in series. Separate and cap tubes after sampling.				

Acrylonitrile (Vinyl Cyanide)									
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
107-13-1	05	HA 37	GC-FID		CT (SK	C 226-01, -09)			
Sampling	Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
0.05-0	).2	3.5-2	20	0.68 µg	0.34 µg	CS <sub>2</sub>			
Interferences				Comments					
Preferred for STEL sampling. Sample at 0.2 lpm.						0.2 lpm.			

Acrylonitrile (Vinyl Cyanide)									
CAS #	Analytical Method		Analytical Technique		Sampling Media				
107-13-1	3M	Method	GC-FID		OVM	(3M 3500)			
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code				
43.8	43.8 15-480		30	1.0 µg	0.51 µg	DMF/CS <sub>2</sub> CS <sub>2</sub>			
Interferences				Comments					

Aldehyde	Aldehyde scan									
CAS #	S # Analytical Method A		Analytica	l Technique	Sam	Sampling Media				
	NIOSH 2016		Н	PLC						
Sampling	Sampling Ratet Sampling Vol			LOQ	LOD	Compatibility Code				
	Interferences			Comments						
			See List before a	See List of Scans for individual aldehydes. Refrigerate media before and after sampling. Ship samples cold overnight.						

Aliphatic Amine scan								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
	NIOSH 2010		GC	C-FID	SGT (	SKC 226-10)		
Sampling Ratet Sampling Vol			olumett/	LOQ	LOD	Compatibility Code		
0.01-	1	5-3	0			Amine1		
l	nterferenc	es		Comments				
Nitrogen compounds that co-elute will interfere.			Ethylam by this r High mo	Ethylamine, diethylamine and triethylamine are analyzed by this method. Please call Lab for other amines. High moisture will limit collection efficiency.				

Allyl Alcohol								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
107-18-6	NIOS	SH 1402	GC	-FID	CT (SK	C 226-01, -09)		
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
0.01-0	.2	5-1	0	0.72 µg	0.36 µg	5% IPA/CS <sub>2</sub>		
l	nterferenc	es		Comments				
Sample separately from CS <sub>2</sub> compatible solvents.								

Allyl Alcohol									
CAS #	Analytical Method		Analytical Technique		Sampling Media				
107-18-6	3M	3M Method		-FID	OVM	(3M 3500)			
Sampling Ratet Sampling Vo		/olumett	LOQ	LOD	Compatibility Code				
40.4	ļ	15-4	80	1.1 µg	0.55 µg	MC or CS <sub>2</sub>			
Interferences				Comments					

Allyl Brom	Allyl Bromide								
CAS #	Analytical Method		Analytical Technique		Sampling Media				
106-95-6	OSH	A 1000	GC	-FID	CT (SK	C 226-01, -09)			
Sampling	Sampling Ratet Sampling Vo		/olumett	LOQ	LOD	Compatibility Code			
0.01-1	.0	16-1	00 1.6 µg		0.80 µg	CS <sub>2</sub>			
l	nterferenc	es		Comments					

Allyl Bromide									
CAS #	Analytical Method A		Analytica	l Technique	Sam	oling Media			
106-95-6	3M	Method	GC	-FID	OVM	(3M 3500)			
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code				
32.5	5	180-4	80	2.4 µg	1.2 µg	CS <sub>2</sub>			
Interferences				Comments					

Allyl Chloride									
CAS #	Analytical Method		Analytica	l Technique	Sampling Media				
107-05-1	NIOS	SH 1000	GC-FID		CT (SK	C 226-01, -09)			
Sampling Ratet Sampling Vol		olumett/	LOQ	LOD	Compatibility Code				
0.01-1	.0	16-1	00	0.96 µg	0.48 µg	CS <sub>2</sub>			
l	es		Comments						
Preferred for STEL sampling. Sample at a flow rate of 1 lpm.									

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Allyl Chloride								
CAS #	Analytical Method		Analytical Technique		Sampling Media			
107-05-1	3M	3M Method		-FID	OVM	(3M 3500)		
Sampling Ratet Sampling Vo		/olumett	LOQ	LOD	Compatibility Code			
35.1		15-4	80 1.4 µg		0.72 µg	CS <sub>2</sub>		
Interferences				Comments				

# Aluminum Metal and insoluble compounds

CAS #	Analytical Method A		Analytica	l Technique	Samp	Sampling Media			
7429-90-5	NIOSH 7301 NIOSH 7303 OSHA ID-125G		[	СР	MCE or PVC (SKC 225-5 or SKC 225-5-37-P)				
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code			
1-4 200-100			000	10 5.0 μg 2.5 μg Metal		Metals			
Interferences				Comments					
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			As part internal in your s in the a	As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. Please indicate in your sample submission form if yttrium is present in the area where you collected your samples.					

Aluminum Oxide									
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
1344-28-1	NIOSH 0500		GRAV		Pre-weighed P	VC (SKC 225-5-37-P)			
Sampling Ratet Sampling Vo			olumett/	LOQ	LOD	Compatibility Code			
1-15		40-72	200	) 50 µg 10 µg					
Interferences Comments									
All other dusts will interfere.For personal sampling use a flow rate of 1-2LPM, for area sampling up to 15 LPM.					f 1-2				

Amines, Aliphatic (see scan for aliphatic amines)								
CAS #	Analytic	cal Method	hod Analytical Techniqu		Sampling Media			
	NIOSH 2010		GC-FID		SGT (	SKC 226-10)		
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
0.01-	1	5-3	0	Varies	Varies	Amine1		
h	nterferenc	es			Comments			
Nitrogen com co-elute will in	at	Ethylam by this r amines.	ine, diethylan nethod. Pleas High moistur	nine and triethylam se call Lab for othe re will limit collection	ine are analyzed r types of on efficiency.			

Amines, Aromatic (see scan for aromatic amines)								
CAS #	Analytical Method A		Analytica	l Technique	Samj	Sampling Media		
	NIOSH 2002		GC-FID		SGT (	SKC 226-10)		
Sampling Ratet Sampling Vol			/olumett	LOQ	LOD	Compatibility Code		
0.02-0	).5	5-3	0	Varies Varies		Amine3		
I	nterferenc	es		Comments				
Nitrogen compounds that co-elute will interfere			Aniline, this met High mo	methylaniline thod. Please c bisture will lim	and o-toluidine ar all Lab for other ty it collection efficie	e analyzed by pes of amines. ency.		

6)
ty Code
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Ammonium Chloride Fume									
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
12125-02-9	NIOSH 0500		GRAV		Pre-weighed P	Pre-weighed PVC (SKC 225-5-37-P)			
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code			
1-15		40-72	200	50 µg	10 µg				
Interferences Comments									
All other dusts will interfere. For pe				sonal sampling area sampling	g use a flow rate of g up to 15 lpm.	1-2			

Amyl Acetate									
CAS #	# Analytical Method A		Analytical Technique		Sampling Media				
628-63-7	628-63-7 NIOSH 1450		GC-FID		CT (SK	C 226-01, -09)			
Sampling	Sampling Ratet Sampling Vol			LOQ	LOD	Compatibility Code			
0.01-0	.2	1-1	0	2.3 µg	1.2 µg	CS <sub>2</sub>			
l	nterferenc	es			Comments				

Amyl Acetate									
CAS #	CAS # Analytical Method Analytical Technique Sampling Media								
628-63-7	628-63-7 3M Method			GC-FID OVM		I (3M 3500)			
Sampling	Sampling Rate† Sampling Volu				LOD	Compatibility Code			
26.0		15-4	-80	3.5 µg	1.8 µg	CS <sub>2</sub>			
l	es			Comments					

Anesthetic	Anesthetic Gases scan									
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media					
	OSHA 103		GC-FID		Anasorb 74	Anasorb 747 (SKC 226-81A)				
Sampling	Sampling Ratet Sampling Vo			LOQ	LOD	Compatibility Code				
0.05		12	2	Varies Varies						
	nterferenc	es			Comments					
Analyzes enflurane, halothane and isoflurane. See List of Scans for anesthetic gases. Please call lab for other anesthetic gases. Store and ship cold.					urane. See se call lab iip cold.					

Aniline						
CAS #	AS # Analytical Method A		Analytica	l Technique	Sampling Media	
62-53-3	NIOSH 2002		GC-FID		SGT (SKC 226-10)	
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code	
0.02-0	0.5	5-3	0	1.0 µg	0.50 µg	Amine3
Interferences					Comments	
Nitrogen com co-elute will in	pounds th nterfere.	at				

Anthracene (	see	<b>PNA</b>	scan	)
Andradene	JUCC	1 110	Jouri	,

CAS #	Analytical Method A		Analytica	Technique	Sampling Media		
120-12-7	OSHA 58		HPLC		GFF (SKC 225-7)		
Sampling Ratet Sampling Vol		olumett/	LOQ	LOD	Compatibility Code		
2	2 960		D	0.25 µg	0.13 µg	PNAs	
Interferences					Comments		
Asphalt fumes will interfere.			After sa foil. Shij	mpling, cap a o and store co	nd wrap in alumini old.	um	

Anthracene (see PNA scan)									
CAS #	Analytic	cal Method	Analytica	l Technique	Sampling Media				
120-12-7	20-12-7 NIOSH 5506		HPLC		PTFE2/XAD-2 (PALL P5PJ037, SKC 226-30-04)				
Sampling Rate† Sampling Vol			olumett	LOQ	LOD	Compatibility Code			
2		200-10	00	00 0.25 μg 0.13 μg PNAs					
l	Interferences Comments								
Asphalt fumes will interfere. After sampling, separate filter from sorbent tube. Cap and wrap individually in aluminum foil. Ship and store cold.				ent tube. Cap and and store cold.					

Antimony and compounds as Sb								
CAS #	Analytical Method A		Analytica	l Technique	Sam	oling Media		
7440-36-0	NIOS NIOS OSHA	GH 7301 GH 7303 A ID-125G		CP	MC (SKC 225-5)	CE or PVC or SKC225-5-37-P)		
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
1-4		50-10	00	0.51 μg 0.26 μg Metals		Metals		
li	nterferenc	es			Comments			
Spectral inter primary interf in ICP-AES an	re the ncountered	As part internal in your s in the a	As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. <b>Please indicate</b> in your sample submission form if yttrium is present in the area where you collected your samples.					

Antimony and compounds as Sb								
CAS #	Analytic	cal Method	Analytica	l Technique	Sampling Media			
7440-36-0	NIOS NIOS	SH 7301 SH 7303	ICP-MS		MCE or PVC (SKC 225-5 or SKC225-5-37-P)			
Sampling Rate† Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
1-4	1-4 40-240		40	0.75 µg	0.38 µg	Metals		
l	Interferences Comme							
As part of the Lab's and lutetium are use analysis. Please ind form if yttrium, rhod in the area where yo				C protocol, yttriun d as internal stand cate in your sample um, and/or lutetiu i collected your sa	n, rhodium, ards in ICP-MS e <b>submission</b> m are present mples.			

Aromatic 100								
CAS #	Analytical Method A		Analytica	Technique	Sampling Media			
64742-95-6	NIOS	SH 1550	GC	-FID	CT (SK	C 226-01, -09)		
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
0.05-0	.2	1.3-2	20	0.55 μg 0.28 μg CS		CS <sub>2</sub>		
Interferences					Comments			
Other aromatic compounds.			Please s separat	Please send bulk sample. Ship bulk samples separately from air samples.				

Aromatic A	Aromatic Amine scan								
CAS #	Analytical Method		Analytica	<b>Technique</b>	Sampling Media				
	NIOSH 2002		GC	-FID	SGT (	SKC 226-10)			
Sampling	Sampling Ratet Sampling Vo		olumett	LOQ	LOD	Compatibility Code			
0.02-0	).5	5-3	0	Varies	Varies	Amine3			
l	nterferenc	es			Comments				
Aniline, methylaniline and o-toluidine are anal method. Please call Lab for other types of am				e analyzed by this of amines.					

Arsenic and inorganic compounds, as As								
CAS #	Analytic	cal Method	Analytica	l Technique	Sam	Sampling Media		
7440-38-2	NIOS NIOS OSHA	SH 7301 SH 7303 A ID-125G	I	CP	M0 (SKC 225-5	CE or PVC or SKC 225-5-37-P)		
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
1-4		560-10	000	0 0.56 μg 0.28 μg Metals		Metals		
l	nterferenc	es			Comments			
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			Use ICP additior is used indicate present	-MS analysis hal cost. As p as internal st <b>in your samp</b> in the area w	for lower detection art of the Lab's QC andard in metal an ole submission for here you collected	n limit at an protocol, yttrium alysis. <b>Please</b> m if yttrium is I your samples.		

Arsenic and inorganic compounds, as As								
CAS #	Analytic	cal Method	Analytica	l Technique	Sampling Media			
7440-38-2	NIOS NIOS	SH 7301 SH 7303	ICF	P-MS	MCE or PVC (SKC 225-5 or SKC 225-5-37-P)			
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
1-4	1-4 180-480		80	0 0.025 μg 0.012 μg Metal		Metals		
-	nterferenc	es			Comments			
As part of the Lab's C and lutetium are use analysis. Please indi form if yttrium, rhod in the area where you				C protocol, yttriur d as internal stand cate in your sampl um, and/or lutetiu i collected your sa	n, rhodium, ards in ICP-MS e submission m are present amples.			

Arsenic and inorganic compounds, as As								
CAS #	Analytical Method A		Analytica	l Technique	Sam	pling Media		
7440-38-2	OSH/ OSHA	A ID-121 ID-125G	ICP		ghost wipe	e (SKC 225-2414)		
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
NA		NA	L .	6.5 μg 3.2 μg Metals2				
l.	nterferenc	es		Comments				
Spectral inter primary interf in ICP-AES an	ferences a erences ei alysis.	re the ncountered	As part internal in your in the a	As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. Please indicate in your sample submission form if yttrium is present in the area where you collected your samples.				

Arsenic Trioxide as As									
CAS #	Analytic	cal Method	Analytica	l Technique		Samp	oling Media		
1327-53-3	NIOS	SH 7901	ICF	P-MS		MCE,	carbonate		
Sampling	Rate†	Sampling V	/olumett	t LOQ LOD Co		Compatibility Code			
1-3		180-1000		0.033 µg		0.016 µg			
Interferences				Comments					
All forms of A	quantified.	Media h request date. As and lute analysis form if y in the a	as one week ed. Please co part of the La tium are usec Please indic yttrium, rhodi rea where you	she ntao ab's ab's ab's ab's ab's ab's ab's ab's	If-life. Media ar ct Lab in advance QC protocol, y internal standa in your sample and/or lutetiun llected your sar	e prepared as ce of survey ttrium, rhodium, irds in ICP-MS e <b>submission</b> n are present nples.			

### Arsine

CAS #	Analytic	cal Method	Analytica	l Technique	Sampling Media		
7784-42-1	NIOS	SH 6001	l	ICP C1		(226-01,-09)	
Sampling	Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code	
0.05-0	.2	10		0.052 µg	0.026 µg		
l	es		Comments				
Other forms of Arsenic compounds (aerosol and gases) are quantified as Arsine.			High mo of the La standar sample the area	High moisture may limit collection efficiency. As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. <b>Please indicate in your</b> sample submission form if yttrium is present in the area where you collected your samples			

#### Arsine CAS # **Analytical Method Analytical Technique Sampling Media** 7784-42-1 **NIOSH 6001 ICP-MS** CT (SKC 226-01, -09) Sampling Ratet Sampling Volumett LOQ LOD **Compatibility Code** 0.05-0.2 10 0.026 µg 0.013 µg Interferences Comments High moisture may limit collection efficiency. As part of the Other forms of Arsenic Lab's QC protocol, yttrium, rhodium, and lutetium are used as internal standards in ICP-MS analysis. **Please indicate in your** compounds (aerosol and gases) are quantified as Arsine. sample submission form if yttrium, rhodium, and/or lutetium are present in the area where you collected your samples.

# Asbestos (bulk), all forms

CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
1332-21-4	NIOS	)SH 9002		LM		Bulk			
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code			
N.A.	N.A. 1-10 grar		ams	1.0%	1.0%				
Interferences					Comments				
Other fibers with optical propertiesSendsimilar to the asbestos mineralsdoulmay give positive interferences.chai				Ilk samples fo bagged ziploc custody form	r asbestos analysi k bags with labels n outside the bag.	is in and			

### tt(L) (Minutes)

Asbestos (Fibers)									
CAS #	Analytic	cal Method	Analytica	l Technique	Sampling Media				
Various	NIOS	SH 7400	Р	СМ	MCE, 25 mm	n (ZEFON Z008BA)			
Sampling	Sampling Ratet Sampling Volume		/olumett	LOQ	LOQ	Compatibility Code			
0.5-1	16 50-720		20	0.050 asb/field	0.01 asb/field				
I	nterferenc	es	Comme						
Chain-like par leading to hig of non-fibrous obscure fibers	ticles may h count an dust part s leading t	appear fibrou d high levels icles may o low count.	us Sample obtain c filter. W polystyr	Sample open faced. Adjust sampling flow rate and time to obtain optimum fiber loading on the filter. Do not overload filter. When shipping your samples, do not pack with untreated polystyrene as it can lead to fiber loss from electrostatic effect.					

Asbestos, all forms									
CAS #	Analytical Method A		Analytica	l Technique	Sam	oling Media			
1332-21-4	YAMAT	E LEVEL II	Т	EM	MCE 25-mm, 0.45-um (ZEFON Z045BA)				
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code			
2.48-17	2.48-17.62 74-529		29	0.050 asb/field	0.01 asb/field				
Interferences				Comments					
Other amphib	oles simila	ar to the	Sample	Sample open faced. Adjust sampling flow rate and time to					

Other amphiboles similar to the asbestos minerals may give positive interferences. High dust background interferes with fiber identification. Sample open faced. Adjust sampling flow rate and time to obtain optimum fiber loading on the filter. Do not overload filter. This analysis is sub-contracted to an AIHA-LAP, LLC accredited lab. **Standard turnaround time is 10 business days.** 

Asbestos,	all form	IS						
CAS #	Analytic	Analytical Method A		l Technique	Sam	pling Media		
1332-21-4	NIOS	NIOSH 7402		EM	MCE, 25 mr	n (ZEFON Z008BA)		
Sampling Ratet Sampling Vol			/olumett	LOQ	LOD	Compatibility Code		
0.5-16 50-720			20	0.050 asb/field	0.01 asb/field			
Interferences				Comments				
Other amphib asbestos min interferences interferes wit	ar to the give positive t background ntification.	Sample to obtai overload Method is sub-c Standal	open faced. <i>A</i> n optimum fib d filter. This m 7400 (phase contracted to a rd turnaround	Adjust sampling flo per loading on the nethod is designed contrast microsco an AIHA-LAP, LLC <b>time is 10 busine</b>	ow rate and time filter. Do not I for use with opy). This analysis accredited lab. <b>ss days.</b>			

Asphalt Fume									
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
8052-42-4	NIOSH 0500		GRAV		Pre-weighed P	VC (SKC 225-5-37-P)			
Sampling Ratet Sampling Vol			olumett/	LOQ	LOD	Compatibility Code			
1-15 40-720		200	0 50 µg 10 µg						
h	es		Comments						
All types of dusts will interfere.			For pers lpm; for	sonal sampling area sampling	g use a flow rate of g up to 15 lpm.	1-2			

# tt(L) (Minutes)

Asphalt Fu	ime as E	Benzene-Se	oluble A	erosol				
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
8052-42-4	NIOS	SH 5042	GRAV		Pre-weighed PTFE1 (Zefon FPTFE137)			
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
2 176-960			60	) 130 µg 63 µg				
Interferences				Comments				
All substances soluble in benzene will interfere. Changes in humidity pre- and post weighing can affect accuracy.			Benzene d if BSF re samplin before in limited.	Benzene extraction is done first. Scan is only done if BSF results are at or above the TLV. For inhalable sampling, please contact Lab for IOM sampler 1 week before intended use. The availability of IOM samplers is limited. Rental charges for use of IOM sampler apply.				

Barium and soluble compounds as Ba								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
7440-39-3	NIOSH 7301 NIOSH 7303		ICP		MCE or PVC (SKC 225-5 or SKC 225-5-37-P)			
Sampling Rate† Sampling Vol			/olumett	LOQ	LOD	Compatibility Code		
1-4 25-1000			000	0 0.50 μg 0.25 μg Metals				
li li	nterferenc	es		Comments				
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			As part internal in your in the a	of the Lab's Q standard in n sample subm rea where you	C protocol, yttriun netal analysis. Plea ission form if yttri i collected your sa	n is used as ase indicate um is present mples.		

Benz[a]anthracene (see PNA scan)									
CAS #	Analytic	nalytical Method A		l Technique	Sampling Media				
56-55-3	NIOS	SH 5506	HPLC		PTFE2/XAD-2 (PALL P5PJ037, SKC 226-30-04)				
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code			
2 200-100			000	00 0.082 μg 0.041 μg PNAs					
Interferences				Comments					
Asphalt fumes will interfere.			After sa wrap ind	After sampling, separate filter from sorbent tube. Cap and wrap individually in aluminum foil. Ship and store cold.					

Benzaldehyde									
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
100-52-7	NIOSH 2016		HPLC		AT Mo	nitor (N571AT)			
Sampling Ratet Sampling Vol			/olumett	LOQ	LOD	Compatibility Code			
6.97 15-480		80	0.047 µg	0.024 µg	Aldehyde				
li	nterferenc	es		Comments					
Other aldehydes and ketones will react with the 2,4-DNPH but can be chromatographically resolved.			Refriger Ship sai	ate media bei mples cold ov	fore and after sam ernight.	ipling.			

Benzaldehyde								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
100-52-7	NIOSH 2016		HPLC		Sep-Pak	(WAT047205)		
Sampling Rate† Sampling Vol			olumett/	LOQ	LOD	Compatibility Code		
0.1-1.5 10-100			00	0.24 µg 0.12 µg Aldehyde				
-	nterferenc	es		Comments				
Other aldehydes and ketones will react with the 2,4-DNPH but can be chromatographically resolved.			Refriger Ship sar <b>samplin</b>	ate media be mples cold ov g. Use flow ra	fore and after sam ernight. <b>Preferred</b> te of 1 lpm for STE	ipling. for STEL EL		

Benzaldenvde	Be	nzal	de	hvd	le
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DenLaraen	'yac						
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
100-52-7	NIOSH 2016		HPLC		SGT, DNPH (SKC 226-119)		
Sampling Ratet Sampling Vol			/olumett	LOQ	LOD	Compatibility Code	
0.1-1.5 1-15		5	0.094 µg	0.048 µg	Aldehyde		
Interferences					Comments		
Other aldehydes and ketones will react with the 2,4-DNPH but can be chromatographically resolved.			Refriger Ship sar samplin	ate media be mples cold ov Ig. Use flow ra	fore and after sam ernight. <b>Preferred</b> ate of 1 lpm for STE	pling. <b>for STEL</b> EL	

Benzene						
CAS #	Analytical Method A		Analytical Technique		Sampling Media	
71-43-2	NIOS	NIOSH 1501		-FID	CT (SK	C 226-01, -09)
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code	
0.01-0	.2	5-3	0	0.40 µg	0.20 µg	CS <sub>2</sub>
li	es		Comments			
Sample at flow rate of 0.2 lpm for STEL.					m for STEL.	

Benzene							
CAS #	CAS # Analytical Method A		Analytical Technique		Sampling Media		
71-43-2	3M Method		GC-FID		OVM	(3M 3500)	
Sampling Ratet Sampling Vo		/olumett	LOQ	LOD	Compatibility Code		
35.5	35.5 15-480		80	0.60 µg	0.30 µg	CS <sub>2</sub>	
Interferences					Comments		
Benzo[a]pyrene (see PNA scan)							
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CAS #	Analytical Method		Analytica	l Technique	Sam	oling Media	
50-32-8	OSHA 58		HI	PLC	GFF (	(SKC 225-7)	
Sampling Rate† Sampling Vo		/olumett	LOQ	LOD	Compatibility Code		
2		96	0	0.20 µg	0.10 µg	PNAs	
Interferences					Comments		
Asphalt fumes will interfere.			After sa wrap ind	After sampling, separate filter from sorbent tube. Cap and wrap individually in aluminum foil. Ship and store cold.			

Benzo[a]pyrene (see PNA scan)								
CAS #	Analytical Method A		Analytica	l Technique	Sam	pling Media		
50-32-8	NIOS	SH 5506	Н	PLC	PTF (PALL P5PJC	E2/XAD-2 37, SKC 226-30-04)		
Sampling Rate† Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
2		200-10	000	0.20 µg	0.10 µg	PNAs		
I	Interferences				Comments			
Asphalt fumes will interfere.			After sa wrap ind	mpling, sepa dividually in a	rate filter from sorl luminum foil. Ship	oent tube. Cap and and store cold.		

Benzo[b	fluoranthene	(see F	PNA scan)

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CAS #	Analytic	cal Method	Analytica	l Technique	Sampling Media		
205-99-2	NIOSH 5506		Н	PLC	PTF (PALL P5PJ0	E2/XAD-2 37, SKC 226-30-04)	
Sampling Ratet Sampling Vol			/olumett	LOQ	LOD	Compatibility Code	
2		200-1	000	0.19 µg	0.095 µg	PNAs	
Interferences					Comments		
Asphalt fumes will interfere.			After sa wrap ind	mpling, separ dividually in al	ate filter from sort uminum foil. Ship	pent tube. Cap and and store cold.	

Benzo[e]p	yrene						
CAS #	Analytical Method A		Analytica	l Technique	Sam	oling Media	
192-97-2	NIOS	SH 5515	GC	C-MS	PTF (PALL P5PJ0	PTFE2/XAD-2 (PALL P5PJ037, SKC 226-30-04)	
Sampling Rate† Sampling Vol			olumett	LOQ	LOD	Compatibility Code	
2		200-10	000	0.57 µg	0.29 µg	PNAs	
Interferences					Comments		
Asphalt fumes will interfere.			After sa wrap ind	After sampling, separate filter from sorbent tube. Cap and wrap individually in aluminum foil. Ship and store cold.			

Benzo[ghi]perylene (see PNA scan)								
CAS #	Analytical Method A		Analytica	l Technique	Sam	oling Media		
191-24-2	NIOS	SH 5506	Н	PLC	PTF (PALL P5PJ0	E2/XAD-2 37, SKC 226-30-04)		
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
2		200-10	000	0.27 µg	0.14 µg	PNAs		
Interferences					Comments			
Asphalt fumes will interfere			After sa wrap ind	After sampling, separate filter from sorbent tube. Cap and wrap individually in aluminum foil. Ship and store cold.				

Benzo[k]fluoranthene (see PNA scan)								
CAS #	Analytical Method A		Analytica	l Technique	Sam	oling Media		
207-08-9	NIOS	SH 5506	Н	PLC	PTFE2/XAD-2 (PALL P5PJ037, SKC 226-30-04			
Sampling Rate† Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
2		200-10	00	0.25 µg	0.13 µg	PNAs		
Interferences					Comments			
Asphalt fumes will interfere.			After sa wrap ind	After sampling, separate filter from sorbent tube. Cap and wrap individually in aluminum foil. Ship and store cold.				

Benzyl Alcohol								
CAS #	Analytical Method		Analytica	Technique	Samp	oling Media		
100-51-6	NIOS	SH 1402	GC	-FID	CT (SKC 226-01, -09)			
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
0.05-0	.2	1-1	0	0.72 µg	0.36 µg	5%IPA/CS <sub>2</sub>		
Interferences					Comments			

	Analytical Method A		Analytical	Technique	Sampling Media	
100-51-6	3M Method		GC	-FID	OVM (3M 3500)	
Sampling Ratet		Sampling	Volumett	LOQ	LOD	Compatibility Code
27.1		15-4	180	1.1 µg	0.55 µg	CS <sub>2</sub>

Benzyl Chloride								
CAS #	Analytical Method		Analytica	l Technique	Sam	oling Media		
100-44-7	NIOS	SH 1003	GC	-FID	CT (SK	C 226-01, -09)		
Sampling Ratet Sampling Vo		/olumett	LOQ	LOD	Compatibility Code			
0.01-0	0.01-0.2 1-10		0	0.73 µg	0.37 µg	CS <sub>2</sub>		
Interferences					Comments			

Benzyl Ch	3enzyl Chloride									
CAS #	Analytical Method		Analytica	cal Technique Sampling Media		oling Media				
100-44-7	3M	Method	GC	-FID	OVM	OVM (3M 3500)				
Sampling	Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code				
27.2		15-4	80	1.1 µg	0.55 µg	CS <sub>2</sub>				
l	nterferenc	es			Comments					

Beryllium	Beryllium and compounds as Be								
CAS #	Analytic	cal Method	Analytica	cal Technique Sampling Media					
7440-41-7	NIOS NIOS OSHA	NIOSH 7301 NIOSH 7303 OSHA ID-125G		ICP MCE or PVC (SKC 225-5 or SKC 225-5-3		E or PVC or SKC 225-5-37-P)			
Sampling Rate† Sampling Vol		olumett	LOQ	LOD	Compatibility Code				
1-4	1-4 400-100		000	0.010 µg	0.0050 µg	Metals			
l	nterferenc	es			Comments	1			
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			Minimu part of t standar submiss you coll submiss Berylliu	m air volume r the Lab's QC pr d in metal anal sion form if ytt ected your sar sion form if ber m oxide require	equired at 1/2 of otocol, yttrium is lysis. Please indic rium is present in nples. Also indica ryllium oxide is su es analysis by OSI	TLV is 400 L. As used as internal ate in your sample the area where te in your sample spected to be present. HA ID-125G.			

Beryllium and Compounds as Be								
CAS #	Analytic	cal Method	Analytica	l Technique	Sampling Media			
7440-41-7	NIOS NIOS	SH 7301 SH 7303	ICF	P-MS	MCE or PVC (SKC 225-5 or SKC 225-5-37-P)			
Sampling Ratet Sampling Volu		/olumett	LOQ	LOD	Compatibility Code			
2	2 240		0	0.0012 µg	0.00059 µg	Metals		
li	Interferences			Comments				
			As part lutetium Please i rhodium you coll submiss Berylliu	of the Lab's Q( are used as ir ndicate in you n, and/or luteti ected your sar sion form if be m oxide require	C protocol, yttrium nternal standards r sample submiss um are present in mples. Also indica ryllium oxide is su es analysis by OSI	n, rhodium, and in ICP-MS analysis. <b>sion form if yttrium, the area where</b> Ite in your sample Ispected to be present. HA ID-125G.		

t(LPM) (CC/Min)

Beryllium and Compounds as Be								
CAS #	Analytic	cal Method	Analytica	l Technique	Sam	pling Media		
7440-41-7	OSH. OSHA	A ID-121 A ID-125G		CP	ghost wip	ghost wipe (SKC 225-2414)		
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
NA	NA NA		L .	0.082 µg	0.041 µg	Metals2		
li	nterferenc	es		Comments				
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			As part standar submiss you coll submiss Berylliu	As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. Please indicate in your sample submission form if yttrium is present in the area where you collected your samples. Also indicate in your sample submission form if beryllium oxide is suspected to be present. Beryllium oxide requires analysis by OSHA ID-125G.				

Biphenyl (Diphenyl)									
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
92-52-4	OSHA	OSHA PV2022		-FID	XAD-7	(SKC-226-95)			
Sampling Ratet Sampling Vol			/olumett	LOQ	LOD	Compatibility Code			
0.20	0.20 20		)	0.46 µg	0.23 µg	CS <sub>2</sub>			
Interferences				Comments					

Bismuth							
CAS #	Analytical Method A		Analytica	l Technique	Sam	oling Media	
7440-69-9	NIOS NIOS OSHA	SH 7301 SH 7303 A ID-125G		CP	MCE or PVC (SKC 225-5 or SKC 225-5-37-P)		
Sampling Ratet Sampling Vol			olumett/	LOQ	LOD	Compatibility Code	
1-4		25-10	000	) 0.50 µg 0.25 µg Met		Metals	
l	nterferenc	es		Comments			
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			As part internal in your s in the a	As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. <b>Please indicate</b> in your sample submission form if yttrium is present in the area where you collected your samples.			

Bisphenol	Α							
CAS #	Analytical Method		Analytica	l Technique	Sampling Media			
80-05-7	OSH	A 1018	HI	PLC		GFF		
Sampling	Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code		
1.0		240	C	0.32 µg	0.16 µg			
lı	Interferences				Comments			
Samples must be stored and shipped cold.								

Borate compounds, inorganic								
CAS #	Analytical Method A		Analytica	Analytical Technique		Sampling Media		
varies	NIOSH 7303		ļ	ICP		MCE or PVC (SKC 225-5 or SKC 225-5-37-P)		
Sampling Rate† Sampling Vol		/olumett	LOQ		LOD	Compatibility Code		
1-4		25	5	varies		varies	Metals	
l	nterferenc	es		Comments				
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			LOQ for protoco analysis <b>if yttriu</b> <b>sample</b> before s	LOQ for boron is 1.1 µg/sample. As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. Please indicate in your sample submission form if yttrium is present in the area where you collected your samples. OEL is as inhalable. Order IOM samplers a week before survey date. Rental charges for IOM samplers apply.				

Breathing Air Grade D, Grade E									
CAS #	Analytic	cal Method	Analytica	l Technique	Sampling Media				
	NIOS	6H 0500 MI-A5	GI GC GC GC GC	RAV -FID -ECD -TCD -XSD	PTFE4 (PALL TF-450) Cylinder				
Sampling	Sampling Rate† Sampling Vol			LOQ	LOD	Compatibility Code			
NA	NA 40-1000 (grav 300cc/25 (Cylinde		avimetric) 25 psig der)	Note 1	-	ВА			
li	Interferences			Comments					
At high levels argon interferes with oxygen and nitrous oxide interferes with carbon dioxide.		A partic	A particulate blank is required.						

Bromine							
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
7726-95-6	NIOS	SH 6011		IC PTFE-AgMF (SKC 225-1708, SKC 225-18		FE-AgMF 08, SKC 225-1802)	
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code		
0.3-1.	0	70-3	60	4.5 µg	3.0 µg	Cl <sub>2</sub> &Br <sub>2</sub>	
l	es		Comments				
Hydrobromic acid will interfere.			Preferre	Preferred method.			

Bromo(1-)-2-Chloroethane									
CAS #	Analytical Method		Analytical Technique		Sampling Media				
107-04-0	NIOS	H 1003 GC		-FID	CT (SK	C 226-01, -09)			
Sampling Rate† Sampling Vol		/olumett	LOQ	LOD	Compatibility Code				
0.01-0	.2	1-1	0	1.0 µg	0.50 µg	CS <sub>2</sub>			
Interferences				Comments					

Bromoform	n						
CAS #	AS # Analytical Method A		Analytica	l Technique	Sampling Media		
75-25-2	NIOS	SH 1003	GC	-FID	CT (SK	C 226-01, -09)	
Sampling	Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code	
0.01-0	.2	1-5	0	1.1 µg	0.55 µg	CS <sub>2</sub>	
Interferences				Comments			

Bromoforr	n						
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
75-25-2	3M	3M Method		-FID	OVM	(3M 3500)	
Sampling	Sampling Rate† Sampling Volu		olumett/	LOQ	LOD	Compatibility Code	
29.3		15-4	80	1.7 µg	0.85 µg	CS <sub>2</sub>	
Interferences				Comments			

Bromopropane(1-)									
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
106-94-5	OSHA	OSHA PV2061		-FID	CT (SK	C 226-01, -09)			
Sampling Rate† Sampling Vol		olumett	LOQ	LOD	Compatibility Code				
0.1		12		1.3 µg	0.65 µg	CS <sub>2</sub>			
Interferences				Comments					

Bromopropane(1-)								
CAS #	Analytical Method		Analytical Technique		Sampling Media			
106-94-5	3M Method		GC-FID		OVM (3M 3500)			
Sampling Ratet Sampling Vol			olumett/	LOQ	LOD	Compatibility Code		
31.7		15-4	80 2.0 µg		1.0 µg	CS <sub>2</sub>		
l	Interferences				Comments			

Butadiene(1,3-)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
106-99-0	NIOS	SH 1024	GC	C-MS	CT-CT	(SKC 226-01)		
Sampling Ratet Sampling Vol			olumett/	LOQ	LOD	Compatibility Code		
0.05-0	).2	10-2	25	1.1 µg	0.55 µg	MC		
-	nterferenc	es			Comments			
High humidity (>80%) or other hydrocarbons present at permissible levels decrease sampler's capacity.			Use two tubes at overnigi	Use two large charcoal tubes in series. Separate and cap tubes after sampling. Ship cold overnight. If unable to ship overnight, store cold and then ship cold the following day.				

Butadiene(1,3-)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
106-99-0	3M I	Method	ethod GC		GC-MS OVM (3M 3520)			
Sampling	Sampling Ratet Sampling Volume			LOQ	LOD	Compatibility Code		
42.8	42.8 15-480		80	1.7 µg 0.85 µg		MC $CS_2$		
l	Interferences					Comments		
Us the Sh ref				Use 3M 3520. Separate front section of the monitor from the back section and cap immediately after sampling. Ship cold overnight. If unable to ship cold overnight, refrigerate, and then ship cold the following day.				

# Butanedione(2,3-); (Butadione(2,3-), Diacetyl, Diketobutane, Dimethyl Diketone, Dimethylglyoxal)

CAS #	Analytic	cal Method	Analytica	Analytical Technique Sampling Media		oling Media		
431-03-8	LM-G	SCMS-12	GC	GC-MS SGT/GFF-SGT/GFF (SKC 226-1		/GFF (SKC 226-183)		
Sampling	ampling Ratet Sampling Volu		/olumett	LOQ	LOD	Compatibility Code		
0.05-0	0.2	2 9 (TWA 3 (15-min sho		0.16 µg	0.080 µg	95% EtOH		
Interferences				Comments				
		Sample tubes in during a samplin Order al samplin a minim	s are collected series. Samp and after samp g. Sample sep uminum foil f ig, a minimum aum of 9.0L is	d on two specially les should be proto bling. Separate and parately from CS <sub>2</sub> of or wrapping the sa of <b>3.0L is required</b> <b>required. Store an</b>	washed silica gel ected from the light d cap tubes after compatible solvents. mples. For STEL d. For TWA sampling, d ship cold overnight.			

Butanone(2-); (Methyl Ethyl Ketone)									
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
78-93-3	3M I	Vethod	GC	-FID	OVM	(3M 3500)			
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code			
36.3	}	15-4	80	1.2 µg	0.59 µg	CS <sub>2</sub>			
Interferences				Comments					
Isopropyl acetate may co-			Ship and	d store cold.					

Butanone(2-); (Methyl Ethyl Ketone)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
78-93-3	NIOS	SH 2500	GC	-FID	CT (SK	226-01, -09)		
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
0.01-0	.2	0.25-	12	0.79 µg	0.40 µg	CS <sub>2</sub>		
li	nterferenc	es			Comments			
Isopropyl acetate may co- elute with MEK.			Preferre	Preferred for STEL sampling. Sample at a flow rate of 0.2 lpm.				

Butoxyethanol(2-); (Butyl Cellosolve); (EGBE)									
CAS #	Analytical Method A		Analytica	l Technique	Sam	Sampling Media			
111-76-2	NIOS	SH 1403	GC	-FID	CT (SK	C 226-01, -09)			
Sampling	Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
0.01-0	.05	2-1	0	1.2 µg	0.60 µg	5%MeOH/MC			
Interferences					Comments				
	Sample separately from other solvents.								

Butoxyethanol(2-); (Butyl Cellosolve); (EGBE)									
CAS #	Analytical Method A		Analytica	l Technique	Samj	Sampling Media			
111-76-2	3M	Method	GC	C-FID	OVM	(3M 3500)			
Sampling Ratet Sampling Volu		olumett/	LOQ	LOD	Compatibility Code				
28.2	28.2 15-480		80	1.8 µg 0.90 µg		MC CS <sub>2</sub>			
l.	Interferences			Comments					
Sample separately from other solvents.									

Butoxyethoxy(2-(2-)) Ethanol									
CAS #	Analytical Method A		Analytica	Technique	Sampling Media				
112-34-5	OSHA	PV2095	GC	-FID	CT (SK	C 226-01, -09)			
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code				
0.05-0	).2	2-10	)	0.58 µg	0.29 µg	5%MeOH/MC			
Interferences				Comments					
			Sample separately from other solvents.						

Butoxyethoxy(2-(2-)) Ethyl Acetate								
CAS #	Analyti	Analytical Method		Analytical Technique		Sampling Media		
124-17-4	NIOS	SH 1450	GC-FID		CT (SKC 226-01, -09)			
Sampling	Sampling Ratet Sampling Vo		olumett	LOQ	LOD		Compatibility Code	
0.01-0	).2	2 1-10		0.87 µg	0.44 µg		CS <sub>2</sub>	
I	nterferend	es	Comments			ts		

Butoxyethyl(2-) Acetate; (Butyl Cellosolve Acetate); (EGBEA)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
112-07-2	NIOS	SH 1450	GC	-FID	CT (SK	C 226-01, -09)		
Sampling Ratet Sampling Volu		/olumett	LOQ	LOD	Compatibility Code			
0.01-0	.2	1-1	0	0.94 µg	0.47 µg	CS <sub>2</sub>		
Interferences				Comments				

Butoxyethyl(2-) Acetate; (Butyl Cellosolve Acetate); (EGBEA)								
CAS #	Analytical Method A		Analytica	l Technique	Sam	oling Media		
112-07-2	3M	Method	thod GC-F		OVM	(3M 3500)		
Sampling Ratet Sampling Vol		olumett LOQ		LOD	Compatibility Code			
24.3		15-4	80	1.4 µg	0.70 µg	CS <sub>2</sub>		
Interferences				Comments				

Butyl Acrylate									
CAS #	CAS # Analytical Method A		Analytica	l Technique	Sampling Media				
141-32-3	NIOS	SH 1450	GC	-FID	CT (SK	C 226-01, -09)			
Sampling	Sampling Rate† Sampling Vo		/olumett	LOQ	LOD	Compatibility Code			
0.01-0	.2	1-1	0	0.69 µg	0.35 µg	CS <sub>2</sub>			
Interferences				Comments					

Butyl Acrylate								
CAS #	CAS # Analytical Method A		Analytica	l Technique	Sampling Media			
141-32-3	3M Method		GC-FID		OVM	(3M 3500)		
Sampling	Sampling Ratet Sampling Vo		/olumett	LOQ	LOD	Compatibility Code		
27.3		15-4	80	1.0 µg	0.50 µg	CS <sub>2</sub>		
l	nterferenc	es		Comments				

Butyl Cellosolve Acetate; (2-Butoxyethyl acetate); (EGBEA)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
112-07-2	NIOS	SH 1450	GC-FID CT (SKC 226-01, -09)		GC-FID CT (SKC 226-0			
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
0.01-0	.2	1-1(	)	0.94 µg	0.47 µg	CS <sub>2</sub>		
Interferences				Comments				

Butyl Cellosolve Acetate; (2-Butoxyethyl acetate); (EGBEA)								
CAS #	Analytical Method A		Analytical Technique		Samp	oling Media		
112-07-2	3M I	Method	GC	-FID	OVM	(3M 3500)		
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code			
24.3		15-4	80	1.4 µg	0.70 µg	CS <sub>2</sub>		
l	Interferences			Comments				

Butyl Cellosolve; (2-Butoxyethanol); (EGBE)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
111-76-2	NIOS	SH 1403	GC	-FID	CT (SK	CT (SKC 226-01, -09)		
Sampling Ratet Sampling Vol		olumett/	LOQ	LOD	Compatibility Code			
0.01-0.	05	2-1	0	1.2 µg	0.60 µg	5%MeOH/MC		
Interferences				Comments				

Butyl Cellosolve; (2-Butoxyethanol); (EGBE)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
111-76-2	3M	Method	GC-FID		OVM	(3M 3500)		
Sampling	Sampling Rate† Sampling Vol		olumett	LOQ	LOD	Compatibility Code		
28.2		15-4	80	1.8 µg	0.90 µg	MC		
l	Interferences				Comments			
	Sample separately from other solvents.							

Butyl(n-) Acetate									
CAS #	# Analytical Method		Analytical Technique		Sampling Media				
123-86-4	NIOSH 1450		GC	C-FID	CT (SK	C 226-01, -09)			
Sampling Ratet Sampling Vo		/olumett	LOQ	LOD	Compatibility Code				
0.01-0	.2	1-1	0 0.84 µg		0.42 µg	CS <sub>2</sub>			
l	nterferenc	es		Comments					

Butyl(n-) Acetate									
CAS #	CAS # Analytical Method A		Analytica	l Technique	Sampling Media				
123-86-4	3M	3M Method		-FID	OVM	(3M 3500)			
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code				
31.6	)	15-48	80	1.3 µg	0.65 µg	CS <sub>2</sub>			
Interferences				Comments					

Butyl(n-) Alcohol									
CAS #	Analytical Method		Analytical Technique		Sampling Media				
71-36-3	NIOS	SH 1401	GC-FID		CT (SKC 226-01, -09)				
Sampling	Sampling Ratet Sampling Vo		/olumett	LOQ	LOD	Compatibility Code			
0.01-0	.2	2-1	0	0.67 µg	0.34 µg	1%IPA/CS <sub>2</sub>			
l	Interferences			Comments					

Butyl(n-) Alcohol								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
71-36-3	3M	Method	GC	-FID	OVM	(3M 3500)		
Sampling	Sampling Rate† Sampling Vol		olumett	LOQ	LOD	Compatibility Code		
34.3	}	15-4	80	1.0 µg 0.50 µg МС		MC		
I	Interferences			Comments				
Sample separately from other solvents.								

Butyl(n-) Glycidyl Ether									
CAS #	Analytical Method		Analytica	l Technique	Sampling Media				
2426-08-6	NIOSH 1616		GC-FID		CT (SK	C 226-01, -09)			
Sampling Ratet Sampling Vo		/olumett	LOQ	LOD	Compatibility Code				
0.05-0	).2	15-3	30	1.1 µg	0.55 µg	CS <sub>2</sub>			
Interferences				Comments					

Butyl(n-) Glycidyl Ether									
CAS #	Analytical Method		Analytical Technique		Sampling Media				
2426-08-6	3M Method		GC-FID		OVM	(3M 3500)			
Sampling Ratet Sampling Vo		/olumett	LOQ	LOD	Compatibility Code				
27.0		15-4	80 1.7 µg		0.85 µg	CS <sub>2</sub>			
lı	nterferenc	es		Comments					

Butyl(sec-) Acetate									
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
105-46-4	NIOS	SH 1450	GC-FID		CT (SKC 226-01, -09)				
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code				
0.01-0	.2	1-1	0	0.71 µg	0.36 µg	CS <sub>2</sub>			
Interferences				Comments					

Butyl(sec-) Acetate								
CAS #	Analytical Method		Analytical Technique		Sampling Media			
105-46-4	3M Method		GC-FID		OVM	(3M 3500)		
Sampling Ratet Sampling Vo		olumett/	LOQ	LOD	Compatibility Code			
28.6		15-4	80	1.1 µg	0.55 µg	CS <sub>2</sub>		
l	Interferences			Comments				

Butyl(sec-) Alcohol									
CAS #	Analytical Method A		Analytica	l Technique	Samj	Sampling Media			
78-92-2	NIOS	NIOSH 1401		-FID	CT (SK	C 226-01, -09)			
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code				
0.01-0	.2	2-1	0	1.0 µg	0.50 µg	1%IPA/CS <sub>2</sub>			
Interferences				Comments					

Butyl(sec-) Alcohol								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
78-92-2	3M	3M Method		-FID	OVM	(3M 3500)		
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
34.8	34.8 15-480		80	1.5 µg	0.75 µg	MC CS <sub>2</sub>		
Interferences					Comments			

Butyl(tert-) Acetate									
CAS #	Analytical Method A		Analytical Technique		Sampling Media				
540-88-5	NIOS	SH 1450	GC	-FID	CT (SK	C 226-01, -09)			
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code				
0.01-0	.2	1-1	0	0.84 µg	0.42 µg	CS <sub>2</sub>			
Interferences				Comments					

Butyl(tert-) Acetate									
CAS #	Analytical Method A		Analytical Technique		Sampling Media				
540-88-5	3M I	Method	GC	-FID	OVM	(3M 3500)			
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code				
29.4		15-48	80	1.3 µg	0.65 µg	CS <sub>2</sub>			
Interferences				Comments					

Butyl(tert-) Alcohol									
CAS #	Analytical Method		Analytica	l Technique	Sampling Media				
75-65-0	NIOS	NIOSH 1400		-FID	CT (SK	C 226-01, -09)			
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code				
0.01-0	.2	2-1	0	0.55 µg	0.28 µg	BUT/CS <sub>2</sub>			
Interferences				Comments					

Butyl(tert-) Alcohol									
CAS #	Analytical Method		Analytical Technique		Sampling Media				
75-65-0	3M	Method	GC-FID		OVM	(3M 3500)			
Sampling	Sampling Ratet Sampling Vo		/olumett	LOQ	LOD	Compatibility Code			
35.2		15-4	-80	0.83 µg	0.42 µg	CS <sub>2</sub>			
Interferences				Comments					

Butyraldehyde(n-)									
CAS #	Analytical Method		Analytica	l Technique	Sampling Media				
123-72-8	NIOS	NIOSH 2016		PLC	AT Monitor (N571AT)				
Sampling Ratet Sampling Vol			/olumett	LOQ	LOD	Compatibility Code			
8.20	8.20 15-480		80	0.037 µg 0.019 µg		Aldehyde			
I	Interferences				Comments				
Other aldehydes and ketones will react with the 2,4-DNPH but can be chromatographically resolved.			Refrige Ship sa	Refrigerate media before and after sampling. Ship samples cold overnight.					

Butyraldehyde(n-)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
123-72-8	NIOS	NIOSH 2016		PLC	Sep-Pak	(WAT047205)		
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
0.1-1.	5	10-1	00	0.19 µg	0.095 µg	Aldehyde		
Interferences				Comments				
Other aldehydes and ketones will react with the 2,4-DNPH but can be chromatographically resolved.			Refriger Ship sar <b>samplin</b>	Refrigerate media before and after sampling. Ship samples cold overnight. <b>Preferred for STEL</b> <b>sampling</b> . Sample at 1.0 lpm for STEL.				

Butyraldehyde(n-)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
123-72-8	NIOS	SH 2016	Н	PLC	SGT, DNP	H (SKC 226-119)		
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
0.1-1.	5	1-1	5	0.073 µg	0.037 µg	Aldehyde		
h	nterferenc	es		Comments				
Other aldehydes and ketones will react with the 2,4-DNPH but can be chromatographically resolved.			Refriger Ship sar samplin	Refrigerate media before and after sampling. Ship samples cold overnight. <b>Preferred for STEL</b> <b>sampling</b> . Sample at 1.0 lpm for STEL.				

Butyric Ac	id						
CAS #	Analytical Method		Analytical Technique		Sampling Media		
107-92-6	NIOS	SH 2011		IC	PTF (SKC 225-17	PTFE3-SGT** (SKC 225-17A, SKC 226-10-03)	
Sampling Ratet Sampling Vo		/olumett	LOQ	LOD	Compatibility Code		
0.05-0	).5	15-1	00	2.3 µg 1.2 µg		Acid2	
I	nterferenc	es		Comments			
			Preferre Use 0.2	Preferred method for STEL and also Lab-preferred method. Use 0.2 lpm flow rate. DO NOT sample with inorganic acids.			

Cadmium and compounds as Cd									
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
7440-43-9	NIOS NIOS OSHA	GH 7301 GH 7303 GID-125G	ŀ	CP	MCE or PVC (SKC 225-5 or SKC 225-5-37-P)				
Sampling Rate† Sampling Vol			olumett	LOQ	LOD	Compatibility Code			
1-4		500-1	000	0.10 µg 0.050 µg Metals		Metals			
l	nterferenc	es			Comments				
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			As part internal in yours in the a	As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. <b>Please indicate</b> in your sample submission form if yttrium is present in the area where you collected your samples.					

Cadmium and compounds as Cd								
CAS #	Analytic	cal Method	Analytica	l Technique	Samı	oling Media		
7440-43-9	OSH. OSHA	A ID-121 ID-125G	ICP		ghost wipe (SKC 225-2414)			
Sampling Ratet Sampling Vol			/olumett	LOQ	LOD	Compatibility Code		
NA NA			4	0.50 μg 0.25 μg Metals2				
li li	nterferenc	es		Comments				
Spectral inter primary interf in ICP-AES an	ferences a erences ei alysis.	re the ncountered	As part internal in your s in the a	As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. <b>Please indicate</b> in your sample submission form if yttrium is present in the area where you collected your samples.				

Cadmium and compounds as Cd								
CAS #	Analytic	cal Method	Analytica	l Technique	Sampling Media			
7440-43-9	NIOS NIOS	SH 7301 SH 7303	ICF	P-MS	MCE or PVC (SKC 225-5 or SKC 225-5-37-P)			
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
1-4	1-4 160-240		40	0 0.032 μg 0.016 μg Metals		Metals		
Interferences				Comments				
		As part and lute analysis form if y in the a	As part of the Lab's QC protocol, yttrium, rhodium, and lutetium are used as internal standards in ICP-MS analysis. Please indicate in your sample submission form if yttrium, rhodium, and/or lutetium are present in the area where you collected your samples.					

t(LPM) (CC/Min)

Calcium							
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
7440-70-2	NIOS NIOS OSHA	SH 7301 SH 7303 A ID-125G	ICP		MCE or PVC (SKC 225-5 or SKC 225-5-37-P)		
Sampling Ratet Sampling Vol			olumett/	LOQ	LOD	Compatibility Code	
1-4		100-1	000	0 7.9 μg 4.0 μg Metals		Metals	
Interferences			Comments				
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			All form protoco Please i is prese	All forms of calcium are quantified. As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. Please indicate in your sample submission form if yttrium is present in the area where you collected your samples.			

Calcium Carbonate								
CAS #	Analytic	cal Method	Analytica	l Technique	Sampling Media			
1317-65-3	NIOS NIOS OSHA	SH 7301 SH 7303 A ID-125G		CP	MCE or PVC (SKC 225-5 or SKC 225-5-37-P)			
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
1-4		100-1	000	0 20 μg 10 μg Metals		Metals		
l	nterferenc	es		Comments				
Spectral interferences are the primary interferences encountered in ICP-AES analysis. All forms of calcium are quantified. protocol, yttrium is used as internal <b>Please indicate in your sample subr</b> is present in the area where you col If client wants different calcium sal indicate in sample submission form					are quantified. As p sed as internal star ur sample submiss where you collect nt calcium salts s bmission form or	part of the Lab's QC ndard in metal analysis. sion form if yttrium ed your samples. peciated, please call/email Lab.		

Calcium Carbonate									
CAS #	Analytical Method A		Analytica	l Technique	Sam	Sampling Media			
1317-65-3	NIOS	SH 0500	GI	RAV	Pre-weighed P	VC (SKC 225-5-37-P)			
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code				
1-15		20-72	200	50 µg	10 µg				
Interferences					Comments				
All other dusts will interfere.			For pers lpm, for	For personal sampling use a flow rate of 1-2 lpm, for area sampling up to 15 lpm.					

Calcium Hydroxide								
CAS #	Analytic	cal Method	Analytica	l Technique	Sam	pling Media		
1305-62-0	NIOS NIOS OSHA	SH 7301 SH 7303 A ID-125G		CP	MCE or PVC (SKC 225-5 or SKC 225-5-37-P)			
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
1-4		100-1	000	0 15 μg 7.5 μg Metals		Metals		
l	nterferenc	es		Comments				
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			All form protoco Please i is prese If client indicate	All forms of calcium are quantified. As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. Please indicate in your sample submission form if yttrium is present in the area where you collected your samples. If client wants different calcium salts speciated, please indicate in sample submission form or call/amail Lab				

Calcium O	xide							
CAS #	Analytic	cal Method	Analytica	Analytical Technique		Sampling Media		
1305-78-8	NIOS NIOS OSHA	GH 7301 GH 7303 GID-125G	ICP		MCE or PVC (SKC 225-5 or SKC 225-5-37-P)			
Sampling Ratet Sampling Volumett LOQ				LOD	Compatibility Code			
1-4 100-100		000	0 11 μg 5.5 μg Metals		Metals			
I	nterferenc	es		Comments				
Spectral inter primary interf in ICP-AES an	ferences a erences er alysis.	All form QC prot analysis if yttriu sample please i	All forms of calcium are quantified. As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. Please indicate in your sample submission form if yttrium is present in the area where you collected your samples. If client wants different calcium salts speciated, please indicate in sample submission form or call/email Lab.					

Calcium Oxide								
CAS #	Analytic	cal Method	Analytica	l Technique	Sampling Media			
1305-78-8	NIOS NIOS	SH 7301 SH 7303	ICP-MS		MCE or PVC (SKC 225-5 or SKC 225-5-37-P)			
Sampling Rate† Sampling Volu			olumett	LOQ	LOD	Compatibility Code		
1-4	1-4 40-240		40	4.6 μg 2.3 μg Met		Metals		
l	nterferenc	es			Comments			
As and ana for in t			As part and lute analysis form if y in the a	of the Lab's C etium are used s. Please indic yttrium, rhodi rea where you	C protocol, yttriun d as internal stand cate in your sample um, and/or lutetiur collected your sam	n, rhodium, ards in ICP-MS e submission n are present mples.		

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Calcium Silicate Synthetic Nonfibrous									
CAS #	Analytical Method A		Analytica	l Technique	Sam	Sampling Media			
1344-95-2	NIOS	SH 0500	GI	RAV	Pre-weighed P	VC (SKC 225-5-37-P)			
Sampling Ratet Sampling Volu		olumett/	LOQ	LOD	Compatibility Code				
1-15		40-72	200	50 µg	10 µg				
Interferences				Comments					

Calcium Sulfate (Gypsum)									
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
7778-18-9	NIOS	SH 0500	GRAV		Pre-weighed P	Pre-weighed PVC (SKC 225-5-37-P)			
Sampling Rate† Sampling Vo		olumett	LOQ	LOD	Compatibility Code				
1-15		20-72	00	50 µg	10 µg				
Interferences					Comments				
All other dusts will interfere.			For pers lpm, for	For personal sampling use a flow rate of 1-2 lpm, for area sampling up to 15 lpm.					

Camphor							
CAS #	# Analytical Method A		Analytica	l Technique	Sampling Media		
76-22-2	NIOSH 1301		GC-FID		CT (SK	C 226-01, -09)	
Sampling Rate† Sampling Vo		olumett	LOQ	LOD	Compatibility Code		
0.01-0	.2	1-2	5	0.53 µg	0.27 µg	MeOH/CS <sub>2</sub>	
Interferences Comments							
			Preferre Sample	<b>Preferred method</b> . Sample at 0.2 lpm for STEL. Sample separately from $CS_2$ compatible solvents.			

Camphor							
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
76-22-2	3M Method		GC-FID		OVM	(3M 3500)	
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code		
21.4		15-4	80	0.80 µg 0.40 µg		CS <sub>2</sub>	
Interferences Comments							
			Sample	separately fro	om CS <sub>2</sub> compatible	e solvents.	

Caprolacta	am						
CAS #	Analytical Method A		Analytical Technique		Sampling Media		
105-60-2	05-60-2 OSHA PV2012		HPLC		OVS 7	(SKC 226-57)	
Sampling	Sampling Ratet Sampling Vo		olumett/	LOQ	LOD	Compatibility Code	
1		10	0	2.1 µg	1.1 µg		
l	nterferenc	es		Comments			

Carbaryl (SEVIN)								
CAS #	Analytical Method A			Technique	Sampling Media			
63-25-2	OSHA 63		HPLC		0VS-2 (S	SKC 226-30-16)		
Sampling	Sampling Ratet Sampling Volu			LOQ	LOD	Compatibility Code		
1	1 10-60		50	0.45 µg	0.23 µg			
Interferences				Comments				

Carbon Black								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
1333-86-4	NIOSH 5000		GRAV		Pre-weighed F	Pre-weighed PVC (SKC 225-5-37-P)		
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
1-2		30-57	70	50 µg	30 µg			
l	nterferenc	es		Comments				
All other dusts will interfere.			Preferre rate of 1	<b>Preferred method</b> . For personal sampling use a flow rate of 1-2 lpm, for area sampling up to 15 lpm.				

CAS #	Analytic	Analytical Method A		l Technique	Samp	oling Media
1333-86-4	OSHA ID-196		GI	RAV	Pre-weighed PVC (SKC 225-5-37-P)	
Sampling Ratet Sampling Vo		/olumett	LOQ	LOD	Compatibility Code	
2		460-	960	0 850 μg 420 μg		
l	nterferenc	es			Comments	
Particulates that are insoluble in THF and that either vaporize or lose weight between 150°C and 600°C will interfere.			Please r	notify lab prio	r to sample collect	ion.

Carbon Dis	sulfide						
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
75-15-0	0 NIOSH 1600		GC-MS		CT (SK	C 226-01, -09)	
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code	
0.05-0	).2	2-1	0	0.52 µg 0.26 µg		Tol	
l	Interferences Comments						
Sample separately from CS <sub>2</sub> compatible solvents. Store and ship cold.							

Carbon Disulfide									
CAS #	Analytical Method Ar		Analytica	l Technique	Sampling Media				
75-15-0	3M Method		GC	-MS	OVM	(3M 3520)			
Sampling	Sampling Ratet Sampling Volu			LOQ	LOD	Compatibility Code			
42.8		15-4	80	0.78 µg	0.39 µg	Tol			
l	nterferenc	es		Comments					
			Use 3M back se separate	Use 3M 3520. Separate front section of the monitor from the back section and cap immediately after sampling. Sample separately from $CS_2$ compatible solvents. Store and ship cold.					

Carbon Tetrachloride (tetrachloromethane)								
CAS #	Analytic	tical Method Analytical		lytical Technique Sampling Media		oling Media		
56-23-5	NIOS	SH 1003	H 1003 GC-FID		CT (SKC 226-01, -09)			
Sampling Ratet Sampling Vol			olumett/	LOQ	LOD	Compatibility Code		
0.01-0	.2	1.5-4	40	) 11 µg 5.5		CS <sub>2</sub>		
li	es		Comments					
			Use a flo method	Use a flow rate of 0.2 lpm for STEL. <b>Preferred</b> method for STEL sampling.				

Carbon Tetrachloride (tetrachloromethane)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
56-23-5	3M Method		GC-FID		OVM	(3M 3500)		
Sampling Ratet Sampling Vol		olumett/	LOQ	LOD	Compatibility Code			
30.2	30.2 15-480		80	17 µg	8.5 µg	CS <sub>2</sub>		
Interferences					Comments			

Cellosolve (2	2-Ethoxyethanol)
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CAS #	Analytical Method A		Analytica	Technique	Sampling Media		
110-80-5	NIOS	NIOSH 1403		-FID	CT (SKC 226-01, -09)		
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code		
0.01-0.05 1-6		)	0.54 µg	0.27 µg	5%MeOH/MC		
Interferences				Comments			
			Sample	separately fro	om other solvents.		

Cellosolve (2-Ethoxyethanol)								
CAS #	Analytic	Analytical Method A		l Technique	Sampling Media			
110-80-5	3M	Method	GC-FID		OVM	(3M 3500)		
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
32.4	32.4 15-480		80	0.81 µg	0.41 µg	MC CS <sub>2</sub>		
Interferences Comments								
			Sample	separately fro	om other solvents.			

#### **Ceramic Fibers**

CAS #	Analytic	nalytical Method A		l Technique	Sampling Media		
	NIOS	SH 7400	P	СМ	MCE, 25 mm (ZEFON Z008BA)		
Sampling	Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code	
0.5-1	б	50-72	20	0.050 fiber/ field	0.01 fiber/field		
Interferences				Comments			
Chain-like particles which may appear fibrous cause positive interference. High levels of non-fibrous dust particles may obscure fibers.			Adjust s loading When sh polystyr	ampling flow on the filter. D nipping your sa ene as can lea	rate and time to ob o not overload filte amples, do not pac ad to fiber loss from	otain optimum fiber er. Sample open faced. ck with untreated m electrostatic effect.	

Chlorine							
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
7782-50-5	NIOS	SH 6011	IC		PTFE-AgMF (SKC 225-1708, SKC 225-1802)		
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code		
0.3-1.	0	80-3	50	2.3 µg	1.2 µg	Cl <sub>2</sub> &Br <sub>2</sub>	
l	es		Comments				
Hydrochloric acid will interfere.			Preferre media c	<b>Preferred method</b> . Use a flow rate of 1.0 lpm for STEL. Order media one week ahead, media is prepared when ordered.			

### **Chlorine Dioxide**

CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
10049-04-4	0SH/	A ID-202		IC	Im	Impinger 4	
Sampling Ratet Sampling Volu		olumett	LOQ	LOD	Compatibility Code		
0.5		35-1	20	0.75 µg	0.38 µg		
li	es		Comments				
			Shelf-lif sample To avoic with dis	Shelf-life of impinger solution is 3 months. Transfer sample solution to labeled vials before shipping. To avoid "freezing" of glass to glass, rinse impinger with distilled water before returning to the lab.			

Chloro(2-)naphthalene								
CAS #	Analytical Method		Analytical Technique		Sampling Media			
91-58-7	NIOS	SH 5515	GC-MS		PTF (PALL P5PJ0	PTFE2/XAD-2 (PALL P5PJ037, SKC 226-30-04)		
Sampling	Sampling Ratet Sampling Vo		olumett	LOQ	LOD	Compatibility Code		
2		200-1	)00 0.60 µg		0.30 µg	PNAs		
	Interferences				Comments			
		After sa wrap ind	After sampling, separate filter from sorbent tube. Cap and wrap individually in aluminum foil. Ship and store cold.					

Chlorobenzene									
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
108-90-7	NIOSH 1003		GC	-FID	CT (SK	C 226-01, -09)			
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code				
0.01-0	).2	1.5-	40	0.57 µg	0.29 µg	CS <sub>2</sub>			
Interferences				Comments					

Chlorobenzene									
CAS #	Analytical Method		Analytical Technique		Sampling Media				
108-90-7	3M	Method	GC-FID		OVM	(3M 3500)			
Sampling Rate† Sampling Vo		olumett/	LOQ	LOD	Compatibility Code				
29.3	}	15-4	80	0.86 µg	0.43 µg	CS <sub>2</sub>			
Interferences					Comments				

Chlorodiphenyl (Polychlorobiphenyl, 42% Chlorine)								
CAS #	Analytic	Analytical Method A		l Technique	Sampling Media			
53469-21-9	NIOS	SH 5503	5503 GC-		GFF-Florisil (Millipore SX0001300/01 /AP2001300 SKC 226-39)			
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
0.05-0	.2	1-50	0	0.97 µg	0.49 µg			
Interferences				Comments				
Other chlorinated pesticides may interfere in the quantification of PCB.								

Chlorodiphenyl (Polychlorobiphenyl, 54% Chlorine)								
CAS #	# Analytical Method A		Analytica	l Technique	Sampling Media			
11097-69-1	NIOS	SH 5503	GC	C-MS	GFF-Florisil(Millipore SX0001300/01/ AP2001300 SKC 226-39)			
Sampling Ratet Sampling Vol			olumett/	LOQ	LOD	Compatibility Code		
0.05-0	.2	1-5	0	1.1 µg	0.55 µg			
l	nterferenc	es		Comments				
Other chlorinated pesticides may interfere in the quantification of PCB.								

Chloroform (Trichloromethane)									
CAS #	Analytical Method		Analytica	l Technique	Sampling Media				
67-66-3	NIOS	NIOSH 1003		-FID	CT (SK	C 226-01, -09)			
Sampling	Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
0.01-0	0.01-0.2 1-50		0	5.9 µg	3.0 µg	CS <sub>2</sub>			
Interferences				Comments					

## Chloroform (Trichloromethane)

CAS #	Analytical Method A		Analytica	<b>Technique</b>	Sampling Media		
67-66-3	3M	Method G		GC-FID O		V (3M 3500)	
Sampling Ratet Sampling Volu		olumett	LOQ	LOD	Compatibility Code		
33.5	j	15-480		8.9 µg	4.5 µg	CS <sub>2</sub>	
Interferences				Comments			

## Chlorophenol(p-)

CAS #	Analytical Method A		Analytical Technique		Sampling Media		
106-48-9	NIOS	SH 2014 HF		PLC	SGT (SKC 226-10)		
Sampling Ratet Sampling Volu		olumett	LOQ	LOD	Compatibility Code		
0.05-0	.2	10-40		0.10 µg	0.050 µg		
Interferences					Comments		

Chloroprene(beta-); (2-Chloro-1,3-butadiene)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
126-99-8	NIOS	SH 1002	GC	-FID	CT (SK	C 226-01, -09)		
Sampling Ratet Sampling Vo		olumett	LOQ	LOD	Compatibility Code			
0.01-0	).1	1.5-	8	0.43 µg	0.22 µg	CS <sub>2</sub>		
l	es		Comments					
Store and ship cold.								

Chloroprene(beta-); (2-Chloro-1,3-butadiene)							
CAS #	Analytical Method		Analytica	l Technique	Sampling Media		
126-99-8	3M I	Method	GC	-FID	OVM	(3M 3500)	
Sampling Ratet Sampling Vo		/olumett	LOQ	LOD	Compatibility Code		
32.2	-	15-4	80	0.65 µg	0.33 µg	CS <sub>2</sub>	
Interferences				Comments			
Store and ship cold.							

Chlorotolu	iene(o-)						
CAS #	Analytical Method		Analytica	l Technique	Sampling Media		
95-49-8	NIOS	NIOSH 1003		-FID	CT (SK	CT (SKC 226-01, -09)	
Sampling	Sampling Ratet Sampling Vo		/olumett	LOQ	LOD	Compatibility Code	
0.01-0	)1-0.2 1.5-40		40	0.47 µg	0.24 µg	CS <sub>2</sub>	
Interferences				Comments			

Chlorotolu	iene(o-)						
CAS #	Analytical Method		Analytical Technique		Sampling Media		
95-49-8	3M	Method	GC-FID		OVM	(3M 3500)	
Sampling	Sampling Ratet Sampling Vo		/olumett	LOQ	LOD	Compatibility Code	
27.3		15-4	80	0.70 µg	0.35 µg	CS <sub>2</sub>	
I	Interferences			Comments			

Chlorpyrifos (Dursban)							
CAS #	Analytical Method		Analytica	l Technique	Sampling Media		
2921-88-2	NIOS	NIOSH 5600		-NPD	OVS-2/QF (SKC 226-58)		
Sampling Rate† Sampling Vol		/olumett	LOQ	LOD	Compatibility Code		
0.2-1		12-2	40	0.039 µg	0.020 µg		
Interferences				Comments			
Organophosphate compounds may interfere.							

Chromium and Inorganic Compounds as Cr								
CAS #	Analytic	cal Method	Analytical Technique		Sampling Media			
7440-47-3	NIOS NIOS OSHA	SH 7301 SH 7303 A ID-125G	[	СР	MCE or PVC (SKC 225-5 or SKC 225-5-37-P)			
Sampling Rate† Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
1-4	1-4 670-100		000	0 1.0 µg 0.50 µg Ме		Metals		
h	nterferenc	es		Comments				
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			Minimum applies entries of chror is used indicate present	Minimum air volume required at ½ of TLV is 670 L. This applies to Cr III compounds. See chromium VI and chromate entries for special instructions on collection for this form of chromium. As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. Please indicate in your sample submission form if yttrium is present in the crea where you collected your complex				

Chromium and Inorganic compounds as Cr								
CAS #	Analytic	cal Method Analytical		l Technique	Sa	mpling Media		
7440-47-3	NIOS NIOS	)SH 7301 )SH 7303		P-MS	(SKC 225	MCE or PVC -5 or SKC 225-5-37-P)		
Sampling	ig Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code		
1-4		240-	500	0.75 µg	0.38 µg	Metals		
Interferences				Comments				
		Minimu applies entries of chror rhodium in ICP-N submiss present	m air volume to Cr III comp for special ins nium. As part n, and lutetiun AS analysis. P sion form if yt in the area w	required at ½ of ounds. See chro structions on co of the Lab's QC n are used as in lease indicate i ttrium, rhodium here you collec	TLV is 500 L. This omium VI and chromate llection for this form protocol, yttrium, cernal standards n your sample and/or lutetium are red your samples.			

Chromium and Inorganic compounds as Cr								
CAS #	Analytical Method A		Analytica	l Technique	Samı	Sampling Media		
7440-47-3	OSH. OSHA	A ID-121 ID-125G	I	CP	ghost wipe	ghost wipe (SKC 225-2414)		
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
NA NA		١	1.0 μg 0.50 μg Metals2		Metals2			
Interferences				Comments				
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			As part internal in your in the a	As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. <b>Please indicate</b> in your sample submission form if yttrium is present in the area where you collected your samples.				

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Chromium, Hexavalent compounds as Cr								
CAS #	Analytic	cal Method	Analytica	l Technique	Sam	oling Media		
7440-47-3	OSH	A ID-215		IC	PVC (Sk	(C 225-5-37-P)		
Sampling	Rate†	Sampling V	olumett	LOQ	LOD	Compatibility Code		
2 500-960		960	0.050 µg	0.020 µg				
Interferences				Comments				
Interferences Fe (II) appears to cause a negative interference during sampling and storage.			Please i sampled as the e sampled as poss TLV. Sau within 6 welding date of sampled	indicate in sat d (e.g., spray p xtraction met s. Refrigerate ible. 500 liter mples from pl days from da operations m sampling. If s rs a week ahe rs are not stor	mple submission f baint, chrome plati hod is different for samples and ship s is the minimum a lating operations m the of sampling. Sa nust be analyzed w ampling CrVI as in ad of survey date. ck items to be kep	orm the operation ng, welding, etc.) r spray paint overnight as soon ir volume at 50% nust be analyzed mples from ithin 8 days from halable, order IOM Remember IOM t indefinitely.		

Chromium, Hexavalent Compounds as Cr								
CAS #	Analytic	cal Method	Analytica	l Technique	Sam	pling Media		
7440-47-3	OSHA	A W4001		IC	QFF (Millipore	e AQFA03700) Wipes		
Sampling	Rate†	Sampling V	olumett	LOQ	LOD	Compatibility Code		
NA NA		L .	0.050 µg	0.020 µg				
Interferences				Comments				
Fe (II) appears to cause a negative interference during sampling and storage.			Please f Instruct cellulos Cr(VI) to operatio spray pa as soon request stabilize must be	follow "Hexav ions." Do not e ester (MCE) o Cr(III). Pleas on sampled as aint samples. as possible. vials contain e the samples analyzed wit	ralent Chromium W use ghost wipes, V ) or glass fiber filte se indicate in samp s the extraction mo Refrigerate sampl If sampling a chroi ing 10% Na <sub>2</sub> CO <sub>3</sub> wi Samples from we hin 8 days from da	<b>Vipe Sampling</b> Whatman, mixed rs as they convert <b>ole submission form the</b> <b>ethod is different for</b> es and ship overnight mium plating operation, th 2%NaHCO <sub>3</sub> to elding operations te of sampling.		

Chrysene	(see PN	A scan)					
CAS #	Analytical Method		Analytical Technique		Sampling Media		
218-01-9	OSHA 58		HPLC		GFF (	(SKC 225-7)	
Sampling Rate† Sampling Vo		olumett	LOQ	LOD	Compatibility Code		
2		960	)	0.11 µg	0.055 µg	PNAs	
Interferences				Comments			
Asphalt fumes will interfere.			After sa foil. Shi	After sampling, cap and wrap in aluminum foil. Ship and store cold.			

Chrysene	(see PN	A scan)						
CAS #	Analytical Method A		Analytica	l Technique	Sam	Sampling Media		
218-01-9	NIOS	SH 5506	H	PLC	PTF (PALL P5PJ0	E2/XAD-2 37, SKC 226-30-04)		
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
2		200-10	000	0.11 µg	0.055 µg	PNAs		
	Interferences			Comments				
Asphalt fumes will interfere.			After sa wrap ind	After sampling, separate filter from sorbent tube. Cap and wrap individually in aluminum foil. Ship and store cold.				

Coal Dust – Anthracite								
CAS #	Analytical Method A		Analytica	l Technique	Samı	Sampling Media		
	NIOS	NIOSH 0600		RAV	Pre-weighed P	Pre-weighed PVC (SKC 225-5-37-P)		
Sampling Ratet Sampling Vo		/olumett	LOQ	LOD	Compatibility Code			
1.7		50-8	16	50 µg	10 µg			
Interferences				Comments				
All other respirable dusts will interfere.			e. Use pre Oliver) o (SKC) cy	Use pre-weighed PVC 2-piece cassette for MSA (Dorr- Oliver) cyclones at 1.7 lpm and 3-piece cassette for BMRC (SKC) cyclones at 2.5 lpm and for BGI-4L at 2.2 lpm.				

Coal Dust – Bituminous									
CAS #	Analytical Method A		Analytica	l Technique	Samj	Sampling Media			
	NIOSH 0600		GI	RAV	Pre-weighed P	VC (SKC 225-5-37-P)			
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code				
1.7		50-8	316	50 µg	10 µg				
li li	es		Comments						
All other respirable dusts will interfere.			e. Use pre Oliver) o (SKC) cy	Use pre-weighed PVC 2-piece cassette for MSA (Dorr- Oliver) cyclones at 1.7 lpm and 3-piece cassette for BMRC (SKC) cyclones at 2.5 lpm and for BGI-4L at 2.2 lpm.					

Coal Tar Pitch Volatiles, as Benzene Soluble Aerosol									
CAS #	Analytic	cal Method	Analytica	l Technique		Sampling Media			
65996-93-2	OS	HA 58	GI	RAV		GFF (	SKC 225-7)		
Sampling Rate† Sampling Vo		/olumett	LOQ		LOD	Compatibility Code			
2	2 960		0	130 µg 28 µg					
h	nterferenc	es		Comments					
The method is non-specific and measures all substances soluble in benzene.			This me emissio fumes. I is analy selected Wrap sa	This method is used to air monitor coke oven emissions, petroleum combustion products & asphalt fumes. If the BSF exceeds the PEL, then the sample is analyzed by HPLC to determine the presence of selected polynuclear aromatic hydrocarbons (PAHs).					

Cobalt and Inorganic compounds as Co										
CAS #	Analytic	cal Method	Analytica	l Technique	Sampling Media					
7440-48-4	NIOS NIOS OSHA	NIOSH 7301 NIOSH 7303 OSHA ID-125G		CP	MCE or PVC (SKC 225-5 or SKC 225-5-37-P)					
Sampling Rate† Sampling Vol			olumett/	LOQ	LOD	Compatibility Code				
1-4		140-1	000	0 0.10 μg 0.050 μg Metals		Metals				
Interferences				Comments						
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			As part internal in your in the a	As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. <b>Please indicate</b> in your sample submission form if yttrium is present in the area where you collected your samples.						

Cobalt and Inorganic compounds as Co									
CAS #	Analytic	cal Method	Analytica	l Technique	San	npling Media			
7440-48-4	NIOS NIOS	SH 7301 SH 7303	ICF	P-MS	MCE or PVC (SKC 225-5 or SKC 225-5-37-P)				
Sampling Rate† Sampling Vol			olumett	LOQ	LOD	Compatibility Code			
1-4		75-24	40	0.025 µg 0.013 µg Metals		Metals			
h	nterferenc	es			Comments				
As part and lute analysis form if in the a				of the Lab's Q tium are used Please indic ttrium, rhodi rea where you	C protocol, yttriu d as internal stand cate in your samp um, and/or lutetin collected your s	m, rhodium, lards in ICP-MS le submission im are present amples.			

Cobalt and Inorganic compounds as Co										
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media					
7440-48-4	0SH/	A ID-121	l	СР	Ghost wi	ipe ( 225-2414)				
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code				
NA	JA NA		1	0.5 µg	0.25 µg	Metals 2				
Interferences				Comments						
Spectral inter primary interf in the ICP-AES	feremces a erences er S analysis.	are the ncountered	As part internal your sar in the ar	As part of the Lab's QC protocol, yttrium is used as internal standard in ICP analysis. Please indicate in your sample submission form if yttrium is present in the area where you collected your samples.						

Copper (Fume, Dusts and Mists) as Cu										
CAS #	Analytic	cal Method	Analytica	l Technique	Sampling Media					
7440-50-8	NIOSH 7301 NIOSH 7303 OSHA ID-125G		I	CP	MCE or PVC (SKC 225-5 or SKC 225-5-37-P)					
Sampling Ratet Sampling Vol			/olumett	LOQ	LOD	Compatibility Code				
1-4		70-10	000	) 1.4 μg 0.70 μg Metals		Metals				
l	es		Comments							
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			As part internal in your in the a	As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. <b>Please indicate</b> in your sample submission form if yttrium is present in the area where you collected your samples.						

Copper (Fume, Dusts and Mists) as Cu								
CAS #	Analytic	cal Method	Analytica	l Technique	Sam	pling Media		
7440-50-8	NIOS NIOS	SH 7301 SH 7303	ICF	P-MS	MCE or PVC (SKC 225-5 or SKC 225-5-37-P)			
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
1-4		40-2	40	0.10 μg 0.050 μg Metal		Metals		
	Interferences					Comments		
As part of the La and lutetium are analysis. Please form if yttrium, r in the area where				of the Lab's Q tium are used Please indic ttrium, rhodi rea where you	C protocol, yttriun l as internal stand cate in your sample um, and/or lutetiun collected your sa	n, rhodium, ards in ICP-MS e submission m are present mples.		

Copper (Fume, Dusts and Mists) as Cu										
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media					
7440-50-8	0SH/	A ID-121	l	СР	Ghost wi	ipe ( 225-2414)				
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code				
NA	A NA		١	5.0 µg	2.5 µg	Metals 2				
Interferences				Comments						
Spectral inter primary interf in the ICP-AES	ferences a erences er S analysis.	re the ncountered	As part internal your sar in the ar	As part of the Lab's QC protocol, yttrium is used as internal standard in ICP analysis. Please indicate in your sample submission form if yttrium is present in the area where you collected your samples.						

Cotton Dust, Raw									
CAS #	Analytical Method A		Analytica	l Technique	Sam	pling Media			
	NIOSH 0500		G	RAV	See	PVC See Comment			
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code				
See Com	ment	1000-3	3600	00 50 µg 10 µg					
li li	nterferenc	es		Comments					
All other dusts will interfere.			OSHA: ( PVC cas at 7.4 lp sample	OSHA: Open-faced sampling with 3-piece pre-weighed PVC cassette on a vertical elutriator, cotton-dust sampler at 7.4 lpm. ACGIH: Use BGI GK2.69 cyclone at 1.6 lpm; sample 768 liters for 65% of new thoracic TLV.					

Cresol, all Isomers										
CAS #	Analytical Method		Analytica	Analytical Technique		Sampling Media				
1319-77-3 95-48-7 108-39-4 106-44-5	OSHA 32		HPLC		XAD-7 (SKC 226-95)					
Sampling	Sampling Rate† Sampling Vo		olumett	lumett LOQ		DD	Compatibility Code			
0.1		5-2	4	0.39 µg	0.20	0 µg	Phenol & cresol			
Interferences				Comments						
	This me of cresc	thod is applied is applied in the second structure is the second structure in the second structure is	cable for al ta-, and par	ll isomer ra-).	S					

Cumene							
CAS #	Analytical Method A		Analytica	l Technique	Samp	oling Media	
98-82-8	NIOSH 1501		GC	-FID	CT (SK	C 226-01, -09)	
Sampling Ratet Sampling Vol			/olumett	LOQ	LOD	Compatibility Code	
0.01 -0	).2	2-3	0	0.55 μg 0.28 μg CS <sub>2</sub>		CS <sub>2</sub>	
	Interferences			Comments			
			Under co volumes NIC of 5	Under conditions of high humidity, the breakthrough volumes may be reduced by as much as 50%. <b>2020</b> NIC of 5 ppm TWA, A3 was adopted in 2021.			

Cumene							
CAS #	S # Analytical Method A		Analytica	l Technique	Sampling Media		
98-82-8	3M Method		GC	-FID	OVM	(3M 3500)	
Sampling	Sampling Rate† Sampling Vol		/olumett	LOQ	LOD	Compatibility Code	
24.5		15-4	80	0.83 µg	0.42 µg	CS <sub>2</sub>	
lı	nterferenc	es		Comments			
2020 NIC of 5 ppm TWA, A3 was adopted in 2021.						ed in 2021.	

Cyclohexa	ne						
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
110-82-7	NIOS	SH 1500	GC	-MS	CT (SK	C 226-01, -09)	
Sampling	Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code	
0.01-0	.2	2.5	-5	0.17 µg	0.083 µg	CS <sub>2</sub>	
Interferences				Comments			

Cyclohexa	ne						
CAS #	Analytical Method		Analytical Technique		Sampling Media		
110-82-7	3M	3M Method		C-MS	OVM	(3M 3500)	
Sampling	Sampling Ratet Sampling Vo		olumett/	LOQ	LOD	Compatibility Code	
32.4		15-3	60	0.25 µg 0.13 µg		CS <sub>2</sub>	
l	Interferences			Comments			

Cyclohexanol									
CAS #	Analytical Method		Analytical Technique		Sampling Media				
108-93-0	NIOS	NIOSH 1402		-FID	CT (SK	C 226-01, -09)			
Sampling	Sampling Rate† Sampling Vo		/olumett	LOQ	LOD	Compatibility Code			
0.01-0	.2	1-1	) 1.1 μg		0.55 µg	5%PRO/CS <sub>2</sub>			
li	nterferenc	es		Comments					

Cyclohexanol									
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
108-93-0	3M I	Method	GC-FID		OVM	(3M 3500)			
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code				
29.5	;	15-43	80	1.7 µg	0.85 µg	MC			
Interferences				Comments					
Sample separately from other solvents.									

Cyclohexanone									
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
108-94-1	NIOS	SH 1300	GC	C-FID	CT (SK	C 226-01, -09)			
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code				
0.01-0	.2	1-1(	)	0.72 µg	0.36 µg	CS <sub>2</sub>			
I	nterferenc	es		Comments					
Preferred for STEL sampling. Sample at a flow rate of 0.2 lpm.									

Cyclohexanone								
CAS #	Analytical Method		Analytica	l Technique	Sampling Media			
108-94-1	3M	Method	GC	-FID	OVM	(3M 3500)		
Sampling Ratet Sampling Vo		/olumett	LOQ	LOD	Compatibility Code			
28.9		15-4	80	1.1 µg	0.54 µg	CS <sub>2</sub>		
l	Interferences			Comments				

#### Cyclohexylamine CAS # **Analytical Method Analytical Technique Sampling Media** 108-91-8 **NIOSH 2010** GC-FID SGT (SKC 226-10) Sampling Ratet Sampling Volumett LOQ LOD **Compatibility Code** 0.01-1 5-30 5.9 µg 3.0 µg Amine1 Interferences Comments Methanol could interfere in low level analysis.

Cyclopentane									
CAS #	S # Analytical Method A		Analytica	l Technique	Sampling Media				
287-92-3	NIOS	SH 1500	GC	C-FID	CT (S	SKC 226-01)			
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code				
0.01-0	.2	2.5-5	5.0	0.40 µg	0.20 µg	CS <sub>2</sub>			
Interferences				Comments					
2021 NIC TWA 1000 ppm <sup>(EX)</sup> , A4.									

Cyclopentane								
CAS #	Analytical Method A		Analytica	l Technique	Sam	pling Media		
287-92-3	3M Method		GC	GC-FID		A (3M 3520)		
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code			
36.2		15-0	50	0.60 µg	0.30 µg	CS <sub>2</sub>		
l	Interferences			Comments				
			Use 3M from the samplin	Use 3M 3520. Separate front section of the monitor from the back section and cap immediately after sampling. 2021 NIC, TWA 1000 ppm <sup>(EX)</sup> , A4.				

Desflurane (Suprane)									
CAS #	Analytical Method A		Analytica	l Technique	Sam	Sampling Media			
57041-67-5	OSH	HA 106	GC	-FID	Anasorb 74	47 (SKC 226-81A)			
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code				
0.05		3		6.1 μg 3.1 μg CS <sub>2</sub>		CS <sub>2</sub>			
li	es		Comments						
Store and ship cold overnight.									

Desflurane (Suprane)								
CAS #	Analytical Method A		Analytica	l Technique	Sam	Sampling Media		
57041-67-5	-5 3M Method		GC	-FID	OVM	(3M 3520)		
Sampling Ratet Sampling Vol			olumett	umett LOQ LOI		Compatibility Code		
30.1		15-4	80	9.1 µg 4		CS <sub>2</sub>		
l	Interferences			Comments				
			Use 3M from the samplin	Use 3M 3520. Separate front section of the monitor from the back section and cap immediately after sampling. Store and ship cold overnight.				

Diacetone Alcohol (4-Hydroxy-4-methyl-2-pentanone)								
CAS #	Analytical Method		Analytical Technique		Sampling Media			
123-42-2	NIOS	SH 1402 GC		-FID	CT (SK	C 226-01, -09)		
Sampling	Sampling Ratet Sampling Ve		olumett/	LOQ	LOD	Compatibility Code		
0.01-0	.2	1-1	0	0.98 µg	0.49 µg	5%PRO/CS <sub>2</sub>		
Interferences				Comments				

Diacetone Alcohol (4-Hydroxy-4-methyl-2-pentanone)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
123-42-2	3M I	3M Method		-FID	OVM	(3M 3500)		
Sampling Ratet Sampling Vol		olumett/	LOQ	LOD	Compatibility Code			
28.2	-	15-4	80	1.5 µg	0.75 µg	MC		
l	Interferences			Comments				
Sample separately from other solvents.								

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Diacetyl (Biacetyl, 2,3-Butadione, 2	2,3-Butanedione,	Diketobutane, Dimethyl
Diketone, Dimethylglyoxal)		

Diffectorie,	Dimeting	igiyoxai)						
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
431-03-8	LM-G	SCMS-12	GC	C-MS	SGT/GFF-SGT	SGT/GFF-SGT/GFF (SKC 226-183)		
Sampling	Rate†	Sampling \	/olumett	LOQ	LOD	Compatibility Code		
0.05-0	).2	9 (TWA) 3 (15-min short term) 0.16 µg		0.080 µg	95%EtOH			
l	Interferences			Comments				
Samples are co tubes in series. light during and wrapping the s and cap tubes a CS <sub>2</sub> compatible of 3.0L is required 9.0L is required					d on two specially oles should be prot sampling. Order a s during and after ampling. Sample s ents. For STEL sam or TWA sampling, e and ship cold ov	washed silica gel tected from the Iluminum foil for sampling. Separate separately from Ipling, a minimum a minimum of ernight.		

Dibenzo[a,h]anthracene (see PNA scan)								
CAS #	Analytic	Analytical Method A		l Technique	Sampling Media			
53-70-3	NIOS	Н 5506 Н		PLC	PTFE2/XAD-2 (PALL P5PJ037, SKC 226-30-04)			
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
2		200-10	000	0.93 μg 0.47 μg PNAs				
Interferences				Comments				
Asphalt fumes will interfere.			After sa wrap ind	After sampling, separate filter from sorbent tube. Cap and wrap individually in aluminum foil. Ship and store cold.				

Dibromochloropropane (DBCP)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
96-12-8	OSHA In-house		GC-FID		Anasorb 747/ Ana	Anasorb 747/ Anasorb 747 (SKC 226-81A)		
Sampling Rate† Sampling Vol			olumett/	LOQ	LOD	Compatibility Code		
0.20	1	20	)	0.41 µg	0.205 µg	CS <sub>2</sub>		
l	nterferenc	es		Comments				
Sa				Sample with 2 Anasorb 747 tubes in series. Separate and cap tubes after sampling. Ship cold overnight.				

Dibutyl Ether									
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
142-96-1	NIOS	SH 1610	GC	-FID	CT (SK	C 226-01, -09)			
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code				
0.05-0	).2	1-1	0	0.85 μg 0.43 μg CS <sub>2</sub>		CS <sub>2</sub>			
I	nterferenc	es		Comments					
Store and ship cold.									

Dibutyl Phthalate									
CAS #	Analytical Method An		Analytica	l Technique	Sampling Media				
84-74-2	NIOS	SH 5020	GC-FID		MCE	(SKC 225-5)			
Sampling	Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
1-3		10-2	00	0.46 µg	0.23 µg	CS <sub>2</sub>			
l	nterferenc	es		Comments					
Sample at 1.0 lpm for STEL.									

Dichlorobe	enzene(	o-)					
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
95-50-1	NIOSH 1003		GC	C-FID	CT (SK	C 226-01, -09)	
Sampling	Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code	
0.01-0	.2	1-10	)	0.50 µg	0.25 µg	CS <sub>2</sub>	
Interferences				Comments			
Preferred for STEL sampling. Sample at a flow ra					t a flow rate of 0.2 lpm.		

Dichlorobenzene(o-)									
CAS #	Analytical Method		Analytical Technique		Sampling Media				
95-50-1	3M I	Method	GC-FID		OVM	(3M 3500)			
Sampling	Sampling Rate† Sampling Volu		/olumett	LOQ	LOD	Compatibility Code			
27.8		15-4	80	0.75 µg	0.38 µg	CS <sub>2</sub>			
Interferences					Comments				

Dichlorobenzene(p-)									
CAS #	Analytical Method An		Analytica	l Technique	Sampling Media				
106-46-7	NIOS	NIOSH 1003		-FID	CT (SK	C 226-01, -09)			
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code				
0.01-0	).2	1-8		0.45 µg	0.23 µg	CS <sub>2</sub>			
I	nterferenc	es		Comments					
Preferred for STEL sampling. Sample at a flow rate of 0.2 lpr									

Dichlorobenzene(p-)								
CAS #	AS # Analytical Method		Analytical Technique		Sampling Media			
106-46-7	3M Method		GC-FID		OVM	(3M 3500)		
Sampling	Sampling Ratet Sampling Vo		/olumett	LOQ	LOD	Compatibility Code		
27.8		15-4	80 0.68 µg		0.34 µg	CS <sub>2</sub>		
lı	Interferences			Comments				

Dichloroethane(1,1)									
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
75-34-3	NIOS	NIOSH 1003		-FID	CT (SK	C 226-01, -09)			
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code				
0.01-0	).2	0.5-	15	1.7 μg 0.83 μg CS <sub>2</sub>		CS <sub>2</sub>			
I	es		Comments						
Preferred for STEL sampling. Sample at a flow rate of 0.2 lpm.									

Dichloroet	hane(1,	1)					
CAS #	Analytical Method		Analytical Technique		Sampling Media		
75-34-3	3M Method		GC-FID		OVM	(3M 3500)	
Sampling	Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code	
33.2	-	15-4	80	2.5 µg	1.3 µg	CS <sub>2</sub>	
Interferences				Comments			

Dichloroethylene(1,2-)(trans); (Acetylene dichloride)								
CAS #	Analytical Method A		Analytical Technique		Sampling Media			
540-59-0	3M	Method	GC	-FID	OVM (3M 3500)			
Sampling Ratet Sampl		Sampling V	ing Volumett L		LOD	Compatibility Code		
35.2 15-360		60	2.1 µg	1.1 µg	CS <sub>2</sub>			
Interferences				Comments				

Dichloroethylene(1,2-)(cis); (Acetylene dichloride)								
CAS #	Analytical Method A		Analytica	Technique	Sampling Media			
540-59-0	NIOS	SH 1003	GC	-FID	CT (SKC 226-01, -09)			
Sampling Ratet Sampling Vo		olumett	LOQ	LOD	Compatibility Code			
0.01-0.2 0.2-5		5	1.6 µg	0.80 µg	CS <sub>2</sub>			
Interferences					Comments			

Dichloroethylene(1,2-)(cis); (Acetylene dichloride)								
CAS #	Analytical Method A		Analytical Technique		Sampling Media			
540-59-0	3M I	Vethod	GC	-FID	OVM (3M 3500)			
Sampling Rate† Sampling V		olumett/	LOQ	LOD	Compatibility Code			
35.2 15-480		80	2.4 µg	1.2 µg	CS <sub>2</sub>			
Interferences				Comments				

Dichloroethylene(1,2-)(trans); (Acetylene dichloride)								
CAS #	CAS # Analytical Method A		Analytica	l Technique	Sampling Media			
540-59-0	NIOS	SH 1003	GC-FID CT (SKC 226-		226-01, -09)			
Sampling Ratet Samp		Sampling V	Volumett LOQ		LOD	Compatibility Code		
0.01-0.2 15-360		60	1.4 µg	0.70 µg	CS <sub>2</sub>			
Interferences					Comments			

### Dichloromethane (Methylene chloride)

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CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
75-09-2	NIOS	SH 1005 G(		-FID	CT-CT	(SKC 226-01)	
Sampling	Rate†	Sampling V	olumett	LOQ LOD Compatibility Co		Compatibility Code	
0.01-0	0.01-0.2 0.5-2.5		2.5	3.7 µg	1.9 µg	CS <sub>2</sub>	
Interferences					Comments		
			Separat samplin	e tubes and c g. Ship cold ii	ap immediately af mmediately.	ter	

Dichloromethane (Methylene chloride)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
75-09-2	3M I	Method	GC	-FID	OVM (3M 3520)			
Sampling	Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code		
37.9	37.9 15-240		40	5.6 µg	2.8 µg	CS <sub>2</sub>		
Interferences Comments								
			Use 3M from the after sa	3520. Separa e back sectior mpling. Ship o	te front section of a and cap immedia cold immediately.	the monitor tely		

Diesel Exh	aust						
CAS #	Analyti	cal Method	Analytical Technique		Sampling Media		
	NIOS	SH 5040	EGA-TDA		QFF		
Sampling	Rate†	Sampling V	/olumett	LOQ	LOD Compatibility C		
2-4		142-19	000	1.3 µg	NA		
	nterferenc	es			Comments		
	T a tt n ((				contracted to an A quire a week's no s short shelf-life. F ticulate matter (D round time is 10 v	IHA-LAP, LLC tice to procure For underground PM) cassettes vorking days.	

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Diethanolamine								
CAS #	Analytical Method		Analytica	l Technique	Sampling Media			
111-42-2	NIOS	SH 2007	IC		ORBO 53 or SGT** (SUPELCO 20265) (SKC 226-10-03)			
Sampling	Sampling Rate† Sampling Vo		/olumett	LOQ	LOD	Compatibility Code		
0.01-0	.5	30	)	3.0 µg	1.5 µg	EA		
l	Interferences			Comments				
Store in freeezer after sampling. Ship cold.								

# **Diethyl Ketone (3- Pentanone)**

CAS #	Analytical Method An		Analytica	l Technique	Sampling Media		
96-22-0	NIOS	IOSH 1300		-FID	CT (SKC 226-01, -09)		
Sampling Ratet Sampling Volu		olumett	LOQ	LOD	Compatibility Code		
0.01-0	.2	1-10		0.67 µg	0.34 µg	CS <sub>2</sub>	
Interferences				Comments			
		Droforro	Proferred for STEL compline Sample at a flow rate of 0.2 lpm				

**Preferred for STEL sampling**. Sample at a flow rate of 0.2 lpm.

Diethyl Ketone								
CAS #	Analytical Method A		Analytical Technique		Sampling Media			
96-22-0	3M	Method	GC-FID		OVM (3M 3500)			
Sampling	Sampling Rate† Sampling Vol		olumett	LOQ	LOD	Compatibility Code		
32.7	,	15-4	80	1.0 µg	0.50 µg	CS <sub>2</sub>		
Interferences				Comments				

Diethyl Phthalate								
CAS #	Analytical Method A		Analytical Technique		Sampling Media			
84-66-2	OSH	HA 104	GC	-FID	OVS-Tena	ax (SKC 226-56)		
Sampling	Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code		
1		240	)	0.58 µg	0.29 µg	Tol		
Interferences				Comments				

Diethyl Sulfate									
CAS #	Analytical Method A		Analytica	Technique	Sampling Media				
64-67-5	NIOS	SH 2524	GC	-FID	Porapak-P (SKC 226-114)				
Sampling	Sampling Ratet Sampling Vol		olumett/	LOQ	LOD	Compatibility Code			
0.05-0	).2	0.25	-12	7.2 µg 3.6 µg		Ethyl Ether			
Interferences				Comments					

Diethylamine								
CAS #	Analytical Method		Analytical Technique		Sampling Media			
109-89-7	NIOSH 2010		GC-FID		SGT (	(SKC 226-10)		
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code			
0.01-1	.0	5-3	0	0.31 µg	0.16 µg	Amine1		
Interferences				Comments				
Nitrogen compounds that co-elute will interfere.								

# Diethylenetriamine

CAS #	Analytical Method A		Analytica	Analytical Technique		Sampling Media		
111-40-0	OS	OSHA 60		HPLC		XAD-2, NITC (SKC 226-30-18)		
Sampling Ratet Sampling Volu		/olumett	LOQ	LOD	Compatibility Code			
0.1		10		0.10 µg	0.050 µg	Amine2		
Interferences					Comments			
Nitrogen com	pounds th	at						

co-elute will interfere.

# **Diglycidyl Ether of Bisphenol A**

CAS #	Analytical Method		Analytical Technique		Sampling Media		
1675-54-3	OSH	)SHA 1018		HPLC		GFF	
Sampling Ratet Sampling Vo		olumett	t LOQ LOD		Compatibility Code		
1.5	1.5 270		) 0.50 µg		0.25 µg		
Interferences				Comments			

# **Dimethyl Acetamide**

CAS #	Analytical Method A		Analytical Technique		Sampling Media		
127-19-5	3M I	Method		-FID	OVM (3M 3500)		
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code		
32.0		15-48	80	0.99 µg	0.50 µg	MC	
l	es		Comments				
Sample separately from CS <sub>2</sub> compatible solvents.				e solvents.			

Dimethyl Acetamide								
CAS #	Analytical Method		Analytica	<b>Technique</b>	Sampling Media			
127-19-5	NIOSH 2004		GC-FID		SGT (	SKC 226-10)		
Sampling Ratet Sampling Vo		olumett/	LOQ	LOD	Compatibility Code			
0.05-	1	15-8	30	0.66 µg 0.33		MeOH		
I	Interferences				Comments			
		Silica ge may adv	Silica gel has a high affinity for water; high relative humidity may adversely affect the efficiency of analyte adsorption.					

### **Dimethyl Disulfide**

CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
624-92-0	LM	-GC-59	C-59 GC		GC-FID CT (Sk		
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code		
0.1		5		1.6 µg	0.80 µg	CS <sub>2</sub>	
Interferences				Comments			
	Turnaround is 10 business days.						

# **Dimethyl Sulfide**

CAS #	Analytical Method A		Analytica	Technique	Sampling Media		
75-18-3	LM·	-GC-59	59 GC-FI		CT (SKC 226-01, -09)		
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code		
0.1		5		1.1 µg	0.55 µg	CS <sub>2</sub>	
Interferences				Comments			
Turnaround is 10 business days.							

## Dimethyl(2,6-)-4-heptanone (Diisobutyl ketone)

CAS #	Analytical Method A		Analytical Technique		Sampling Media				
108-83-8	NIOS	NIOSH 1300		-FID	CT (SK	CT (SKC 226-01, -09)			
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code				
0.01-0	.2	1-10		0.59 µg	0.30 µg	CS <sub>2</sub>			
Interferences					Comments				

Dimethyl(2,6-)-4-heptanone (Diisobutyl ketone)								
CAS #	AS # Analytical Method A		Analytica	l Technique	Sampling Media			
108-83-8	3M I	3M Method		-FID	OVM	(3M 3500)		
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
24.6	I	15-4	80	0.89 µg 0.4		CS <sub>2</sub>		
Interferences				Comments				

Dimethylformamide								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
68-12-2	3M I	Method	GC-FID		OVM	(3M 3500)		
Sampling	Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code		
35.5	;	15-4	80	1.7 µg	0.83 µg	MC		
l	nterferenc	es		Comments				
Sample separately from CS <sub>2</sub> compatible solvents.						e solvents.		

Dimethylformamide								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
68-12-2	NIOSH 2004		GC-FID		SGT (	SKC 226-10)		
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code			
0.05-	1	15-8	30	1.5 µg	0.75 µg	MeOH		
Interferences				Comments				
			Silica ge may adv	Silica gel has a high affinity for water; high relative humidity may adversely affect the efficiency of analyte adsorption.				

Dioctyl Phthalate									
CAS #	Analytical Method A		Analytica	Analytical Technique		Sampling Media			
117-84-1	OSI	OSHA 104		-FID	OVS-Ter	OVS-Tenax (SKC 226-56)			
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code				
1.0		1-24	10	0.27 µg	0.14 µg	Tol			
Interferences				Comments					

Dioxane(p	-)						
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
123-91-1	NIOS	SH 1602	GC	-FID	CT (SKC 226-01, -09)		
Sampling Rate† Sampling Vol		/olumett	LOQ	LOD	Compatibility Code		
0.05-0	.2	1-1	0	1.3 µg	0.65 µg	CS <sub>2</sub>	
Interferences				Comments			

Dioxane(p-)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
123-91-1	3M Method		GC-FID		OVN	l (3M 3500)		
Sampling Ratet Sampling Vol		olumett LOQ		LOD	Compatibility Code			
34.5		15-4	80	2.0 µg 1.0 µg		CS <sub>2</sub>		
Interferences				Comments				

Diphenyl (Biphenyl)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
92-52-4	OSHA PV2022		GC	-FID	XAD-7	(SKC 226-95)		
Sampling Ratet Sampling Volu		/olumett	LOQ	LOD	Compatibility Code			
0.20		20	)	0.46 µg	0.23 µg	CS <sub>2</sub>		
Interferences				Comments				

Dipropylene Glycol Methyl Ether (DPGME)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
34590-94-8	NIOS	SH 2554	GC-FID		CT (SK	C 226-01, -09)		
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
0.05-0	.2	2-10	)	3.0 µg	1.5 µg	MC		
l	es		Comments					
2021 NIC 50 ppm TWA.								

Dipropylene Glycol Methyl Ether (DPGME)								
CAS #	CAS # Analytical Method A		Analytical Technique		Sampling Media			
34590-94-8	3M	3M Method		C-FID	OVM	(3M 3500)		
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
25.3		15-48	30	4.5 µg	2.3 µg	CS <sub>2</sub>		
Interferences				Comments				
2021 NIC 50 ppm TWA.								

Dipropylene Glycol Methyl Ether Acetate (DPGMEA)								
CAS #	CAS # Analytical Method A		Analytica	l Technique	Sampling Media			
88917-22-0	3M	Method	GC-FID		OVM (3M 3500)			
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
22.8		15-48	30	1.5 µg	0.75 µg	CS <sub>2</sub>		
Interferences				Comments				

Divinyl Benzene								
CAS #	Analytical Method		Analytical Technique		Sampling Media			
1321-74-0	-0 NIOSH 1501		GC-FID		CT (SK	C 226-01, -09)		
Sampling Ratet Sampling Vo		olumett	LOQ	LOD	Compatibility Code			
0.01-0	.2	1-1	0 0.57 μg		0.29 µg	CS <sub>2</sub>		
I	nterferenc	es		Comments				

Divinyl Be	nzene						
CAS #	Analytical Method		Analytica	l Technique	Sampling Media		
1321-74-0	3M	Method	GC	-FID	OVM	OVM (3M 3500)	
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code		
23.3	23.3 15-480		80	0.86 µg	0.43 µg	CS <sub>2</sub>	
Interferences				Comments			

Enflurane (Ethrane)								
CAS #	Analytical Method		Analytica	l Technique	Sampling Media			
13838-16-9	OSH	HA 103	GC-FID		Anasorb 74	Anasorb 747 (SKC 226-81A)		
Sampling Ratet Sampling Vo		olumett LOQ		LOD	Compatibility Code			
0.05-0	.2	1-1	0	2.6 µg 1.3 µg CS		CS <sub>2</sub>		
Interferences				Comments				
Store and ship cold overnight.								

Enflurane (Ethrane)								
CAS #	Analytical Method		Analytical Technique		Sampling Media			
13838-16-9	3M I	Vethod	GC-FID		OVM	(3M 3500)		
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
28.3		15-48	80	4.0 μg 2.0 μg		CS <sub>2</sub>		
Interferences				Comments				
Store and ship cold overnight.								

Epichlorohydrin (1-Chloro-2,3-epoxy propane)								
CAS #	Analytical Method A		Analytica	Technique	Samp	Sampling Media		
106-89-8	NIOS	SH 1010	GC	-FID	CT (SK	C 226-01, -09)		
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
0.05-0	0.05-0.2 2-30		0	1.5 μg 0.75 μ		CS <sub>2</sub>		
Interferences				Comments				

Epichlorohydrin (1-Chloro-2,3-epoxy propane)								
CAS #	Analytical Method		Analytical Technique		Sampling Media			
106-89-8	3M I	Method	GC	-FID	OVM	(3M 3500)		
Sampling	Sampling Ratet Sampling Vol		olumett/	LOQ	LOD	Compatibility Code		
29.6	1	15-4	80	2.3 µg	1.2 µg	CS <sub>2</sub>		
l	Interferences			Comments				

Ethanolam	nine (2-A	minoetha	nol)				
CAS #	Analytic	Analytical Method A		l Technique	Sampling Media		
141-43-5	NIOS	SH 2007		IC	ORBO 53 or SGT** (SUPELCO 20265) (SKC 226-10-03)		
Sampling	Sampling Ratet Sampling Vo		olumett	LOQ	LOD	Compatibility Code	
0.01-0	).5	5		3.0 µg	1.5 µg	EA	
I	Interferences			Comments			
	Store in freezer after sampling. Ship cold.						

# Ethoxyethanol(2-) (Cellosolve)

CAS #	Analytic	lytical Method Analytic		l Technique	Sampling Media		
110-80-5	NIOS	GC GC		GC-FID CT (SKC 2		C 226-01, -09)	
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code		
0.01-0.	·0.05 1-6		ò	0.54 µg	0.27 µg	5%MeOH/MC	
Interferences					Comments		

Ethoxyethanol(2-) (Cellosolve)								
CAS #	Analytical Method		Analytica	l Technique	Sampling Media			
110-80-5	3M I	Vethod	GC	-FID	OVM	(3M 3500)		
Sampling Rate† Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
32.4		15-4	80	0.81 µg	0.41 µg	MC		
Interferences				Comments				
Sample separately from other solvents.								

Ethoxyethyl(2-) Acetate (Cellosolve acetate)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
111-15-9	NIOS	SH 1450	GC	-FID	CT (SKC 226-01, -09)			
Sampling Ratet Sampling Vol		olumett/	LOQ	LOD	Compatibility Code			
0.01-0	.2	1-1	0	2.8 µg	1.4 µg	CS <sub>2</sub>		
Interferences				Comments				

Ethoxyethyl(2-) Acetate (Cellosolve acetate)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
111-15-9	3M	Method	GC-FID		OVM (3M 3500)			
Sampling Ratet Sampling Vol		olumett/	LOQ	LOD	Compatibility Code			
26.6		15-4	80	4.2 μg 2.1 μg		CS <sub>2</sub>		
Interferences				Comments				

Ethyl 2-cyanoacrylate								
CAS #	Analytical Method A		Analytica	l Technique	Sam	Sampling Media		
7085-85-0	0S	HA 55	Н	PLC	XAD-7, Ac	id (SKC 226-98)		
Sampling Ratet Sampling Vo		olumett	LOQ	LOD	Compatibility Code			
0.1		12		0.70 µg 0.35 µg				
l	es		Comments					
Ship and store cold.								

Ethyl 3-eth	noxypro	pionate					
CAS #	Analytical Method		Analytical Technique		Sampling Media		
763-69-9	OSHA	OSHA PV2025		-FID	CT (SKC 226-01, -09)		
Sampling Ratet Sampling Vo		/olumett	LOQ	LOD	Compatibility Code		
0.05-0	0.05-0.2 1-10		0	1.1 µg	0.55 µg	CS <sub>2</sub>	
Interferences				Comments			

Ethyl 3-ethoxypropionate									
CAS #	Analytical Method		Analytical Technique		Sampling Media				
763-69-9	3M I	Vethod	GC	-FID	OVM	(3M 3500)			
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code				
25.8		15-4	80	1.7 µg	0.85 µg	CS <sub>2</sub>			
lı	Interferences				Comments				

Ethyl Acetate									
CAS #	Analytical Method A		Analytica	Technique	Samı	oling Media			
141-78-6	NIOS	SH 1457	GC	-FID	CT (SK	C 226-01, -09)			
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code				
0.01-0	.2	1-1	0	1.2 µg	0.60 µg	CS <sub>2</sub>			
Interferences				Comments					

Ethyl Acet	Ethyl Acetate									
CAS #	Analytical Method		Analytical Technique		Sampling Media					
141-78-6	3M I	Method	GC	-FID	OVM	(3M 3500)				
Sampling	Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code				
34.5	;	15-3	60	1.8 µg	0.90 µg	CS <sub>2</sub>				
l	Interferences				Comments					

Ethyl Acrylate								
CAS #	Analytical Method		Analytica	l Technique	Sampling Media			
140-88-5	NIOS	NIOSH 1450		-FID	CT (SK	C 226-01, -09)		
Sampling Rate† Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
0.01-0	.2	1-1(	0	0.98 µg	0.49 µg	CS <sub>2</sub>		
I	nterferenc	es			Comments			
<b>Preferred for STEL sampling</b> . Sample at a flow rate of 0.2 lpm. Store and ship cold overnight.						t a flow rate t.		

Ethyl Acry	Ethyl Acrylate										
CAS #	CAS # Analytical Method A		Analytica	l Technique	Sam	Sampling Media					
140-88-5	3M	Method	GC	C-FID	OVM	(3M 3500)					
Sampling	Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code					
32.2	2	15-4	80	1.5 µg	0.75 µg	CS <sub>2</sub>					
Interferences				Comments							
			Store ar	Store and ship cold overnight.							

Ethyl Alcohol (Ethanol)									
CAS #	Analytical Method A		Analytica	Analytical Technique		Sampling Media			
64-17-5	NIOS	SH 1400	GC	-FID		CT (SKC 226-01, -09)			
Sampling Ratet Sampling Vol		olumett	olumett LOQ		LOD	Compatibility Code			
0.01-0	.2	0.1-	1	1.2 µg		0.60 µg	BUT/CS <sub>2</sub>		
Interferences				Comments					
Store and ship cold overnight.									

Ethyl Alcohol (Ethanol)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
64-17-5	3M I	3M Method		-FID	OVM	(3M 3520)		
Sampling	Sampling Ratet Sampling Volu		/olumett	LOQ	LOD	Compatibility Code		
43.7		15-1	20	1.8 µg	0.90 µg	ACN		
	nterferenc	es		Comments				
			Use 3M the bacl ship col	Use 3M 3520. Separate the front section of the monitor from the back section and cap immediately after sampling. Store and ship cold overnight. Sample separately from other solvents.				

Ethyl Benz	Ethyl Benzene									
CAS #	Analytical Method A		Analytica	l Technique	Sam	pling Media				
100-41-4	NIOS	SH 1501	GC	-FID	CT (SK	C 226-01, -09)				
Sampling Ratet Sampling Vol			olumett/	LOQ	LOD	Compatibility Code				
0.01-0	.2	1-3	0	0.5 µg 0.25 µg		CS <sub>2</sub>				
-	Interferences					Comments				
			Under c volumes 2021 NI	Under conditions of high humidity, the breakthrough volumes may be reduced by as much as 50%. 2021 NIC 20 ppm TWA, OTO; A3; BEI.						

Ethyl Benzene									
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
100-41-4	3M	Method	GC	-FID	OVM	(3M 3500)			
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code				
27.3		15-48	80	0.75 µg	0.36 µg	CS <sub>2</sub>			
Interferences					Comments				
2021 NIC 20 ppm TWA, OTO; A3; BEI.									

Ethyl Ethe	r						
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
60-29-7	NIOS	NIOSH 1610		-FID	CT (SK	C 226-01, -09)	
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code		
0.01-0	.2	1-1(	)	0.75 µg 0.38 µg		Ethyl Acetate	
l	nterferenc	es	Comments				
Hexane may co-elute with the analyte of interest.			High hu volume.	High humidity may greatly decrease breakthrough volume. Store and ship cold.			

#### **Ethvl Ether**

CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
60-29-7	3M I	M Method 0		-FID	OVM	(3M 3520)	
Sampling Ratet Sampling Vol			/olumett	LOQ	LOD	Compatibility Code	
36.8		15-240		1.1 µg	0.55 µg	CS <sub>2</sub>	
Interferences				Comments			
			Use 3M monitor after sa	Use 3M 3520. Separate the front section of the monitor from the back section and cap immediately after sampling. Store and ship cold.			

Ethyl Lactate									
CAS #	Analytical Method A		Analytica	l Technique	Sam	oling Media			
687-47-8	NIOS	SH 1450	GC	-FID	CT (SK	C 226-01, -09)			
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code				
0.01-0	.2	1-1	0	0.85 µg	0.43 µg	CS <sub>2</sub>			
Interferences				Comments					

Ethyl Methacrylate								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
97-63-2	NIOS	NIOSH 1450		-FID	CT (SK	C 226-01, -09)		
Sampling	Sampling Ratet Sampling Vo		olumett	LOQ	LOD	Compatibility Code		
0.01-0	.2	1-1	0	0.65 µg	0.33 µg	CS <sub>2</sub>		
l	Interferences			Comments				
Ship and store cold.								

Ethylamine								
CAS #	Analytical Method		Analytica	Technique	Sampling Media			
75-04-7	NIOS	SH 2010 GC		C-FID SGT (SKC 226-		SKC 226-10)		
Sampling Ratet Sampling Vol		olumett/	LOQ	LOD	Compatibility Code			
0.01-	.01-1 5-30		0	NA	NA	Amine1		
I	nterferenc	es		Comments				
Nitrogen compounds that co-elute will interfere.								
Ethylene Chlorohydrin (2-Chloroethanol)								

CAS #	Analytical Method A		Analytical Technique		Sampling Media			
107-07-3	NIOS	NIOSH 2513		-FID	CT (SK	C 226-01, -09)		
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
0.01-0	0.01-0.2 1-10		C	0.51 µg	0.26 µg	5%IPA/CS <sub>2</sub>		
	Interferences			Comments				
Pr Hi			Preferre High hu	<b>Preferred for STEL sampling</b> . Sample at flow rate of 0.2 lpm. High humidity may greatly decrease the breakthrough volume.				

Ethylene Chlorohydrin (2-Chloroethanol)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
107-07-3	3M	Method	GC	-FID	OVM	(3M 3500)		
Sampling Ratet Sampling Volu		olumett	LOQ	LOD	Compatibility Code			
33.9	33.9 15-480		80	0.77 µg	0.39 µg	MC CS <sub>2</sub>		
l	Interferences			Comments				

# **Ethylene Dichloride (1,2-Dichloroethane)**

CAS #	Analytical Method A		Analytica	<b>Technique</b>	Sampling Media		
107-06-2	NIOSH 1003		GC-FID		CT (SK	CT (SKC 226-01, -09)	
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code		
0.01-0	0.01-0.2 1-50		0	1.5 µg	0.74 µg	CS <sub>2</sub>	
Interferences				Comments			

Ethylene Dichloride (1,2-Dichloroethane)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
107-06-2	3M I	3M Method		-FID	OVM (3M 3500)			
Sampling Ratet Sampling Vol		olumett/	LOQ	LOD	Compatibility Code			
33.2		15 -4	80	2.3 µg	1.1 µg	CS <sub>2</sub>		
Interferences				Comments				

Ethylene Glycol								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
107-21-1	NIOS	SH 5523	GC-FID		OVS 7 (SKC 226-57)			
Sampling Rate† Sampling Vol		olumett/	LOQ	LOD	Compatibility Code			
0.5-2	2	5-6	0	2.2 µg	1.1 µg	MeOH		
Interferences				Comments				

Ethylene Oxide									
CAS #	Analytical Method A		Analytica	l Technique	Sam	pling Media			
75-2-8	ASTM	ASTM D5578-04		-FID	1	N555AT			
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code				
12.4		15 – 4	180	0.69 µg	0.35 µg	ACN/TOL			
Interferences				Comments					
			Sample	Sample separately from CS <sub>2</sub> compatible solvents.					

Ethylene Oxide								
CAS #	Analytical Method		Analytical Technique		Sampling Media			
75-21-8	ASTM D5578-04		GC-FID		ORBO 78 (\$	ORBO 78 (SUPELCO 20355)		
Sampling	Sampling Ratet Sampling Vo		/olumett	LOQ	LOD	Compatibility Code		
0.05-0	.15	1-2	4	0.64 µg	0.32 µg	ACN/TOL		
l	Interferences				Comments			
			Store ar from CS	Store and ship cold. Sample separately from CS <sub>2</sub> compatible solvents.				

#### **Ethylene Oxide**

CAS #	Analytical Method A		Analytical Technique		Sampling Media			
75-21-8	3M Method		GC	-FID	OVM	OVM (3M 3551)		
Sampling Ratet Sampling Vol			olumett/	LOQ	LOD	Compatibility Code		
49.3	3 15 - 480		80	0.96 µg	0.48 µg	ACN/TOL		
Interferences				Comments				
			Store ar from CS	Store and ship cold. Sample separately from CS <sub>2</sub> compatible solvents.				

Ethylenedi	Ethylenediamine								
CAS #	Analytical Method		Analytical Technique		Sampling Media				
107-15-3	OSHA 60		HPLC		XAD-2, NIT	C (SKC 226-30-18)			
Sampling Ratet Sampling Vo		/olumett	LOQ	LOD	Compatibility Code				
0.1		10	)	0.080 µg	0.040 µg	Amine2			
Interferences				Comments					
Nitrogen compounds that co-elute will interfere.									

# Flour Dust

CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
	HSEN	MDHS-14		RAV	Р	VC, IOM	
Sampling Rate† Sampling Vol			/olumett	LOQ	LOD	Compatibility Code	
2	2 960		0	100 µg	10 µg		
l	nterferenc	es		Comments			
All other dusts will interfere.			Use ION week be is limite	Use IOM sampler with pre-weighed PVC. Contact Lab one week before intended use. The availability of IOM samplers is limited. <b>Rental charge for the IOM samplers applies</b> .			

Fluoranthene (see PNA scan)								
CAS #	AS # Analytical Method A		Analytica	l Technique	Sampling Media			
206-44-0	NIOS	SH 5506	Н	PLC	PTF (PALL P5PJ0	PTFE2/XAD-2 (PALL P5PJ037, SKC 226-30-04)		
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
2		200-10	000	0.30 µg	0.15 µg	PNAs		
I	Interferences			Comments				
Asphalt fumes will interfere.		After sa wrap ind	After sampling, separate filter from sorbent tube. Cap and wrap individually in aluminum foil. Ship and store cold.					

Fluorene (see PNA scan)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
86-73-7	NIOS	SH 5506	HPLC		PTF (PALL P5PJ0	PTFE2/XAD-2 (PALL P5PJ037, SKC 226-30-04)		
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
2		200-10	000	0.32 µg	0.16µg	PNAs		
Interferences				Comments				
Asphalt fumes will interfere.			After sa wrap ind	After sampling, separate filter from sorbent tube. Cap and wrap individually in aluminum foil. Ship and store cold.				

Fluorides, Particulate/Hydrogen Fluoride									
CAS #	Analytic	cal Method	Analytica	l Technique	Sam	Sampling Media			
	NIOS	H 7906		IC	Cellulose (SKC	Nitrate,Na <sub>2</sub> CO <sub>3</sub> 225-9031)			
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code				
1-2		70-10	000	13 µg	6.5 µg	Acid1			
Interferences					Comments				
Recovery of gaseous HF is reduced at high humidity.			Treated ahead o Store ar	Treated filter is stable for 14 days. Order media one week ahead of survey date. Media are prepared when ordered. Store and ship cold. <b>Specialty filter. Media charge applies</b> .					

Forane (Isoflurane)									
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
26675-46-7	OSH	HA 103	GC-FID		Anasorb 74	17 (SKC 226-81A)			
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code			
0.05		12		4.9 µg	2.5 µg	CS <sub>2</sub>			
Interferences				Comments					
Store and ship cold overnight. 2021 NIC, 50ppm TWA, A4.									

Forane (Isoflurane)								
CAS #	Analytical Method		Analytical Technique		Sampling Media			
26675-46-7	3M Method		GC-FID		OVM	(3M 3500)		
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
28.3		15-48	30	7.1 µg	3.6 µg	CS <sub>2</sub>		
Interferences					Comments			
Store and ship cold overnight. 2021 NIC, 50ppm TWA, A4.								

#### Formaldehyde CAS # **Analytical Method Analytical Technique Sampling Media** 50-00-0 **NIOSH 2016** HPLC AT Monitor (N571AT) Sampling Ratet Sampling Volumett LOQ LOD **Compatibility Code** 16.2 15-480 0.0090 µg 0.018 µg Aldehyde Interferences Comments Other aldehydes and ketones will Refrigerate media before and after sampling. react with the 2,4-DNPH but can be Ship samples cold overnight. chromatographically resolved.

Formaldehyde								
CAS #	Analytical Method A		Analytica	l Technique	Sam	oling Media		
50-00-0	NIOSH 2016		Н	PLC	Sep-Pak	(WAT047205)		
Sampling Ratet Sampling Vol			olumett/	LOQ	LOD	Compatibility Code		
0.1-1.	5	10-1	00	0.090 µg	0.045 µg	Aldehyde		
Interferences				Comments				
Other aldehydes and ketones will react with the 2,4-DNPH but can be chromatographically resolved.			Refrige Ship sa samplir	<b>Refrigerate</b> media before and after sampling. Ship samples cold overnight. <b>Preferred for STEL</b> <b>sampling</b> . Use a flow rate of 1.0 lpm for STEL.				

Formaldehyde									
CAS #	Analytic	cal Method	Analytica	l Technique	Sampling Media				
50-00-0	NIOS	SH 2016	Н	PLC	SGT, DNP	PH (SKC 226-119)			
Sampling	Rate†	Ratet Sampling Volumett LOQ LOI		LOD	Compatibility Code				
0.1-1.	5	1-1	5	0.036 µg	0.018 µg	Aldehyde			
Interferences				Comments					
Other aldehydes and ketones will react with the 2,4-DNPH but can be chromatographically resolved.			Refriger cold ove rate of 1 TVOC a with Cha sorbent can cau	rate media be ernight. <b>Prefe</b> I.0 Ipm for ST nd formaldeh arcoal Tubes in the DNPH se a positive	fore and after sam rred for STEL sam EL. For IAQ and LE yde are collected, and DNPH tubes ir tubes may off-gas interference in the	ppling. Ship samples pling. Use a flow ED sampling where do not sample 1 tandem. The acetonitrile which TVOC results.			

Formamide								
CAS #	Analytical Method A		Analytica	l Technique	Samj	oling Media		
75-12-7	NIOSH 2004		GC	-FID	SGT (	SKC 226-10)		
Sampling Rate† Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
0.05-	1	15-8	30	3.1 µg	1.6 µg	MeOH		
l	Interferences				Comments			
			Silica ge may adv 2019 NI	Silica gel has a high affinity for water; high relative humidity may adversely affect the efficiency of analyte adsorption. 2019 NIC, TWA = 1ppm, Skin; A3 adopted in 2020.				

Formic Acid									
CAS #	Analytical Method		Analytical Technique		Sampling Media				
64-18-6	NIOS	SH 2011		IC	PTFE3-SGT** (SKC 225-17A, SKC 226-10-03)				
Sampling	Sampling Rate† Sampling Vo		/olumett	LOQ	LOD	Compatibility Code			
0.05-0	.5	5-10	00	1.5 µg	0.75 µg	Acid2			
li	nterferenc	es		Comments					
Do not sample with inorganic acids.									

Furfural							
CAS #	Analytical Method		Analytica	l Technique	Sampling Media		
98-01-1	OSHA 72		GC-FID		SKO	226-81A	
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code		
0.1-1		180	)	0.96 µg	0.48 µg	1%DMF/CS <sub>2</sub>	
Interferences				Comments			
Furfuryl Alcol sampling inte	nol is a rference.						

Furfuryl Alcohol									
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
98-00-0	3M I	3M Method		-FID	OVM	(3M 3500)			
Sampling Rate† Sampling Vol		olumett	LOQ	LOD	Compatibility Code				
30.6		15-48	80	0.96 µg	0.48 µg	MC			
lı	nterferenc	es		Comments					
Sample separately from CS <sub>2</sub> compatible solvents.						solvents.			

Gasoline								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
8006-61-9	NIOSH 1550		GC	-FID	CT (SK	C 226-01, -09)		
Sampling Ratet Sampling Vol			/olumett	LOQ	LOD	Compatibility Code		
0.01-0	.2	1.3-	20	1.1 µg 0.55 µg		CS <sub>2</sub>		
-	Interferences				Comments			
			Please s separat samplin	Please send bulk sample. Please ship bulk sample separately from the air samples. <b>Preferred for STEL sampling</b> . Use a flow rate of 0.2 lpm for STEL.				

Gasoline								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
8006-61-9	3M I	3M Method		-FID	OVM	OVM (3M 3500)		
Sampling Ratet Sampling Vol			/olumett	LOQ	LOD	Compatibility Code		
30.5		15-4	80	1.7 µg	0.85 µg	CS <sub>2</sub>		
l	nterferenc	es			Comments			
			Please s sample	Please send bulk sample. Please ship bulk sample separately from the air samples.				

Germanium								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
7440-56-4	NIOS	SH 7300	ICP		MCE or PVC (SKC 225-5 or SKC 225-5-37-P)			
Sampling Ratet Sampling Vo		/olumett	LOQ	LOD	Compatibility Code			
1-4 100-100		000	0.38 µg	0.19 µg	Metals			
Interferences					Comments			
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			As part internal in your s in the a	of the Lab's Q standard in m sample submi rea where you	C protocol, yttrium netal analysis. Plea ission form if yttriu collected your sa	n is used as ise indicate um is present mples.		

Glutaraldehyde								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
111-30-8	OSHA 64		Н	PLC	AT Mon	itor (N571AT)		
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code			
7.24		15-4	80	0.011 µg	0.0055 µg			
Interferences				Comments				
			Refriger samplin	r <b>ate</b> media bef g. Ship cold o	ore and after vernight.			

Glutaraldehyde									
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
111-30-8	NIOSH 2016		HI	HPLC Sep-Pak (WAT047205)		x (WAT047205)			
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code				
0.1-1.	5	10-10	)0	0.055 µg	0.028 µg				
Interferences					Comments				
			Refriger cold ove	<b>ate</b> media be ernight. <b>Prefe</b> i	fore and after sam rred for STEL sam	pling. Ship p <b>ling</b> .			

# Glutaraldehyde

CAS #	Analytical Method A		Analytica	Analytical Technique		Sampling Media		
111-30-8	NIOSH 2532		HI	HPLC		SGT, DNPH (SKC 226-119)		
Sampling Ratet Sampling Vol		/olumett	LOQ		LOD	Compatibility Code		
0.05-0	0.05-0.5 1-30		0	0.022 µg		0.011 µg		
Interferences				Comments				
			Refriger	<b>Refrigerate</b> media before and after sampling. Ship cold overnight. <b>Preferred for STEL sampling</b> .				

Gold							
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
7440-57-5	NIOSH 7301 NIOSH 7303		](	CP	MC (SKC 225-5 c	MCE or PVC (SKC 225-5 or SKC 225-5-37-P)	
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code		
1-4		50-10	000	0.28 µg	0.14 µg	Metals	
Interferences				Comments			
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			As part internal in your s in the a	of the Lab's Q standard in m sample submi rea where you	C protocol, yttrium letal analysis. Plea ssion form if yttriu collected your sau	n is used as ise indicate um is present mples.	

<b>Grain Dust</b>	t						
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
	NIOS	NIOSH 0500		RAV	Pre-weighed P	VC (SKC 225-5-37-P)	
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code		
1-15		50-72	200	50 µg	10 µg		
	nterferenc	es		Comments			
All other dusts will interfere.			For pers lpm, for	For personal sampling use a flow rate of 1-2 lpm, for area sampling up to 15 lpm.			

Graphite							
CAS #	Analytical Method A		Analytica	Analytical Technique		Sampling Media	
7782-42-5	NIOS	NIOSH 0600		GRAV		PVC (SKC 225-5-37-P)	
Sampling Ratet Sampling Vol			/olumett	LOQ	LOI	D	Compatibility Code
1.7		100-8	316	50 µg	10 µ	ıg	
l	nterferenc	es			Comm	ents	
All other resp	s will interfer	e. Use pre- Oliver) c (SKC) cy	Use pre-weighed PVC 2-piece cassette for MSA (Dorr- Oliver) cyclones at 1.7 lpm and 3-piece cassette for BMRC (SKC) cyclones at 2.5 lpm and for BGI-4L at 2.2 lpm.				

Halothane	(Fluoth	ane)					
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
151-67-7	OSI	OSHA 103		GC-FID Anasorb 747 (SKC 226-		47 (SKC 226-81A)	
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code		
0.05	0.05 12			3.4 µg	1.7 µg	CS <sub>2</sub>	
Interferences				Comments			
	Store and ship cold overnight.						

Halothane (Fluothane)									
CAS #	Analytical Method A		Analytica	alytical Technique Sampling Media		oling Media			
151-67-7	3M	3M Method		-FID	OVM	(3M 3500)			
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code				
30.2	30.2 15-480		80	5.1 µg	2.5 µg	CS <sub>2</sub>			
Interferences				Comments					
		Store ar	nd ship cold o	vernight.					

не	ptane

ricptane							
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
142-82-5	NIOS	NIOSH 1500		-FID	CT (SKC 226-01, -09)		
Sampling Ratet Sampling Volu		olumett/	LOQ	LOD	Compatibility Code		
0.01-0	0.2 1-10		0	0.45 µg	0.23 µg	CS <sub>2</sub>	
Interferences					Comments		
	Preferred for STEL sampling. Sample at 0.2 lpm.					t 0.2 lpm.	

Heptane							
CAS #	S # Analytical Method		Analytical Technique		Sampling Media		
142-82-5	3M I	3M Method		-FID	OVM	(3M 3500)	
Sampling Ratet Sampling Vo		/olumett	LOQ	LOD	Compatibility Code		
28.9		15-4	80 0.68 µg		0.34 µg	CS <sub>2</sub>	
l	es		Comments				

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Heptanone(2-) (Methyl Amyl Ketone)								
CAS #	Analytical Method A		Analytica	Technique	Sam	Sampling Media		
110-43-0	NIOS	SH 1301	GC	-FID	CT (SK	CT (SKC 226-01, -09)		
Sampling	Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code		
0.01-0	).2	1-2	5	0.64 µg 0.32 µg		MeOH/CS <sub>2</sub>		
Interferences				Comments				

# Heptanone(2-) (Methyl Amyl Ketone)

CAS #	Analytical Method		Analytical Technique		Sampling Media		
110-43-0	3M I	1 Method C		-FID	OVM (3M 3500)		
Sampling Ratet Sampling Vo		/olumett	LOQ	LOD	Compatibility Code		
27.9	27.9 15-480		80	0.96 µg	0.48 µg	CS <sub>2</sub>	
li	nterferenc	es		Comments			

Hexamethylene Diisocyanate (1,6-) Homopolymer (HDI Homo)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
28182-81-2	OSHA PV2125		HI	PLC	GFF, 1-2PP			
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
1	15			0.30 µg	0.15 µg	Isocyanate		
Interferences				Comments				
Any compound having the same retention time as the analyte is a possible interference. However, chromatographic conditions can be altered to separate an interference.			Sample before a months	open-faced. N Ind after samp if kept cold. S	/ledia must be stor pling. Filter is stabl hip cold overnight	red cold le for 6		

Hexamethylene Diisocyanate (1,6-) Homopolymer (HDI Homo)							
CAS #	Analytic	al Method	Analytica	l Technique	Sampling Media		
28182-81-2	0 PV	SHA /2125	HPLC		GFF Wipes		
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code	
N/A	N/A N/A			0.30 µg	0.15 µg	Isocyanate	
l	nterferenc	es		Comments			
Potential interferences include anhydrides, amines, alcohols and carboxylic acids.			Follow " after sa vial con week ah Derivati	Follow "Isocyanate Wipe Sampling Procedure". Immediately after sampling, glass fiber filters must be placed in a vial containing derivatizing solution. Order media one week ahead of survey. Media are prepared when ordered. Derivatizing solution has a shelf life of 1 month if kept cold.			

Hexamethylene Diisocyanate (1,6-) (HDI)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
822-06-0	0S	HA 42	HPLC		GF	F, 1-2PP		
Sampling Ratet Sampling Vol			/olumett	mett LOQ LOD Compatibili		Compatibility Code		
1		15-2	40	0.020 µg 0.010 µg		Isocyanate		
	nterferenc	es		Comments				
Potential interferences include anhydrides, amines, alcohols and carboxylic acids.			Sample before a months	Sample open-faced. Media must be stored cold before and after sampling. Filter is stable for 6 months if kept cold. Ship cold overnight.				

Hexamethylene Diisocyanate (1,6-) (HDI)								
CAS #	Analytic	cal Method	Analytica	l Technique	Sampling Media			
822-06-0	OS	HA 42	A 42 HI		HPLC GFF Wipes			
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
N/A	N/A N/A		A	0.020 µg	0.010 µg	Isocyanate		
Interferences				Comments				
Potential interferences include anhydrides, amines, alcohols and carboxylic acids.			Follow " after sar vial con week ah Derivati:	Follow "Isocyanate Wipe Sampling Procedure". Immediately after sampling, glass fiber filters must be placed in a vial containing derivatizing solution. Order media one week ahead of survey. Media are prepared when ordered. Derivatizing solution has a shelf life of 1 month if kept cold.				

Hexane(n-	)						
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
110-54-3	NIOS	SH 1500	GC-FID		CT (SK	C 226-01, -09)	
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code		
0.01-0	.2	1-1(	)	0.45 µg	0.23 µg	CS <sub>2</sub>	
I	es		Comments				
Preferred for STEL sampling. Sample at 0.2 lpm.					: 0.2 lpm.		

Hexane(n-	)						
CAS #	Analytical Method		Analytical Technique		Sampling Media		
110-54-3	3M Method		GC-FID		OVM	(3M 3500)	
Sampling Ratet Sampling Vo		/olumett LOQ		LOD	Compatibility Code		
32.0		15-4	80 0.72 µg		0.36 µg	CS <sub>2</sub>	
l	Interferences			Comments			

Hexyl Acrylate								
CAS #	Analytical Method		Analytica	l Technique	Sampling Media			
2499-95-8	NIOS	SH 1450	GC	-FID	CT (SK	C 226-01, -09)		
Sampling Rate† Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
0.01-0	.2	1-1	0	0.90 μg 0.45 μg CS <sub>2</sub>		CS <sub>2</sub>		
Interferences				Comments				
Store and ship cold overnight.								

Hexylene Glycol (2-Methyl-2,4-pentanediol)								
CAS #	Analytical Method		Analytical Technique		Sampling Media			
107-41-5	NIOS	SH 5523 GC		C-FID	OVS 7	(SKC 226-57)		
Sampling Ratet Sampling Vo		/olumett	LOQ	LOD	Compatibility Code			
0.5-2	2	5-6	0	2.5 µg	1.3 µg	MeOH		
Interferences				Comments				

Hydrazine							
CAS #	Analytical Method		Analytica	l Technique	Sampling Media		
302-01-2	OSH	OSHA 108		PLC	G	iFF, Acid	
Sampling	Sampling Ratet Sampling Vo		olumett	LOQ	LOD	Compatibility Code	
1		240	C	0.025 µg	0.013 µg		
l	Interferences				Comments		
			Media h request	Media have short shelf-life. Media are prepared on request. Please contact the Lab 5 days before survey.			

Hydrogen Bromide							
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
10035-10-6	NIOS	SH 7903		IC	MCE2, SGT** (SKC 225-19, SKC 226-10-03)		
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code	
0.2-0.	5	10-10	)0 4.6 µg		2.3 µg	Acid1	
h	es		Comments				
Particulate salts of the acid will give a positive interference.			Use a flo	Use a flow rate of 0.5 lpm for STEL sampling.			

Hydrogen Bromide							
CAS #	Analytical Method A		Analytica	l Technique	Samp	oling Media	
10035-10-6	NIOSH 7907			IC	SKC	225-9032	
Sampling Rate† Sampling Vol			olumett	LOQ	LOD	Compatibility Code	
2		35-6	00	3.8 µg 1.9 µg			
Interferences				Comments			
Inorganic acids can react with co- sampled particulate matter on the pre-filter, leading to low results.			Order m cold. <b>Sp</b>	Order media one week ahead of survey. Ship and store cold. <b>Specialty Filter. Media charge applies.</b>			

Hydrogen Chloride								
CAS #	AS # Analytical Method A		Analytica	l Technique	Sam	Sampling Media		
7647-01-0	NIOS	SH 7903		IC	MC (SKC 225-1	MCE2, SGT** (SKC 225-19, SKC 226-10-03)		
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
0.2-0.	.5	10-1	00	2.3 µg	1.2 µg	Acid1		
l	es		Comments					
Particulate salts of the acid will give a positive interference.			Use a flo	Use a flow rate of 0.5 lpm for STEL sampling.				

Hydrogen Chloride								
CAS #	Analytic	cal Method	Analytica	l Technique	Sam	pling Media		
7647-01-0	NIOS	SH 7907		IC	SKC	225-9032		
Sampling	Rate†	Sampling V	olumett	LOQ	LOD	Compatibility Code		
2	2 40-600		00	13 µg	6.4 µg			
Interferences				Comments				
Inorganic acids can react with co- sampled particulate matter on the pre-filter, leading to low results. Potentially interfering particulate chlorides and nitrates removed by the pre-filter can react with the sampled acids and liberate HCI and HNO <sub>3</sub> , which gets collected on the sampling filter. leading to high results.			Order m cold. Sp	iedia one wee pecialty Filter.	k ahead of survey. <b>Media charge app</b>	Ship and store llies.		

Hydrogen Cyanide							
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
74-90-8	0-8 NIOSH 7904		ISE		Soda Lime Tube (SKC 226-210)		
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code	
0.2		10-9	0	5.2 µg	2.6 µg		
Interferences				Comments			
Sulfide, chloride, iodide, bromide, cadmium, zinc, silver, nickel, cuprous iron and mercury interfere.			Use a flo covered	Use a flow rate of 0.2 lpm for STEL sampling. Method is not covered under our AIHA-LAP, LLC scope of accreditation.			

Cyanide Salts as CN								
CAS #	Analytical Method A		Analytica	l Technique	Samp	Sampling Media		
74-90-8	NIOSH 7904		]	SE		PVC		
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
1 15-100		00	5.2 µg	2.6 µg				
Interferences				Comments				
Sulfide, chloride, iodide, bromide, cadmium, zinc, silver, nickel, cuprous iron and mercury interfere.			Preferre under of	<b>Preferred for STEL sampling</b> . Method is not covered under our AIHA-LAP, LLC scope of accreditation.				

Hydrogen Fluoride, as F								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
7664-39-3	64-39-3 NIOSH 7903			IC	MCE2, SGT** (SKC 225-19, SKC 226-10-03)			
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
0.2-0.	5	30-1	00	3.0 µg	1.5 µg	Acid1		
l	es		Comments					
Particulate salts of the acid will			Use the	Use the maximum flow rate for STEL sampling.				

Hydrogen Peroxide								
CAS #	Analytical Method A		Analytica	l Technique		Sampling Media		
7722-84-1	OSHA	OSHA ID-1019		/VIS	QFF,	titanium oxy	sulfate (SKC 225-9030)	
Sampling Ratet Sampling Vol			olumett	LOQ		LOD	Compatibility Code	
1.0	1.0 240		)	10.0 µg		5.0 µg		
Interferences				Comments				
Any compoun or that reacts oxysulfate to at 410nm is a	After sa and wra wrappin method accredit	After sampling seal the cassette with the end plugs and wrap each cassette with tin foil. Order tin foil for wrapping the samples. Filters have limited shelf-life. This method is not covered under our AIHA-LAP, LLC scope of accreditation. Specialty Filter. Media charge applies.						

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CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
7783-06-4	NIOS	SH 6013		IC	ORBO 34 (SUPELCO 20211)		
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code	
0.1-1.	0.1-1.5 30-70		70	8.9 µg	4.4 µg		
Interferences					Comments		
Sulfur dioxide gas may give a positive interference for hydrogen sulfide.			Use a flo	ow rate of 0.5	lpm for STEL.		

Hydroquinone (Dihydroxybenzene)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
123-31-9	NIOSH 5004		HI	PLC	MCE	(SKC 225-5)		
Sampling Ratet Sampling Vol			olumett/	LOQ	LOD	Compatibility Code		
1-4		30-1	80	10 µg	5 µg			
1	Interferences			Comments				
			Hydroqu Stabilize filter int	Hydroquinone is unstable on the collecting media. Stabilize immediately after collecting by transferring filter into a vial containing 1% acetic acid.				

Hydroquinone (Dihydroxybenzene)								
CAS #	Analytical Method A		Analytical Technique		Sampling Media			
123-31-9	OSHA PV2094		HPLC		XAD-7, Ac	XAD-7, Acid (SKC 226-98)		
Sampling Ratet Sampling Vo		olumett	LOQ	LOD	Compatibility Code			
0.2		20		0.30 µg	0.15 µg			
Interferences				Comments				
Preferred method.								

Indium a	nd	Compounds	as l	n

CAS #	Analytic	Analytical Method A		l Technique	Sampling Media			
NIOSH 7301   7440-74-6 NIOSH 7303   OSHA ID-125G		ICP		MCE or PVC (SKC 225-5 or SKC 225-5-37-P)				
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
1-4		150-10	000	0 1.5 μg 0.75 μg Metals		Metals		
l	nterferenc	es		Comments				
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			As part internal in your s in the a	As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. <b>Please indicate</b> in your sample submission form if yttrium is present in the area where you collected your samples.				

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CAS #	Analytical Method A		Analytical Technique		Sampling Media		
	NIOS	SH 7903	IC		MCE2, SGT** (SKC 225-19, SKC 226-10-03)		
Sampling	Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code	
0.2-0.	5	50-10	00	N/A	N/A		
lı	Interferences			Comments			
See L			See List	of Scans for	list of individual in	organic acid/anion.	

Iodine and Iodides as I								
CAS #	Analytical Method A		Analytica	Analytical Technique		Sampling Media		
7553-56-2	NIOSH 6005			IC		CT, KOH (SKC 226-67)		
Sampling Ratet Sampling Vol			olumett	LOQ		LOD	Compatibility Code	
0.5-1.	0	50-2	00	5.4 μg 2.7 μg				
Interferences				Comments				
Particulate iodide salts, hydrogen iodide or organic iodides may give a positive interference.			Use a flo	ow rate of 1.0	lpm for	STEL.		

Iron Oxide								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
1309-37-1	NIOS NIOS OSHA	NIOSH 7301 NIOSH 7303 OSHA ID-125G		СР	MCE or PVC (SKC 225-5 or SKC 225-5-37-P)			
Sampling	Sampling Ratet Sampling Vol			LOQ	LOD	Compatibility Code		
1-4		25-10	000	4.3 µg	2.2 µg	Metals		
l	nterferenc	es		Comments				
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			All form protoco Please i is prese	All forms of iron are quantified. As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. Please indicate in your sample submission form if yttrium is present in the area where you collected your samples.				

Iron Oxide								
CAS #	Analytic	Analytical Method A		l Technique	Sampling Media			
1309-37-1	NIOSH 7301 NIOSH 7303		ICP-MS		MCE or PVC (SKC 225-5 or SKC 225-5-37-P)			
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
1-4		25-10	000	) 3.6 µg 1.8 µg I		Metals		
-	nterferenc	es		Comments				
			All form protoco standar submiss present	is of iron are c l, yttrium, rho ds in ICP-MS sion form if y in the area w	quantified. As part dium, and lutetium analysis. <b>Please i</b> i ttrium, rhodium, a here you collected	of the Lab's QC are used as internal ndicate in your sample nd/or lutetium are d your samples.		

Iron								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
1309-37-1	1 OSHA ID-121		ļ	СР	Ghost w	ipe (225-2414)		
Sampling Ratet Sampling Vol			/olumett	LOQ	LOD	Compatibility Code		
NA		NA	Ą	30 µg	15 µg	Metals 2		
li	nterferenc	es		Comments				
Spectral interferemces are the primary interferences encountered in the ICP-AES analysis.			As part internal your sar in the ar	As part of the Lab's QC protocol, yttrium is used as internal standard in ICP analysis. Please indicate in your sample submission form if yttrium is present in the area where you collected your samples.				

Isobutyl Acetate								
CAS #	AS # Analytical Method A		Analytical Technique		Sampling Media			
110-19-0	NIOSH 1450		GC-FID		CT (SK	C 226-01, -09)		
Sampling	Sampling Ratet Sampling Vo		/olumett	LOQ	LOD	Compatibility Code		
0.01-0	.2	1-1	0	0.81 µg	0.41 µg	CS <sub>2</sub>		
Interferences				Comments				

Isobutyl A	sobutyl Acetate								
CAS #	CAS # Analytical Method A		Analytica	l Technique	Sampling Media				
110-19-0	19-0 3M Method		GC-FID		OVM	(3M 3500)			
Sampling	Sampling Ratet Sampling Vo		olumett/	LOQ	LOD	Compatibility Code			
31.0		15-4	80	1.2 µg	0.60 µg	CS <sub>2</sub>			
Interferences					Comments				

Isobutyl A	sobutyl Alcohol								
CAS #	# Analytical Method A		Analytical Technique		Sampling Media				
78-83-1	NIOSH 1401		GC-FID		CT (SK	C 226-01, -09)			
Sampling	Sampling Ratet Sampling Vo		olumett/	LOQ	LOD	Compatibility Code			
0.01-0	.2	1-1	0	0.59 µg	0.30 µg	1%PR0/CS <sub>2</sub>			
Interferences					Comments				

Isobutyl Alcohol								
CAS #	Analytical Method A		Analytical Technique		Sampling Media			
78-83-1	3M Method		GC-FID		OVM (3M 3500)			
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code			
35.9	35.9 15-480		80	0.89 µg	0.45 µg	MC CS <sub>2</sub>		
Interferences					Comments			

Isocyanate Scan								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
	OSHA 42		Н	HPLC		GFF, 1-2PP		
Sampling Ratet Sampling Vol			/olumett	LOQ	LOD	Compatibility Code		
I	nterferenc	es			Comment	S		
Potential interferences include anhydrides, amines, alcohols and carboxylic acids.			See List faced. N Filter is	See List of Scans for individual isocyanates. Sample open- faced. Media must be stored cold before and after sampling. Filter is stable for 6 months if kept cold. Ship cold overnight.				

Isoflurane (Forane)									
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
26675-46-7	OSHA 103		GC-FID		Anasorb 74	Anasorb 747 (SKC 226-81A)			
Sampling Ratet Sampling Vo		olumett	LOQ	LOD	Compatibility Code				
0.05		12		4.9 µg	2.5 µg	CS <sub>2</sub>			
li	es		Comments						
Store and ship cold overnight. 2021 NIC, 50ppm TWA, A4						, 50ppm TWA, A4			

Isoflurane (Forane)									
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
26675-46-7	3M Method		GC-FID		OVM	(3M 3500)			
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code				
28.3		15-4	80	7.4 µg	3.2 µg	CS <sub>2</sub>			
l	nterferenc	es		Comments					
Store and ship cold overnight. 2021 NIC, 50ppm TWA, A4.						, 50ppm TWA, A4.			

Isooctane	

CAS #	Analytical Method A		Analytical Technique		Sampling Media		
540-84-1	NIOSH 1500		GC-FID		CT (SKC 226-01, -09)		
Sampling Ratet Sampling Volu		/olumett	LOQ	LOD	Compatibility Code		
0.01-0.2 1-10		0	0.52 µg	0.26 µg	CS <sub>2</sub>		
Interferences					Comments		

Isooctane							
CAS #	AS # Analytical Method A		Analytical Technique		Sampling Media		
540-84-1	3M Method		GC-FID		OVM	(3M 3500)	
Sampling Rate† Sampling Vo		/olumett	LOQ	LOD	Compatibility Code		
27.1		15-4	.80	0.78 µg	0.39 µg	CS <sub>2</sub>	
l	es			Comments			

Isophorone								
CAS #	Analytical Method A		Analytical Technique		Sampling Media			
78-59-1	9-1 NIOSH 2508		GC-FID		CT (SK	C 226-01, -09)		
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
0.01-0	.2	1-1(	C	0.90 μg 0.45 μg CS <sub>2</sub>		CS <sub>2</sub>		
l	nterferenc	es		Comments				
			Use a flo may gre	ow rate of 0.2 atly decrease	lpm for STEL. Higl the breakthrough	n humidity volume.		

Isophoron	е						
CAS #	Analytic	cal Method	Analytical Technique		Sampling Media		
78-59-1	I 3M Method		GC-FID		OVN	I (3M 3500)	
Sampling	Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code	
21.7	,	15-4	80	1.4 µg	0.70 µg	CS <sub>2</sub>	
Interferences					Comments		

Isophorone Diisocyanate (IPDI)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
4098-71-9	OSHA 42		HPLC		GF	F, 1-2PP		
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
1		15-24	40	0.034 µg 0.017 µg Isocyanate				
li	nterferenc	es			Comments			
Potential interferences include anhydrides, amines, alcohols and carboxylic acids.			Sample before a months	Sample open-faced. Media must be stored cold before and after sampling. Filter is stable for 6 months if kept cold. Ship cold overnight.				

Isophorone Diisocyanate (IPDI)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
4098-71-9	OS	OSHA 42		PLC	GFF Wipes			
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
N/A	N/A N/A		4	0.034 µg	0.017 µg	Isocyanate		
l	nterferenc	es		Comments				
Potential interferences include anhydrides, amines, alcohols and carboxylic acids			Follow " after sa vial con week ah Derivati	Isocyanate Wi mpling, glass f taining derivat lead of survey. zing solution h	pe Sampling Proc fiber filters must b izing solution. Orc Media are prepar as a shelf life of 1	edure". Immediately e placed in a ler media one ed when ordered. month if kept cold.		

Isopropyl Acetate								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
108-21-4	NIOS	SH 1454	GC-FID		CT (SK	C 226-01, -09)		
Sampling	Rate†	Sampling V	olumett	LOQ	LOD	Compatibility Code		
0.02-0	.2	0.1-	9	1.0 µg	0.50 µg	CS <sub>2</sub>		
I	nterferenc	es		Comments				
Use a flow rate of 0.2 lpm for STEL.								

Isopropyl	Acetate					
CAS #	Analytical Method A		Analytical Technique		Sampling Media	
108-21-4	3M Method		GC-FID		OVM (3M 3500)	
Sampling Rate† Sampling Vol		/olumett	LOQ	LOD	Compatibility Code	
31.7		15-4	80	1.5 µg	0.75 µg	CS <sub>2</sub>
Interferences					Comments	

Isopropyl Alcohol (Isopropanol)									
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
67-63-0	NIOS	SH 1400	GC-FID		CT (SK	C 226-01, -09)			
Sampling	Sampling Ratet Sampling Vo		/olumett	LOQ	LOD	Compatibility Code			
0.01-0	.2	0.3-	-3	1.0 µg	0.51 µg	BUT/CS <sub>2</sub>			
I	Interferences			Comments					

Isopropyl Alcohol (Isopropanol)									
CAS #	Analytical Method A		Analytica	Technique	Sampling Media				
67-63-0	3M I	Vethod	GC	-FID	OVM	(3M 3520)			
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code				
39.4	39.4 15-240		40	1.5 µg	0.77 µg	ACN CS <sub>2</sub>			
l	Interferences			Comments					
			Use 3M the back	Use 3M 3520. Separate the front section of the monitor from the back section and cap immediately after sampling. Ship cold.					

Kaolin								
CAS #	Analytical Method A		Analytica	Analytical Technique		Sampling Media		
1332-58-7	NIOSH 0600		GI	GRAV		PVC (SKC 225-5-37-P)		
Sampling Ratet Sampling Vol			olumett/	LOQ		LOD Compatibility		
1.7		100-8	316	50 μg 10 μg				
l		Comments						
All other resp	e. Use pre Oliver) o (SKC) cy	Use pre-weighed PVC 2-piece cassette for MSA (Dorr- Oliver) cyclones at 1.7 lpm and 3-piece cassette for BMRC (SKC) cyclones at 2.5 lpm and for BGI-4L at 2.2 lpm.						

Kerosene							
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
8008-20-6	NIOS	SH 1550	GC	-FID	CT (SKC 226-01, -09)		
Sampling Ratet Sampling Volur			/olumett	LOQ	LOD	Compatibility Code	
0.01-0	.2	1.3-	20	2.9 μg 1.5 μg CS <sub>2</sub>		CS <sub>2</sub>	
Interferences				Comments			
			Please s separate	Please send bulk sample; ship it separately from the air samples.			

Kerosene							
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
8008-20-6	3M I	Vethod GC		C-FID	OVM (3M 3500)		
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code		
24.3		15-4	80	4.4 μg 2.2 μg		CS <sub>2</sub>	
Interferences					Comments		
		Please s separate	Please send bulk sample; ship it separately from the air samples.				

Lactic Aci	d						
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
50-21-5	NIOS	SH 2011		IC	SGT**(S	KC 226-10-03)	
Sampling	Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code	
0.2-0.	5	5-10	0	3.0 µg	1.2 µg	Acid2	
-	nterferenc	es		Comments			
Do not sample for inorganic acids using the same tube.					the same tube.		

Lanthanum								
CAS #	Analytical Method A		Analytica	l Technique	Samj	oling Media		
7439-91-0	NIOS	OSH 7301		CP	MC (SKC 225-5 c	MCE or PVC (SKC 225-5 or SKC 225-5-37-P)		
Sampling Ratet Sampling Vol			olumett/	LOQ	LOD	Compatibility Code		
1-4		120-1	000	0.10 μg 0.050 μg Metals		Metals		
h	nterferenc	es		Comments				
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			As part internal in your s in the a	As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. <b>Please indicate</b> in your sample submission form if yttrium is present in the area where you collected your samples.				

Lead and Inorganic Compounds as Pb								
CAS #	Analytic	nalytical Method A		l Technique	Sampling Media			
7439-92-1	OSH	A ID-121	ļ	СР	ghost wipe	e (SKC 225-2414)		
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code			
NA		NA		1.0 µg	0.50 µg	Metals2		
Interferences				Comments				
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			As part internal in your s in the a	As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. <b>Please indicate</b> in your sample submission form if yttrium is present in the area where you collected your samples.				

Lead and Inorganic Compounds as Pb									
CAS #	Analytic	cal Method	ethod Analytical Technic		Sampling Media				
7439-92-1	NIOS NIOS	SH 7301 SH 7303	ICP		MCE or PVC (SKC 225-5 or SKC 225-5-37-P)				
Sampling Ratet Sampling Vol			olumett/	LOQ	LOD	Compatibility Code			
1-4	1-4 120-100			0 0.25 μg 0.13 μg Metals					
li	nterferenc	es		Comments					
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			As part internal in your s in the a	As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. Please indicate in your sample submission form if yttrium is present in the area where you collected your samples.					

Lead and Inorganic Compounds as Pb								
CAS #	Analytic	cal Method	Analytica	l Technique	Sampling Media			
7439-92-1	NIOS NIOS	SH 7301 SH 7303	ICF	P-MS	MCE or PVC (SKC 225-5 or SKC 225-5-37-P)			
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
1-4	1-4 40-240		40	0.032 µg 0.016 µg Metal		Metals		
li	nterferenc	es		Comments				
As an an fo in			As part and lute analysis form if y in the a	As part of the Lab's QC protocol, yttrium, rhodium, and lutetium are used as internal standards in ICP-MS analysis. Please indicate in your sample submission form if yttrium, rhodium, and/or lutetium are present in the area where you collected your samples.				

t(LPM) (CC/Min)

Lead and Inorganic Compounds as Pb									
CAS #	Analytical Method A		Analytica	l Technique	Sam	Sampling Media			
7439-92-1	OSH/ NIOS	A ID-121 SH 7301	I	СР	Pa	Paint chips			
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code			
NA		NA	١	0.25 μg 0.13 μg Metals2		Metals2			
li	nterferenc	es		Comments					
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			Needs a protoco Please i is prese	Needs at least 1 gram of bulk sample. As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. Please indicate in your sample submission form if yttrium is present in the area where you collected your samples.					

Lead Chromate as Cr(VI)									
CAS #	Analytic	cal Method	Analytica	l Technique	Sam	pling Media			
7758-97-6	0SH/	A ID-215		IC	(SKC	PVC 225-5-37-P)			
Sampling	Rate†	Sampling V	/olumett	LOQ	LOD Compatibility (				
2		500-960		0.05 µg	0.02 µg				
li	es		Comments						
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			Please i sample the extr Refriger 500 lite plating samplin within 8 compou	ndicate in sar d (e.g., spray p action metho rate samples a rs is the minir operations mu g. Samples fr days from da unds, includin	nple submission fo paint, chrome plati d is different for sp and ship overnight num air volume at ust be analyzed wi om welding opera ite of sampling. He g Chromite ore pro	orm the operation ng, welding, etc.) as oray paint samples. as soon as possible. 50% TLV. Samples from thin 6 days from date of tions must be analyzed exavalent chromium poessing as Chrome (VI).			

Limonene	(d-)						
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
138-86-3	NIOS	NIOSH 1552		-FID	CT (SK	C 226-01, -09)	
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code		
0.01-0	.2	1-1	0	0.52 µд 0.26 µд		CS <sub>2</sub>	
Interferences				Comments			

Limonene(d-)									
CAS #	Analytical Method		Analytical Technique		Sampling Media				
138-86-3	3M I	Vethod GC		-FID	OVM	(3M 3500)			
Sampling Ratet Sampling Vo		/olumett	LOQ	LOD	Compatibility Code				
24.7	,	15-4	80	0.78 µg	0.39 µg	CS <sub>2</sub>			
Interferences				Comments					

Lithium Sa	Lithium Salts									
CAS #	Analytical Method A		Analytica	l Technique	Samj	oling Media				
7439-93-1	NIOS	H 7301		CP	MC (SKC 225-5 c	MCE or PVC (SKC 225-5 or SKC 225-5-37-P)				
Sampling Ratet Sampling Vol			olumett/	LOQ	LOD	Compatibility Code				
1-4		250-1	000	0 0.10 μg 0.050μg Metals		Metals				
Interferences				Comments						
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			All form protoco Please i is prese	All forms of lithium are quantified. As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. Please indicate in your sample submission form if yttrium is present in the area where you collected your samples.						

Magnesiu	Magnesium									
CAS #	Analytical Method A		Analytica	l Technique	Samj	oling Media				
7439-95-4	NIOS NIOS OSHA	SH 7301 SH 7303 A ID-125G	I	CP	MC (SKC 225-5 c	CE or PVC or SKC 225-5-37-P)				
Sampling Ratet Sampling Vol		olumett/	LOQ	LOD	Compatibility Code					
1-4		25-10	000	) 1.0 μg 0.50 μg Meta		Metals				
I	nterferenc	es		Comments						
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			All form protoco Please is prese	All forms of magnesium are quantified. As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. Please indicate in your sample submission form if yttrium is present in the area where you collected your samples.						

Magnesiu	Magnesium Oxide								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
1309-48-4	NIOS NIOS OSHA	GH 7301 GH 7303 GID-125G	/301 /303 IC 125G		MC (SKC 225-5 c	E or PVC or SKC 225-5-37-P)			
Sampling Ratet Sampling Vol			olumett/	LOQ	LOD	Compatibility Code			
1-4		25-10	000	0 1.7 μg 0.85 μg Meta		Metals			
l	nterferenc	es		Comments					
Spectral inter primary interf in ICP-AES an	ferences a erences ei alysis.	re the ncountered	All form protoco Please i is prese	All forms of magnesium are quantified. As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. Please indicate in your sample submission form if yttrium is present in the area where you collected your samples.					

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Magnesiu	m Oxide						
CAS #	Analytical Method A		Analytica	l Technique	Sam	pling Media	
1309-48-4	NIOS NIOS	SH 7301 SH 7303	ICP-MS		MCE or PVC (SKC 225-5 or SKC 225-5-37-P)		
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code	
1-4	1-4 40-240		40	) 2.5 μg 1.3 μg Metal		Metals	
	Interferences				Comments		
As and ana forr in t				of the Lab's C etium are used s. Please indic yttrium, rhodi rea where you	C protocol, yttriun d as internal stand cate in your sample um, and/or lutetiur collected your sa	n, rhodium, ards in ICP-MS e submission m are present mples.	

Magnesium Oxide								
CAS #	Analytical Method A		Analytica	l Technique	Samp	oling Media		
1309-48-4	NIOSH 0500		GI	RAV	Pre-weighed P	VC (SKC 225-5-37-P)		
Sampling Rate† Sampling Vol			/olumett	LOQ	LOD	Compatibility Code		
1-15		40-72	200	) 50 µg 10 µg				
Interferences				Comments				
All other dusts will interfere.			For pers lpm, for	For personal sampling use a flow rate of 1-2 lpm, for area sampling up to 15 lpm.				

Maleic Anhydride								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
108-31-6	0S	OSHA 86		PLC	GF	F, Vamine		
Sampling Rate† Sampling Vol			/olumett	LOQ	LOD	Compatibility Code		
0.5		60	)	0.74 µg	0.37 µg	ACN/DMS0		
Interferences				Comments				
Both phthalic amd trimellitic anhydride should be considered as potential sampling interferences.			Samplir ordered	Sampling media has short shelf-life, so media is prepared when ordered. Please order filters at least 5 days prior to survey date.				

# Maleic Anhydride

CAS #	Analytic	cal Method	Analytica	l Technique	Sampling Media		
108-31-6	OS	HA 25	H	HPLC		XAD-2,p-An/XAD-2 (SKC 226-30-07, SKC 226-30)	
Sampling Ratet Sampling Volu			/olumett	LOQ		LOD	Compatibility Code
0.1		20	)	0.030 µg		0.015 µg	
Interferences				Comments			
Both phthalic amd trimelliticSaanhydride should be considered astupotential sampling interferences.Mebebe				Sample with XAD-2 treated tube and XAD-2 untreated tube in series. Separate and cap tubes after sampling. Media has short shelf-life. Please contact the Lab before survey date for more info. Preferred method.			

Manganese, Elemental and Inorganic compounds as Mn									
CAS #	Analytic	cal Method	Analytica	l Technique	Sampling Media				
7439-96-5	NIOS NIOS OSHA	SH 7301 SH 7303 A ID-125G		CP	MCE or PVC (SKC 225-5 or SKC 225-5-37-P)				
Sampling	Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code			
1-4		125-1	000	0.15 µg	0.075 µg	Metals			
li	nterferenc	es		Comments					
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			As part standar submiss collecte respirat in your weighed using re	of the Lab's Q d in metal ana sion form if yt ed your sample ble PPI. Use a request if you d. Please cont espirable PPI.	C protocol, yttriur lysis. Please indi trium is present i es. Manganese m flow rate of 2 lpm want the filter ins act lab a week be Media charge ap	n is used as internal cate in your sample n the area where you ay be sampled using I. Please indicate side the PPI pre- fore your survey if plies for PPIs.			

Manganese, Elemental and Inorganic compounds as Mn									
CAS #	Analytic	cal Method	Analytica	Analytical Technique Sampling Media		pling Media			
7439-96-5	NIOS NIOS	SH 7301 SH 7303	ICP-MS		M (SKC 225-5	CE or PVC or SKC 225-5-37-P)			
Sampling	Rate†	Sampling V	olumett	LOQ	LOD Compatibility C				
1-4	1-4 75-240		10	0.15 µg	0.075µg	Metals			
Interferences				Comments					
			As part lutetium Please i rhodium collecte respirat in your r weighed using re	of the Lab's Q are used as ndicate in you a, and/or lutet d your sampl ole PPI. Use a request if you d. Please cont espirable PPI.	C protocol, yttriur internal standards ur sample submis ium are present in es. Manganese m flow rate of 2 lpm want the filter ins tact lab a week be Media charge ap	n, rhodium, and in ICP-MS analysis. sion form if yttrium, n the area where you ay be sampled using i. Please indicate side the PPI pre- fore your survey if plies for PPIs.			

Manganese, elemental and Inorganic compounds as Mn								
CAS #	Analytic	Analytical Method A		l Technique	Sam	Sampling Media		
7439-96-5	OSH. OSHA	A ID-121 ID-125G	ICP		ghost wipe (SKC 225-2414)			
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
NA NA		١	0.60 µg 0.30 µg Me		Metals2			
Interferences					Comments			
Spectral inter primary interf in ICP-AES an	re the ncountered	As part internal in your s in the a	As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. Please indicate in your sample submission form if yttrium is present in the area where you collected your samples.					

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Medical Gases								
CAS #	Analytical Method A		Analytica	l Technique	Sam	oling Media		
	NIOS	6H 0500 /II-A5	GRAV, GC-FID GC- ECD, GC-TCD GC-XSD, GC-DID		PTFE4 (PALL TF-450) Cylinder			
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
Note 2* see Comments 1000 (gravir 300cc/25 (Cylinde		metric) 5 psig er)	Note 2* see Comments	e Note 2* see Comments				
l	es		Comments					
At high levels argon interferes with oxygen and carbon dioxide interferes with nitrous oxide.			*See No Guide A	*See Note 2 in the Comments section of "IH Lab Sampling Guide Analyte Descriptions and Abbreviations"				

Mercury as Hg (Elemental and inorganic forms)								
CAS #	Analytical Method A		Analytica	I Technique	Sampling Media			
7439-97-6	NIOS	SH 6009	AA-CV		Carulite/ Anasorb C300 (SKC 226-17-1A/3A)			
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code			
0.15-0.	25	50-1	20	0.12 µg 0.060 µg				
li	nterferenc	es		Comments				
Inorganic and compounds m interference. including chlc	organic m nay cause Oxidizing g prine, do no	nercury a positive gases, ot interfere.	A 37-mr precedi mercury	A 37-mm, cellulose ester membrance filter in a cassette preceding the sorbent may be used if particulate mercury is to be determined separately.				

Mercury as Hg (Elemental and inorganic forms)									
CAS #	Analytic	Analytical Method A		Analytical Technique		Sampling Media			
7439-97-6	0SH/	A ID-140	AA	AA-CV		PS (SKC 520-02A/03)			
Sampling Ratet Sampling Vol			olumett	LOQ		LOD	Compatibility Code		
0.020	0.020 9.6		)	0.12 µg		0.060 µg			
l	nterferenc	es		Comments					
Particulate m are a positive	Call Lab of passi if samp and par	Call Lab one week before sampling. Lab has limited number of passive mercury monitor holders. Refer to OSHA ID-145 if sampling in workplaces containing both mercury vapor and particulate. Specialty media. Media charge applies.							

Mercury as Hg Particulate									
CAS #	Analytic	Analytical Method A		l Technique	Sampling Media				
7439-97-6	OSH	A ID-145 A		A-CV	Air MC Wipe (Wh	E (SKC225-5) atman#42) Bulk			
Sampling Rate† Sampling Vol			olumett/	LOQ	LOD	Compatibility Code			
2		50	)	0.12 µg	0.060 µg				
li	Interferences				Comments				
			If mercu please r for addi	If mercury vapor is suspected to be present, please refer to OSHA ID-140 or NIOSH 6009 for additional sampling information.					

t(LPM) (CC/Min)

### tt(L) (Minutes)

Mesityl Oxide									
CAS #	Analytical Method		Analytical Technique		Sampling Media				
141-79-7	NIOS	SH 1301		-FID	CT (SK	C 226-01, -09)			
Sampling Rate† Sampling Vo		/olumett	LOQ	LOD	Compatibility Code				
0.2		25	5	1.3 µg	0.65 µg	CS <sub>2</sub>			
Interferences				Comments					

Metalworking Fluids									
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
	NIOSH 5524		GI	RAV	Pre-weighed P	Pre-weighed PTFE1 (Zefon FPTFE137)			
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code				
2	2 768-96		960	75 µg	15 µg				
l	es		Comments						
The method is and measures extractable by	cific ances solvents.	NIOSH S sample Refriger Ship col analyze	5524 recomm of each type ate samples d. Please not d within 2 we	ends submitting of fluid for solubil if unable to ship i e that samples m eks after collectio	one bulk ity testing. mmediately. ust be on.				

Methanol (Methyl alcohol)									
CAS #	Analytic	cal Method	Analytica	l Technique	Sampling Media				
67-56-1	OSH	IA 5001	GC	C-FID	Anasorb747/Ana	Anasorb747/Anasorb747 (SKC 226-82)			
Sampling	Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code			
0.05	0.05 1-5		5	2.3 µg 1.1		DMF/CS <sub>2</sub>			
li	nterferenc	es		Comments					
		Preferre series ( back se volume liters wl cap tub	ed method. Sa "Part A" as the ction. Please is 5 liters whe nen relative hu es after samp	mple with 2 Anasc e front section and order as a set.) Re en relative humidity umidity is <50% at ling. Store and shi	orb 747 tubes in "Part B" as the commended air / is >50% and 3 25°C. Separate and p cold overnight.				

Methanol (Methyl alcohol)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
67-56-1	NIOSH 2000		GC	C-FID	SGT-SGT	Г (SKC 226-51)		
Sampling Ratet Sampling Volu		olumett	LOQ	LOD	Compatibility Code			
0.02-0	.2	1-5	5	2.5 µg	1.3 µg	5%IPA		
li li	nterferenc	es		Comments				
		Sample after sa in area	using 2 SGT t mpling. Use a where humidit	ubes in series. Sep flow rate of 0.2 lpr t <b>y is high.</b> Store an	parate and cap tubes n for STEL. <b>Do not use</b> d ship cold overnight.			

Methoxy(1-)-2-propanol (Propylene glycol monomethyl ether, PGME)								
CAS #	Analytical Method		Analytical Technique		Sampling Media			
107-98-2	NIOS	SH 1403 GC		-FID	CT (SK	C 226-01, -09)		
Sampling Ratet Sampling Vo		olumett/	LOQ	LOD	Compatibility Code			
0.01-0	.05	1-1	0	1.3 µg	0.65 µg	MeOH/MC		
Interferences				Comments				

# Methoxy(1-)-2-propanol (Propylene glycol monomethyl ether, PGME)

CAS #	Analytical Method A		Analytical Technique		Sampling Media		
107-98-2	3M Method		GC-FID		OVM (3M 3500)		
Sampling Ratet Sampling Volu		/olumett	LOQ	LOD	Compatibility Code		
32.4 15-480		80	2.0 µg	1.0 µg	MC CS <sub>2</sub>		
Interferences				Comments			

Methoxyethanol(2-) (Methyl cellosolve, EGME)									
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
109-86-4	NIOS	SH 1403	GC-FID		CT (SK	CT (SKC 226-01, -09)			
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code				
0.01-0	.05	1-50	)	1.7 µg	0.85 µg	%MeOH/MC			
Interferences				Comments					
Preferred method for STEL sampling. Sample at 0.05 lpm.						ample at 0.05 lpm.			

Methoxyethanol(2-) (Methyl cellosolve, EGME)									
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
109-86-4	3M	Method	GC-FID		OVM	(3M 3500)			
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code				
36.3		120-480		2.6 µg 1.3 µg		MC CS <sub>2</sub>			
Interferences					Comments				

Methoxyethoxy(2-(2-)) Ethanol (Diethylene glycol methyl ether)	
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CAS #	Analytical Method		Analytical Technique		Sampling Media		
111-77-3	NIOSH 1403		GC-FID		CT (SKC 226-01, -09)		
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code		
0.01-0.	05	1-1	0	1.3 µg	0.65 µg	5%MeOH/MC	
Interferences				Comments			

Methoxyethoxy(2-(2-)) Ethanol (Diethylene glycol methyl ether)								
CAS #	CAS # Analytical Method A		Analytical Technique		Sampling Media			
111-77-3	111-77-3 3M Method		GC-FID		OVM (3M 3500)			
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
27.8	27.8 15-480		80	2.0 µg	1.0 µg	MC CS <sub>2</sub>		
Interferences				Comments				

## Methoxyethyl(2-) Acetate (Methyl cellosolve acetate, EGMEA)

CAS #	Analytical Method		Analytical Technique		Sampling Media		
110-49-6	NIOSH 1451		GC-FID		CT (SKC 226-01, -09)		
Sampling	Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code	
0.01-0	.2	0.2-2	20	0.46 µg	0.23 µg	CS <sub>2</sub>	
Interferences				Comments			
			Preferre	ed method for	STEL sampling.		

### Methoxyethyl(2-) Acetate (Methyl cellosolve acetate, EGMEA)

CAS #	Analytical Method		Analytical Technique		Sampling Media		
110-49-6	3M	3M Method		GC-FID		OVM (3M 3500)	
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code		
29.0		120-4	120-480		0.34 µg	CS <sub>2</sub>	
Interferences				Comments			

### Methoxyethyl(2-) Ether (Diethylene glycol dimethyl ether)

		· · · ·	, ,				
CAS #	S # Analytical Method A		Analytica	l Technique	Sampling Media		
111-96-6	NIOS	SH 1403		-FID	CT (SK	C 226-01, -09)	
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code		
0.01-0.	0.01-0.05 1-10		0	0.58 µg	0.29 µg	5%MeOH/MC	
Interferences					Comments		

Methoxyethyl(2-) Ether (Diethylene glycol dimethyl ether)								
CAS #	Analytical Method A		Analytical Technique		Sampling Media			
111-96-6	3M Method		GC-FID		OVM	(3M 3500)		
Sampling Ratet Sampling Volu		olumett	LOQ	LOD	Compatibility Code			
26.7	26.7 15-480		80	0.87 µg	0.44 µg	MC CS <sub>2</sub>		
Interferences					Comments			

Methyl Acetate									
CAS #	CAS # Analytical Method A		Analytical Technique		Sampling Media				
79-20-9	NIOS	NIOSH 1458		-FID	CT (SK	C 226-01, -09)			
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code			
0.01-0	.2	0.2-1	10	1.5 µg	0.75 µg	CS <sub>2</sub>			
I	Interferences Comments								
Preferred method for STEL sampling. Sample at 0.2 lpm.									

Methyl Acetate									
CAS #	Analytical Method A		Analytical Technique		Sampling Media				
79-20-9	3M Method		GC-FID		OVM	(3M 3520)			
Sampling Ratet Sampling Vol		olumett/	LOQ	LOD	Compatibility Code				
37.0		15-4	80	0 2.3 μg 1.2 μg CS <sub>2</sub>		CS <sub>2</sub>			
li li	es		Comments						
			Use 3M the back	3520. Separa section and	te the front section cap immediately a	n of the monitor from fter sampling. Ship cold.			

Methyl Acrylate									
CAS #	CAS # Analytical Method A			l Technique	Sampling Media				
96-33-3	96-33-3 NIOSH 1459		GC-FID		CT (SK	C 226-01, -09)			
Sampling	Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
0.01-0	0.01-0.2 1-5		5	1.1 µg 0.55 µg СS <sub>2</sub>		CS <sub>2</sub>			
I	nterferenc	es			Comments				

Methyl Acrylate									
CAS #	CAS # Analytical Method A		Analytical Technique		Sampling Media				
96-33-3	3-3 3M Method		GC-FID		OVM	(3M 3500)			
Sampling	Sampling Ratet Sampling Vo		olumett	LOQ	LOD	Compatibility Code			
35.8	}	15-4	80	1.7 µg	0.85 µg	CS <sub>2</sub>			
Interferences				Comments					

Methyl Alcohol (Methanol)								
CAS #	Analytical Method A		Analytical Technique		Sampling Media			
67-56-1	OSHA 5001		GC-FID		Anasorb747/Anasorb747 (SKC 226-82)			
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
0.05	5	1-5	;	2.3 µg	1.1 µg	DMF/CS <sub>2</sub>		
I	nterferenc	es		Comments				
			Preferre "Part A" air volur liters wh cap tube	ed method. Sa in front and " me is 5 liters v nen relative hu es after samp	mple Anasorb 747 PART B" in back se vhen relative humi umidity is <50% at ling. Store and shi	tubes in series (with ection. Recommended dity is >50% and 3 25° C. Separate and p cold overnight.		

Methyl Alcohol (Methanol)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
67-56-1	NIOS	SH 2000	GC-FID		SGT-SGT (SKC 226-51)			
Sampling Ratet Sampling Volumett			olumett	LOQ	LOD	Compatibility Code		
0.02-0	0.2 1-5		;	2.3 µg	1.7 µg	5%IPA		
Interferences					Comments			
Sample using 2 SGT rate of 0.2 lpm for ST immediately after sa <b>humidity is high.</b> Sto				ubes in series. Use EL. Separate and c npling. <b>Do not use</b> re and ship cold ov	e a flow cap tubes <b>in area where</b> rernight			

Methyl Amyl Ketone (2-Heptanone)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
110-43-0	NIOS	SH 1301	GC	-FID	CT (SKC 226-01, -09)			
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
0.01-0	.2	1-2	5	0.61 µg	0.31 µg	MeOH/CS <sub>2</sub>		
Interferences				Comments				
Use a flow rate of 0.2 lpm for STEL.								

# Methyl Amyl Ketone (2-Heptanone)

CAS #	Analytical Method A		Analytical Technique		Sampling Media		
110-43-0	3M I	l Method (		-FID	OVM (3M 3500)		
Sampling Ratet Sampling Volu		/olumett	LOQ	LOD	Compatibility Code		
27.9	27.9 15-480		80	0.92 µg	0.46 µg	CS <sub>2</sub>	
I	es		Comments				

Methyl Aniline								
CAS #	Analytical Method A		Analytical Technique		Sampling Media			
100-61-8	NIOSH 2002		GC-FID		SGT (	SKC 226-10)		
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
0.02-0	).5	5-3	) NA		NA	Amine3		
Interferences				Comments				
Nitrogen compounds that co-elute will interfere.								

Methyl Chloroform (1,1,1-Trichloroethane)								
CAS #	Analyti	Analytical Method A		l Technique	Sampling Media			
71-55-6	i NIO	SH 1003	GC-FID		CT (SKC 226-01, -09)			
Sampl	Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code		
0.0	)1-0.2	1-1(	)	2.2 µg	1.1 µg	CS <sub>2</sub>		
Interferences					Comments			

Methyl Chloroform (1,1,1-Trichloroethane)									
CAS #	Analytical Method		Analytical Technique		Sampling Media				
71-55-6	3M I	Method	GC-FID		OVM	(3M 3500)			
Sampling Ratet Sampling Vo		/olumett	LOQ	LOD	Compatibility Code				
30.9		15-4	80	3.3 µg	1.7 µg	CS <sub>2</sub>			
Interferences					Comments				

Methyl Cyclopentane									
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
96-37-7	NIOS	SH 1500	GC	GC-FID CT		KC 226-01, -09)			
Sampling	Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code			
0.01-0	.2	1-1	0	0.38 μg 0.19 μg CS <sub>2</sub>		CS <sub>2</sub>			
I	Interferences			Comments					

Methyl Cyclopentane								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
96-37-7	3M	Method	GC-FID		OVM (3M 3500)			
Sampling Ratet Sampling Vol		olumett/	LOQ	LOD	Compatibility Code			
31.5	;	15-4	80	0.57 µg	0.29 µg	CS <sub>2</sub>		
Interferences				Comments				

Methyl Ethyl Ketone (2-Butanone, MEK)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
78-93-3	NIOS	SH 2500	GC-FID		CT (SK	C 226-01, -09)		
Sampling Ratet Sampling Vol		olumett LOQ		LOD	Compatibility Code			
0.01-0	.2	0.25	-12	2 0.86 μg 0.43 μg		CS <sub>2</sub>		
Interferences					Comments			
Isopropyl acetate may co- elute with MEK.			Preferre rate of 0	<b>Preferred for STEL sampling</b> . Sample at a flow rate of 0.2 lpm. Ship and store cold.				

### Methyl Ethyl Ketone (2-Butanone, MEK)

		N					
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
78-93-3	3M Method		GC-FID		OVM	OVM (3M 3500)	
Sampling Ratet Sampling Vol			/olumett	LOQ	LOD	Compatibility Code	
36.3	36.3 15-480		80	1.3 µg	0.65 µg	CS <sub>2</sub>	
Interferences				Comments			
Isopropyl acetate may co- elute with MEK.			Ship and	Ship and store cold.			

### **Methyl Isoamyl Ketone**

methy isouniyi netone									
CAS #	Analytical Method A		Analytical Technique		Sampling Media				
110-12-3	NIOS	SH 1300	GC	C-FID	CT (SK	C 226-01, -09)			
Sampling Ratet Sampling Volu		olumett	LOQ	LOD	Compatibility Code				
0.01-0	.2	1-1(	)	0.66 µg	0.33 µg	CS <sub>2</sub>			
Interferences				Comments					

## Methyl Isoamyl Ketone

CAS #	Analytical Method		Analytical Technique		Sampling Media		
110-12-3	3M	Method	GC	-FID	OVM	I (3M 3500)	
Sampling	Sampling Ratet Sampling Volumett		LOQ	LOD	Compatibility Code		
28.0	3.0 15-480		0.99 µg	0.50 µg	CS <sub>2</sub>		
Interferences				Comments			

Methyl Isobutyl Ketone (MIBK)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
108-10-1	NIOS	SH 1300	GC	-FID	CT (SK	C 226-01, -09)		
Sampling	Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code		
0.01-0	.2	1-1(	)	0.54 µg	0.27 µg	CS <sub>2</sub>		
I	es		Comments					
Preferred for STEL sampling. Sample at 0.2 lpm.								

Methyl Isobutyl Ketone (MIBK)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
108-10-1	3M	Method	GC-FID		OVM	(3M 3500)		
Sampling	Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code		
30.0	)	15-4	80	0.80 µg	0.40 µg	CS <sub>2</sub>		
Interferences				Comments				

Methyl Isopropyl Ketone								
CAS #	Analytical Method		Analytica	l Technique	Sampling Media			
563-80-4	NIOS	NIOSH 1300		-FID	CT (SK	C 226-01, -09)		
Sampling Rate† Sampling Vo		olumett	LOQ	LOD	Compatibility Code			
0.01-0	.2	1-1(	)	1.0 µg	0.50 µg	CS <sub>2</sub>		
l	es		Comments					
Ship and store cold.								

Methyl Isopropyl Ketone								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
563-80-4	3M I	3M Method		-FID	OVM	(3M 3500)		
Sampling Rate† Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
32.8		15-4	80	1.5 µg	0.75 µg	CS <sub>2</sub>		
Interferences				Comments				
Ship and store cold.								

Methyl Methacrylate								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
80-62-6	3M	Method	GC-FID		OVM	(3M 3500)		
Sampling	Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code		
31.8	}	15-48	30	1.5 µg	0.75 µg	CS <sub>2</sub>		
I	Interferences			Comments				
Ship cold.								

Methyl Propyl Ketone (2-Pentanone)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
107-87-9	NIOS	NIOSH 1300		-FID	CT (SK	C 226-01, -09)		
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
0.01-0	.2	1-1	0	0.73 µg	0.37 µg	CS <sub>2</sub>		
	nterferenc	es		Comments				

Methyl Propyl Ketone (2-Pentanone)								
CAS #	Analytical Method		Analytica	l Technique	Sampling Media			
107-87-9	3M	Method	GC	-FID	OVM	(3M 3500)		
Sampling Ratet Sampling Vol		olumett/	LOQ	LOD	Compatibility Code			
33.0	)	15-4	80	1.1 µg	0.55 µg	CS <sub>2</sub>		
Interferences				Comments				

Methyl Styrene(a-)									
CAS #	Analytical Method A		Analytica	l Technique	Sam	pling Media			
98-83-9	NIOS	SH 1501	GC	-FID	CT (SK	C 226-01, -09)			
Sampling Ratet Sampling Vol			/olumett	LOQ	LOD	Compatibility Code			
0.01-0	.2	1-3	0	0.41 µg	0.21 µg	CS <sub>2</sub>			
	Interferences				Comments				
			Under c volumes 50%. Ste	Under conditions of high humidity, the breakthrough volumes may be reduced by as much as 50%. Store and ship cold overnight.					

Methyl Styrene(a-)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
98-83-9	3M I	Vethod	GC-FID		OVM	(3M 3500)		
Sampling	Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code		
25.0	)	15-48	80	0.62 µg	0.31 µg	CS <sub>2</sub>		
Interferences				Comments				
Store and ship cold overnight.								

Methyl Tert-butyl Ether (MTBE)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
1634-04-4	NIOS	NIOSH 1615		-FID	CT-CT	(SKC 226-01)		
Sampling Ratet Sampling Vol			olumett/	LOQ	LOD	Compatibility Code		
0.1-0.	2	2-9	6	0.67 µg		CS <sub>2</sub>		
Interferences					Comments			
			Preferre Ipm. Sto	Preferred for STEL sampling. Sample at 0.2 lpm. Store and ship cold immediately.				

Methyl Tert-butyl ether (MTBE)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
1634-04-4	3M I	Method	GC	-FID	OVM	(3M 3520)		
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
30.8		15-4	80	1.0 µg	0.50 µg	CS <sub>2</sub>		
li li	Interferences				Comments			
		Use 3M monitor after sa	Use 3M 3520. Separate the front section of the monitor from the back section and cap immediately after sampling. Store and ship cold immediately.					

Methyl Vinyl Ketone								
CAS #	Analytical Method		Analytica	l Technique	Sampling Media			
78-94-4	NIOS	NIOSH 1300		-FID	CT (SK	C 226-01, -09)		
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
0.01-0	.2	1-1	0	0.27 μg 0.14 μg		CS <sub>2</sub>		
Interferences				Comments				
Store and ship cold overnight.								

Methyl(1-)	)-2-pyrro	lidinone
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CAS #	Analytical Method		Analytical Technique		Sampling Media			
872-50-4	NIOSH 1302		GC-FID		CT (SKC 226-01, -09)			
Sampling Ratet Sampling Vo		/olumett	LOQ	LOD	Compatibility Code			
0.05-0	).2	0.5-1	25	1.1 µg	0.55 µg	5%MeOH/MC		
Interferences				Comments				

# Methyl(1-)-2-pyrrolidinone

CAS #	Analytical Method		Analytica	Technique	Sampling Media		
872-50-4	3M Method		GC-FID		OVM (3M 3500)		
Sampling	ampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code	
28.8	28.8 15-480		80	1.7 µg	0.85 µg	MC CS <sub>2</sub>	
Interferences					Comments		

Methylacrylonitrile										
CAS #	Analytical Method A		Analytical Technique		Sampling Media					
126-98-7	NIOSH 1604		GC-FID		CT (SK	C 226-01, -09)				
Sampling Rate† Sampling Vo		/olumett	LOQ	LOD	Compatibility Code					
0.01-0	.2	3.5-	20	1.0 µg	0.50 µg	AC/CS <sub>2</sub>				
Interferences					Comments					

Methylcyclohexane										
CAS #	AS # Analytical Method A		Analytical Technique		Sampling Media					
108-87-2	37-2 NIOSH 1500		GC-FID		CT (SK	C 226-01, -09)				
Sampling	Sampling Rate† Sampling Vo		olumett/	LOQ	LOD	Compatibility Code				
0.01-0	.2	4		0.45 µg	0.23 µg	CS <sub>2</sub>				
Interferences					Comments					

Methylcyc	Methylcyclohexane										
CAS #	S # Analytical Method A		Analytica	l Technique	Sampling Media						
108-87-2	3M Method		GC-FID		OVM	(3M 3500)					
Sampling	Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code					
28.9		15-4	20	0.68 µg	0.34 µg	CS <sub>2</sub>					
Interferences					Comments						

Methylene Bis(4-cyclohexylisocyanate) (HMDI)									
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
5124-30-1	OSHA 47		HPLC		GF	F, 1-2PP			
Sampling Ratet Sampling Vol			olumett	LOQ	LOQ	Compatibility Code			
1		15-2-	40	0.070 µg	0.035 µg	Isocyanate			
1	nterferenc	es			Comments				
Potential interferences include anhydrides, amines, alcohols and carboxylic acids.			Keep me Sample is stable	Keep media refrigerated before and after sampling. Sample open-faced. Ship cold overnight. Filter is stable for 6 months if kept cold.					

Methylene Bisphenyl Isocyanate (MDI)									
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
101-68-8	OSHA 47		HPLC		GI	FF, 1-2PP			
Sampling Ratet Sampling Vol			/olumett	LOQ	LOD	Compatibility Code			
1		15-2	40	0.014 µg 0.0070 µg Isocyanate					
-	nterferenc	es			Comments				
Potential interferences include anhydrides, amines, alcohols and carboxylic acids.			Keep m Sample is stable	Keep media refrigerated before and after sampling. Sample open-faced. Ship cold overnight. Filter is stable for 6 months if kept cold.					

Methylene Bisphenyl Isocyanate (MDI)									
CAS #	Analytic	Analytical Method A		l Technique	Sampling Media				
101-68-8	OS	OSHA 47		PLC	GFF Wipes				
Sampling Ratet Sampling Vol			olumett/	LOQ	LOD	Compatibility Code			
N/A		N//	4	0.014 µg 0.0070 µg Isocyanate					
I	nterferenc	es			Comments				
Potential interferences include anhydrides, amines, alcohols and carboxylic acids.			Follow " after sa vial con week ah Derivati	Isocyanate Wi mpling, glass taining derivat lead of survey zing solution h	ipe Sampling Proc fiber filters must b izing solution. Orc . Media are prepar has a shelf life of 1	edure". Immediately e placed in a ler media one ed when ordered. month if kept cold.			

Methylene Chloride (Dichloromethane)										
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media					
75-09-2	NIOSH 1005		GC-FID		CT-CT	(SKC 226-01)				
Sampling Ratet Sampling Vol		olumett/	LOQ	LOD	Compatibility Code					
0.01-0	.2	0.5-2	2.5	5 2.8 μg 1.4 μg CS <sub>2</sub>						
Interferences					Comments					
		Sample after sa	using two CT mpling. Ship a	in series. Separate and store cold imm	e and cap tubes nediately.					

Methylene Chloride	(Dichloromethane)
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CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
75-09-2	3M Method		GC-FID		OVM (3M 3520)		
Sampling Ratet Sampling Volu		olumett	LOQ	LOD	Compatibility Code		
37.9	37.9 15-240		40	4.2 μg 2.1 μg CS <sub>2</sub>		CS <sub>2</sub>	
li	nterferenc	es			Comments		
			Use 3M monitor after sa	3520. Separa from the bacl mpling. Ship a	te the front section k section and cap and store cold imm	n of the immediately nediately.	

Methylene(4,4'-) Dianiline (MDA)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
101-77-9	NIOS	SH 5029	HI	PLC	GFF, Acid			
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
1-2	1-2 10-100		00	0.68 µg	0.34 µg			
I	nterferenc	es		Comments				
4,4'-Diphenyl methane diisocyanate (MDI) will interfere.			Media h Please c media. V to a glas This me	Media has short shelf life so it is not kept in stock. Please contact the lab one week before sampling to order media. Within 4 hours of sampling, transfer the filter to a glass vial containing 4 ml 0.1 N methanolic KOH. This method can also be used for wipe sampling.				

Methylene(4,4'-)-bis(2 chloroaniline) (MOCA)									
CAS #	Analytical Method A		Analytica	l Technique	Samp	Sampling Media			
101-14-4	N P&C	IOSH AM 236	HI	PLC	GFF-SGT (SKC	GFF-SGT (SKC 225-16, SKC226-10)			
Sampling	Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code			
0.2-1		50	)	0.50 µg	0.25 µg				
Interferences				Comments					

Methylnaphthalene(2-)									
CAS #	Analytical Method A		Analytica	l Technique	Sam	Sampling Media			
91-57-6	NIOS	SH 5515	GC	C-MS	PTF (PALL P5PJ0	PTFE2/XAD-2 (PALL P5PJ037, SKC 226-30-04)			
Sampling	Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
2		200-1	000	0.66 µg	0.33 µg	PNAs			
h	Interferences				Comments				
		After sa wrap ind	After sampling, separate filter from sorbent tube. Cap and wrap individually in aluminum foil. Ship and store cold.						

Mica							
CAS #	Analytic	Analytical Method A		l Technique	Sampling Media		
12001-26-2	NIOS	SH 0600	GI	RAV	PVC (Sł	(C 225-5-37-P)	
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code	
1.7	500-120		200	50 µg	10 µg		
Interferences				Comments			
All other resp	irable dust	s will interfere	e. Use pre Oliver) c BMRC (\$ 2020 NI	Use pre-weighed PVC 2-piece cassette for MSA (Dorr- Oliver) cyclones at 1.7 lpm and 3-piece cassette for BMRC (SKC) cyclones at 2.5 lpm and BGI-4L at 2.2 lpm. 2020 NIC of 0.1mg/m <sup>3 (R)</sup> was adopted in 2021.			

Mineral Oil (Oil mist)								
CAS #	Analytical Method A		Analytica	l Technique	Sam	Sampling Media		
8012-95-1	NIOS	SH 0500	GI	RAV	Pre-weighed P	Pre-weighed PVC (SKC 225-5-37-P)		
Sampling Ratet Sampling Vol		olumett/	LOQ	LOD	Compatibility Code			
1-15		40-72	200	) 50 μg 10 μg				
Interferences					Comments			
All other dusts will interfere.			This me PNAs; it	This method is not for oil mist containing PNAs; it does not collect vapor.				

# Mineral Oil, excluding Metal Working Fluids, Pure, highly and severely refined.

CAS #	Analytic	nalytical Method A		Technique	Sampling Media		
8012-95-1	NIOS	SH 5026		TIR	F	PVC, IOM	
Sampling	ing Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code	
2		100-5	500	32 µg	16 µg		
li	es		Comments				
Any aerosol (e.g. tobacco smoke) which absorbs infrared radiation near 2950 cm-1 interferes.			Concent IOMs or use of I0 under of	Concentrated bulk oil sample required for analysis. Request IOMs one week before survey date. Rental charges for use of IOM samplers apply. This method is not covered under our AIHA-LAP, LLC scope of accreditation.			

Mineral Oil, used in metal working								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
8012-95-1	NIOS	SH 5524	G	RAV	Pre-weighed PT	Pre-weighed PTFE1 (Zefon FPTFE137)		
Sampling Ratet Sampling Vol			/olumett	LOQ	LOD	Compatibility Code		
2		768-9	960	75 µg	38 µg			
h	nterferenc	es		Comments				
The method is non-specific and measures all substances extractable by organic solvents.			Bulk is r samples must be	Bulk is recommended to test solubility. Refrigerate samples if unable to ship immediately. Ship cold. Samples must be analyzed within two weeks of collection.				

Mineral Spirits (Stoddard Solvent)									
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
8052-41-3	NIOSH 1550		GC	-FID	CT (SK	C 226-01, -09)			
Sampling Ratet Sampling Vol		olumett/	LOQ	LOD	Compatibility Code				
0.01-0	.2	1.3-:	20	1.4 μg 0.71 μg		CS <sub>2</sub>			
li	Interferences				Comments				
			Please s separate	Please send bulk sample. Ship bulk sample separately from air samples.					

Mineral Spirits (Stoddard Solvent)									
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
8052-41-3	3M I	Method	GC-FID		OVM	(3M 3500)			
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code				
24.3		15-4	80	2.1 μg 1.1 μg CS <sub>2</sub>		CS <sub>2</sub>			
li	Interferences				Comments				
			Please s separat	Please send bulk sample. Ship bulk sample separately from air samples.					

#### **Mineral Wool Fiber**

		-						
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
	NIOS	SH 0500	I 0500 G		Pre-weighed F	Pre-weighed PVC (SKC 225-5-37-P)		
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code			
1-15	1-15 40-720		.00 50 µg		10 µg			
Interferences				Comments				
All other dusts will interfere.		For pers	For personal sampling use a flow rate of 1-2 lpm, for area sampling up to 15 lpm.					

Molybdenum as Mo								
CAS #	Analytical Method A		Analytica	l Technique	Samp	oling Media		
7439-98-7	NIOSH 7301 NIOSH 7303		](	CP	MC (SKC 225-5 c	MCE or PVC (SKC 225-5 or SKC 225-5-37-P)		
Sampling Ratet Sampling Vol			olumett/	LOQ	LOD	Compatibility Code		
1-4		25-10	000	) 0.10 µg 0.050 µg Metals				
li	nterferenc	es		Comments				
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			As part internal in your s in the a	As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. Please indicate in your sample submission form if yttrium is present in the area where you collected your samples.				

Molybdenum as Mo								
CAS #	Analytic	cal Method	Analytica	l Technique	Sam	pling Media		
7439-98-7	NIOS NIOS	SH 7301 SH 7303	ICP-MS		MCE or PVC (SKC 225-5 or SKC 225-5-37-P)			
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
1-4	1-4 40-240		40	0.025 µg	0.013 µg	Metals		
Interferences					Comments			
As part of the Lab's and lutetium are use analysis. Please ind form if yttrium, rhoo in the area where yo				of the Lab's Q etium are used s. Please indic yttrium, rhodi rea where you	C protocol, yttrium l as internal standa cate in your sample um, and/or lutetium collected your sa	n, rhodium, ards in ICP-MS e submission m are present mples.		

Molybdenum as Mo								
CAS #	Analytical Method		Analytica	l Technique	Sampling Media			
7439-98-7	OSHA ID-121		ļ	СР	Ghost w	ripe (225-2414)		
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
NA	NA NA		۱.	1.0 µg	0.5 µg	Metals 2		
1	es		Comments					
Spectral interferemces are the primary interferences encountered in the ICP-AES analysis.			As part internal your sar in the ar	of the Lab's Q standard in IO mple submiss ea where you	C protocol, yttriun CP analysis. Please ion form if yttrium collected your sar	n is used as e indicate in is present mples.		

Morpholin	е						
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
110-91-8	NIOS	NOSH S-150		-FID	SGT (	SKC 226-10)	
Sampling Ratet Sampling Vol		olumett/	LOQ	LOD	Compatibility Code		
0.1	0.1 10			2.8 μg 1.4 μg dil		dil acid	
Interferences				Comments			

Naphthale	ne							
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
91-20-3	91-20-3 NIOSH 1501		GC	-FID	CT (SK	CT (SKC 226-01, -09)		
Sampling	Sampling Ratet Sampling Volumett			LOQ	LOD	Compatibility Code		
0.01-0	0.01-0.2 1-10		0	0.47 µg	0.24 µg	CS <sub>2</sub>		
l	Interferences					Comments		
			Under c volumes	Jnder conditions of high humidity, the breakthrough olumes may be reduced by as much as 50%.				

Naphthale	ne						
CAS #	Analytical Method		Analytical Technique		Sampling Media		
91-20-3	3M	3M Method		-FID	OVM	(3M 3500)	
Sampling	Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code	
24.6	I	15-4	80	0.70 µg	0.35 µg	CS <sub>2</sub>	
li	Interferences			Comments			

Naphthalene (see PNA scan)									
CAS #	CAS # Analytical Method A		Analytica	l Technique	Sampling Media				
91-20-3	NIOS	SH 5506	H	PLC	PTF (PALL P5PJ0	PTFE2/XAD-2 (PALL P5PJ037, SKC 226-30-04)			
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code			
2		200-10	000	0.32 µg	0.16 µg	PNAs			
Interferences				Comments					
Asphalt fumes will interfere.			After sa wrap ind	After sampling, separate filter from sorbent tube. Cap and wrap individually in aluminum foil. Ship and store cold.					

Naproxen Sodium										
CAS #	Analytical Method A		Analytica	Analytical Technique		Sampling Media				
22204-53-1	LM-P	LM-Pharma-4		LC-MS		PTFE5				
Sampling Ratet Sampling Vol		olumett	imett LOQ			Compatibility Code				
2	2 200		C	0.0010 µg 0.00050 µg						
h	nterferenc	es		Comments						
			It is criti must ha determi	It is critical that the PTFE filter used for sampling must have a pore size of 1.0um. Contact the lab to determine the minimum air volume required.						

Naproxen Sodium									
CAS #	Analytical Method A		Analytica	Analytical Technique		Sampling Media			
22204-53-1	LM-Pharma-4		LC	LC-MS		GFF Wipes			
Sampling Rate† Sampling Vol		/olumett	umett LOQ		LOD	Compatibility Code			
N/A		N//	A	0.0020 µg 0.0010 µg					
Interferences				Comments					
		Follow " Procedu survey.	Follow "Naproxen Sodium Wipe Sampling Procedure. Order media one week ahead of survey. Media are prepared when ordered.						

Nickel and inorganic compounds as Ni									
CAS #	Analytical Method A		Analytica	l Technique	Sam	oling Media			
7440-02-0	NIOS NIOS OSHA	H 7301 H 7303 ID-125G		CP	MCE or PVC (SKC 225-5 or SKC 225-5-37-P)				
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code			
1-4		50-10	00	0.10 µg 0.05 µg Me		Metals			
l	nterferenc	es		Comments					
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			As part internal in your s in the ar	As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. <b>Please indicate</b> in your sample submission form if yttrium is present in the area where you collected your samples.					

Nickel and inorganic compounds as Ni								
CAS #	Analytic	Analytical Method A		l Technique	Sam	pling Media		
7440-02-0	NIOS NIOS	SH 7301 SH 7303	ICP-MS		MCE or PVC (SKC 225-5 or SKC 225-5-37-P)			
Sampling Rate† Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
1-4		40-2	40	0 0.16 μg 0.080 μg Meta		Metals		
I	Interferences					Comments		
A a a fr ir				of the Lab's C etium are used s. Please indic yttrium, rhodi rea where you	C protocol, yttriun d as internal standa cate in your sample um, and/or lutetiun collected your sa	n, rhodium, ards in ICP-MS e submission m are present mples.		

Nickel and inorganic compounds as Ni									
CAS #	Analytical Method A		Analytica	l Technique	Sam	Sampling Media			
7440-02-0	OSH/ OSHA	OSHA ID-121 OSHA ID-125G		СР	ghost wipe	ghost wipe (SKC 225-2414)			
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code			
NA		NA	1	0.50 μg 0.25 μg Metals2					
l. I	es		Comments						
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			As part internal in your in the a	As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. <b>Please indicate</b> in your sample submission form if yttrium is present in the area where you collected your samples.					

Nicotine							
CAS #	CAS # Analytical Method A		Analytica	Technique	Sampling Media		
54-11-5	NIOS	SH 2544	HI	PLC	XAD-2 (\$	SKC 226-30-04)	
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code		
1		60-40	00	2.0 µg	1.0 µg		
I	Interferences			Comments			

Nitric Acid	l						
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
7697-37-2	NIOS	SH 7903	IC		MCE2, SGT** (SKC 225-19, SKC 226-10-03)		
Sampling Ratet Sampling Vo			/olumett	LOQ	LOD	Compatibility Code	
0.2-0.	5	5-10	00	2.3 µg	1.2 µg		
l	nterferenc	es		Comments			
Particulate salts of the acid will give a positive interference.			Use the	Use the maximum flow rate for STEL sampling.			

Nitric acid								
CAS #	Analytic	cal Method	Analytica	l Technique	Sam	oling Media		
7697-37-2	NIOS	SH 7907		IC	SKC	225-9032		
Sampling	Rate†	Sampling V	olumett	LOQ	LOD	Compatibility Code		
2		35-60	)0	3.8 µg	1.9 µg	Acid1		
Interferences				Comments				
Inorganic acids can react with co- sampled particulate matter on the pre-filter, leading to low results. Potentially interfering particulate chlorides and nitrates removed by the pre-filter can react with the sampled acids and liberate HCI and HNO <sub>3</sub> , which gets collected on the sampling filter, leading to high results.			Order m are prep <b>Speciali</b>	edia one wee bared when or ized filter. Me	k ahead of survey. dered. Ship and st <b>dia charge applies</b>	Media ore cold.		

Nitric Oxide and Nitrogen Dioxide									
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
10102-43-9	OSHA ID-190 (NO), OSHA ID-182 (NO2)			IC	SKC 226-40A				
Sampling Ratet Sampling Vo			/olumett	LOQ	LOD	Compatibility Code			
0.1		3-2	4	0.78 µg	0.39 µg	NO&NO <sub>2</sub>			
Interferences				Comments					
			Use SK0 sample	Use SKC 226-40A (2TEA coated tubes + oxidizer) to sample NO only or NO2 and NO. <b>Store and ship cold.</b>					

Nitroethan	Nitroethane								
CAS #	Analytical Method		Analytica	l Technique	Sampling Media				
79-24-3	NIOSH 2526		GC-FID		XAD-2 (SKC 22	XAD-2 (SKC 226-3002A) (Part A + Part B)			
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code				
0.01-0.	05	1.5-	3	1.8 µg	0.90 µg	Ethyl Acetate			
Interferences				Comments					
		Sample tubes in	Sample using 2 XAD-2, (front 600 mg and backup 300 mg), tubes in series. After sampling, separate and cap sorbent tubes.						

Nitrogen Dioxide									
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
10102-44-0	OSH	4 ID-182		IC	TEA-IMS (	SKC 226-40-02)			
Sampling Ratet Sampling Vol			olumett/	LOQ	LOD	Compatibility Code			
0.2		35	;	1.2 µg 0.60 µg					
Interferences				Comments					
			Sample Store ar	Sample with TEA IMS (226-40-02) for NO <sub>2</sub> only. Store and ship cold.					

Nitromethane									
CAS #	Analytical Method		Analytica	Technique	Sam	oling Media			
75-52-5	NIOS	SH 2527	GC	-FID	CS 106 (	SKC 226-111A)			
Sampling	Sampling Ratet Sampling Vo		/olumett LOQ		LOD	Compatibility Code			
0.01-0	.05	5-1	0	2.3 µg	1.2 µg	Ethyl Actate			
I	Interferences			Comments					

Nitrous Oxide								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
10024-97-2	OSH	A ID-166	GC	-ECD	AT N <sub>2</sub> O M	AT $N_2$ O Monitor (X575AT)		
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
0.75	0.75 15-480		30	0.20 µg	NA			
Interferences				Comments				
Halogenated anesthetic gases, CFC's and HCFC's do not interfere when tested at their PELs.			Monitor samplin Do not u contrac	Monitors must be received by Lab within one week after sampling and stored at controlled room temperature. Do not use after expiration date. This analysis is sub- contracted to an AIHA-LAP, LLC accredited lab.				

<b>Organic S</b>	Irganic Solvent Scan									
CAS #	Analytical Method A		Analytica	l Technique	Sam	oling Media				
	LM-0	SCMS-13								
Sampling	Sampling Ratet Sampling Vo		olumett	LOQ	LOD	Compatibility Code				
	Interferences			Comments						
See List of Scans for list of individual organic solvents.						ganic solvents.				

<b>Oxalic Aci</b>	d							
CAS #	Analytical Method		Analytical Technique		Sampling Media			
144-62-7	144-62-7 OSHA ID-PV2115			IC	GFF (	(SKC 225-7)		
Sampling	Sampling Ratet Sampling Vo		/olumett	LOQ	LOD	Compatibility Code		
1.0		30-1	00	3.0 µg	1.5 µg			
I	Interferences				Comments			

Ozone								
CAS #	Analytic	cal Method	Analytica	l Technique	Sa	mpling Media		
10028-15-6	OSH	A ID-214		IC		GFF, NaNO <sub>2</sub>		
Sampling	Rate†	Sampling V	olumett	LOQ	LOD	Compatibility Code		
0.25-0	0.25-0.5 See Comm sectior		iments on.	4.8 µg	2.4 µg			
Interferences				Comments				
Particulate salts of nitrate and nitric acid give positive interferences for ozone. SO <sub>2</sub> will cause a negative interference.			Treated for shor rate of C media o ordered ozone. I detecto to the oz in the sa the end	filter is stable t term sampli 0.5 lpm. For 25 one week ahea . Sulfur dioxic f SO <sub>2</sub> is suspe r tube. If prese zone filters. O ampling train. plugs and wra	e for 1 month. U ng. For longer s 5% of TLV, you w id of survey. Me le $(SO_2)$ has a ne ected, check for ent, request oxid xidizer tube pre- After sampling ap each cassette	se flow rate of 1.5 lpm ampling time, use a flow ill need 125L. Order dia are prepared when gative interference on its presence using a SO <sub>2</sub> lizer tubes in addition cedes the ozone filter seal the cassette with e with aluminum foil.		

Palladium							
CAS #	Analytical Method A		Analytica	l Technique	Sam	oling Media	
7440-05-3	NIOS NIOS OSHA	SH 7301 SH 7303 A ID-125G		CP	MC (SKC 225-5 c	CE or PVC or SKC 225-5-37-P)	
Sampling Ratet Sampling Vol			/olumett	LOQ	LOD	Compatibility Code	
1-4		50-10	000	) 0.32 μg 0.16 μg Metal		Metals	
Interferences				Comments			
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			As part internal in your in the a	As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. Please indicate in your sample submission form if yttrium is present in the area where you collected your samples.			

Paraffin Wax Fume									
CAS #	Analytical Method A		Analytica	l Technique	Sam	pling Media			
8002-74-2	NIOS	NIOSH 0500		RAV	Pre-weighed P	VC (SKC 225-5-37-P)			
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code				
1-15		100-7	200	50 µg	g 10 μg				
Interferences					Comments				
All other dusts will interfere.			For pers Ipm, for	For personal sampling use a flow rate of 1-2 lpm, for area sampling up to 15 lpm.					

Particles (insoluble or poorly soluble) Not otherwise specified; inhalable								
CAS #	Analytical Method A		Analytica	l Technique	Sam	Sampling Media		
	HSE MDHS 14		GRAV		PVC, IOM			
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
2		40-96	50	100 µg 10 µg				
l	Interferences			Comments				
All other dusts will interfere.			Use ION week be is limite	Use IOM sampler with pre-weighed PVC. Contact Lab 1 week before intended use. The availability of IOM samplers is limited. Rental charge for the IOM samplers applies.				

Particles (insoluble or poorly soluble) Not otherwise specified; respirable								
CAS #	Analytical Method		Analytica	l Technique	Sam	Sampling Media		
	NIOS	NIOSH 0600		RAV	PVC (S	PVC (SKC 225-5-37-P)		
Sampling Ratet Sampling Vo		olumett	LOQ	LOD	Compatibility Code			
1.7	1.7 100-81		316	6 50 μg 10				
l	es		Comments					
All other respirable dusts will interfere.			e. Use pre Oliver) o (SKC) cy	Use pre-weighed PVC 2-piece cassette for MSA (Dorr- Oliver) cyclones at 1.7 lpm and 3-piece cassette for BMRC (SKC) cyclones at 2.5 lpm and for BGI-4L at 2.2 lpm.				

Particles (insoluble or poorly soluble) Not otherwise specified; total							
CAS #	Analytical Method A		Analytica	l Technique	Samp	oling Media	
	NIOSH 0500		GRAV		Pre-weighed P	VC (SKC 225-5-37-P)	
Sampling Ratet Sampling Vo		olumett	LOQ	LOD	Compatibility Code		
1-15		40-72	00 50 μg		10 µg		
Interferences				Comments			
All other dusts will interfere.			For pers lpm, for	For personal sampling use a flow rate of 1-2 lpm, for area sampling up to 15 lpm.			

### Pentane(n-)

CAS #	Analytical Method		Analytical Technique		Sampling Media			
109-66-0	NIOS	NIOSH 1500 0		-FID	CT (SKC 226-01, -09)			
Sampling Ratet Sampling Vo		olumett	LOQ	LOD	Compatibility Code			
0.01-0	0.01-0.2 4			0.48 µg	0.24 µg	CS <sub>2</sub>		
l	es		Comments					

Pentane(n-)								
CAS #	Analytical Method A		Analytica	l Technique	Sam	oling Media		
109-66-0	3M I	3M Method		-FID	OVM	(3M 3520)		
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
35.3		15-1	80	0.73 µg	0.37 µg	CS <sub>2</sub>		
li	Interferences			Comments				
			Use 3M from the samplin	Use 3M 3520. Separate front section of the monitor from the back section and cap immediately after sampling. Ship and store cold immediately.				

Pentanedione(2,3-)								
CAS #	Analytic	cal Method	Analytica	l Technique	Sampling Media			
600-14-6	OSF	OSHA 1016		-MS	SGT/GFF-SGT	/GFF (SKC 226-183)		
Sampling Ratet Sampling Vol		olumett/	LOQ	LOD	Compatibility Code			
0.05-0	0.05-0.2 10L (TW) 3L (short to		WA); t term)	0.59 µg 0.30 µg		95% EtOH		
l	nterferenc	es		Comments				
			Samples tubes in light dur after sa solvents	s are collecter series. Samp ring and after mpling. Samp s. Order alumi	d on two specially les should be prot sampling. Separat le separately from num foil for wrapp	washed silica gel ected from the e and cap tubes CS2 compatible ing the samples.		

Pentanedione(2,4-)								
CAS #	# Analytical Method A		Analytica	l Technique	Sampling Media			
123-54-6	3M I	Method	GC-FID		OVM	(3M 3500)		
Sampling Rate† Sampling Vo		olumett	LOQ	LOD	Compatibility Code			
31.7	31.7 15-300		00	2.7 µg	1.3 µg	CS <sub>2</sub>		
Interferences				Comments				

Pentanone(2-) (Methyl propyl ketone)								
CAS #	Analytical Method		Analytical Technique		Sampling Media			
107-87-9	NIOSH 1300		GC-FID		CT (SK	C 226-01, -09)		
Sampling Ratet Sampling V		/olumett LOQ		LOD	Compatibility Code			
0.01-0	.2	1-1	0	0.70 µg	0.35 µg	CS <sub>2</sub>		
Interferences				Comments				

Pentanone(2-) (Methyl propyl ketone)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
107-87-9	3M	3M Method		-FID	OVM	(3M 3500)		
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
33.0	)	15-4	80	1.1 µg	0.53 µg	CS <sub>2</sub>		
Interferences				Comments				

Peracetic Acid								
CAS #	Analytic	Analytical Method A		l Technique	Sampling Media			
79-21-0	NON 57		HPLC		SKC 225-9030 (Hydrogen Peroxide) + SKC-226-193-UC (Peracetic Acid)			
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
1 LPN	1 LPM 15 Liters N		s Max	0.50 µg/ sample	N/A	Sample with hydrogen peroxide		
	Interferences			Comments				
Must sample for hydrogen peroxide			This and method scope o	This analysis is sub-contracted to another laboratory. This method is not covered under the laboratory's AIHA-LAP, LLC scope of accreditation. Turnaround time is 10 business days.				

Perchloroethylene (Tetrachloroethylene)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
127-18-4	NIOS	SH 1003	GC	-FID	CT (SK	C 226-01, -09)		
Sampling Ratet Sampling Vo		/olumett	LOQ	LOD	Compatibility Code			
0.01-0	.2	1-4	0	1.8 µg	0.90 µg	CS <sub>2</sub>		
Interferences				Comments				

Perchloroethylene (Tetrachloroethylene)								
CAS #	Analytical Method		Analytical Technique		Sampling Media			
127-18-4	3M Method		GC-FID		OVM	(3M 3500)		
Sampling	Sampling Ratet Sampling Vo		/olumett	LOQ	LOD	Compatibility Code		
28.3		15-4	80 2.7 µg		1.4 µg	CS <sub>2</sub>		
l	Interferences			Comments				

Perfluorooctanoic Acid								
CAS #	Analytical Method		Analytica	l Technique	Sampling Media			
335-67-1	DuPo	DuPont-PF0A		-MS	0VS-2 (S	SKC 226-30-16)		
Sampling Rate† Sampling Vo		olumett	LOQ	LOD	Compatibility Code			
1.0		480	C	1.4 µg 0.70 µg				
li	Interferences				Comments			
			Sample of recor	Sample 480 L if possible; 280 L will give 50% of recommended exposure limit.				

Petroleum Ether									
CAS #	Analytical Method		Analytica	Technique	Sampling Media				
8032-32-4	NIOSH 1550		GC-FID		CT (SKC 226-01, -09)				
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code				
0.01-0	.2	1.3-	20 0.50 µg		0.25 µg	CS <sub>2</sub>			
Interferences					Comments				
		Please s separate	Please send bulk sample. Ship bulk sample separately from air samples.						

Petroleum Ether								
CAS #	Analytical Method		Analytica	l Technique	Sampling Media			
8032-32-4	3M Method		GC-FID		OVM	(3M 3500)		
Sampling Ratet Sampling Vo		/olumett	LOQ	LOD	Compatibility Code			
33.1		15-4	80	) 0.75 µg 0.38 µg		CS <sub>2</sub>		
l	Interferences				Comments			
			Please s	Please send bulk sample. Ship bulk sample separately from air samples.				

Phenanthrene (see PNA scan)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
85-01-8	OS	OSHA 58		PLC	GFF (	(SKC 225-7)		
Sampling Ratet Sampling Vo		olumett	LOQ	LOD	Compatibility Code			
2		960	)	0.12 µg 0.060		PNAs		
Interferences				Comments				
Asphalt fumes will interfere.			After sa foil. Shi	After sampling, cap and wrap in aluminum foil. Ship and store cold.				

Phenanthrene (see PNA scan)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
85-01-8	NIOS	SH 5506	H	PLC	PTF (PALL P5PJ0	PTFE2/XAD-2 (PALL P5PJ037, SKC 226-30-04)		
Sampling Rate† Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
2		200-1	000	0.12 µg	0.060 µg	PNAs		
I	es		Comments					
Asphalt fumes will interfere.			After sa wrap ind	After sampling, separate filter from sorbent tube. Cap and wrap individually in aluminum foil. Ship and store cold.				

Phenol							
CAS #	Analytical Method		Analytica	l Technique	Sampling Media		
108-95-2	08-95-2 OSHA 32		HI	PLC	XAD-7	(SKC 226-95)	
Sampling Rate† Sampling Vo		/olumett	LOQ	LOD	Compatibility Code		
0.1	0.1 5-24		24	0.20 µg	0.10 µg	Phenol and cresol	
Interferences				Comments			

Phenylcyclohexene(4-)									
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
4994-16-5	NIOSH 1500		GC	-FID	CT (SKC	C 226-01, -09)			
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code				
0.01-0	1-0.2 1-60		0	0.38 µg	0.18 µg	CS <sub>2</sub>			
li	Interferences				Comments				
			Please i Minimu is 60 L.	Please indicate if samples are for "LEED" compliance. Minimum sample volume for "LEED" samples is 60 L. Preferred air sampling method.					

Phenylcyclohexene (4-)								
CAS #	Analytical Method		Analytica	l Technique	Sampling Media			
4994-16-5	3M Method		GC-FID		OVM	(3M 3500)		
Sampling Ratet Sampling Vol		olumett/	LOQ	LOD	Compatibility Code			
20.3		15-4	80	0.57 µg	0.28 µg	CS <sub>2</sub>		
li	nterferenc	es		Comments				
			Please i Minimu	Please indicate if samples are for "LEED" compliance. Minimum sample volume for "LEED" samples is 60 L.				

CAS #	Analytic	Analytical Method A		Technique	Sam	pling Media	
108-45-2	-45-2 OSHA 87		H	PLC	GFF, Acid		
Sampling Ratet Sampling Vo		/olumett	LOQ	LOD	Compatibility Co		
1		10-10	000	0 0.83 µg 0.42			
l	nterferenc	es		Comments			
			Samplin Contact	g media has a lab one week	short shelf-life s before sampling	o it is not kept in sto to order media.	

Phosphine	•						
CAS #	Analytic	cal Method	Analytica	l Technique	Sampling Media		
7803-51-2	OSHA 1003			СР	GFF- PE,HgCl <sub>2</sub> (SKC 225-9018)		
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code		
1	1 250		0	3.6 µg	1.8 µg		
I	es		Comments				
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			Minimur media h in stock media. as inter in your s in the ar	m air volume as a shelf-life . Contact lab As part of the nal standard i sample subm rea where you	required at ¼ of T of only two week one week before Lab's QC protoco n metal analysis. ission form if yttr collected your sa	LV is 250. Sampling is so it is not kept sampling to order I, yttrium is used Please indicate ium is present amples.	

Phosphoric Acid								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
7664-38-2	NIOS	SH 7903	IC		MCE2, SGT** (SKC 225-19, SKC 226-10-03)			
Sampling Ratet Sampling Vol			olumett/	LOQ	LOD	Compatibility Code		
0.2-0.	5	25-1	00	2.3 µg	1.2 µg	Acid1		
Interferences				Comments				
Particulate salts of the acid will give a positive interference.			Sample	Sample at a flow rate of 0.5 lpm for STEL.				

Phosphori	Phosphoric Acid								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
7664-38-2	NIOSH 7908			IC	SKC	225-9033			
Sampling Rate† Sampling Vol		/olumett	imett LOQ LOD Com		Compatibility Code				
1-5		50-10	000	3.8 µg	1.9 µg				
Interferences				Comments					
Particulate salts of sulfate or phosphate will give positive interference.			Ship an	Ship and store cold. Specialty filter. Media charge applies.					

Phosphorus (elements)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
7723-14-0	NIOS NIOS	NIOSH 7301 NIOSH 7303		СР	MC (SKC 225-5 c	MCE or PVC (SKC 225-5 or SKC 225-5-37-P)		
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
1-4 330-100			000	0 3.3 μg 1.7 μg Metals				
li	nterferenc	es		Comments				
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			As part internal in your s in the a	As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. Please indicate in your sample submission form if yttrium is present in the area where you collected your samples.				

Phthalic Anhydride								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
85-44-9	OSHA 90		HPLC		GF	F, Vamine		
Sampling Ratet Sampling Vol			olumett/	LOQ	LOD	Compatibility Code		
1.0		75	;	0.13 µg	0.065 µg			
Interferences					Comments			
Isocyanates, acid chlorides and other anhydrides will give a positive interference.			Sample prepare	open-faced. ( d when ordere	Order filters one we ed and have one m	eek ahead, filters are onth shelf-life.		

Piperazine	•						
CAS #	Analytic	cal Method	Analytica	l Technique	Sampling Media		
110-85-0 OSHA In-house IMIS P250			HI	HPLC		D-2, NITC 226-30-18)	
Sampling Ratet Sampling Vol			/olumett	LOQ	LOD	Compatibility Code	
0.1		10	)	0.12 µg	0.060 µg		
l	nterferenc	es			Comments		

Platinum Metal and Soluble Salts as Pt							
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
7440-06-4	NIOSH 7301 NIOSH 7303		ICP		MCE or PVC (SKC 225-5 or SKC 225-5-37-P)		
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code	
1-4 500-100			000	0 0.25 μg 0.13 μg Metals			
li	nterferenc	es		Comments			
Spectral inter primary interf in ICP-AES an	ferences a erences ei alysis.	re the ncountered	As part internal in your s in the a	As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. Please indicate in your sample submission form if yttrium is present in the area where you collected your samples.			

PNA Scan (NIOSH 5506)								
CAS #	Analytical Method A		Analytical Technique		Sampling Media			
	NIOSH 5506		HPLC		PTFE2/XAD-2 (PALL P5PJ037, SKC 226-30-04)			
Sampling Ratet Sampling Vo		/olumett	LOQ	LOD	Compatibility Code			
2		200-1	000					
Interferences				Comments				
Asphalt fumes will interfere.		After sa and wra cold. An	After sampling, separate filter from sorbent tube. Cap and wrap individually in aluminum foil. Ship and store cold. Analysis price is for the filter and tube together.					

PNA Scan	(OSHA	58)					
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
OSHA 58		HPLC		GFF (SKC 225-7)			
Sampling Ratet Sampling Vo			/olumett	LOQ	LOD	Compatibility Code	
2	2 960		0				
l	Interferences Comments						
Asphalt fume	s will inter	fere.	After sa foil. Shi	After sampling, cap and wrap in aluminum foil. Ship and store cold.			

Polychlorobiphenyl (Chlorodiphenyl, 54% Chlorine) (PCB)								
CAS #	CAS # Analytical Method A		Analytica	l Technique	Sam	Sampling Media		
11097-69-1	NIOSH 5503		GC-MS		GFF-Florisil (Millipore SX0001300/01/ AP2001300 SKC 226-39)			
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code			
0.05-0	.2	1-5	0	1.1 µg	0.55 µg			
l.	nterferenc	es			Comments			
Other chlorina interfere in the	ated pestic e quantific	ides may ation of PCB.						

Polychlorobiphenyl (Chlorodiphenyl, 42% Chlorine) (PCB)							
CAS #	Analytical Method		Analytical Technique		Sampling Media		
53469-21-9	NIOSH 5503		GC-MS		GFF-Florisil (Millipore SX0001300/01/ AP2001300 SKC 226-39)		
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code		
0.05-0	.2	1-5	0	0.97 µg	0.49 µg		
li	es			Comments			
Other chlorinated pesticides may interfere in the quantification of PCB.							

Polyvinyl Chloride (PVC)								
CAS #	Analytical Method An		Analytica	l Technique	Sampling Media			
9002-86-2	NIOSH 0600		GRAV		PVC (SK	C 225-5-37-P)		
Sampling Ratet Sampling Vol			/olumett	LOQ	LOD	Compatibility Code		
1.7		100-8	316	50 µg	10 µg			
Interferences					Comments			
All other respirable dusts will interfere. Use pre-weighed PVC 2-piece cassette for MSA (Dorr- Oliver) cyclones at 1.7 lpm and 3-piece cassette for BMRC (SKC) cyclones at 2.5 lpm and for BGI-4L at 2.2 lpm.								

Portland C	ement						
CAS #	Analytical Method		Analytical Technique		Sampling Media		
65997-15-1	NIOSH 0600		GRAV		PVC (SKC 225-5-37-P)		
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code		
1.7 (See comment) 500-8		16	50 µg	10 µg			
Interferences					Comments		
All other dusts will interfere.			Use pre- Oliver) c (SKC) cy	-weighed PVC : cyclones at 1.7 yclones at 2.5 l	2-piece cassette f lpm and 3-piece c pm and for BGI-4	for MSA (Dorr- cassette for BMRC L at 2.2 lpm.	

Potassium Hydroxide							
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
1310-58-3	NIOSH 7301 NIOSH 7303		ICP		MCE or PVC (SKC 225-5 or SKC 225-5-37-P)		
Sampling Ratet Sampling Vol			olumett/	LOQ	LOD	Compatibility Code	
1-4		85-1	00	17 μg 8.5 μg Metals		Metals	
l	nterferenc	es			Comments		
All forms of potassium are quantified. Spectral interferences are the primary interferences encountered in ICP-AES analysis.As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. Please indicate in your sample submission form if yttrium is present in the area where you collected your samples.					n is used as Ise indicate JIM is present Mples.		

Propanol(n-)				
cal				
i				

CAS #	Analytical Method		Analytical Technique		Sampling Media		
71-23-8	NIOSH 1401		GC-FID		CT (SKC 226-01, -09)		
Sampling	Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code	
0.01-0	0.01-0.2 1-10		0 0.83 µg		0.42 µg	1%IPA/CS <sub>2</sub>	
Interferences				Comments			
			Store ar	nd ship cold ov	vernight.		

Propanol(r	า-)						
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
71-23-8	3M I	3M Method		-FID	OVM	(3M 3500)	
Sampling	Sampling Ratet Sampling Volu		olumett	LOQ	LOD	Compatibility Code	
39.7	39.7 15-420		20	1.2 µg 0.60 µg		MC CS <sub>2</sub>	
l	nterferenc	es		Comments			
Store and ship cold overnight.							

## Propionaldehyde

CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
123-38-6	NIOSH 2016		Н	PLC	AT Monitor (N571AT)		
Sampling Ratet Sampling Volu		/olumett	LOQ	LOD	Compatibility Code		
9.58		15-480		0.029 µg	0.015 µg	Aldehyde	
Interferences			Comments				
Other aldehydes and ketones will react with the 2,4-DNPH but can be			Keep m samplin	Keep media refrigerated before and after sampling. Ship cold overnight.			

chromatographically resolved.

Propional	dehyde						
CAS #	Analytical Method		Analytica	l Technique	Sampling Media		
123-38-6	NIOS	NIOSH 2016		PLC	Sep-Pak	x (WAT047205)	
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code	
0.1-1.	.5	10-1	00	0.15 µg 0.075 µg Aldehyd		Aldehyde	
Interferences				Comments			
Other aldehydes and ketones will react with the 2,4-DNPH but can be chromatographically resolved.			Keep me Ship col	Keep media refrigerated before and after sampling. Ship cold overnight. <b>Preferred for STEL sampling</b> .			

Propional	Propionaldehyde									
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media					
123-38-6	NIOSH 2016		HI	PLC	SGT, DNP	H (SKC 226-119)				
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code				
0.1-1.	5	1-1	5	0.059 µg	0.030 µg	Aldehyde				
Interferences				Comments						
Other aldehydes and ketones will react with the 2,4-DNPH but can be chromatographically resolved.			Keep me Ship col	Keep media refrigerated before and after sampling. Ship cold overnight. <b>Preferred for STEL sampling</b> .						

Propionic Acid									
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
79-09-4	NIOS	SH 2011	IC		PTFE3-SGT** (SKC 225-17A, SKC 226-10-03)				
Sampling	Sampling Rate† Sampling Vol		/olumett	LOQ	LOD	Compatibility Code			
0.05-0	).5	15-1	00	2.3 µg	1.2 µg	Acid2			
Interferences				Comments					
			Do not sample with inorganic acids.						

## Propoxyethanol(2-) (Ethylene glycol monopropyl ether)

CAS #	Analytical Method A		Analytica	Technique	Sampling Media		
2807-30-9	NIOSH 1403		GC-FID		CT (SKC 226-01, -09)		
Sampling	Ratet Sampling Volumett		/olumett	LOQ	LOD	Compatibility Code	
0.01-0.	05	1-1	0	1.1 µg	0.55 µg	5%MeOH/MC	
Interferences				Comments			

### Propoxyethanol(2-) (Ethylene glycol monopropyl ether)

CAS #	Analytical Method A		Analytical Technique		Sampling Media		
2807-30-9	3M I	Method	GC	GC-FID		OVM (3M 3500)	
Sampling Ratet Sampling Volum		olumett	LOQ		LOD	Compatibility Code	
29.4	29.4 15-480		80	1.7 µg	0	.85 µg	MC CS <sub>2</sub>
h		Comments					

# Propyl Bromide

CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
106-94-5	OSHA	SHA PV2061 0		-FID	CT (SK	CT (SKC 226-01, -09)	
Sampling Ratet Sampling Volume		olumett	LOQ	LOD	Compatibility Code		
0.1		12		1.3 µg	0.65 µg	1%DMF/CS <sub>2</sub>	
Interferences				Comments			

# Propyl Bromide

CAS #	Analytic	Analytical Method Ana		l Technique	Sampling Media					
106-94-5	3M I	Vethod	GC-FID		OVM (3M 3500)					
Sampling	npling Ratet Sampling Volumett		LOQ	LOD	Compatibility Code					
31.7		15-4	80	2.0 µg	1.0 µg	CS <sub>2</sub>				
l	nterferenc	es		Comments						

Propyl(n-) Acetate									
CAS #	Analytical Method		Analytica	l Technique	Sampling Media				
109-60-4	NIOS	NIOSH 1450		-FID	CT (SK	C 226-01, -09)			
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code				
0.05-0	.2	1-1(	0	0.78 µg	0.39 µg	CS <sub>2</sub>			
l	Interferences					Comments			
Preferred for STEL sampling. Use a flow rate of 0.2 lpm for STEL.									

Propyl(n-) Acetate								
CAS #	Analytical Method		Analytica	l Technique	Sampling Media			
109-60-4	3M	Method	GC	-FID	OVM	OVM (3M 3500)		
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code			
30.1		15-4	80	1.2 µg 0.60 µg		CS <sub>2</sub>		
Interferences				Comments				

Propyl(n-) Alcohol									
CAS #	Analytical Method		Analytical Technique		Sampling Media				
71-23-8	NIOS	SH 1401 G		-FID	CT (SK	C 226-01, -09)			
Sampling	Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
0.01-0	.2	1-1(	)	0.83 µg	0.42 µg	1%IPA/CS <sub>2</sub>			
Interferences				Comments					
Store and ship cold overnight.									

Propyl(n-) Alcohol								
CAS #	CAS # Analytical Method A		Analytica	l Technique	Sampling Media			
71-23-8	71-23-8 3M Method		GC	-FID	OVM	OVM (3M 3500)		
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
39.7	39.7 15-420		20	1.2 μg 0.60 μg MC CS <sub>2</sub>				
I	nterferenc	es			Comments			
Store and ship cold overnight.								

Propylene Glycol Monomethyl Ether (PGME, 1-Methoxy-2-propanol)							
CAS #	CAS # Analytical Method A		Analytica	l Technique	Sampling Media		
107-98-2	NIOS	SH 1403	GC	-FID	CT (SK	C 226-01, -09)	
Sampling Ratet Sampling Vol		olumett/	LOQ	LOD	Compatibility Code		
0.01-0.	.05	1-1	0	1.3 µg	0.65 µg	5%MeOH/MC	
Interferences					Comments		

Propylene Glycol Monomethyl Ether (PGME, 1-Methoxy-2-propanol)							
CAS #	CAS # Analytical Method A		Analytica	l Technique	Sam	Sampling Media	
107-98-2	107-98-2 3M Method		GC-FID		OVM	(3M 3500)	
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code		
32.4	32.4 15-480		80	2.0 µg	1.0 µg	MC CS <sub>2</sub>	
Interferences					Comments		

# Propylene Glycol Monomethyl Ether Acetate (PGMEA)

CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
108-65-6	NIOSH 1450		GC-FID		CT (SKC 226-01, -09)		
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code		
0.01-0.2 1-10		0	1.1 µg	0.55 µg	CS <sub>2</sub>		
Interferences				Comments			

Propylene Glycol Monomethyl Ether Acetate (PGMEA)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
108-65-6	3M I	Method	GC-FID		OVM	OVM (3M 3500)		
Sampling Rate† Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
25.2		15-48	30	1.7 µg	0.85 µg	CS <sub>2</sub>		
Interferences				Comments				

Propylene Glycol (1,2-Propanediol)							
CAS #	S # Analytical Method A		Analytica	l Technique	Sampling Media		
57-55-6	NIOS	NIOSH 5523		-FID	OVS 7	OVS 7 (SKC 226-57)	
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code		
0.5-2	2	5-6	0	6.2 µg	3.1 µg	MeOH	
Interferences				Comments			

Propylene Oxide (1,2-Epoxypropane)								
CAS #	CAS # Analytical Method A		Analytica	l Technique	Sampling Media			
75-56-9	•56-9 ASTM D5578-04		GC	-FID	ORBO 78 (\$	ORBO 78 (SUPELCO 20355)		
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
0.05-0	.15	1-2	4	0.51 µg	0.25 µg	ACN/TOL		
Interferences Comments								
Sample separately from CS <sub>2</sub> compatible solvents. Store and ship cold overnight.								

Propylene Oxide (1,2-Epoxypropane)								
CAS #	Analytical Method A		Analytica	Analytical Technique		Sampling Media		
75-56-9	3M I	3M Method		GC-FID		OVM (3M 3520)		
Sampling Rate† Sampling Vol			olumett	LOQ		LOD	Compatibility Code	
37.7		15-48	30	0.76 µg		0.38 µg		
l	nterferenc	es			Comments			
Use from sam solve			Use 3M from the samplin solvents	Jse 3M 3520. Separate front section of the monitor rom the back section and cap immediately after sampling. Sample separately from CS <sub>2</sub> compatible solvents. Store and ship cold overnight.				

Pyrene (see PNA scan)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
129-00-0	00-0 OSHA 58		HI	PLC	GFF	GFF (SKC 225-7)		
Sampling Ratet Sampling Vo		olumett	LOQ	LOD	Compatibility Code			
2		960	)	0.60 µg	0.30 µg	PNAs		
Interferences				Comments				
Asphalt fumes will interfere.			After sa foil. Shi	After sampling, cap and wrap in aluminum foil. Ship and store cold.				

Pyrene (see PNA scan)								
CAS #	CAS # Analytical Method A		Analytica	l Technique	Sam	Sampling Media		
129-00-0	NIOS	SH 5506	H	PLC	PTFE2/XAD-2 (PALL P5PJ037, SKC 226-30-04)			
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
2		200-10	000	0.60 µg	0.30 µg	PNAs		
Interferences				Comments				
Asphalt fumes will interfere.			After sa wrap inc	After sampling, separate filter from sorbent tube. Cap and wrap individually in aluminum foil. Ship and store cold.				

Pyrethrum	
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CAS #	Analytical Method		Analytical Technique		Sampling Media		
8003-34-7	NIOSH 5008		HPLC		GFF (SKC 225-7)		
Sampling Rate† Sampling Vol		olumett/	LOQ	LOD	Compatibility Code		
1-4		20-4	00	0.13 µg	0.065 µg		
l	nterferenc	es		Comments			
Pyridine							
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CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
110-86-1	NIOS	SH 1613	GC	-FID	CT (SK	C 226-01, -09)	
Sampling Rate† Sampling Vol		olumett/	LOQ	LOD	Compatibility Code		
0.05-1	.0	18-1	50	0.23 µg	0.12 µg	MC	
Interferences				Comments			
Sample separately from CS <sub>2</sub> compatible solvents.						e solvents.	

Resin Acids									
CAS #	Analytic	cal Method	Analytica	l Technique	Sam	pling Media			
8050-09-7	LM	-LC-30	H	PLC	(	GFF, IOM			
Sampling	Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code			
2	200 (minir		nimum)	0.091 µg	0.045 µg				
l.	nterferenc	es		Comments					
			2019 NI 0.001m Acids in 200-L w will give you 10%	C Resin acids g/cu m (I), DSI clude Abietic ill give you 46 you 23% (0.00 6 (0.00010 mg	as total resin acic EN;RSEN adopted Acid and Dehydro % (0.00046 mg/cı 0023 mg/cu m) of /cu m) of TLV. 201	ls, TWA = in 2020. Resin abietic Acid. u m) of TLV. 400-L TLV. 900-L will give 19 NIC adopted.			

Resorcino	I						
CAS #	Analytical Method		Analytica	l Technique	Sampling Media		
108-46-3	OSHA PV2053		GC	-FID	OVS 7	(SKC 226-57)	
Sampling	Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code	
1		20-4	00	5.0 µg	2.5 µg	MeOH	
l	nterferenc	es		Comments			

Rhodium as Rh								
CAS #	Analytical Method A		Analytica	l Technique	Samp	oling Media		
7440-16-6	OSHA	OSHA ID-125G		CP	MC (SKC 225-5 c	MCE or PVC (SKC 225-5 or SKC 225-5-37-P)		
Sampling Rate† Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
1-4	1-4 500-100		000	0 0.50 μg 0.5		Metals		
li li	nterferenc	es		Comments				
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			As part internal in your s in the ar	As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. Please indicate in your sample submission form if yttrium is present in the area where you collected your samples.				

Scan for A	can for Aldehydes									
CAS #	Analytical Method		Analytica	l Technique	Sam	Sampling Media				
	NIOS	NIOSH 2016		PLC						
Sampling	Sampling Ratet Sampling \		olumett LOQ		LOD	Compatibility Code				
	Interferences				Comments					
	See List of Scans for individual aldehydes. Ship and store cold									

Scan for A	Scan for Aliphatic Amines								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
	NIOSH 2010		GC	C-FID	SGT (SKC 226-10)				
Sampling	Sampling Ratet Sampling Vo		olumett/	LOQ	LOD	Compatibility Code			
0.01-	1	5-3	0			Amine1			
h	Interferences			Comments					
			Ethylam also be call Lab	Ethylamine, diethylamine and triethylamine can also be analyzed using this method. Please call Lab for other types of amines.					

Scan for A	Scan for Anesthetic Gases								
CAS #	Analytical Method A		Analytica	l Technique	Samp	oling Media			
	OSHA 103		GC	-FID	Anasorb 74	17 (SKC 226-81A)			
Sampling	Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
0.05		12							
h	nterferenc	es		Comments					
			Analyze See indi Iab for a	Analyzes enflurane, halothane and isoflurane. See individual anesthetic gases. Please call lab for additional anesthetic gases.					

Scan for A	can for Aromatic Amines									
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media					
	NIOS	NIOSH 2002		C-FID	SGT (SKC 226-10)					
Sampling	Sampling Ratet Sampling Vo		/olumett	LOQ	LOD	Compatibility Code				
0.02-0	.5	5-3	80			Amine3				
li	nterferenc	es		Comments						
			Analyze Please d	Analyze for aniline, methyl aniline and o-toluidine. Please call Lab for other types of amines.						

Scan for Inorganic Acids								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
	NIOS	6H 7903		IC	MCE2, SGT** (SKC 225-19, SKC 226-10-03)			
Sampling	Sampling Ratet Sampling Vo		olumett	LOQ	LOD	Compatibility Code		
0.2-0.	5	50-1	00					
l	Interferences			Comments				
			See List	See List of Scans for individual inorganic acids/anions.				

### Scan for Isocyanates

CAS #	Analytical Method A		Analytica	Technique	Sampling Media		
	OSHA 42		HI	PLC	GI	FF, 1-2PP	
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code		
Interferences				Comments			
			Keep me Sample for 6 mc back of	Keep media refrigerated before and after sampling. Sample open-faced. Ship cold overnight. Filter is stable for 6 months if kept cold. See List of Scans at the back of the guide for list of individual isocyanate.			

Scan for O	Scan for Organic Solvents									
CAS #	Analytical Method		Analytica	l Technique	Sam	oling Media				
	LM-0	CMS-13	MS-13 GC GC							
Sampling	Sampling Ratet Sampling Vo		olumett LOQ		LOD	Compatibility Code				
l	Interferences				Comments					
See List of Scans for individual organic solvents.						solvents.				

Scan for PNAs (NIOSH 5506)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
	NIOSH 5506		HI	PLC	PTFE2/XAD-2 (SKC PALL P5PJ037, SKC 226-30-04)			
Sampling Rate† Sampling Vo		/olumett	LOQ	LOD	Compatibility Code			
2		200-1	000					
l	Interferences			Comments				
Asphalt fumes will interfere.			After sa wrap ind Price is	After sampling, separate filter from sorbent tube. Cap and wrap individually in aluminum foil. Ship and store cold. Price is for the analysis of filter and tube together.				

Scan for PNAs (OSHA 58)								
CAS #	Analytical Method		Analytica	l Technique	Sampling Media			
	OSHA 58		HI	PLC	GFF (	(SKC 225-7)		
Sampling Ratet Sampling Vo		olumett	LOQ	LOD	Compatibility Code			
2		960	)					
li	Interferences					Comments		
Asphalt fumes will interfere.			After sa foil. Shij	After sampling, cap and wrap in aluminum foil. Ship and store cold.				

Selenium and Compounds as Se										
CAS #	Analyti	cal Method	al Method Analytica		nalytical Technique Sampling M					
7782-49-2	NIOS NIOS OSHA	SH 7301 SH 7303 A ID-125G	I	СР	MCE or PVC (SKC 225-5 or SKC 225-5-37-P)					
Sampling Ratet Sampling Ve		Volumett LOQ		LOD	Compatibility Code					
1-4		120-1	000	1.0 μg 0.		Metals				
Interferences				Comments						
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			As part internal in your in the a	As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. Please indicate in your sample submission form if yttrium is present in the area where you collected your samples						

Selenium and Compounds as Se								
CAS #	Analytic	cal Method	Analytica	l Technique	Sampling Media			
7782-49-2	NIOS NIOS	SH 7301 SH 7303	ICP-MS		MCE or PVC (SKC 225-5 or SKC 225-5-37-P)			
Sampling Rate† Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
1-4		75-2	40	0.75 μg 0.38 μg Metals		Metals		
h	nterferenc	es		Comments				
			As part and lute analysis form if y in the a	of the Lab's Q etium are usec s. Please indic yttrium, rhodi rea where you	C protocol, yttriu l as internal stan ate in your samp um, and/or luteti collected your s	m, rhodium, dards in ICP-MS le submission um are present amples.		

Sevoflurane (Sevofrane)									
CAS #	Analytical Method		Analytical Technique		Sampling Media				
28523-86-6	OSHA 106		GC-FID		CT (SK	C 226-01, -09)			
Sampling Ratet Sampling Vo			olumett	LOQ	LOD	Compatibility Code			
0.05		3	2.9 µg		1.5 µg	CS <sub>2</sub>			
Interferences				Comments					
Store and ship cold overnight.									

Sevoflurane (Sevofrane)									
CAS #	S # Analytical Method		Analytical Technique		Sampling Media				
28523-86-6	3M Method		GC-FID		OVM	(3M 3500)			
Sampling Ratet Sampling Vo			olumett	LOQ	LOD	Compatibility Code			
27.3		15-48	80 4.4 µg		2.2 µg	CS <sub>2</sub>			
Interferences				Comments					
Store and ship cold overnight.									

Silica Cristobalite									
CAS #	Analytic	Analytical Method A		l Technique	Sam	pling Media			
14464-46-1	NIOS	SH 7500	Х	RD	PVC (Sł	<c 225-5-37-p)<="" th=""></c>			
Sampling Ratet Sampling Volu		olumett/	LOQ	LOD	Compatibility Code				
see comm	see comments 600-120		200	7.5 μg 5.0 μg Silica		Silica			
Interferences				Comments					
Mica, potash, feldspars, zircon, graphite and aluminosilicates will interfere. Bulk sample is required for interference check.			Use pre- cyclone at 2.5 lp require r optimur (0.013 n of TLV. S	-weighed PVC s at 1.7 lpm; 3 im and for BG much smaller n dust loading ng/cu m) of TI Sample 600-L	2-piece cassette -piece cassette fo I-4L at 2.2 lpm. Du sample volumes ( of 2 mg on filter. -V and 900-L for 3 to quantify at 25%	for MSA (Dorr-Oliver) or BMRC (SKC) cyclones isty atmospheres (<600 L) to obtain 600-L will give you 52% 3% (0.0083 mg/cu m) 6 of the new OSHA PEL.			

Silica Quartz									
CAS #	Analytic	cal Method	Analytica	l Technique	Sam	pling Media			
14808-60-7	NIOS	SH 7500	Х	RD	PVC (Sł	(C 225-5-37-P)			
Sampling Ratet Sampling Vol		olumett/	LOQ	LOD	Compatibility Code				
see comn	see comments 600-120		200	7.5 µg	5.0 µg	Silica			
Interferences				Comments					
Mica, potash, feldspars, zircon, graphite and aluminosilicates will interfere. Bulk sample is required for interference check.			Use pre cyclone at 2.5 lp much si dust loa mg/cu r TLV. Sai	-weighed PVC s at 1.7 lpm; 3 om and for BGI maller sample iding of 2 mg o m) of the TLV a mple 600-L to	2-piece cassette -piece cassette fo -4L at 2.2 lpm. Du volumes (<600 L) on filter. Sample 6 and 900-L for 33% quantify at 25% o	for MSA (Dorr-Oliver) r BMRC (SKC) cyclones sty atmospheres require to obtain optimum 00-L for 52% (0.013 (0.0083 mg/cu m) of f the new OSHA PEL.			

Silver Metal and Soluble Compounds as Ag								
CAS #	Analytical Method A		Analytica	l Technique	Samp	oling Media		
7440-22-4	NIOS	SH 7300	I	СР	MCE or PVC (SKC 225-5 or SKC 225-5-37-P)			
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
1-4		250-1	000	0 0.50 μg 0.25 μg Meta		Metals1		
h	nterferenc	es		Comments				
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			As part internal in your in the a	As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. <b>Please indicate</b> in your sample submission form if yttrium is present in the area where you collected your samples.				

Soapstone	;						
CAS #	Analytical Method A		Analytica	l Technique	Sam	oling Media	
	NIOS	SH 0500	GRAV		Pre-weighed P	VC (SKC 225-5-37-P)	
Sampling Rate† Sampling Vol		olumett	LOQ	LOD	Compatibility Code		
1-15		34-72	200	10 µg	5.0 µg		
Interferences				Comments			
All other dusts will interfere.			For pers lpm, for	For personal sampling use a flow rate of 1-2 lpm, for area sampling up to 15 lpm.			

#### Soapstone

CAS #	Analytical Method A		Analytica	Analytical Technique		Sampling Media		
	NIOS	NIOSH 0600		GRAV		PVC (SKC 225-5-37-P)		
Sampling Ratet Sampling Vol		olumett	lumett LOQ		LOD	Compatibility Code		
1.7	1.7 67-		16	50 µg		25 µg		
Interferences				Comments				
All other respirable dusts will interfere.			e. Use pre- Oliver) c for BMR cyclone	Use pre-weighed PVC 2-piece cassette for MSA (Dorr- Oliver) cyclones at 1.7 lpm and 3-piece cassette for BMRC (British Medical Research Council-SKC) cyclones at 2.5 lpm and for BGI-4L at 2.2 lpm.				

Sodium							
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
7440-23-5	NIOS NIOS OSHA	)SH 7301 )SH 7303  A ID-125G		CP	MCE or PVC (SKC 225-5 or SKC 225-5-37-P)		
Sampling Ratet Sampling Vol			olumett/	umett LOQ LOD Compati		Compatibility Code	
1-4		60-10	000	7.5 µg	3.8 µg	Metals	
li	nterferenc	es		Comments			
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			As part internal in your s in the a	As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. <b>Please indicate</b> in your sample submission form if yttrium is present in the area where you collected your samples.			

### Sodium Hydroxide

CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
1310-73-2	NIOS NIOS OSHA	NIOSH 7301 NIOSH 7303 OSHA ID-125G		CP	MCE or PVC (SKC 225-5 or SKC 225-5-37-P)				
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code				
1-4	1-4 60-1000		00	13 µg	6.5 µg	Metals			
li li	nterferenc	es		Comments					
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			All form lpm for is used indicate present	All forms of sodium are quantified. Use a flow rate of 2 lpm for STEL. As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. <b>Please</b> indicate in your sample submission form if yttrium is present in the area where you collected your samples.					

Starch							
CAS #	Analytical Method A		Analytica	l Technique	Samp	oling Media	
9005-25-8	NIOS	SH 0500	GI	RAV	Pre-weighed P	VC (SKC 225-5-37-P)	
Sampling Rate† Sampling Vol			olumett	LOQ	LOD	Compatibility Code	
1-15		20-72	200	50 µg	10 µg		
Interferences				Comments			
All other dusts will interfere.			For pers LPM, fo	For personal sampling use a flow rate of 1-2 LPM, for area sampling up to 15 LPM.			

#### **Stoddard Solvent**

CAS #	Analytical Method A		Analytical Technique		Sampling Media		
8052-41-3	NIOS	NIOSH 1550		-FID	CT (SK	C 226-01, -09)	
Sampling Ratet Sampling Vol			olumett/	LOQ	LOD	Compatibility Code	
0.01-0	.2	1.3-2	20	2.3 µg	1.1 µg	CS <sub>2</sub>	
Interferences				Comments			
			Please s	Please send bulk sample. Ship bulk sample separately from air samples.			

Stoddard Solvent									
CAS #	Analytical Method A		Analytica	l Technique	Sam	oling Media			
8052-41-3	3M I	Method	GC	GC-FID OVM (3M 3500		(3M 3500)			
Sampling Ratet Sampling Vol		olumett/	LOQ	LOD	Compatibility Code				
24.3		15-4	80	3.4 µg 1.7 µg		CS <sub>2</sub>			
li li	Interferences				Comments				
			Please s separate	Please send bulk sample. Ship bulk sample separately from air samples.					

#### Strontium

•••••							
CAS #	Analytic	cal Method	Analytica	l Technique	Sampling Media		
7440-24-6	NIOS NIOS	SH 7301 SH 7303	301 303 IC		MCE or PVC (SKC 225-5 or SKC 225-5-37-P)		
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code	
1-4	1-4 620-100		000	0 0.052 μg 0.026 μg		Metals	
l	es		Comments				
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			As part internal in your s in the a	As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. <b>Please indicate</b> in your sample submission form if yttrium is present in the area where you collected your samples.			

Strontium Chromate as Cr									
CAS #	Analytic	cal Method	Analytica	l Technique	nique Sampling Media		oling Media		
7789-06-2	NIOS NIOS	SH 7301 SH 7303	ļ	СР	MCE or PVC (SKC 225-5 or SKC 225-5-37-P)		E or PVC or SKC 225-5-37-P)		
Sampling Ratet Sampling Vol		olumett	LOQ	L	OD	Compatibility Code			
1-4	1-4 620-100		000	0.031 µg	0.0	16 µg	Metals		
l	nterferenc	es		Comments					
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			Samples strontiu will inte is used indicate present	Samples are analyzed as strontium and calculated as strontium chromate as Cr. Other forms of strontium will interfere. As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. Please indicate in your sample submission form if yttrium is present in the area where you collected your samples.					

Styrene (Vinyl benzene)								
CAS #	Analytic	Analytical Method A		l Technique	Sampling Media			
100-42-5	NIOS	SH 1501	H 1501 GC		CT (SK	C 226-01, -09)		
Sampling Ratet Sampling Vol			/olumett	LOQ	LOD	Compatibility Code		
0.02-	02-1 1-10		0	0.43 µg 0.22 µg		CS <sub>2</sub>		
l	nterferenc	es			Comments			
Un vo an ST				onditions of hi s may be reduce cold overnigi 20 ppm, OTO, 2	igh humidity, the b ced by as much as nt. 2019 NIC, TWA A3 , BEI adopted ir	reakthrough 50%. Store = 10ppm, n 2020.		

Styrene (Vinyl benzene)									
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
100-42-5	3M I	3M Method		-FID	OVM (3M 3	500) SKC 575-006			
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code			
28.9 13.55	5	15-4 15-2	80 40	0.65 µg	0.33 µg	CS <sub>2</sub> Tol			
lı	es		Comments						
		Store ar STEL = 1	Store and ship cold overnight. 2019 NIC, TWA = 10ppm, STEL = 20 ppm, OTO, A3 , BEI adopted in 2020.						

Sulfur Dioxide								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
7446-09-5	OSHA	A ID 1011		C IABC (SKC 226-177		SKC 226-177)		
Sampling Rate† Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
0.05 for 0.5 for S	0.05 for TWA, 0.5 for STEL 12 - 2		25	2.3 µg	1.2 µg			
l	nterferenc	es		Comments				
Particulate salts of sulfate, sulfur trioxide and sulfuric acid may give positive interferences for sulfur dioxide.			Media c	harge applies.				

Sulfuric A	cid						
CAS #	Analytic	Analytical Method A		l Technique	Sam	oling Media	
7664-93-9	OSHA ID-113			IC	PPI Thoraci	c-MCE (225-3861)	
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code		
2.0		90-2	30	4.6 µg	2.3 µg	Acid1	
li	Interferences				Comments		
Particulate salts of sulfate will give a positive interference.			The TLV mass. U cyclone with 0.8	The TLV for sulfuric acid is as thoracic particulate mass. Use 37-mm MCE 3 piece cassette for BGI GK2.69 cyclone at 1.6 lpm or request thoracic PPI pre-loaded with 0.8um MCE filter. Media charge applies.			

Sulfuric A	cid							
CAS #	# Analytical Method A		Analytica	l Technique	Sam	Sampling Media		
7664-93-9	NIOS	SH 7903		IC	MCE2,	SKC 226-10-03		
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
0.2-0.	5	50-15	50	4.6 µg	2.3 µg			
Interferences				Comments				
Particulate salts of sulfate will give a positive interference.			If using use two	If using 226-10-03 in a very humid environment, use two sorbent tubes in series.				

Sulfuric A	Sulfuric Acid								
CAS #	Analytical Method A		Analytica	l Technique	Sam	pling Media			
7664-93-9	NIOS	NIOSH 7908		IC	SK	225-9033			
Sampling Rate† Sampling Vol		/olumett	LOQ	LOD	Compatibility Code				
1-5		50-5	00	4.6 μg 2.3 μg					
li	nterferenc	es		Comments					
Particulate salts of sulfate or phosphate will give positive interference.			Ship an	Ship and store cold. Specialty filter. Media charge applies.					

Synthetic Vitreous Fibers									
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
	NIOS	SH 7400	Р	СМ	MCE, 25 mm (ZEFON Z008BA)				
Sampling Ratet Sampling Vol		olumett/	LOQ	LOD	Compatibility Code				
0.5-1	6	50-7	20	0.050 fiber/fld 0.01 fib/fld					
li li	nterferenc	es		Comments					
Chain-like par fibrous and hi dust particles	ticles may gh levels c may obsc	appear of non-fibrous ure fibers.	Adjust s loading When sl polystyr	ampling flow ra on the filter. Do hipping your sar rene as can lead	te and time to ob not overload filte nples, do not pao I to fiber loss fror	otain optimum fiber er. Sample open faced. ck with untreated n electrostatic effect.			

Talc								
CAS #	Analytic	cal Method	Analytica	l Technique	Sampling Media			
14807-96-6	NIOSH 0600		GI	RAV	PVC (Sł	PVC (SKC 225-5-37-P)		
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code			
1.7	1.7 100-816		816	50 µg	10 µg			
-	nterferenc	es		Comments				
All other respirable dusts will interfere.			e. Use pre Oliver) o BMRC ( at 2.5 lp cu m as contain	Use pre-weighed PVC 2-piece cassette for MSA (Dorr- Oliver) cyclones at 1.7 lpm and 3-piece cassette for BMRC (British Medical Research Council-SKC) cyclones at 2.5 lpm and for BGI-4L at 2.2 lpm. TWA of 2 mg/ cu m as respirable fraction is for particulate matter containing no asbestos and <1% crystalling silica				

Tantalum and Tantalum Oxide Dust as Ta									
CAS #	Analytical Method A		Analytica	l Technique	Samp	Sampling Media			
7440-25-7	NIOS	H 0500		RAV	Pre-weighed PVC (SKC 225-5-37-F				
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code				
1-4		100-1	000	50 µg	25 µg				
l	es		Comments						
All other dust	fere.								

Tellurium and Compounds as Te								
CAS #	Analytical Method A		Analytica	l Technique	Sam	oling Media		
13494-80-9	NIOS NIOS OSHA	SH 7301 SH 7303 A ID-125G		CP MCE or PVC (SKC 225-5 or SKC 225		E or PVC or SKC 225-5-37-P)		
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
1-4		160-10	000	0 0.54 µg 0.27 µg Meta		Metals		
li	nterferenc	es		Comments				
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			Exclude yttrium Please i is prese	Excludes hydrogen telluride. As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. Please indicate in your sample submission form if yttrium is present in the area where you collected your samples.				

Tetrachloroethylene (Perchloroethylene)								
CAS #	Analytical Method A		Analytical Technique		Sampling Media			
127-18-4	NIOS	NIOSH 1003		-FID	CT (SK	C 226-01, -09)		
Sampling	Sampling Ratet Sampling Vol		olumett/	LOQ	LOD	Compatibility Code		
0.01-0	.2	1-4	0	1.8 µg	0.90 µg	CS <sub>2</sub>		
l	Interferences			Comments				

Tetrachloroethylene (Perchloroethylene)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
127-18-4	3M	Method	GC	-FID	OVM	OVM (3M 3500)		
Sampling	Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code		
28.3	}	15-4	80	2.7 µg	1.4 µg	CS <sub>2</sub>		
Interferences				Comments				

Tetrahydrofuran [THF]									
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
109-99-9	NIOS	NIOSH 1609		-FID	CT (SK	C 226-01, -09)			
Sampling Ratet Sampling Vo		olumett LOQ		LOD	Compatibility Code				
0.01-0	.2	1-9	)	0.83 µg	0.42 µg	CS <sub>2</sub>			
li li	Interferences				Comments				
			Preferre High hu	<b>Preferred for STEL sampling</b> . Sample at a flow rate of 0.2 lpm. High humidity may greatly decrease breakthrough volume.					

Tetrahydrofuran									
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
109-99-9	3M	Method	GC-FID		OVM	(3M 3500)			
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code				
37.2	37.2 15-480		80	1.2 µg	0.62 µg	CS <sub>2</sub>			
Interferences				Comments					

Thallium and Compounds, as Tl								
CAS #	Analytic	cal Method	Analytica	l Technique	Sampling Media			
7440-28-0	NIOS NIOS OSHA	SH 7301 SH 7303 A ID-125G	[	ICP PVC, IOM MCE, IOM		VC, IOM CE, IOM		
Sampling Ratet Sampling Vol			olumett/	LOQ	LOD	Compatibility Code		
1-4		500-1	000	0 1.0 μg 0.50 μg Metals		Metals		
li li	nterferenc	es		Comments				
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			As part internal sample where y before i is limite	of the Lab's QG standard in m submission fo ou collected y ntended use. d. rental charg	C protocol, yttrium etal analysis. Plea orm if yttrium is pr our samples. Con The availability of ge for IOM sample	n is used as use indicate in your resent in the area ntact Lab 1 week IOM samplers ers applies.		

Thallium and Compounds, as TI								
CAS #	Analytic	cal Method	Analytica	l Technique	Sampling Media			
7440-28-0	NIOS NIOS	SH 7301 SH 7303	H 7301 H 7303		ICP-MS PVC, IOM MCE, IOM			
Sampling Ratet Sampling Vol			/olumett	LOQ	LOD	Compatibility Code		
1-4	1-4 750-100		000	1.3 µg	0.65 µg	Metals		
-	nterferenc	es		Comments				
			As part lutetium Please i rhodium you coll before i is limite	of the Lab's Q are used as i indicate in you n, and/or lutet ected your sa ntended use. ed. Rental cha	C protocol, yttrium nternal standards ir sample submiss ium are present in mples. Contact La The availability of rge for IOM sampl	n, rhodium, and in ICP-MS analysis. sion form if yttrium, the area where b one week IOM samplers ers applies.		

Thiram							
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
137-26-8	NIOS	NIOSH 5005		PLC	PTFE1 (	PTFE1 (SKC 225-1705)	
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code		
1-4		20-4	00	0.79 µg	0.40 µg		
Interferences				Comments			
Return to Lab immediately after sampling.					ıg.		

Tin and Co	ompoun	ds as Sn					
CAS #	Analytic	Analytical Method A		l Technique	Sam	Sampling Media	
7440-31-5	NIOS NIOS OSHA	NIOSH 7301 NIOSH 7303 OSHA ID-125G		CP	MCE or PVC (SKC 225-5 or SKC 225-5-37-P)		
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code	
1-4		25-10	000	0 0.52 μg 0.26 μg Metals		Metals	
l	nterferenc	es		Comments			
Spectral inter primary interf in ICP-AES an	re the ncountered	Includes tin hydri protoco Please i is prese	Includes metal, metal oxide, inorganic tin compounds (except tin hydride) and organic compounds. As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. Please indicate in your sample submission form if yttrium is present in the area where you collected your samples.				

Tin and Compounds as Sn								
CAS #	Analytical Method A		Analytica	l Technique	Sam	Sampling Media		
7440-31-5	NIOS NIOS	SH 7301 SH 7303	ICF	CP-MS MCE or PVC (SKC 225-5 or SKC 225		CE or PVC or SKC 225-5-37-P)		
Sampling Ratet Sampling Vol			olumett	umett LOQ LOD Compa		Compatibility Code		
1-4	1-4 40-240		40	) 0.025 μg 0.013 μg Metals		Metals		
Interferences				Comments				
			As part and lute analysis form if y in the a	As part of the Lab's QC protocol, yttrium, rhodium, and lutetium are used as internal standards in ICP-MS analysis. Please indicate in your sample submission form if yttrium, rhodium, and/or lutetium are present in the area where you collected your samples				

Tin Organic Compounds as Sn								
CAS #	Analytic	Analytical Method A		l Technique	Sam	Sampling Media		
7440-31-5	NIOS	SH 5504	5504 GFAA		GF (SKC 225-	GFF/XAD-2 (SKC 225-7) (SKC 226-30)		
Sampling Ratet Sampling Vol			olumett/	LOQ	LOD	Compatibility Code		
1-1.5	;	50-5	00	) 0.050 µg 0.025 µg Ме		Metals		
Interferences				Comments				
All forms of tin organic compounds are quantified.			Ship as not cov	Ship assembled sampler in dry ice overnight. This method is not covered under our AIHA-LAP, LLC scope of accreditation.				

Titanium								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
7440-32-6	NIOS NIOS OSHA	NIOSH 7301 NIOSH 7303 SHA ID-125G		CP	MCE or PVC (SKC 225-5 or SKC 225-5-37-P)			
Sampling Rate† Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
1-4		25-10	00	) 0.25 µg 0.13 µg Metal		Metals		
Interferences				Comments				
Spectral inter primary interf in ICP-AES an	ferences a erences en alysis.	re the ncountered	As part internal in your s in the a	As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. <b>Please indicate</b> in your sample submission form if yttrium is present in the area where you collected your samples.				

Titanium							
CAS #	Analytic	cal Method	Analytica	l Technique	Sam	pling Media	
7440-32-6	NIOS	SH 7301	ICF	P-MS	MCE or PVC (SKC 225-5 or SKC 225-5-37-P)		
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code	
1-4		25-50	00	0.15 μg 0.075 μg Metal		Metals	
	nterferenc	es			Comments		
		As part of the Lab's QC protocol, yt and lutetium are used as internal s analysis. Please indicate in your sa form if yttrium, rhodium, and/or lut in the area where you collected you				n, rhodium, ards in ICP-MS e submission n are present mples.	

Titanium Dioxide								
CAS #	Analytic	cal Method	Analytica	ytical Technique Sampling Media		pling Media		
13463-67-7	OSHA	ID-125G		CP	MCE or PVC (SKC 225-5 or SKC 225-5-37-P)			
Sampling Ratet Sampling Volu		olumett	LOQ	LOD	Compatibility Code			
1-4	1-4 25-1000		00	0.42 µg	0.21 µg	Metals		
l	nterferenc	es		Comments				
Spectral interferences are the primary interferences encountered p in ICP-AES analysis. P N				s of titanium a l, yttrium is us ndicate in you in the area wh anium dioxide n3 (R), A3 and	re quantified. As ed as internal star r sample submiss ere you collected TWA as Nanoscal as Finescale part	part of the Lab's QC ndard in metal analysis. ion form if yttrium is your samples. 2021 e particles = icles = 2.5mg/m3(R), A3		

Toluene							
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
108-88-3	NIOS	IIOSH 1501		C-FID	CT (SK	C 226-01, -09)	
Sampling Ratet Sampling Vol			olumett/	LOQ	LOD	Compatibility Code	
0.01-0	.2	1-1	0	0.44 µg	0.22 µg	CS <sub>2</sub>	
l	Interferences				Comments		
Under conditions of high humidity, the breakthrough volumes may be reduced by as much as 50%." 2020 NIC, TWA = 20ppm, OTO;A4;BEI adopted in 2021.							

Toluene							
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
108-88-3	3M I	3M Method		-FID	OVM	(3M 3500)	
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code		
31.4		15-4	80	0.67 µg	0.33 µg	CS <sub>2</sub>	
Interferences Comments							
2020 NIC, TWA = 20ppm, OTO;A4;BEI adopted in 2021.							

Toluene-2,4-diioscyanate (2,4-TDI)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
584-84-9	05	HA 42	H	PLC	GF	F, 1-2PP		
Sampling Ratet Sampling Vol			/olumett	mett LOQ LOD Compatib		Compatibility Code		
1		15-2	40	0.010 µg 0.0050 µg Isocyan		Isocyanate		
Interferences					Comments			
Potential interferences include anhydrides, amines, alcohols and carboxylic acids.K				Keep media refrigerated before and after sampling. Sample open-faced. Ship cold overnight. Filter is stable for 6 months if kept cold.				

Toluene-2,4- diisocyanate (2,4-TDI)								
CAS #	Analytic	cal Method	Analytica	l Technique	Sampling Media			
584-84-9	OS	HA 42	HI	PLC	GFF Wipes			
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
N/A		N/A		0.010 µg	0.0050 µg	Isocyanate		
I	nterferenc	es		Comments				
Potential interferences include anhydrides, amines, alcohols and carboxylic acids.				ipe Sampling Proc fiber filters must b izing solution. Orc . Media are prepar nas a shelf life of 1	edure". Immediately e placed in a ler media one ed when ordered. month if kept cold.			

Toluene-2,6-diisocyanate (2,6-TDI)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
91-08-7	0S	OSHA 42		PLC	GF	F, 1-2PP		
Sampling Ratet Sampling Vol			/olumett	LOQ	LOD	Compatibility Code		
1		15-2	40	0.010 µg 0.0050 µg		Isocyanate		
li	nterferenc	es			Comments			
Potential interferences includeKanhydrides, amines, alcoholsSand carboxylic acids.is			Keep me Sample is stable	Keep media refrigerated before and after sampling. Sample open-faced. Ship cold overnight. Filter is stable for 6 months if kept cold.				

Toluene-2,6- diisocyanate (2,6-TDI)								
CAS #	Analyti	cal Method	Analytica	l Technique	Sampling Media			
91-08-7	OS	SHA 42 HPL		PLC	GFF Wipes			
Sampling Ratet Sampling Vol			/olumett	LOQ	LOD	Compatibility Code		
N/A		N/A		0.010 µg	0.0050 µg	Isocyanate		
l	nterferenc	es		Comments				
Potential interferences include anhydrides, amines, alcohols and carboxylic acids. Solu				Follow "Isocyanate Wipe Sampling Procedure". Immediately after sampling, glass fiber filters must be placed in a vial containing derivatizing solution. Order media one week ahead, media is prepared when ordered. Derivatizing solution has a shelf life of 1 month if kept cold.				

Toluidine(o-)								
CAS #	Analytical Method		Analytica	Technique	Sampling Media			
95-53-4	NIOSH 2002		GC-FID		SGT (	SKC 226-10)		
Sampling Rate† Sampling Vo		/olumett	LOQ	LOD	Compatibility Code			
0.02-0	0.5	5-3	0	1.4 µg	0.70 µg	Amine3		
Interferences				Comments				
Nitrogen compounds that co-elute will interfere.								

## **Tributyl Phosphate**

CAS #	Analytical Method A		Analytica	Technique	Sampling Media		
126-73-8	NIOSH 5034		GC-FID		MCE (SKC 225-5)		
Sampling Ratet Sampling Volu		olumett	LOQ	LOD	Compatibility Code		
1-3		2-100		0.41 µg	0.20 µg	Ethyl Ether	
Interferences				Comments			
			Sample	Sample separately from CS <sub>2</sub> compatible solvents.			

## Trichloro(1,1,2-)-1,2,2-trifluoroethane

CAS #	Analytic	alytical Method Analyt		l Technique	Sampling Media				
76-13-1	NIOS	SH 1020 GC		GC-FID CT (SKC 226-01, -09)		C 226-01, -09)			
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code				
0.01-0.	.05	1-10		2.9 µg	1.5 µg	CS <sub>2</sub>			
Interferences					Comments				

## Trichloro(1,1,2-)-1,2,2-trifluoroethane

CAS #	Analytic	nalytical Method Ana		l Technique	Sampling Media			
76-13-1	3M I	Vethod GC		-FID	OVM (3M 3520)			
Sampling Ratet Sampling Volu		olumett	LOQ	LOD	Compatibility Code			
29.1		15-4	15-480		2.2 µg	CS <sub>2</sub>		
Interferences				Comments				

Trichlorobenzene(1,2,4-)								
CAS #	Analytical Method A		Analytica	l Technique	Sam	Sampling Media		
120-82-1	NIOS	SH 1003	GC-FID		CT (SK	CT (SKC 226-01, -09)		
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
0.01-0	.2	1-1(	)	0.29 µg	0.15 µg	CS <sub>2</sub>		
	es		Comments					
	Preferred for STEL sampling. Sample at a flow rate of 0.2 lpn					t a flow rate of 0.2 lpm.		

Trichlorobenzene(1,2,4-)								
CAS #	Analytical Method		Analytical Technique		Sampling Media			
120-82-1	3M Method		GC-FID		OVM	(3M 3500)		
Sampling Ratet Sampling V		/olumett	LOQ	LOD	Compatibility Code			
24.8		15-4	80	0.44 µg	0.22 µg	CS <sub>2</sub>		
l	Interferences				Comments			
			Use 3M the back	Use 3M 3520. Separate the front section of the monitor from the back section and cap immediately after sampling.				

Trichloroethane(1,1,1-) (Methyl Chloroform)									
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
71-55-6	NIOS	NIOSH 1003		C-FID	CT (SK	CT (SKC 226-01, -09)			
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code				
0.01-0	.2	1-1	0	2.2 µg	1.1 µg	CS <sub>2</sub>			
Interferences				Comments					
Preferred for STEL sampling Sample at a flow rate of 0 f					a flow rate of 0.2 lpm				

Trichloroethane(1,1,1-) (Methyl Chloroform)								
CAS #	Analytical Method		Analytical Technique		Sampling Media			
71-55-6	3M I	Vethod		-FID	OVM	OVM (3M 3500)		
Sampling	Sampling Ratet Sampling Vo		olumett	LOQ	LOD	Compatibility Code		
30.9		15-48	30	3.3 µg	1.7 µg	CS <sub>2</sub>		
Interferences				Comments				

Trichloroethane(1,1,2-)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
79-00-5	NIOS	SH 1003	003 GC		CT (SK	C 226-01, -09)		
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
0.01-0	.2	2-6	0	1.6 µg	0.80 µg	CS <sub>2</sub>		
Interferences				Comments				

Trichloroethane(1,1,2-)								
CAS #	Analytical Method		Analytical Technique		Sampling Media			
79-00-5	3M I	Vethod	GC-FID		OVM (3M 3500)			
Sampling	Sampling Ratet Sampling Vo		olumett LOQ		LOD	Compatibility Code		
29.7	,	15-4	80	2.9 µg	1.4 µg	CS <sub>2</sub>		
Interferences				Comments				

Trichloroethylene								
CAS #	Analytical Method		Analytical Technique		Sampling Media			
79-01-6	NIOS	SH 1022	GC-FID		CT (SK	C 226-01, -09)		
Sampling	Sampling Ratet Sampling Vo		/olumett	LOQ	LOD	Compatibility Code		
0.01-0	).2	1-1	) 2.0 µg		1.0 µg	CS <sub>2</sub>		
I	Interferences			Comments				

Trichloroe	thylene						
CAS #	Analytical Method		Analytical Technique		Sampling Media		
79-01-6	3M	Method	GC	-FID	OVM	(3M 3500)	
Sampling	Sampling Ratet Sampling Vo		/olumett	LOQ	LOD	Compatibility Code	
31.1		15-4	80	3.0 µg	1.5 µg	CS <sub>2</sub>	
I	Interferences			Comments			

Triethanolamine								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
102-71-6	NIOS	SH 2007		IC	ORBO 53 or SGT** (SUPELCO 20265) (SKC 226-10-03)			
Sampling	Sampling Ratet Sampling Vo		olumett	LOQ	LOD	Compatibility Code		
0.01-0	.5	15-2	5	7.5 µg 3.8 µg		EA		
I	Interferences			Comments				
	Store in freezer after sampling. Ship and store cold.				d store cold.			

Triethylamine								
CAS #	Analytical Method		Analytical Technique		Sampling Media			
121-44-8	NIOSH 2010		GC-FID		SGT (SKC 226-10)			
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code			
0.01-	1	5-3	0	0.29 µg	0.15 µg	Amine1		
Interferences				Comments				
Nitrogen compounds that co-elute will interfere.								

Triethylamine								
CAS #	Analytical Method A		Analytica	l Technique	Sam	pling Media		
121-44-8	OSHA PV2060		GC-FID		XAD-7, Ad	cid (SKC 226-98)		
Sampling Ratet Sampling Vol		olumett/	LOQ	LOD	Compatibility Code			
0.1		10	)	4.0 μg 2.0 μg				
Interferences				Comments				
Nitrogen compounds that co-elute will interfere.								

## Triethylenetetramine

CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
112-24-3	OSHA 60		HPLC		XAD-2, NITC (SKC 226-30-18)		
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code		
0.1	0.1 10		)	0.24 µg	0.12 µg	Amine2	
Interferences					Comments		
Nitrogen com	nounds th	t					

Nitrogen compounds that co-elute will interfere.

Triglycidyl Isocyanurate(1,3,5)									
CAS #	Analytical Method A		Analytical Technique		Sampling Media				
2451-62-9	Ciba-Ge	eigy C321A	GC-MS		PTFE	1 or PTFE5			
Sampling Rate† Sampling Vol		olumett	LOQ	LOD	Compatibility Code				
1		100-2	40	4.0 µg	2.0 µg	Acetone			
l	es		Comments						
Samples can be collected using either 25mm or					5mm or 37mm filters.				

Trimellitic	Anhydr	ide					
CAS #	Analytical Method A		Analytical Technique		Sampling Media		
552-30-7	0-7 OSHA 98		HPLC		GFI	F, Vamine	
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code		
2		480		0.050 µg 0.025 µg			
I	nterferenc	es		Comments			
			Order m prepare	Order media one week ahead of survey. Media are prepared when ordered. Sample open-faced.			

Trimethylbenzene(1,2,4-)									
CAS #	Analytical Method A		Analytica	l Technique	Sam	oling Media			
95-63-6	NIOS	NIOSH 1501		-FID	CT (SK	C 226-01, -09)			
Sampling	Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
0.01-0	.2	1-1	0	0.44 µg	0.22 µg	CS <sub>2</sub>			
I	Interferences			Comments					
2021 NIC, trimethyl benzene all isomers 10 ppm TWA, A4.					10 ppm TWA, A4.				

Trimethylbenzene(1,2,4-)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
95-63-6	3M Method		GC-FID		OVM	(3M 3500)		
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
24.4		15-48	80	0.66 µg	0.33 µg	CS <sub>2</sub>		
Interferences				Comments				
2021 NIC, trimethyl benzene all isomers 10 ppm T				10 ppm TWA, A4.				

Trimethylbenzene(1,3,5-)									
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
108-67-8	NIOS	SH 1501	GC-FID		CT (SK	C 226-01, -09)			
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code				
0.01-0	.2	1-1(	)	0.45 µg	0.23 µg	CS <sub>2</sub>			
I	nterferenc	es		Comments					
2021 NIC, trimethyl benzene all isomers 10 ppm TWA, A4.					10 ppm TWA, A4.				

Trimethylbenzene(1,3,5-)								
CAS #	Analytical Method A		Analytical Technique		Sampling Media			
108-67-8	3M	3M Method		-FID	OVM (3M 3500)			
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
26.3		15-48	30	0.68 µg	0.34 µg	CS <sub>2</sub>		
li	Interferences				Comments			
	2021 NIC, trimethyl benzene all isomers 10 ppm TWA, A4.							

Tungsten and Compounds as W (in the absence of Cobalt)								
CAS #	Analytic	cal Method	Analytica	l Technique	Sampling Media			
7440-33-7	OSH	A ID-213	[(	ICP MCE (SKC 225		(SKC 225-5)		
Sampling Rate† Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
2	2 30-480		30	0.25 µg	0.12 µg			
l	nterferenc	es		Comments				
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			Recommof the La standard sample the area	Recommended air volume for STEL is 30L. As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. Please indicate in your sample submission form if yttrium is present in the area where you collected your samples.				

Tungsten, as W Soluble Compounds								
CAS #	Analytic	cal Method	Analytica	l Technique	Sampling Media			
7440-33-7	OSH	SHA ID-213		CP	MCE or PVC (SKC 225-5 or SKC 225-5-37-P)			
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code			
2		30-4	80	0.25 µg	0.12 µg			
li	nterferenc	es		Comments				
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			Recomr of the L standar sample the area	Recommended air volume for STEL is 30L. As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. Please indicate in your sample submission form if yttrium is present in the area where you collected your samples.				

TVOC as n	TVOC as n-Hexane								
CAS #	Analytical Method A		Analytica	Technique	Sampling Media				
	NIOS	SH 1500	GC	-FID	CT (SK	C 226-01, -09)			
Sampling	Sampling Ratet Sampling Volu			LOQ	LOD	Compatibility Code			
0.01-0	.2	1-1(	)	0.40 µg	0.20 µg	CS <sub>2</sub>			
l	nterferenc	es		Comments					
Fo fo Tu the ca			For IAQ formald Tubes a the DNF cause a	For IAQ and LEED sampling where TVOC and formaldehyde are collected, do not sample with Charcoal Tubes and DNPH tubes in tandem. The sorbent in the DNPH tubes may off-gas acetonitrile which can cause a positive interference in the TVOC results.					

TVOC as n	ΓVOC as n-Hexane								
CAS #	Analytical Method		Analytical Technique		Sampling Media				
	3M Method		GC-FID		OVM	(3M 3500)			
Sampling	Sampling Ratet Sampling Vo		olumett	LOQ	LOD	Compatibility Code			
32.0	)	15-4	80 0.60 µg		0.30 µg	CS <sub>2</sub>			
I	Interferences			Comments					

Valeraldehyde								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
110-62-3	NIOSH 2016		Н	PLC	AT Mon	itor (N571AT)		
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
7.21		15-4	80	0.043 µg	0.022 µg	Aldehyde		
Interferences				Comments				
Other aldehydes and ketones will react with the 2,4-DNPH but can be chromatographically resolved.			Keep m samplin	Keep media refrigerated before and after sampling. Ship cold overnight.				

Valeraldeh	nyde							
CAS #	Analytical Method		Analytical Technique		Sampling Media			
110-62-3	NIOSH 2016		HPLC		Sep-Pak	Sep-Pak (WAT047205)		
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
0.1-1.	0.1-1.5 10-100		00	0.22 μg 0.11 μg		Aldehyde		
Interferences				Comments				
Other aldehydes and ketones will react with the 2,4-DNPH but can be chromatographically resolved.			Keep m samplin samplin	Keep media refrigerated before and after sampling. Ship cold overnight. Preferred for STEL sampling. Sample at 1.5 lpm for STEL.				

Valeraldehyde								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
110-62-3	NIOSH 2016		Н	PLC	SGT, DNP	H (SKC 226-119)		
Sampling Ratet Sampling Vol			/olumett	LOQ	LOD	Compatibility Code		
0.1-1.	5	1-1	5	0.087 µg	0.044 µg	Aldehyde		
li	nterferenc	es		Comments				
Other aldehydes and ketones will react with the 2,4-DNPH but can be chromatographically resolved.			Keep m samplin samplin	Keep media refrigerated before and after sampling. Ship cold overnight. Preferred for STEL sampling. Sample at 1.5 lpm for STEL.				

Vanadium Pentoxide as V								
CAS #	Analytic	cal Method	Analytica	l Technique	Sam	pling Media		
7440-62-2	NIOS NIOS	SH 7301 SH 7303	ICP-MS		MCE or PVC (SKC 225-5 or SKC 225-5-37-P)			
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
1-4	1-4 40-480		80	0.20 µg	0.10 µg	Metals		
Interferences					Comments			
As par and lu analys form i in the			As part and lute analysis form if y in the a	of the Lab's Q etium are usec s. Please indic yttrium, rhodi rea where you	C protocol, yttriu d as internal stand cate in your samp um, and/or lutetiu i collected your sa	n, rhodium, lards in ICP-MS le submission Im are present amples.		

Vanadium Pentoxide as V								
CAS #	Analytical Method A		Analytica	l Technique	Sam	Sampling Media		
7440-62-2	NIOS NIOS OSHA	NOSH 7301 NOSH 7303 SHA ID-125G		СР	MCE or PVC (SKC 225-5 or SKC 225-5-37-P)			
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code			
1-4		120-1	000	0 0.10 μg 0.050 μg		Metals		
l	nterferenc	es		Comments				
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			All form protoco Please is prese	All forms of vanadium are quantified. As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. Please indicate in your sample submission form if yttrium is present in the area where you collected your samples.				

Vanadium							
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
7440-62-2	0SH/	OSHA ID-121		СР	Ghost wi	ipe ( 225-2414)	
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code	
NA	NA		1	0.22 μg 0.11 μg		Metals 2	
li	nterferenc	es		Comments			
Spectral interferemces are the primary interferences encountered in the ICP-AES analysis.			As part internal your sar in the ar	As part of the Lab's QC protocol, yttrium is used as internal standard in ICP analysis. Please indicate in your sample submission form if yttrium is present in the area where you collected your samples.			

Vegetable Oil Mist								
CAS #	Analytical Method A		Analytica	l Technique	Sam	oling Media		
	NIOS	NIOSH 0500		RAV	Pre-weighed P	VC (SKC 225-5-37-P)		
Sampling Rate† Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
1-15		20-72	00	50 µg 10 µg				
li	Interferences			Comments				
All other dusts will interfere.			For pers area sar	For personal sampling use a flow rate of 1-2 lpm, for area sampling up to 15 lpm. TLV withdrawn.				

Vinyl Acetate								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
108-05-4	NIOSH 1453		GC	-FID	CT(SK	C 226-01,-09)		
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
0.1-0.	0.1-0.2 0.75-24		24	1.2 µg	0.60 µg	5%MeOH/MC CS <sub>2</sub>		
li	nterferenc	es		Comments				
Preferred for STEL sampling. Sample at a flow rate of 0.2					a flow rate of 0.2 lpm.			

Vinyl Acetate								
CAS #	Analytical Method A		Analytica	l Technique	Sam	Sampling Media		
108-05-4	3M Method		GC	-FID	OVM	(3M 3500)		
Sampling Rate† Sampling Vol		/olumett	LOQ	LOD	Compatibility Code			
35.8		15-4	80	1.8 µg	0.90 µg	CS <sub>2</sub>		
Interferences				Comments				

# Vinyl Chloride (Chloroethylene)

CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
75-01-4	NIOS	6H 1007 GC		) GC-MS	CT-CT	(SKC 226-01)			
Sampling Ratet Sampling Volu		olumett/	LOQ	LOD	Compatibility Code				
0.05	,	0.7-	-5	0.29 µg	0.14 µg	CS <sub>2</sub>			
Interferences				Comments					
			Sample and cap sample tempera	using 2 charc tubes before after 2 or mor ature. Ship and	oal tubes in series shipping. Possible e weeks of storage d store cold immed	. Separate loss of e at room liately.			

Vinyl Chloride (Chloroethylene)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
75-01-4	3M I	Method	GC-FID GC-MS		OVM (3M 3520)			
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
40.8	}	15-4	80	0.43 µg	0.22 µg	CS <sub>2</sub>		
l	Interferences				Comments			
			Use OVI monitor	Use OVM 3520. Separate front and back section of the monitor immediately after sampling. Ship cold immediately.				

Vinyl(1-)-2-pyrrolidinone									
CAS #	Analytical Method		Analytica	l Technique	Sampling Media				
88-12-0	NIOS	NIOSH 1302		-FID	CT (SK	C 226-01, -09)			
Sampling	Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
0.05-0	.2	3-12	5	0.39 µg	0.20 µg	5%MeOH/MC			
l	Interferences				Comments				
Sample separately from CS <sub>2</sub> compatible solvents.						solvents.			

Vinyl(1-)-2-pyrrolidinone								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
88-12-0	3M I	3M Method		-FID	OVM	(3M 3500)		
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
26.7	,	120-4	180	ο 0.59 μg 0.30		MC		
li	Interferences				Comments			
			Sample for 480	Sample separately from CS <sub>2</sub> compatible solvents. Sampling for 480 minutes allows quantification at 40% of the TLV.				

Vinylidene Chloride (1,1-Dichloroethylene)								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
75-35-4	3M	3M Method		C-FID	OVM	(3M 3500)		
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
35.1		15-4	80	0.60 µg	0.30 µg	CS <sub>2</sub>		
Interferences				Comments				
St				nd ship cold.				

VM & P Naphtha								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
8032-32-4	NIOS	SH 1550	GC-FID		CT (SK	C 226-01, -09)		
Sampling Rate† Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
0.01-0	.2	1.3-2	28	1.8 µg 0.90 µg С		CS <sub>2</sub>		
li	Interferences				Comments			
			Please s separat	Please send bulk sample. Ship bulk sample separately from air samples.				

VM & P Naphtha									
CAS #	Analytical Method		Analytica	l Technique	Sampling Media				
8032-32-4	3M I	3M Method		-FID	OVM	(3M 3500)			
Sampling	Sampling Ratet Sampling Volum		/olumett	LOQ	LOD	Compatibility Code			
33.2		15-4	80	2.7 µg	1.4 µg	CS <sub>2</sub>			
Interferences					Comments				
			Please s separat	Please send bulk sample. Ship bulk sample separately from air samples.					

Welding Fi	ume Sca	an						
CAS #	Analytical Method A		Analytica	l Technique	Sam	Sampling Media		
	NIOSH 7301 NIOSH 7303		ļ	СР	MC (SKC 225-5 )	MCE or PVC (SKC 225-5 or SKC 225-5-37-P)		
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code			
1-4		400-1	000					
	nterferenc	es		Comments				
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			See List protoco Please i is prese	See List of Scans for individual metals. As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. Please indicate in your sample submission form if yttrium is present in the area where you collected your samples.				

Welding Fumes, Total									
CAS #	Analytical Method A		Analytica	l Technique	Sam	pling Media			
	NIOSH 0500		GI	RAV	Pre-weighed F	PVC (SKC 225-5-37-P)			
Sampling Rate† Sampling Vol		olumett	LOQ	LOD	Compatibility Code				
1-15		40-72	200	50 µg	10 µg				
Interferences					Comments				
All other dusts will interfere.			For pers lpm, for	For personal sampling use a flow rate of 1-2 lpm, for area sampling up to 15 lpm.					

Wood Dust	t						
CAS #	Analytical Method A		Analytica	l Technique	Sam	oling Media	
	NIOS	SH 0500	GI	RAV	Pre-weighed P	VC (SKC 225-5-37-P)	
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code		
1-15		40-72	200	) 50 µg			
Interferences					Comments		
All other dusts will interfere.			For pers lpm, for	For personal sampling use a flow rate of 1-2 lpm, for area sampling up to 15 lpm.			

## Wood Dust

CAS #	Analytic	cal Method	Analytica	Technique	Sampling Media		
	HSEN	HSE MDHS-14		RAV	Р	VC, IOM	
Sampling Ratet Sampling Vol			olumett	LOQ	LOQ	Compatibility Code	
2		960	)	100 µg	10 µg		
l	es		Comments				
All other dusts will interfere.			Use ION week be is limite	Use IOM sampler with pre-weighed PVC. Contact Lab one week before intended use. The availability of IOM samplers is limited. Rental charge for the IOM samplers applies.			

Xylene (Dimethyl benzene)									
CAS #	Analytical Method A		Analytica	l Technique	Sam	oling Media			
1330-20-7	NIOS	SH 1501	GC	-FID	CT (SK	C 226-01, -09)			
Sampling Rate† Sampling Vol		olumett	LOQ	LOD	Compatibility Code				
0.01-0	.2	1-30	0	1.0 µg	0.50 µg	CS <sub>2</sub>			
l	Interferences				Comments				
			Under c volumes NIC xyle	Under conditions of high humidity, the breakthrough volumes may be reduced by as much as 50%. 2021 NIC xylene (all isomers) 20 ppm TWA, OTO; A4; BEI					

Xylene (Dimethyl benzene)									
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media				
1330-20-7	3M	3M Method		-FID	OVM	(3M 3500)			
Sampling Rate† Sampling Vol		olumett	LOQ	LOD	Compatibility Code				
27.3		15-43	80	1.5 µg	0.75 µg	CS <sub>2</sub>			
Interferences				Comments					
2021 NIC, xylene (all isomers) 20 ppm TWA, OTO; A4				「WA, OTO; A4; BEI					

Yttrium and compounds, as Y								
CAS #	Analytic	nalytical Method A		l Technique	Sampling Media			
7440-65-5	NIOS NIOS	SH 7301 SH 7303		СР	MC (SKC 225-5	MCE or PVC (SKC 225-5 or SKC 225-5-37-P)		
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code		
1-4		25-10	00	) 0.025 μg 0.013 μg		Metals		
Interferences					Comments			
Spectral int encountered				l interference tered in ICP-A	s are the primary i ES analysis.	nterferences		

Zinc								
CAS #	Analytical Method A		Analytica	l Technique	Sam	oling Media		
7440-66-6	NIOS NIOS OSHA	SH 7301 SH 7303 A ID-125G		CP	MC (SKC 225-5 c	E or PVC or SKC 225-5-37-P)		
Sampling Ratet Sampling Vo			olumett	nett LOQ LOD Compatib		Compatibility Code		
1-4		120-1	000	0 3.0 μg 1.5 μg Με		Metals		
Interferences					Comments			
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			As part internal in your s in the a	As part of the Lab's QC protocol, yttrium is used as internal standard in metal analysis. Please indicate in your sample submission form if yttrium is present in the area where you collected your samples.				

Zinc							
CAS #	Analytic	cal Method	al Method Analytical Technique		Sampling Media		
7440-66-6	NIOS NIOS	SH 7301 SH 7303	01 03 ICP-MS		MCE or PVC (SKC 225-5 or SKC 225-5-37-P)		
Sampling Ratet Sampling Vol		olumett	LOQ	LOD	Compatibility Code		
1-4 40-240		40	0.75 µg	0.38 µg	Metals		
Interferences				Comments			
			As part and lute analysis form if y in the a	of the Lab's Q tium are used Please indio (ttrium, rhodi rea where you	C protocol, yttri l as internal star cate in your sam um, and/or lutet collected your s	um, rhodium, dards in ICP-MS ple submission ium are present samples.	

Zinc								
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media			
7440-66-6	OSH	OSHA ID-121		СР	Ghost wipe ( 225-2414)			
Sampling Ratet Sampling Vol			/olumett	LOQ	LOD	Compatibility Code		
NA NA		Ą	160 ug	80 ug	Metals 2			
Interferences				Comments				
Spectral interferemces are the primary interferences encountered in the ICP-AES analysis.			As part internal your sar in the ar	of the Lab's Q standard in IC nple submiss rea where you	C protocol, yttriun CP analysis. Please ion form if yttrium collected your sar	n is used as e indicate in is present nples.		

Zinc Chloride Fume							
CAS #	Analytical Method A		Analytica	l Technique	Sampling Media		
7646-85-7	NIOS NIOS OSHA	OSH 7301 OSH 7303 I HA ID-125G		CP	MCE or PVC (SKC 225-5 or SKC 225-5-37-P)		
Sampling Rate† Sampling Vol		olumett	LOQ	LOD	Compatibility Code		
1-4 120-100		000	0 6.3 μg 3.1 μg Metals		Metals		
Interferences				Comments			
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			Analysis part of t internal in your s in the a	s is for water s he Lab's QC p standard in m sample subm rea where you	soluble zinc compo protocol, yttrium is netal analysis. Plea ission form if yttriu u collected your sa	ounds. As used as ase indicate um is present mples.	

Zinc Oxide							
CAS #	Analytical Method A		Analytical Technique		Sampling Media		
1314-13-2	NIOS NIOS OSHA	SH 7301 SH 7303 A ID-125G		СР	MCE or PVC (SKC 225-5 or SKC 225-5-37-P)		
Sampling Ratet Sampling Vol			olumett	LOQ	LOD	Compatibility Code	
1-4 120-100		000	0 3.7 μg 1.9 μg Metals		Metals		
Interferences				Comments			
Spectral interferences are the primary interferences encountered in ICP-AES analysis.			Sample Current protoco Please i is prese	s are analyzed TLV is for res I, yttrium is us ndicate in you nt in the area	d for zinc and calcu pirable sampling. A sed as internal star ur sample submiss where you collect	llated as zinc oxide. As part of the Lab's QC ndard in metal analysis. ion form if yttrium ed your samples.	

Zinc Oxide							
CAS #	Analytic	cal Method	Analytica	l Technique	Sampling Media		
1314-13-2	NIOS NIOS	SH 7301 SH 7303	01 03 ICP -MS		MCE or PVC (SKC 225-5 or SKC 225-5-37-P)		
Sampling Ratet Sampling Vol		/olumett	LOQ	LOD	Compatibility Code		
1-4 40-240		40	0.93 µg	0.46 µg	Metals		
Interferences				Comments			
			Samples Current protoco standar submiss present	s are analyzed TLV is for resp I, yttrium, rhod ds in ICP-MS a sion form if ytt in the area wh	for zinc and calcu irable sampling. <i>A</i> ium, and lutetium nalysis. <b>Please in</b> rium, rhodium, ar ere you collected	Jlated as zinc oxide. As part of the Lab's QC are used as internal dicate in your sample Id/or lutetium are your samples.	

# List of analytes by CAS #

50-00-0	Formaldehyde	78-92-2	Butyl(sec-) alcohol
50-21-5	Lactic acid	78-93-3	Butanone(2-) (Methyl ethyl ketone)
50-32-8	Benzo[a]pyrene	78-94-4	Methyl vinyl ketone
53-70-3	Dibenzo[ah]anthracene	79-00-5	Trichloroethane(1,1,2-)
	(see PNA scan)	79-01-6	Trichloroethylene
54-11-5	Nicotine	79-06-1	Acrylamide
56-23-5	Carbon tetrachloride	79-08-3	Bromoacetic acid
56-55-3	Benz[a]anthracene	79-09-4	Propionic acid
57-55-6	Propylene glycol (1,2-Propanediol)	79-10-7	Acrylic Acid
60-29-7	Ethyl ether	79-11-8	Chloroacetic acid
62-53-3	Aniline	79-20-9	Methyl acetate
63-25-2	Carbaryl (SEVIN)	79-21-0	Peracetic Acid
64-17-5	Ethyl alcohol (Ethanol)	79-24-3	Nitroethane
64-18-6	Formic acid	79-43-6	Dichloroacetic acid
64-19-7	Acetic acid	80-05-7	Bisphenol A
67-56-1	Methyl alcohol (Methanol)	80-62-6	Methyl methacrylate
67-63-0	Isopropyl alcohol	83-32-9	Acenaphthene
67-64-1	Acetone	84-66-2	Diethyl phthalate
67-66-3	Chloroform	84-74-2	Dibutyl phthalate
68-12-2	Dimethylformamide	85-01-8	Phenanthrene
71-23-8	Propyl(n-) alcohol	85-44-9	Phthalic anhydride
71-36-3	Butyl(n-) alcohol	86-73-7	Fluorene
71-43-2	Benzene	88-12-0	Vinyl(1-)-2-pyrrolidinone
71-55-6	Trichloroethane(1,1,1-)	91-08-7	Toluene-2,6-diisocyanate (2,6-TDI)
	(Methyl Chloroform)	91-20-3	Naphthalene
/4-90-8	Hydrogen cyanide	91-57-6	Methylnaphthalene(2-)
/5-01-4	Vinyl chloride	91-58-7	Chloro(2-)naphthalene
/5-04-/	Ethyl amine	92-52-4	Biphenyl
/5-05-8	Acetonitrile	95-49-8	Chlorotoluene(o-)
/5-0/-0	Acetaldenyde	95-50-1	Dichlorobenzene(o-)
/5-09-2	Methylene chloride	95-53-4	Toluidine(o-)
75-12-7	(Dichloromethalle)	95-63-6	Trimethylbenzene(1,2,4-)
75-15-0	Carbon disulfide	96-12-8	Dibromochloropropane
75-19-2		96-22-0	Diethyl ketone
75-21-2	Ethylene oxide	96-33-3	Methyl acrylate
75-25-2	Bromoform	96-37-7	Methyl cyclopentane
75-34-3	Dichloroethane(11-)	97-63-2	Ethyl methacrylate
75-35-4	Vinvlidene chloride	98-00-0	Furfuryl alcohol
70 00 4	(1,1-Dichloroethylene)	98-01-1	Furfural
75-52-5	Nitromethane	98-82-8	Cumene
75-56-9	Propylene oxide	98-83-9	Methyl styrene(a-)
75-65-0	Butvl(tert-) alcohol	98-86-2	Acetophenone
76-13-1	Trichloro(1.1.2-)-1.2.2-	100-41-4	Ethyl benzene
	trifluoroethane	100-42-5 100-44-7	Styrene Ronzyl oblorida
76-22-2	Camphor	100-44-/	
77-73-6	Dicyclopentadiene	100-51-0	
78-59-1	Isophorone	100-52-7	Denzaluenyue
78-83-1	Isobutyl alcohol	100-01-8	weinyi aniine

101-14-4	Methylene(4,4'-)-bis(2	109-89-7	Diethylamine
	chloroaniline) (MOCA)	109-99-9	Tetrahydrofuran
101-68-8	Methylene bisphenyl	110-12-3	Methyl isoamyl ketone
	isocyanate (MDI)	110-19-0	Isobutyl acetate
101-77-9	Methylene(4,4'-) dianiline (MDA)	110-43-0	Heptanone(2-)
102-71-6	Triethanolamine	110-49-6	Methoxyethyl(2-) acetate
105-46-4	Butyl(sec-) acetate		(Methyl cellosolve acetate)
105-60-2	Caprolactam	110-54-3	Hexane(n-)
106-46-7	Dichlorobenzene(p-)	110-62-3	Valeraldehyde
106-48-9	Chlorophenol(p-)	110-80-5	Ethoxyethanol(2-) (Cellosolve)
106-89-8	Epichlorohydrin	110-82-7	Cyclohexane
106-94-5	Bromopropane(1-)	110-85-0	Piperazine
106-95-6	Allyl bromide	110-86-1	Pyridine
106-99-0	Butadiene(1,3-)	110-91-8	Morpholine
107-02-8	Acrolein	111-15-9	Ethoxyethyl(2-) acetate
107-04-0	Bromo(1-)-2-chloroethane	111-30-8	Glutaraldehyde
107-05-1	Allyl chloride	111-40-0	Diethylene triamine
107-06-2	Ethylene dichloride	111-42-2	Diethanolamine
	(1,2-Dichloroethane)	111-76-2	Butoxyethanol(2-)
107-07-3	Ethylene chlorohydrin		(Butyl cellosolve)
107-13-1	Acrylonitrile	111-77-3	Methoxyethoxy(2-(2-)) ethanol
107-15-3	Ethylenediamine	111-96-6	Methoxyethyl(2-) ether
107-18-6	Allyl alcohol	112-07-2	Butoxyethyl(2-) acetate
107-21-1	Ethylene glycol	112-24-3	Triethylenetetramine
107-41-5	Hexylene glycol (2-Methyl-	112-34-5	Butoxyethoxy(2-(2-)) ethanol
	2,4-pantanediol)	117-84-1	Dioctyl phthalate
107-87-9	Pentanone(2-) (Methyl	120-12-7	Anthracene
107 00 0		120-82-1	Trichlorobenzene(1,2,4-)
107-98-2	Propylene glycol monomethyl ether	121-44-8	Trimethylamine
108-05-4	Vinyl acetate	123-31-9	Hydroquinone
108-10-1	Methyl isobutyl ketone	123-38-6	Propionaldehyde
108-21-4	Isopropyl acetate	123-42-2	Diacetone alcohol
108-2/-7		123-54-6	Pentanedione(2,4-)
108-45-2	Phenylene(1.3-) diamine	123-72-8	n-Butyraldehyde
100-45-2	Personal	123-86-4	Butyl(n-) acetate
100-40-5	Propylong glycol monomothyl	123-91-1	Dioxane(p-)
100-03-0	ether acetate	124-17-4	Butoxyethoxy(2-(2-)) ethyl acetate
108-67-8	Trimethylbenzene(1 3 5-)	126-73-8	Tributyl phosphate
108-83-8	Dimethyl(2.6-)-4-heptanone	126-98-7	Methylacrylonitrile
108-87-2	Methylcyclohexane	126-99-8	Chloroprene(b-)
108-88-3	Toluene	127-18-4	Perchloroethylene
108-90-7	Chlorobenzene	127-19-5	Dimethyl acetamide
108-01-8	Cyclobexylamine	129-00-0	Pyrene
108-03-0	Cyclohexanol	137-26-8	Thiram
108-04-1	Cyclohexanone	138-86-3	Limonene(d-)
100-94-1	Phonol	140-88-5	Ethyl acrylate
100-90-2	Propul(n-) acetate	141-32-3	Butyl acrylate
109-00-4		141-43-5	Ethanolamine (2-Aminoethanol)
100-06-4	Fendale(II-) Methoxyethanol(2-)	141-78-6	Ethyl acetate
109-00-4	(Methyl cellosolve)	141-79-7	Mesityl oxide
	· · · · · · · · · · · · · · · · · · ·	142-82-5	Heptane

142-96-1	Dibutyl ether	2499-95-8	Hexyl acrylate
151-67-7	Halothane (Fluothane)	2807-30-9	Propoxyethanol(2-)
191-24-2	Benzo[ghi]perylene	2921-88-2	Chlorpyrifos (Dursban)
192-97-2	Benzo[e]pyrene	4098-71-9	Isophorone diisocyanate (IPDI)
193-39-5	Indeno[1,2,3-cd]pyrene	4994-16-5	Phenylcyclohexene(4-)
205-99-2	Benzo[b]fluoranthene	5124-30-1	Methylene bis(4-
206-44-0	Fluoranthene		cyclohexylisocyanate)
207-08-9	Benzo[k]fluoranthene	7085-85-0	Ethyl 2-cyanoacrylate
208-96-8	Acenaphthylene	7429-90-5	Aluminum Metal and
218-01-9	Chrysene		insoluble compounds
287-92-3	Cyclopentane	7439-91-0	Lanthanum
302-01-2	Hydrazine	7439-92-1	Lead and inorganic
335-67-1	Perfluorooctanoic acid		compounds as Pb
431-03-8	Diacetyl	7439-93-1	Lithium
540-59-0	Dichloroethylene(1,2-)	7439-95-4	Magnesium
540-84-1	Isooctane	7439-96-5	Manganese, elemental and
540-88-5	Butyl(tert-) acetate	7400 07 6	Inorganic compounds as Mn
552-30-7	Trimellitic anhydride	/439-9/-6	Mercury as Hg (Elemental
563-80-4	Methyl isopropyl ketone	7420-09-7	Molyhdonum
584-84-9	Toluene-2.4-dijoscvanate (2.4-TDI)	7439-90-7	Nickel and inorganic
624-92-0	Dimethyl disulfide	7440-02-0	compounds as Ni
628-63-7	Amyl acetate	7440-05-3	Palladium
631-64-1	Dibromoacetic acid	7440-06-4	Platinum
687-47-8	Ethyl lactate	7440-16-6	Rhodium as Rh
763-69-9	Ethyl 3-ethoxypropionate	7440-22-4	Silver
822-06-0	Hexamethylene diisocyanate (HDI)	7440-23-5	Sodium
872-50-4	Methyl(1-)-2-pyrrolidinone	7440-24-6	Strontium
1304-82-1	Bismuth telluride	7440-28-0	Thallium
1305-62-0	Calcium hydroxide	7440-31-5	Tin
1305-78-8	Calcium oxide	7440-32-6	Titanium
1309-37-1	Iron oxide	7440-33-7	Tungsten and Compounds as
1309-48-4	Magnesium oxide (fume)		W (in the absence of Cobalt)
1310-58-3	Potassium hydroxide	7440-36-0	Antimony
1310-73-2	Sodium hydroxide	7440-38-2	Arsenic and inorganic
1314-13-2	Zinc oxide		compounds, as As
1314-62-1	Vanadium pentoxide	7440-39-3	Barium and soluble
1317-65-3	Calcium carbonate		compounds as Ba
1319-77-3	Cresol, all isomers	7440-41-7	Beryllium and compounds as Be
1321-74-0	Divinyl benzene	7440-42-8	Boron, sodium salts
1327-53-3	Arsenic Trioxide as As	7440-43-9	Cadmium
1330-20-7	Xylene	7440-47-3	Chromium
1332-21-4	Asbestos	7440-48-4	Cobalt and inorganic
1332-58-7	Kaolin	7440 50 0	compounds as Co
1333-86-4	Carbon black	/440-50-8	copper (Fume, Dusts
1344-28-1	Aluminum oxide	7440-56-4	Germanium
1344-95-2	Calcium silicates	7440-50-4	Cold
	synthetic nonfibrous	7440-37-3	Vanadium
1634-04-4	Methyl tert-butyl ether (MTBE)	7440-02-2	Vitrium and compounds as V
1675-54-3	Diglycidyl Ether of Bisphenol A	7440-03-3	Zinc
2426-08-6	Butyl(n-) glycidyl ether	7440-00-0	Zinc
2451-62-9	Triglycidyl isocyanurate	/440-0/-/	Zircomum

7440-69-9	Bismuth	8052-41-3	Stoddard solvent
7440-70-2	Calcium	8052-42-4	Asphalt fume
7440-74-6	Indium	9002-86-2	Polyvinyl chloride (PVC)
7440-09-5	Sulfur dioxide	9005-25-8	Starch
7553-56-2	lodine	10024-97-2	Nitrous oxide
7646-85-7	Zinc chloride fume	10028-15-6	Ozone
7647-01-0	Hydrogen chloride	10035-10-6	Hydrogen bromide
7664-38-2	Phosphoric acid	10049-04-4	Chlorine dioxide
7664-39-3	Hydrogen fluoride or fluorides as F	10102-43-9	Nitric oxide
7664-41-7	Ammonia	10102-44-0	Nitrogen dioxide
7664-93-9	Sulfuric acid	11097-69-1	Chlorodiphenyl (54% chlorine)
7697-37-2	Nitric Acid	12001-26-2	Mica
7722-84-1	Hydrogen peroxide	12125-02-9	Ammonium chloride
7723-14-0	Phosphorus	13463-67-7	Titanium dioxide
7726-95-6	Bromine	13494-80-9	Tellurium
7758-97-6	Lead chromate as Cr	13765-19-0	Calcium chromate as Cr
7778-18-9	Calcium sulfate	13838-16-9	Enflurane (Ethrane)
7782-42-5	Graphite	14464-46-1	Silica cristobalite
7782-49-2	Selenium and compounds as Se	14807-96-6	Talc
7782-50-5	Chlorine	14808-60-7	Silica quartz
7782-65-2	Germanium tetrahydride	22204-53-1	Naproxen sodium
7783-06-4	Hydrogen sulfide	26675-46-7	Forane (Isoflurane)
7784-42-1	Arsine	28182-81-2	Hexamethylene diisocyanate(1,6-)
7789-06-2	Strontium chromate as Cr		Homopolymer (HDI Polymer)
7803-51-2	Phosphine	28523-86-6	Sevoflurane (Sevofrane)
8002-74-2	Paraffin wax fume	34590-94-8	Dipropylene glycol methyl ether
8003-34-7	Pyrethrum	53469-21-9	Chlorodiphenyl (42% chlorine)
8006-61-9	Gasoline	57041-67-5	Desflurane (Suprene)
8008-20-6	Kerosene	64742-95-6	Aromatic 100
8012-95-1	Mineral Oil	65996-93-2	Coal tar pitch volatiles
8032-32-4	VM&P Naphtha	65997-15-1	Portland cement
8050-09-7	Resin Acids	88917-22-0	Dipropylene glycol methyl ether acetate (DPGMEA)



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