



Wisconsin Occupational Health Laboratory

WISCONSIN STATE LABORATORY OF HYGIENE
UNIVERSITY OF WISCONSIN-MADISON



Sampling Guide

Revised January 2019

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This sampling guide is provided by the Wisconsin Occupational Health Laboratory (WOHL) to help you select appropriate sampling media, volumes, and methods for a wide range of analyses. WOHL can perform analyses by methods other than those listed. However, please contact the laboratory before sending samples requiring a method not listed in this guide.

The methods listed are current as of the printing date but may be subsequently updated or replaced. An up-to-date version of this sampling guide is available online at our website listed below. The guide lists the reference methods on which our methods are based. The reference methods have been adapted for use in our laboratory.

This sampling guide contains sections describing some of our specialized analyses. These sections describe our methods in detail for solvent scans, pesticide scans, particle identification, elemental carbon, polyaromatic hydrocarbons and bioaerosols. Please take a few minutes to look over these sections.

We would appreciate your suggestions and comments on how we may improve our service to you. Please call our toll-free number, 800-446-0403, and speak with one of our customer service representatives.

www.wohl-lab.com

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General Information

For more than 75 years, the Wisconsin Occupational Health Laboratory (WOHL) has provided high-quality industrial hygiene and occupational health analytical services. During the mid-1970s, due to the Occupational Safety and Health Administration (OSHA) national emphasis programs, we began to do work for states other than Wisconsin. Today, we are the central laboratory for 46 states and territories participating in the OSHA On-Site Consultation Program. We also serve an international client base on a fee-for-service basis. WOHL is part of the Wisconsin State Laboratory of Hygiene, a division of the University of Wisconsin-Madison.

Laboratory Services

The laboratory provides complete industrial hygiene analytical capabilities including:

- Gas Chromatography/Mass Spectrometry
- Inductive Coupled Argon Plasma Atomic Emission Spectrometry
- Atomic Absorption Spectroscopy
- Ion Chromatography
- X-ray Diffraction
- High-Performance Liquid Chromatography
- Optical Microscopy
- Environmental Microbiology (Molds, Bacteria)
- Elemental Carbon (Diesel Exhaust)
- Minican analysis
- Flow Injection Mercury Analysis (FIMS)
- HPLC/MS/MS
- ICP/MS

Chain of Custody

When a chain of custody form (submission form) is sent in by a client, it is scanned and saved by lab. These can be requested as needed. Because the entire laboratory is a secure building, we do not routinely track chain of custody as the sample moves within the laboratory. If stricter chain of custody is required, the laboratory must be notified. We are happy to work with our clients to provide the level of sample security that is needed in these cases.

Accreditations

- AIHA-Laboratory Accreditation Program, LLC
Industrial Hygiene Lab Accreditation Program (IHLAP)
Environmental Lead Lab Accreditation Program (ELLAP)
Environmental Microbiology Lab Accreditation Program (EMLAP)

Laboratory ID Number 101070

Sample and Documentation Retention

Bulk samples are retained for one year, as are stable air samples, such as total weight filters. Asbestos samples are retained for three years. Users will be notified if this policy changes. Paper work and computer records are currently maintained in accordance with requirements of accreditation and state law.

Customer Service

WOHL's clients are provided direct access to all laboratory analysts and the Lab Director. Clients can ask for an analyst by name or describe the nature of their question. They will be put in contact with a qualified staff member who will assist them. The Laboratory Director, area supervisors and the Quality Assurance staff are also available and eager to talk about technical and management issues.

WOHLservice@slh.wisc.edu

Call toll-free: (800) 446-0403

Local: (608) 224-6210

Mailing Addresses

US Mail

WOHL
PO Box 7996
Madison WI 53707-7996

Other Carriers

WOHL
2601 Agriculture Dr
Madison WI 53718

Environmental Microbiology

WOHL offers a wide variety of Environmental Microbiological services. They include:

- Airborne mold and bacterial analysis on media plates collected by Andersen samplers or other agar impaction samplers
- Airborne mold analysis on MCE filter samples
- Mold and bacteria analysis on wipe or bulk samples
- Total spore analysis collected on Zefon Air-O-Cell, Cyclex-d, Micro 5, Allergenco D, Versatrap, Burkard and Other sporetrap systems
- Fungal spore analysis collected by tape lifts
- Direct microscopic examination of bulk and wipe samples
- Legionella analysis
- Mold identification to species
- Bacteria identification

We supply media, collection kits, Andersen samplers, Total Spore/Spore Trap samplers and Wallchek samplers for use by our clients. We have participated in the Environmental Microbiology Proficiency Analytical Testing Program (EMPAT) since its inception and are accredited through AIHA's Environmental Microbiology Accreditation Program.

Collection of Total Spore Samples using Zefon Air-O-Cell Cassettes

1. The sampling pump should be calibrated at 15 liters/minute.
2. Remove the seal from the Air-O-Cell outlet port (round shaped end) and inlet slit (rectangular shaped end).
3. Attach the Air-O-Cell cassette outlet port to the sampling pump
4. Turn the sampling pump on. Typical sampling time recommended is 5-10 minutes. Sampling time should be less when high levels of spores may be present. (*Note: Samples collected with the Wallchek apparatus should be collected for 2 minutes. Use of the Wallchek requires a high volume pump calibrated to 15L/minute with the Wallcheck attached.*)

5. Turn the pump off. Replace the seals on the inlet and outlet ports. Label the cassette.
6. Record the number of sampling minutes and the total liters sampled.
7. Samples should be mailed as soon as possible.

Collection of Fungi and Bacteria Samples using an Andersen Sampler

Fungal Media

Malt Extract Agar (MEA)-general purpose media

Malt Extract Agar w/NaCl-isolation of xerophilic fungi

Cellulose Agar-isolation of *Stachybotrys*

Bacteria Media

Tryptic soy Agar (TSA)-general purpose media

Brain Heart Infusion Agar w/Sheep Blood (SBS)-isolation of pathogenic bacteria

1. The sampling pump should be calibrated at 28.3 liters/minute.
2. Open the impactor stage by unhooking the three spring clamps. Wipe the inside of the inlet cone, the top and underside of the middle section, and the top side of the bottom of the impactor stage with an alcohol wipe. Let the alcohol evaporate to dry.
3. Remove the cover from the agar plate. Place the plate, agar side up, on the base (bottom) stage of the impactor stage. Cover with the middle and cone section of the impactor stage. Latch shut with the three spring clamps.
4. Turn on the pump. Record the time on.
5. Samples should be collected for 1-5 minutes. Turn the pump off. Record the time off.
6. Remove the plate from the impactor stage. Replace the plate cover. Label the plate with identification number. Place in a ziplock bag.
7. Clean the impactor stage with an alcohol wipe before next sample collection and when all sampler collections are complete.
8. Plates should be shipped overnight in a cooler with cold packs as soon as possible. Regular ice is not recommended. Refrigerate plates if shipping is delayed.

Biohazards

Bulk, wipe, or air samples which may be bio-hazardous must not be shipped to WOHL without prior arrangement. Such materials must be clearly labeled and shipped in compliance with DOT regulations.

Polynuclear Aromatic Hydrocarbons (PAHs or PNAs)

Polynuclear aromatic hydrocarbons (PAHs or PNAs) can be collected as either coal tar pitch volatiles (CTPV) or as semi-volatile organic compounds. Collection as CTPV requires that samples be collected on glass fiber filters which are then analyzed gravimetrically as the benzene soluble non-volatile residue. CTPV samples should be collected at 2 liters/minute for a total of between 480 and 960 liters, and the filters should be transferred to amber glass vials with PTFE lined closures immediately after sampling. Samples analyzed for CTPV can often subsequently be analyzed for up to 5 individual PAHs as listed in the OSHA 58 method. For samples which exceed the PEL for CTPV (0.2 mg/m³), the following five PAHs are recommended: phenanthrene, anthracene, pyrene, chrysene, and benzo-alpha-pyrene.

If the coal tar pitch result is not required, the recommended collection media for PAHs is the OVS-2 tube. The OVS-2 tube consists of a 13mm glass fiber filter backed by XAD-2 beads, improving the collection of the more volatile of the PAHs. The samples should be collected at 1 liter/minute for a total of between 240 and 480 liters.

The full list of PAHs which can be analyzed include: phenanthrene, anthracene, pyrene, chrysene, benzo-alpha-pyrene, naphthalene, fluoranthene, benzo-alpha-anthracene, perylene, 3-methyl-cholanthene, and coronene.

Environmental Lead Wipe Sampling

The EPA 403 Final Rule (40 CFR 745.63) requires that all wipe samples of settled dust be collected with wipes that meet the ASTM E1792 standard. WOHL supplies wipes that meet this standard. If samples are not collected using the proper sampling material, the reports must carry the comment that the sample results are not recognized by the AIHA ELLAP accreditation.

Wipe Sampling (other than Environmental Lead)

Surface contamination for most non-volatile, non-reactive chemicals can be measured using wipe samples. Whatman 42 filter paper or Palintest wipes are the media of choice, although these materials may contain some compounds which may interfere with analysis. Before performing wipe sampling it is best to call the lab to determine if the compound of interest can be analyzed as a wipe sample. For each group of samples, a blank wipe must be included.

IOM Sampling

Inhalable dust samplers are available for use with mixed cellulose or pre-weighed PVC filters. Availability is limited. Contact WOHL for arrangements for their use.

Metal Working Fluids/Oil Mist

WOHL has validated a method for determining metal working fluids (MWF) based on NIOSH method 5524. The method is a gravimetric procedure in which the collected fluid is extracted with a suitable solvent for that fluid. Weight loss after extraction is assumed to be equivalent to the amount of MWF present in the sample. Since a pre-weighed filter is used, the total particulate exposure is also determined in this procedure.

Samples are collected on a pre-weighed Teflon filter. A 3-piece filter used in conjunction with a suitable thoracic cyclone can be used to determine Thoracic MWF. Recommended flow rate for the total MWF is 2 liters per minute with a 960 liter collection volume (8 hours) and 1.6 liters per minute for the thoracic samples (768 liters). It is important to submit a bulk sample of the MWF used with each sample set to allow the lab to determine the appropriate solvent for use in the extraction procedure. In areas of high exposures the IH should use their judgement in sampling so as to not overload the filter.

Hexavalent Chromium – Cr(VI), chromates, dichromates, chromic acid, chromium trioxide Sampling Plating Operations

Because Cr(VI) is not stable under acidic conditions, OSHA recommends using a 37mm sodium hydroxide (NaOH) treated quartz fiber filter (WOHL media #159 clear band labeled Cr6 Acid). Use these only for plating or sampling in acidic environments. The filters are only good for one month from the time made and will be made only on an as-needed basis. Allow for a 2-3 day prep time and shipping time when you place your order.

Sampling Painting Operations

Samples from spray painting operations should be collected on 37mm 5 micron unweighed PVC Filters (WOHL media #86 clear band labeled Na/K/Cr6). It is important that you let the laboratory know if samples are taken from spray painting operations. A second, more vigorous, digestion and analysis procedure are needed to recover all the Cr(VI) from the paint (extra charges apply.) If we don't know that these samples are from paint, results will likely be suspect.

Sampling Welding Operations

Samples taken from welding and all other operations are collected on 37mm 5 micron unweighed PVC filters (WOHL media #86 clear band labeled Na/K/Cr6). These are also available in the 25mm 5 micron PVC (WOHL media #161 labeled Cr6 Weld). It is advisable to send the samples to the lab as soon as possible, preferably within 24 hours. Welding samples need to be analyzed within eight days.

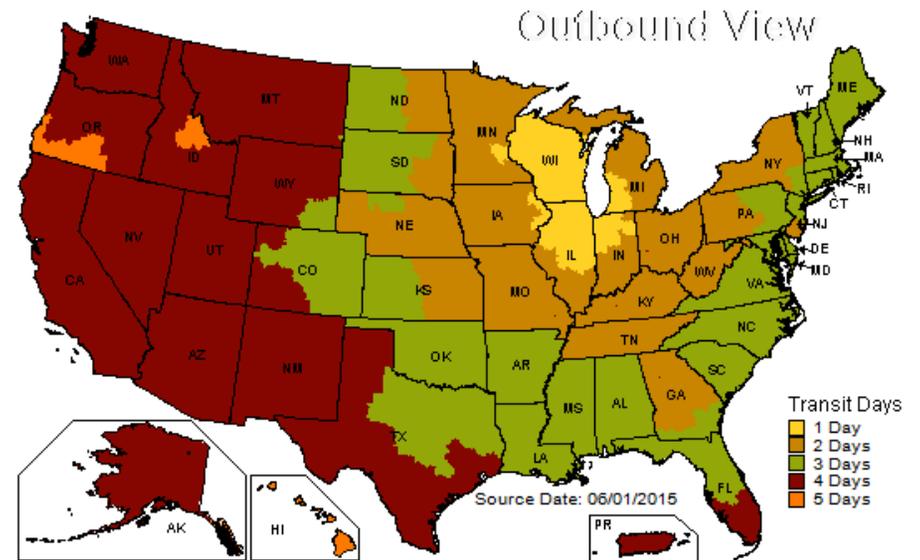
Sampling Equipment

WOHL has a limited number of personal sampling pumps and cyclones available for use by our clients at no cost. Please call the laboratory at 800-446-0403 to check availability and schedule delivery of this equipment. Please let us know what flow rate to calibrate the pumps to and allow 1-2 days for calibration. Ask for cyclones if you need them.

Ordering Supplies

Providing our clients with needed supplies is an important part of our job and we want to do the best we can to serve you. Some media are not kept in stock or need to be prepared just before use. Therefore, it is in your best interest to give the lab as much lead time as possible when ordering such supplies. To place an order for supplies, call toll-free at (800) 446-0403 or use the on-line media ordering application on the WOHL website at www.wohl-lab.org. Our primary shipper is UPS. Delivery takes from one to five days, depending on where you are located. Please check the map below for your area and place your order accordingly.

Scheduled UPS Delivery Days From Madison WI



SECOND DAY or NEXT DAY AIR delivery is available at a charge

Orders for supplies needed for next day use must be received by 2 pm (central time) on the previous day to insure timely delivery.

Media with Cold Requirements

Media No.	Description	Store	Ship Back	Notes	Analytes
6	226-10-03 Acid Mist tube		Cold	Organic acids only	Organic acids: acetic, butyric, citric, formic, propionic
10	226-117	Frozen	Cold		Formaldehyde, acrolein, phosgene, acetaldehyde
38	226-93 XAD-4 tube		Cold	once sampled, keep cold	Carbon tetrabromide, chloropicrin, MEK peroxide, nicotine, nitropropane,
63	226-98 XAD-7		Cold	once sampled, keep cold	Cyclohexylamine, ethyl cyanoacrylate, methyl cyanoacrylate
70	Gluteraldehyde cassette, DNPH trtd		Cold	once sampled, keep cold	Gluteraldehyde
90	NO/NO ₂ tube train	Frozen			Nitric oxide and nitrogen dioxide
111	Veratrylamine cassette	Cold	Cold		Acetic anhydride, maleic anhydride, phthalic anhydride, trimellitic anhydride
116	226-57 OVS-7		Cold	once sampled, keep cold	Caprolactam dust or vapor, ethylene glycol, propylene glycol
124	MDI cassette	Cold		Whether desorbed or not, no need to ship back cold	Isocyanates
138	Seppak cartridge	Cold	Cold		Formaldehyde
155	226-55 Sodium azide		Cold		Sodium azide, hydrazoic acid
167	Umex badge	Frozen	Cold	Once sampled, keep cold	Formaldehyde

We ship items that should be stored cold by overnight UPS and will **not ship on Fridays**. If applicable, please store the items cold or frozen upon receipt. If your media should be shipped back cold, we recommend a using a cooler and a non-leaking cold pack in a ziplock bag to contain any possible leaks. Please keep paperwork separate to avoid any possible water damage.

Explanation of Table Headings

Analyte

This is the common name of the chemical being sampled. These are listed in alphabetical order according to the root chemical name, ignoring prefixes, e.g., n-amyl acetate is under amyl acetate (n-).

Sampling Media

This number cross-references to the table on pages 13-15 of this manual. The table gives the recommended sampling device and a description of that device.

Reference Method

Analytical methods with OSHA or NIOSH designations are fully validated. Methods with the “in-house” designation are developed, tested and intended for use by WOHL, but do not have the same level of validation as those with the OSHA and NIOSH designations. In the application of some of these methods, some adjustments or further development may be required that may result in extended turnaround times.

Min Vol (liters)

This is the minimum sample volume required to achieve meaningful reporting limits.

Max Vol (liters)

This is the maximum number of liters of air that should be sampled to avoid breakthrough or sample overload. This value is usually determined for expected exposures near the Permissible Exposure Limit (PEL). Therefore, in some cases, longer sampling times are allowable if the expected air concentration of the analyte is low. Contact the lab if you want to sample larger air volumes.

Flow Rate (LPM)

This is the recommended flow rate for collection in liters per minute. In many cases, a lower flow rate can be used to extend sampling time without exceeding max volume. Call the lab if you have questions of the effect of lower flow rates on collection efficiency.

Comments

This column contains any special instructions that apply to the sampling method.

Compat Code

This compatibility code identifies analytes that can be collected together on a single sample. The codes are:

- A Solvents (VOCs) that can be analyzed on a single sample.*
- B Solvents (glycol ethers) that can be analyzed on a single sample.*
- D Acids that can be collected together on an Acid Mist tube.*
- E1 Compatible pesticides*
- E2 Compatible pesticides*
- G Alcohols on Large Anasorb 747 tube.*

CAS

This is the Chemical Abstract Service number for the chemical being sampled. Each chemical has a unique CAS number. This information can be useful in determining if two chemical names refer to the same compound, e.g., 2-ethoxy-ethanol and ethyl cellosolve have the same CAS number; both terms refer to the same compound.

IMIS

The integrated management information system number is the number OSHA has assigned to the chemical being sampled. This is often referred to as the substance code.

ANALYTE	SAMPLING MEDIA	REFERENCE METHOD	MIN VOLUME	MAX VOLUME	FLOW RATE	COMMENTS	COMPAT	CAS#	IMIS#
Abietic acid	9	HPLC In-house	120	200	2			514-10-3	A616
Acetaldehyde	10	OSHA 52(GC)	1.5	24	0.1	Ship cold		75-07-0	10G
Acetaldehyde	138	EPA TO11A	5	1000	0.5-1.5			75-07-0	10
Acetamide	3	OSHA PV2084 (GC)	1	10	0.1			60-35-5	A625
Acetic acid	6	OSHA ID-186SG IC	10	240	.2-.5	Ship on ice		64-19-7	20
Acetic anhydride	111	OSHA 102(GC)	3	7.5	0.05	Sample open faced, 1 month shelf life, ship on ice		108-24-7	30
Acetone	45	OSHA 69(GC)	1	3	0.05		A	67-64-1	40
Acetone	128	GC FID In-house					A	67-64-1	40
Acetonitrile	2	NIOSH 1500/1501(GC)	1	12	0.2	Submit as separate sample		75-05-8	60
Acetonitrile	128	GC FID In-house				Submit as separate sample		75-05-8	60
Acetophenone	8	OSHA PV 2003(GC)	1.5	12	0.1			98-86-2	A169
Acid Mist Scan	6	OSHA ID-165SG(IC)	3	100	0.5	See Scan list in back of guide			
Acids(mineral)	6	NIOSH 7903(IC)	3	100	0.5				
Acrolein	10	OSHA 52(GC)	3	48	0.1	Sample for 24 L if also for formaldehyde. Ship on ice.		107-02-8	110
Acrylamide	116	OSHA PV 2004(GC)	15	120	1			79-06-1	115
Acrylate Scan	112	OSHA 89(GC)	1.5	12	0.2	See Acrylate Scan list at back of guide.			
Acrylic acid	121	OSHA PV2005 (LC)	12	24	0.1	2 tubes in series		79-10-7	117
Acrylonitrile	1	OSHA 37/NIOSH 1604(GC)	7.5	20	0.2	Submit as separate sample		107-13-1	120
Adipic acid	4	HPLC In-house	10	100	0.2			124-04-9	A155
Alcohol Scan	174	OSHA 100 (GC)	0.75	6	0.05	See Alcohol Scan list at back of guide.			
Aldehydes scan	138	EPA TO11A(HPLC)	15	500	0.5-1.5	Ship on ice. See Aldehyde scan list in back of guide			
Aldrin	4	OSHA 67(GC)	60	480	1		E1	309-00-2	125
Alkaline dust		Call lab for details		960		Call lab for details			
Allyl isothiocyanate	1	NIOSH 1500/1501(GC)	1	12	0.2	Submit as a separate sample		57-06-7	A107
Aluminum	14	NIOSH 7303(ICP)	100	960	2			7429-90-5	A102
Amine Scan						See Various Amine lists at back of guide.			
Aminoethanol(2-)						See Ethanolamine			
Ammonia	19	OSHA ID188(IC)	1.5	24	0.1			7664-41-7	170
Ammonium salts	15	NIOSH 0600(GRAV)	960	960	2	If weight is high;can also analyze by IC for NH4			
Amyl acetate(n-)	128	GC FID In-house						628 63-7	190
Amyl acetate(n-)	1	NIOSH 1450(GC)	1	12	0.2		A	628 63-7	190
Amyl acetate(sec-)	1	NIOSH 1500/1501(GC)	1	12	0.2		A	626-38-0	191
Aniline	63	OSHA PV2079(GC) OSHA PV2064(GC)	3	30	0.2			62-53-3	220
Anthracene	4	OSHA 58(HPLC)	960	960	2			120-12-7	227
Antimony and Compounds	14	NIOSH 7303(ICP)	100	960	2			7440-36-0	230
Arsenic, inorganic	14	GFAA or NIOSH 7303(ICP)	100	960	2			7440-38-2	206
Arsine	1	NIOSH 6001(GFAA)	1	10	0.2			7784-42-1	270

ANALYTE	SAMPLING MEDIA	REFERENCE METHOD	MIN VOLUME	MAX VOLUME	FLOW RATE	COMMENTS	COMPAT	CAS#	IMIS#
Asbestos (airborne) PCM-area	22	NIOSH 7400(PCM)	15	Varies	43754	Do not overload-vary sample volume. Sample open faced		1332-21-4	9020
Asbestos (airborne) PCM-personal	22	NIOSH 7400(PCM)	15	Varies	0.5-2.5	Sample open faced		1332-21-4	9020
Asbestos (airborne) TEM-area	22	EPA-AHERA or NIOSH 7402	750	2800	43753	Sample		1332-21-4	9927
Asbestos (airborne) TEM-personal	22	NIOSH 7402	15	varies	0.5-2.5	Used as follow up to PCM by NIOSH 7400		1332-21-4	9927
Asbestos(bulk)	23	EPA Interim Method						1332-21-4	9933
Asphalt Fumes	9	OSHA 58(Extraction + grav)	480	960	2	Analyzed gravimetrically as benzene solubles		8052-42-4	290
Atrazine	9	HPLC In-house	120	240	1		E2	1912-24-9	295
Bacteria	149	Culture/Speciation/Quantitation				Wipe, 1 square inch recommended			B418
Bacteria		Culture/Speciation/Quantitation				Bulk			
Bacteria	150	Culture/Speciation/Quantitation				Wipe, 1 square inch recommended			B418
Bacteria	144	Culture/Speciation/Quantitation	28.3	141.5	28.3	See page iii for detailed sampling instructions			B418
Bacteria(sewage screen)	150	Colilert				Analyzed for coliforms and E. coli			
Barium (insoluble compounds)	15	NIOSH 0500	100	960	2	Acid extractable		7440-39-3	B102
Barium (soluble compounds)	14	NIOSH 7303(ICP)	100	960	2	Water soluble, submit as separate sample		7440-39-3	310
Benzene	128	GC FID In-house					A	71-43-2	320
Benzene	1	NIOSH 1500/1501(GC)	1	12	0.2		A	71-43-2	320
Benzidine	61	OSHA 65 (GC)	3	100	1			92-87-5	330
Benzo(a)anthracene	4	OSHA 58(HPLC)	480	960	2			56-55-3	350
Benzo(a)pyrene	9	OSHA 58(HPLC)	480	960	2	May also use OVS-2 tube (#4)		50-32-8	726
Benzoic acid	25	HPLC In-house	12	24	0.2			65-85-0	B409
Benzophenone	13	OSHA PV 2130(GC)	3	48	0.2			119-61-9	B505
Benzoyl peroxide	18	NIOSH 5009(HPLC)	40	400	43468	Transfer to 20 ml vial. Ship on ice		94-36-0	335
Benzyl acetate	112	PV 2124 (GC)	1	12	0.1			140-11-4	B508
Benzyl alcohol	27	OSHA PV 2009(GC)	12	24	0.1			100-51-6	337
Beryllium and compounds	14	NIOSH 7303(ICP)	100	960	2			7440-41-7	360
Bifenthrin	4	OSHA 70(GC)	60	480	1			82657-04-3	9667
Biphenyl(Diphenyl)	8	NIOSH 2530(GC)	3	30	0.2			50-32-8	1011
Bis (2-Dimethylaminoethyl) ether	21	GC FID In-house	2	10	0.2			3033-62-3	R229
Bismuth	14	NIOSH 7303(ICP)	100	960	2			7440-69-6	B100
Bisphenol A	9	OSHA 1018 (HPLC)	240	360	1.5	Ship on ICE overnight. Store in freezer.		80-05-7	372
Bisphenol A	9	OSHA 1018 (HPLC)	240	360	1.5	Ship on ICE overnight. Store in freezer.		80-05-7	372
Bisphenyl (Diphenyl)	8	NIOSH 2530(GC)	3	30	0.2			95-53-4	1011
Borates and Boric acid	14	ICP-In-house	100	960	2	Analyzed as Boron			
Boron	14	NIOSH 7303(ICP)	100	960	2			7440-42-8	B142
Boron oxide	14	NIOSH 7303(ICP)	100	960	2	Analyzed as Boron		1303-86-2	380
Boron trifluoride	29	ISE In-house	15	100	1	Analyzed as fluoroborate		2095581	382

ANALYTE	SAMPLING MEDIA	REFERENCE METHOD	MIN VOLUME	MAX VOLUME	FLOW RATE	COMMENTS	COMPAT	CAS#	IMIS#
Bromine	71	NIOSH 6011(IC)	8	360	0.3-1	Can be collected together with Chlorine		7726-95-6	390
Bromine pentafluoride	6	NIOSH 7903 (IC)	10	48	0.2	Analyzed as HF and HBr		7789-30-2	391
Bromopropane (2-)	1	NIOSH 1500/1501(GC)	1	12	0.2		A	75-26-3	R289
Bromopropane(1-)	128	GC FID In-house					A	106-94-5	R290
Bromopropane(1-)	1	NIOSH 1500/1501(GC)	1	12	0.2		A	106-94-5	R290
Bromopropane(1-)	128	GC FID In-house						106-94-5	R290
Bulk samples(liquids)	68					Ship separately from air samples			
Bulk samples(solids)	23					Ship separately from air samples			
Butadiene	112	OSHA 56(GC)	1	3	0.05	Ship on ice		106-99-0	410
Butadiene	128	OSHA 56(GC)				Submit as separate sample		106-99-0	410
Butane	37	OSHA ID 172(GC)						106-97-8	420
Butanone(2-)(MEK)	128	GC FID In-House						78-93-3	430
Butanone(2-)(MEK)	45	OSHA 69(GC)	1	3	0.05			78-93-3	430
Butoxyethanol(2-)	1	OSHA 83(GC)	1	12	0.2		B	111-76-2	435
Butyl methacrylate	112	OSHA 89(GC)	1.5	12	0.2			97-88-1	B139
Butyl acetate(n-)	1	NIOSH 1500/1501(GC)	1	12	0.2		A	123-86-4	440
Butyl acetate(n-)	128	GC FID In-House					A	123-86-4	440
Butyl acetate(sec-)	128	GC FID In-House						105-46-4	441
Butyl acetate(sec-)	1	NIOSH 1500/1501(GC)	1	12	0.2		A	105-46-4	441
Butyl acetate(tert-)	128	GC FID In-House						540-88-5	442
Butyl acetate(tert-)	1	NIOSH 1500/1501(GC)	1	12	0.2		A	540-88-5	442
Butyl acrylate	112	OSHA 89(GC)	1.5	12	0.2			141-32-2	450
Butyl acrylate	128	GC FID In-House						141-32-2	450
Butyl acrylate	112	OSHA 89(GC)	1.5	12	0.2			141-32-2	450
Butyl alcohol(n-)	128	GC FID In-House						71-36-3	460
Butyl alcohol(n-)	174	OSHA 100(GC)	0.75	3	0.05			71-36-3	460
Butyl alcohol(sec-)	128	GC FID In-House						78-92-2	461
Butyl alcohol(sec-)	1	NIOSH 1500/1501(GC)	1	12	0.2			78-92-2	461
Butyl alcohol(tert-)	1	NIOSH 1500/1501(GC)	1	12	0.2			75-65-0	462
Butyl alcohol(tert-)	128	GC FID In-House						75-65-0	462
Butyl benzyl phthalate	117	OSHA 104(GC)	15	240	1			85-68-7	B615
Butyl carbitol	1	OSHA 83(GC)	1	12	0.2		B	112-34-5	471
Butyl carbitol acetate	1	OSHA 83(GC)	1	12	0.2		B	124-17-4	M316
Butyl cellosolve						See Butoxyethanol(2-)			
Butyl cellosolve acetate	1	OSHA 83(GC)	1	12	0.2		B	112-07-2	472
Butyl cellosolve acetate	128	GC FID In-House					B	112-07-2	472
Butyl glycidyl ether(n-)	1	NIOSH 1403	1	12	0.2		B	192337	477
Butyl glycidyl ether(n-)	128	GC FID In-house						192337	477
Butyl lactate(n-)	1	OSHA 83(GC)	1	12	0.2		B	138-22-7	478
Butyl mercaptan	156					Contact lab for sampling details		109-79-5	480
Butyl mercaptan(+)	156					Contact lab for sampling details		75-66-1	9631

ANALYTE	SAMPLING MEDIA	REFERENCE METHOD	MIN VOLUME	MAX VOLUME	FLOW RATE	COMMENTS	COMPAT	CAS#	IMIS#
Butyl methacrylate	112	OSHA 89(GC)	1.5	12	0.2			97-88-1	B139
Butyl propionate	1	NIOSH 1500/1501(GC)	1.5	12	0.2			590-01-2	9674
Butylated hydroxytoluene						See Di-t-Butyl-Cresol (2,6)			
Butyric acid	6	IC In-house	10	240	0.2-0.5	Ship on ice		107-92-6	B709
Butyrolactone(gamma-)	1	OSHA 83(GC)	1	12	0.2		B	96-48-0	B715
Cadmium dust	14	NIOSH 7303(ICP)	200	960	2			7440-43-9	490
Cadmium fume	14	NIOSH 7303(ICP)	200	960	2			1306-19-0	491
Calcium	14	NIOSH 7303(ICP)	100	960	2			1317-65-3	C130
Calcium carbonate	15	NIOSH 0500 or NIOSH 7303(ICP)	100	816	1.7	Weight difference or ICP as total calcium		1317-65-3	C130
Calcium oxide	15	NIOSH 0500 or NIOSH 7303(ICP)	100	960	2	Weight difference or ICP as total calcium		1305-78-8	520
Camphor	1	NIOSH 1301(GC)	1	25	0.2			76-22-2	522
Camphor	128	GC FID In-House						76-22-2	522
Caprolactam	116	OSHA PV2012(HPLC)	15	100	1	Ship on ice		105-60-2	523
Capsaicin	9	NIOSH 5041(HPLC)	30	1000	1 to 3			404-86-4	R206
Captan	4	OSHA 67(GC)	60	60	1		E1	133-06-2	529
Carbaryl	4	OSHA 63(HPLC)	60	60	1		E2	63-25-2	525
Carbitol acetate	1	OSHA 83(GC)	1	12	0.2		B	112-15-2	C128
Carbon black	15	OSHA ID-196(GRAV+WET)	100	960	2	Gravimetric only unless weight > 360 ug		1333-86-4	527
Carbon dioxide	156	OSHA ID-172(GC)						124-38-9	530
Carbon disulfide	156					Contact lab for sampling details		75-15-0	540
Carbon monoxide	156	GC TCD In-house						630-08-0	560
Carbon tetrachloride	128	GC FID In-house					A	56-23-5	570
Carbon tetrachloride	1	NIOSH 1500/1501(GC)	1	12	0.2		A	56-23-5	570
Carbonyl fluoride	39	ISE In-house	15	480	1	Analyzed as total fluoride		353-50-4	C105
Catechol	27	OSHA PV2014 (GC)	2	12	0.2			120-80-9	571
Cellulose (respirable)	15	Gravimetric (NIOSH 600)	100	816		Use flowrate recommended by cyclone manuf.		9004-34-6	C124
Cellulose (total dust)	15	Gravimetric (NIOSH 500)	100	960	2			9004-34-6	575
Ceramic fibers						See fiber count			
Chloramine	129	IC In-house	30	240	1	Contact lab for sampling details		10025-85-1	9537
Chlordane	4	OSHA 67(GC-ECD)	480	480	1		E1	57-74-9	611
Chlorinated camphene						See toxaphene			
Chlorinated pesticides	4	OSHA 67 (GC)				Contact lab for sampling details			
Chlorine	71	NIOSH 6011(IC)	2	90	1	Can be collected together with bromine		7782-50-5	640
Chlorine dioxide	93	OSHA ID202(IC)	10	120	0.2			10049-04-4	614
Chloro-4-trifluoromethylbenzene (1-)	128	GC FID In-house					A	98-56-6	R249
Chloro-4-trifluoromethylbenzene (1-)	1	NIOSH 1500/1501(GC)	1	12	0.2		A	98-56-6	r249
Chloroacetaldehyde	84	OSHA 76/NIOSH 2015(GC)	0.3	16	0.2			107-20-0	617
Chloroacetophenone(alpha)	3	HPLC In-house	10	10	0.1	Partially validated		532-27-4	618

ANALYTE	SAMPLING MEDIA	REFERENCE METHOD	MIN VOLUME	MAX VOLUME	FLOW RATE	COMMENTS	COMPAT	CAS#	IMIS#
Chlorobenzene	128	GC FID In-house						180-90-7	620
Chlorobenzene	1	NIOSH 1500/1501(GC)	1	12	0.2		A	180-90-7	620
Chlorobenzylidene malononitrile	117	NIOSH 304(HPLC)	90	90	1.5	Ship on ice		2698-41-1	623
Chlorodifluoromethane	32	NIOSH 1018(GC)	1	4	0.05			75-45-6	628
Chlorodiphenyl(1016)	4	OSHA PV 2088(GC)	1	60	1			12674-11-2	A622
Chlorodiphenyl(1221)	4	OSHA PV 2088(GC)	1	60	1			11104-28-2	C106
Chlorodiphenyl(1232)	4	OSHA PV 2088(GC)	1	60	1			11141-16-5	C108
Chlorodiphenyl(1242)	4	OSHA PV 2088(GC)	1	60	1			53469-21-9	630
Chlorodiphenyl(1248)	4	OSHA PV 2088(GC)	1	60	1			12672-29-6	C225
Chlorodiphenyl(1254)	4	OSHA PV 2088(GC)	1	60	1			11097-69-1	631
Chlorodiphenyl(1260)	4	OSHA PV 2088(GC)	1	60	1			11096-82-5	C107
Chloroform	1	NIOSH 1500/1501(GC)	1	12	0.2		A	67-66-3	670
Chloroform	128	GC FID In-house					A	67-66-3	670
Chlorophene	8	OSHA PV2186	10	10	0.1			120-32-1	C109
Chloropicrin	38	OSHA PV2103(GC)	5	5	0.2	Use two tubes in series		76-06-2	675
Chloroprene	13	OSHA 112(GC)	1.5	8	0.1		A	126-99-8	680
Chloroprene	13	OSHA 112(GC)	1.5	8	0.1		A	126-99-8	680
Chloroprene	13	OSHA 112(GC)	1.5	8	0.1		A	126-99-8	680
Chlorothalonil	4	OSHA 67(GC)	60	480	1			1897-45-6	C629
Chlorpyrifos	4	OSHA 67(GC)	60	480	1		E1	2921-88-2	681
Chlorpyrifos-methyl	4	OSHA 67(GC)	60	480	1		E1	5598-13-0	C285
Chromic acid (hexavalent chromium)	159	OSHA ID-215	200	960	2	Use this media for plating and acidic environments		7738-94-5	689
Chromic acid (hexavalent chromium)	86	OSHA ID-215	200	960	2	Use this media for welding and nonacidic environments		7738-94-5	689
Chromium soluble	14	NIOSH 7303(ICP)	100	960	2			29689-14-3	685
Chromium(II,III and metal)	14	NIOSH 7303(ICP)	100	960	2	This method does not distinguish valence			685
Chromium(hexavalent)	86	OSHA ID-215	200	960	2	Use this media for welding and nonacidic environments			689
Chromium(hexavalent)	159	OSHA ID-215	200	960	2	Use this media for plating and acidic environments			689
Chrysene	4	OSHA 58(HPLC)	960	960	2			218-01-9	692
Citric acid	6	IC In-house	10	240	0.2-0.5	Ship on ice		77-92-9	C136
Coal dust(respirable)	15	NIOSH 0600(GRAV)	100	816		Use flowrate recommended by cyclone manuf.		68131-74-8	9040
Coal tar pitch volatiles(CTPV)	9	OSHA 58(EXT, GRAV+ HPLC)	480	960	2	Place filter in amber glass vial for shipping to lab		65996-93-2	700
Cobalt metal,dust and fume	14	NIOSH 7303(ICP)	480	960	2			7440-48-4	720
Copper dusts and mist	14	NIOSH 7303(ICP)	100	960	2			7440-50-8	730
Copper fume(as Cu)	14	NIOSH 7303(ICP)	100	960	2	Method does not distinguish dust vs fume		7440-50-8	731
Coronene	4	OSHA 58(HPLC)	960	960	2			191-07-1	C116
Cotton dust	15	NIOSH 500(Grav)	2664	2664	7.4	Use vertical elutriator			735
Cresol(all isomers)	27	OSHA 32(HPLC)	1.5	24	0.1			1319-77-3	760

ANALYTE	SAMPLING MEDIA	REFERENCE METHOD	MIN VOLUME	MAX VOLUME	FLOW RATE	COMMENTS	COMPAT	CAS#	IMIS#
Cumene	1	NIOSH 1500/1501(GC)	1	12	0.2		A	98-28-8	780
Cumene	128	GC FID In-house					A	98-28-8	780
Cumene hydroperoxide	165	HPLC In-house	15	120	1			80-15-9	C616
Cutting fluids						See Oil mist			
Cyanide	44	NIOSH 6017(IC)	2	90	0.05-0.2	Collects CN particulate and HCN		57-12-5	790
Cyclohexane	128	GC FID In-house					A	110-82-7	810
Cyclohexane	1	NIOSH 1500/1501(GC)	1	12	0.2		A	110-82-7	810
Cyclohexanone	13	OSHA 1(GC)	10	10	0.2			108-94-1	830
Cyclohexanone	128	GC FID In-house					A	108-94-1	830
Cyclohexene	1	NIOSH 1500/1501(GC)	1	12	0.2		A	110-83-8	840
Cyclohexene	128	GC FID In-house					A	110-83-8	840
Cyclohexylamine	63	OSHA PV 2123(GC)	3	30	0.1	Ship on ice		108-91-8	842
Cyfluthrin (Beta)	4	OSHA 70(GC)	60	480	1			68359-37-5	B430B
Cyhalothrin(lambda)	4	OSHA 70(GC)	60	480	1			91465-08-6	9661
Cypermethrin	4	OSHA 70(GC)	60	480	1			52315-07-8	C628
D(2-4-)	9	NIOSH 5001(HPLC)	15	200	2		E2	94-75-7	846
DDT	4	OSHA 67(GC)	90	90	1		E1	50-29-3	847
Decabromodiphenyl oxide						Contact lab for sampling details		1163-19-5	D105
Decamethylcyclo Pentasiloxane	1	OSHA7(GC)	1	12	0.2		A	541-02-6	M207
Desflurane	128	GC FID In-house						57041-67-5	R218
Desflurane	103	OSHA 106(GC)	1	12	0.05			57041-67-5	R218
Desmodur N	124	HPLC In-house	15	240	1	Sample open faced		11142-52-2	1377
Di-t-Butyl-p-Cresol(2,6)	116	OSHA PV2108(GC)	3	12	0.1			128-37-0	2693
Diacetyl	169	OSHA PV2118 (GC)	0.75	9	0.05	Specially cleaned and dried silica gel		431-03-8	D740
Dianisidine(o-)	61	OSHA 71(GC)	100	100	1	Transfer filter to vial containing distilled water		119-90-4	873
Diazinon	4	OSHA 67(GC)	60	480	1		E1	333-41-5	2720
Dibutyl phthalate	117	OSHA 104(GC)	15	240	1			84-74-2	864
Dicamba	9	HPLC In-house	200	200	1		E2	1918-00-9	B345
Dichloro-1-fluoroethane(1,1-)	1	NIOSH 1500/1501(GC)	1	12	0.2		A	1717-00-6	D238
Dichlorobenzene(m-)	1	NIOSH 1500/1501(GC)	1.2	12	0.2		A	541-73-1	D149
Dichlorobenzene(o-)	128	GC FID In-house					A	95-50-1	867
Dichlorobenzene(o-)	1	NIOSH 1500/1501(GC)	1	12	0.2		A	95-50-1	867
Dichlorobenzene(p-)	128	GC FID In-house					A	106-46-7	868
Dichlorobenzene(p-)	1	NIOSH 1500/1501(GC)	1	12	0.2		A	106-46-7	868
Dichloroethane(1,1-)	1	NIOSH 1500/1501(GC)	1	12	0.2		A	75-34-3	1160
Dichloroethyl ether	128	GC FID In-house					A	111-44-4	880
Dichloroethyl ether	1	NIOSH 1500/1501(GC)	1	12	0.2		A	111-44-4	880
Dichloroethylene(1,2-)	128	GC FID In-house					A	540-59-0	870
Dichloroethylene(1,2-)	1	NIOSH 1500/1501(GC)	1	12	0.2		A	540-59-0	870
Dichlorvos(DDVP)	4	OSHA 67(GC)	60	480	1		A	62-73-7	850
Dicrotophos	4	NIOSH 5600(GC)	12	240	1		E1	141-66-2	902

ANALYTE	SAMPLING MEDIA	REFERENCE METHOD	MIN VOLUME	MAX VOLUME	FLOW RATE	COMMENTS	COMPAT	CAS#	IMIS#
Dieldrin	4	OSHA 67(GC)	60	480	1		E1	60-57-1	905
Diesel	1	NIOSH 1500/1501(GC)	1	12	0.2	Reported as TVOC Hexane			9601
Diesel	128	GC FID In-House				Reported as TVOC Hexane			9601
Diesel exhaust (elemental carbon)	120	NIOSH 5040	400	19000	2	Sample open faced			
Diethanolamine	63	IC In-house	10	100	0.1-0.2			111-42-2	D129
Diethyl amine	63	IC In-house	10	100	0.1-0.2			109-89-7	910
Diethyl carbitol	1	OSHA 83(GC)	1.5	12	0.2		B	112-36-7	9917
Diethyl hexyl phthalate	117	OSHA 104(GC)	15	240	1			117-81-7	1015
Diethyl phthalate	117	OSHA 104(GC)	15	240	1			84-66-2	933
Diethylaminoethanol	63	OSHA PV 2060(GC)	3	20	0.2			100-37-8	920
Diethylene glycol	116	NIOSH 5523(GC)	5	60	0.5-2.0	Ship on ice		111-46-6	D609
Diethylene glycol monoethyl ether	1	OSHA 83(GC)	1	12	0.2		B	110-90-0	D615
Diethylenetriamine	47	OSHA 60(HPLC)	1	20	0.1			111-40-0	921
Diglycidyl Ether of Bisphenol A	9	OSHA 1018 (HPLC)	240	360	1.5	Ship on ICE overnight. Store in freezer.		1675-54-3	D709
Diglyme	1	OSHA 83(GC)	1.5	12	0.2		B	111-96-6	D145
Dihydrocapsaicin	9	NIOSH 5041(HPLC)	30	1000	1.0-3.0			19408-84-5	R270
Diisobutyl ketone	128	GC FID In-House					A	108-83-8	924
Diisobutyl ketone	1	NIOSH 1500/1501(GC)	1	12	0.2		A	108-83-8	924
Diisopropylamine	63	OSHA PV 2060(GC)	3	20	0.2			108-18-9	925
Dimethoate	4	OSHA 67(GC)	60	480	1		E1	60-51-5	D617
Dimethyl acetamide	3	NIOSH 2004(GC)	15	80	1			127-19-5	927
Dimethyl adipate	1	OSHA 83(GC)	1.5	12	0.2		B	627-93-0	D649
Dimethyl amine	63	IC In-house	10	100	0.1-0.2			124-40-3	928
Dimethyl disulfide	156					Contact lab for sampling details		624-92-0	D651
Dimethyl ether	1	NIOSH 1500/1501(GC)	1	12	0.2			115-10-6	M157
Dimethyl formamide	1	OSHA 66(GC)	10	10	0.2			68-12-2	930
Dimethyl glutarate	1	OSHA 83(GC)	1.5	12	0.2		B	1119-40-0	D636
Dimethyl phthalate	117	OSHA104(GC)	15	240	1			131-11-3	950
Dimethyl succinate	1	OSHA 83(GC)	1.5	12	0.2		B	106-65-0	D917
Dimethyl sulfide	156					Contact lab for sampling details		75-18-3	D650
Dimethyl sulfoxide	1	OSHA 83(GC)	1.5	12	0.2		B	67-68-5	D139
Dimethyl toluidine(p-)(N-N-)	3	NIOSH 2002(GC)	100	100	1			99-97-8	D127
Dimethylaniline(n,n-)	63	OSHA PV2064(GC)	3	30	0.2			121-69-7	931
Dimethylethanolamine(N-N-)	63	OSHA PV2016(GC)	3	24	0.2			108-01-0	D629
Dimethylethyl amine	63	IC In-house	10	100	0.1 - 0.2			598-56-1	915
Diocetyl phthalate(n-)	117	OSHA104(GC)	15	200	1			117-84-0	1000
Dioxane	1	NIOSH 1500/1501(GC)	1	12	0.2		A	123-91-1	1010
Dioxane	128	GC FID In-House					A	123-91-1	1010
Dioxolane(1,3-)	1	NIOSH 1500/1501(GC)	1	12	0.2		A	646-06-0	D655
Diphenyl	8	NIOSH 2530(GC)	15	30	0.2			92-52-4	1011
Diphenylamine	61	OSHA 78(HPLC)	15	100	1			122-39-4	926

ANALYTE	SAMPLING MEDIA	REFERENCE METHOD	MIN VOLUME	MAX VOLUME	FLOW RATE	COMMENTS	COMPAT	CAS#	IMIS#
Dipropylene glycol	116	OSHA PV2133(GC)	5	60	0.5-2.0	Ship on ice		57472-68-1	9984
Dipropylene glycol butyl ether	1	OSHA 83(GC)	1.5	12	0.2		B	9009-42-1	9698
Dipropylene glycol diacrylate	13	OSHA PV2133(GC)	3	48	0.2			57472-68-1	
Dipropylene glycol methyl ether	1	OSHA 83(GC)	1.5	12	0.2		B	34590-94-8	1014
Dipropylene glycol methyl ether acetate	1	OSHA 83(GC)	1.5	12	0.2		B	108-65-6	P218
Dipropylene glycol methyl ether acetate	128	GC FID In-House					B	108-65-6	R214
Dipropylene glycol propyl ether	1	OSHA 83(GC)	1.5	12	0.2		B	29911-27-1	9944
Disulfoton	4	OSHA 67(GC)	60	480	1		E1	298-04-4	2680
Dust (Resp. or Total)		Gravimetric				See Particulates (Resp. or Total)			
Elemental carbon		see Diesel Exhaust							
Endosulfan	4	OSHA 67(GC)	60	480	1		E1	115-29-7	2425
Endrin	4	OSHA 67(GC)	60	480	1		E1	72-20-8	1017
Enflurane	103	OSHA 103 or 106(GC)	1	12	0.05			13838-16-9	1038
Epichlorohydrin	128	GC FID In-House					A	106-89-8	645
Epichlorohydrin	1	NIOSH 1500/1501(GC)	1	12	0.2		A	106-89-8	645
Epoxybutane(1,2-)	1	NIOSH 1500/1501(GC)	1	12	0.2		A	106-88-7	E225
Eradicane(EPTC)	4	GC ECD In-house	60	60	1		E1	759-94-4	D346
Esfenvalerate	4	OSHA 70(GC)	60	60	1		E1	66230-04-4	9823
Estradiol	9	OSHA PV2001(HPLC)		240	1	Ship on ice		50-28-2	E319
Estriol	9	OSHA PV2001(HPLC)		240	1	Ship on ice		50-27-1	E321
Estrone	9	OSHA PV2001(HPLC)		240	1	Ship on ice		53-16-7	E320
Ethane	37	OSHA ID 172(GC)						74-84-0	1025G
Ethanolamine	63	IC In-house	10	100	0.1-0.2			141-43-5	1030
Ethion	4	OSHA 67(GC)	60	480	1		E1	563-12-2	2750
Ethoprop	4	OSHA 67(GC)	60	480	1		E1	13194-48-4	M195
Ethoxy-2-propanol(1-)	1	OSHA 83(GC)	1.5	12	0.2				
Ethoxyethanol(2-)	128	GC FID In-House					B	110-80-5	1033
Ethoxyethanol(2-)	1	OSHA 83(GC)	1.5	12	0.2		B	110-80-5	1033
Ethoxyethyl(2-) acetate	128	GC FID In-House					B	111-15-9	1037
Ethoxyethyl(2-) acetate	1	OSHA 83(GC)	1.5	12	0.2		B	111-15-9	1037
Ethy-2 pyrrolidone	1	OSHA 83(GC)	1.5	12	0.2		B	2687-97-4	9915
Ethyl acetate	128	GC FID In-House					A	141-78-6	1040
Ethyl acetate	1	NIOSH 1500/1501(GC)	1	12	0.2		A	141-78-6	1040
Ethyl acrylate	128	GC FID In-House					A	140-88-5	1050
Ethyl acrylate	112	OSHA 89(GC)	1.5	12	0.2			140-88-5	1050
Ethyl alcohol	174	OSHA 100(GC)	0.75	3	0.05		G	64-17-5	1060
Ethyl alcohol	128	GC FID In-House				Collect as separate sample		64-17-5	1060
Ethyl amine	63	IC In-house	10	100	0.1-0.2			75-04-7	1070
Ethyl benzene	128	GC FID In-House					A	100-41-4	1080

ANALYTE	SAMPLING MEDIA	REFERENCE METHOD	MIN VOLUME	MAX VOLUME	FLOW RATE	COMMENTS	COMPAT	CAS#	IMIS#
Ethyl benzene	1	NIOSH 1500/1501(GC)	1	12	0.2		A	100-41-4	1080
Ethyl bromide	1	NIOSH 1001(GC)	1	10	0.1	Collect as separate sample		74-96-4	1090
Ethyl butyrate	1	NIOSH 1500/1501(GC)	1	12	0.2		A	105-54-4	E318
Ethyl chloride	1	NIOSH 1500/1501(GC)	1	12	0.2	Collect as separate sample	A	75-00-3	1110
Ethyl cyanoacrylate(2-)	63	OSHA 55(HPLC)	1.5	12	0.1	Ship on ice		7085-85-0	E108
Ethyl ether	128	GC FID In-house					A	60-29-7	1210
Ethyl ether	1	NIOSH 1500/1501(GC)	1	12	0.2		A	60-29-7	1210
Ethyl ethoxy propionate	1	OSHA7(GC)	1	12	0.2		A	763-69-9	e105
Ethyl formate	1	NIOSH 1500/1501(GC)	1	12	0.2		A	109-94-4	1155
Ethyl hexanol(2-)	1	NIOSH 1400(GC)	1.5	12	0.2	Collect as separate sample		104-76-7	E106
Ethyl hexyl acrylate(2-)	112	OSHA 89(GC)	1.5	12	0.2			103-11-7	1055
Ethyl lactate	1	OSHA 83(GC)	1.5	12	0.2		B	97-64-3	E227
Ethyl mercaptan	156					Contact lab for sampling details		75-08-1	1220
Ethyl methacrylate	112	OSHA 89(GC)	1.5	12	0.2		A	97-63-2	E115
Ethyl silicate	21	NIOSH S264(GC)	9	9	0.05			78-10-4	1230
Ethyl-2 pyrrolidone	1	OSHA 83(GC)	1.5	12	0.05		B	2687-91-4	9915
Ethylene	156	OSHA ID172				Contact lab for sampling details		74-85-1	1195
Ethylene chlorohydrin	103	NIOSH 2513(GC)	1	10	0.1			107-07-3	1120
Ethylene diamine	47	OSHA 60(HPLC)	10	10	0.1			107-15-3	1130
Ethylene dibromide	1	GC ECD In-house	1	10	0.1			106-93-4	1140
Ethylene dichloride	128	GC FID In-house					A	107-06-2	874
Ethylene dichloride	1	NIOSH 1500/1501(GC)	1	12	0.2		A	107-06-2	874
Ethylene glycol	116	NIOSH 5523(GC)	5	60	0.5-2.0	Ship on ice		107-21-1	1911
Ethylene glycol dimethyl	1	GC FID In-house	1	10	0.1		B	110-71-4	R244
Ethylene glycol ethylhexyl ether	1	OSHA 83(GC)	1.5	12	0.2		B	1159-35-9	R244
Ethylene glycol hexyl ether	1	OSHA 83(GC)	1.5	12	0.2		B	112-25-4	9899
Ethylene glycol monoethyl ether						See Ethylene glycol hexyl ether			
Ethylene oxide	66	OSHA 1010	0.75	12	0.05	226-178		75-21-8	1190
Ethylene thiourea		OSHA 95(HPLC)	48	480	2	Call lab for media - sampled open faced		96-45-7	1159
Fiber count	22	NIOSH 7400(PCM)	240	960	2	Contact lab for media. Sample open faced			
Fibrous glass	15	Gravimetric	240	960	2				1300
Fibrous glass (fiber count)	22	NIOSH 7400(PCM)	15	2000	0.5-16	Collect like asbestos. Sample open faced			1300
Ficam (Bendiocarb)	4	HPLC In-house	480	480	1		E2	22781-23-3	F108
Fipronil	4	OSHA 67(GC)	60	480	1			120068-37-	9884
Fluoboric acid	29	ISE In-house	10	120	1			16872-11-0	1275
Fluoranthene	4	HPLC In-house	960	960	2			206-44-0	F115
Fluorene	9	HPLC In-house	960	960	2	May also use OVS-2 tube (#4)		86-73-7	F106
Fluorides(aerosol and vapor)	74	OSHA ID 110(ISE)	22.5	120	1.5				1280
Fluorides(as F)	74	OSHA ID 110(ISE)	22.5	120	1.5			16984-48-8	1280
Fluorine	39	ISE In-house	15	480	1	Measured as total fluoride. MCE only for F- only		7782-41-4	1270
Folpet	4	OSHA 67(GC)	60	480	1			133-07-3	F119

ANALYTE	SAMPLING MEDIA	REFERENCE METHOD	MIN VOLUME	MAX VOLUME	FLOW RATE	COMMENTS	COMPAT	CAS#	IMIS#
Fonofos	4	NIOSH 5600(GC)	12	240	1			944-22-9	2685
Formaldehyde	10	OSHA 52(GC)	1.5	24	0.1	Ship on ice		50-00-0	1290
Formaldehyde	138	EPA TO11A(HPLC)	1	360	0.5-1.5	Ship back to lab cold		50-00-0	1290
Formaldehyde (Passive UMEX-100)	167	EPA TO11(HPLC)				Ship back to lab cold		50-00-0	1290
Formamide	3	GC In-house	1.5	10	0.1			75-12-7	1292
Formic acid	6	OSHA ID-186SG IC	10	240	0.2-0.5	Ship on ice		64-18-6	1310
Freon F11	1	GC FID In-house	1	10	0.5			75-69-4	1285
Furfural	54	OSHA 72(GC)	15	180	1			98-01-1	1325
Furfuryl alcohol	25	NIOSH 2505(GC)	3	25	0.05			98-00-0	1330
Gallium	14	NIOSH 7303(ICP)	100	960	2			7440-55-3	G104
Gasoline	128	GC FID In-house				Reported as TVOC Hexane			9601
Gasoline	1	NIOSH 1500/1501(GC)	1	12	0.2	Reported as TVOC Hexane	A	8006-61-9	9601
Glutaraldehyde	70	OSHA 64(HPLC)	5	30	1	Sample open faced. Ship on ice. short shelf life		111-30-8	1361
Glyphosate (Round-up)	4	OSHA PV2067	100	480	1			38641-94-0	R106
Glyphosate (Round-up)*	4	OSHA PV2067	100	480	1			1071-83-6	R106
Graphite, natural (Total or respirable)		See Particulates						7782-42-5	9090
Graphite, synthetic -Total or respirable		See Particulates						7782-42-5	G100
Halothane	103	OSHA 103(GC)	1	12	0.05		A	151-67-7	395
Halothane	128	GC FID In-House					A	151-67-7	395
Heptachlor	4	GC ECD In-house	60	60	1		E1	76-44-8	1369
Heptachlor epoxide	4	GC ECD In-house	60	60	1			1024-57-3	1369E
Heptane	1	NIOSH 1500/1501(GC)	1	12	0.2		A	142-82-5	1371
Hexachlorobutadiene	21	NIOSH 2543(GC)	1	100	0.2			87-68-3	H109
Hexamethylene diisocyanate (HDI)	124	OSHA 42(HPLC)	15	240	1	Sample open faced		822-06-0	1377
Hexamethylenetetramine	72	WET CH In-house	15	720	1.5	Combine filter and imp soln in 2oz plastic bottle		100-97-0	1378
Hexane(n-)	128	GC FID In-House					A	110-54-3	1380
Hexane(n-)	1	NIOSH 1500/1501(GC)	1	4	0.2		A	110-54-3	1380
Hexanediol diacrylate (1,6-)	13	OSHA PV2133(GC)	3	48	0.2			13048-33-4	H128
Hexanone(2-)	1	NIOSH 1300(GC)	1	10	0.2		A	591-78-6	1690
Hexanone(2-)	128	NIOSH 1300(GC)					A	591-78-6	1690
Hexavalent chromium	86	OSHA ID-215(IC)	200	960	2	Use this media for welding and nonacidic environments			689
Hexavalent chromium	159	OSHA ID-215(IC)	200	960	2	Use this media for plating and acidic environments			689
Hexone						See Methyl isobutyl ketone			
Hexone Hexyl acetate (n-)	1	NIOSH 1500/1501(GC)	1	12	0.2		A	142-92-7	H158
Hexyl acetate (N-)	1	NIOSH 1500/1501(GC)	1	12	0.2		A	142-92-7	h158
Hexylene glycol	1	GC FID In-house	1	10	0.2	Collect as a separate sample		107-41-5	1389
Homopolymer of HDI (polymeric)	124	HPLC In-house	5	240	1	Sample open faced		28182-81-2	H130

ANALYTE	SAMPLING MEDIA	REFERENCE METHOD	MIN VOLUME	MAX VOLUME	FLOW RATE	COMMENTS	COMPAT	CAS#	IMIS#
Hydrazine	61	OSHA 108(HPLC)	20	240	1			302-01-2	1390
Hydrazoic acid	155	OSHA ID-211(IC)				Contact lab for sampling details. Ship on Ice			
Hydrocarbon scan						See Scan Section in back of guide for details.			
Hydrogen	156	GC TCD In-house						1333-74-0	1410
Hydrogen bromide	6	OSHA ID-165SG(IC)	3	100	0.5	May be collected with other mineral acids	D	10035-10-6	1420
Hydrogen chloride	6	OSHA ID-165SG(IC)	3	100	0.5	May be collected with other mineral acids	D	7647-01-0	1430
Hydrogen cyanide	44	NIOSH 6017(IC)	2	90	0.2	Cyanide particulates can also be analyzed		74-90-8	1440
Hydrogen fluoride	74	OSHA ID 110(ISE)	22.5	120	1.5			7664-39-3	1460
Hydrogen fluoride	6	OSHA ID-165SG(IC)	3	100	0.3	May be collected with other mineral acids	D	7664-39-3	1460
Hydrogen peroxide	177	OSHA 1019	30	240	43467	Replaces Impinger method.		7722-84-1	1470
Hydrogen selenide	56	ICP In-house	240	480	1	Analyzed as total selenium		2148909	1475
Hydrogen sulfide	174	NIOSH 6013(IC)	2	40	0.2			2148878	1480
Hydroquinone	63	OSHA PV2094(HPLC)	20	20	0.2			123-31-9	1490
Hydroxyethyl methacrylate	1	OSHA 83(GC)	1.5	12	0.2		B	868-77-9	H148
Iodine	106	OSHA ID-212(ISE)	7.5	225	0.5	Analyzed as iodide, avoid humidity >50%		7553-56-2	1515
Iron	14	NIOSH 7303(ICP)	100	960	2			7439-89-6	I200
Iron oxide dust and fume	14	NIOSH 7303(ICP)	100	960	2	Analyzed as iron but reported as Fe2O3			1520
Isoamyl acetate	128	GC FID In-House					A	123-92-2	1530
Isoamyl acetate	1	NIOSH 1450(GC)	1	10	0.2		A	123-92-2	1530
Isoamyl alcohol	1	NIOSH 1500/1501(GC)	1	12	0.2		A	123-51-3	1532
Isoamyl alcohol	128	GC FID In-house					A	123-51-3	1532
Isobutane	37	OSHA ID172 (GC)						75-28-5	K105
Isobutyl acetate	1	NIOSH 1450(GC)	1	10	0.2		A	110-19-0	1534
Isobutyl acetate	128	GC FID In-House					A	110-19-0	1534
Isobutyl alcohol	128	GC FID In-House					B	78-83-1	1536
Isobutyl alcohol	174	OSHA 100(GC)	0.75	3	0.05		G	78-83-1	1536
Isobutyl isobutyrate	1	NIOSH 1500/1501(GC)	1	12	0.2		A	97-85-8	1537
Isocyanate Scan	124		15	240	1	See Scan list in back of guide.			
Isoflurane	103	OSHA 103(GC-FID)	1	12	0.05			26675-46-7	F118
Isoflurane	128	GC FID In-House					A	26675-46-7	F118
Isooctane	1	NIOSH 1500/1501(GC)	1	12	0.2		A	26635-64-3	I128
Isophorone	54	NIOSH 2508(GC)	2	25	0.2			78-59-1	1538
Isophorone diisocyanate	124	HPLC In-house	15	240	1	Sample open faced		4098-71-9	1539
Isopropyl acetate	1	NIOSH S50(GC)	3	9	0.2		A	108-21-4	1540
Isopropyl acetate	128	GC FID In-House					A	108-21-4	1540
Isopropyl alcohol	174	OSHA 100(GC)	0.75	3	0.05		G	67-63-0	1560
Isopropyl alcohol	128	GC FID In-House						67-63-0	1560
Isopropyl ether	1	NIOSH 1500/1501(GC)	1	12	0.2		A	108-20-3	1565
Kerosene	128	GC FID In-House				Reported as TVOC Hexane	A		9601

ANALYTE	SAMPLING MEDIA	REFERENCE METHOD	MIN VOLUME	MAX VOLUME	FLOW RATE	COMMENTS	COMPAT	CAS#	IMIS#
Kerosene	1	NIOSH 1500/1501(GC)	1	12	0.2	Reported as TVOC Hexane	A	8008-20-6	K107
Lead, inorganic (as Pb)	14	NIOSH 7303(ICP)	100	960	2			7439-92-1	1591
Legionella Swab	176	Culture							
Legionella Water	146	Culture				Water samples only			L130
Limonene	1	GC FID In-house	1	10	0.1		A	5989-27-5	L129
Limonene	128	GC FID In-House					A	5989-27-5	L129
Lindane	4	NIOSH 5502(GC)	18	240	1			58-89-9	1595
Lithium	14	NIOSH 7303(ICP)	100	960	2	Collect separately from other metals		7439-93-2	L134
MCPA	9	HPLC In-house	250	250	1			94-74-6	M178
MCPP	9	HPLC In-house	240	240	1			93-65-2	M126
MEK		See 2-Butanone							
MEK (Methyl ethyl ketone)	45	OSHA 69(GC)	1	10	0.1		A	78-93-3	430
MEK(Methyl ethyl ketone)	128	GC FID In-House					A	78-93-3	430
MIBK (aka Methyl isobutyl ketone)	128	GC FID In-House					A	108-10-1	1385
MIBK (aka Methyl isobutyl ketone)	1	NIOSH 1500/1501(GC)	1	10	0.2		A	108-10-1	1385
Magnesium	14	NIOSH 7303(ICP)	100	960	2			7439-95-4	M100
Magnesium oxide fume	14	NIOSH 7303(ICP)	100	960	2	Analyzed as total magnesium but reported as MgO		1309-48-4	1610
Malathion	4	OSHA 67(GC)	60	480	1		E1	121-75-5	1616
Maleic anhydride	111	OSHA 86(HPLC)	60	60	0.5	Sample open faced, 1 month shelf life, ship on ice		108-31-6	1618
Manganese	14	NIOSH 7303(ICP)	100	960	2			7439-96-5	M112
Manganese fume(as Mn)	14	NIOSH 7303(ICP)	100	960	2	Analyzed as total manganese		7439-96-5	1620
Melamine	9	HPLC In-house	40	40	1			108-78-1	M166
Menthol(L-)	1	GC FID In-House	2	12	0.2		E1	2216-51-5	9850
Menthone(L-)	1	GC FID In-House	2	12	0.2			14073-97-3	9851
Mercury	83	NIOSH 6009	48	96	0.2			7439-97-6	1631
Mesityl oxide	128	GC FID In-house					A	141-79-7	1635
Mesityl oxide	1	NIOSH 1301(GC)	1	25	0.2		A	141-79-7	1635
Metal working fluids(MWF)						See oil mist synthetic			
Metalaxyl	4	OSHA PV2102 (HPLC)	60	480	1		E2	57837-19-1	
Metals Basic Scan	14	NIOSH 7303(ICP)	100	960	2	See Metals Scan list in back of guide			
Metals Expanded Scan	14	NIOSH 7303(ICP)	100	960	2	See Metals Scan list in back of guide			
Metals Full Scan	14	NIOSH 7303(ICP)	100	960	2	See Metals Scan list in back of guide			
Methacrylic acid	121	OSHA PV2005 (LC)	12	24	0.1	Two tubes in series		79-41-4	M339
Methane	37	OSHA ID 172(GC)						74-82-8	1640
Methomyl	4	HPLC In-house	60	60	1		E2	16752-77-5	1644
Methoxychlor	4	OSHA 67(GC)		240	1			72-43-5	1646
Methoxyethoxy(2-)ethanol(2-)	128	GC FID In-House					B	111-77-3	M328
Methoxyethoxy(2-)ethanol(2-)	1	OSHA 83(GC)	1.5	12	0.2		B	111-77-3	M328
Methyl acetate	1	NIOSH 1500/1501(GC)	1	12	0.2		A	79-20-9	1650

ANALYTE	SAMPLING MEDIA	REFERENCE METHOD	MIN VOLUME	MAX VOLUME	FLOW RATE	COMMENTS	COMPAT	CAS#	IMIS#
Methyl acetate	128	GC FID In-House					A	79-20-9	1650
Methyl acrylate	128	GC FID In-House						96-33-3	1653
Methyl acrylate	112	GC FID In-House	1	5	0.2			96-33-3	1653
Methyl alcohol	174	OSHA 100(GC)	0.75	3	0.05		G	67-56-1	1660
Methyl amine	63	IC In-house	10	100	0.1-0.2			74-89-5	1665
Methyl amyl(n-) ketone	1	NIOSH 1301(GC)	1	25	0.2		A	110-43-0	1675
Methyl amyl(n-) ketone	128	GC FID In-House					A	110-43-0	1675
Methyl bromide	128	GC FID In-House					A	74-83-9	1680
Methyl bromide	158	OSHA PV2040(GC)	0.5	3	0.2	Store and ship cold		74-83-9	1680
Methyl butyl ketone						See Hexanone(2-)			
Methyl cellosolve	1	OSHA 83(GC)	1	48	0.1		B	109-86-4	590
Methyl cellosolve acetate	1	OSHA 83(GC)	1.5	12	0.2		B	110-49-6	1170
Methyl cellosolve acetate	128	GC FID In-house					B	110-49-6	1170
Methyl cellsolve	128	GC FID In-House					B	109-86-4	590
Methyl chloride	24	NIOSH 1001(GC)	0.4	3	0.1	Ship on ice		74-87-3	1710
Methyl chloroform	128	GC FID In-house					A	71-55-6	1720
Methyl chloroform	1	OSHA 14(GC)	1	3	0.2		A	71-55-6	1720
Methyl cyanoacrylate(2-)		OSHA 55(HPLC)				Ship immediately on ice. Call Lab for sampling limitations.		137-05-3	1735
Methyl cyclohexane	128	GC FID In-house					A	108-87-2	1740
Methyl cyclohexane	1	NIOSH 1500/1501(GC)	1	12	0.2		A	108-87-2	1740
Methyl ethoxy(2-) ethanol	1	OSHA 83(GC)	1.5	12	0.2		B	111-77-3	M328
Methyl ethyl ketone	45	OSHA 84(GC)	1	3	0.05		A	78-93-3	
Methyl ethyl ketone	128	GC FID In-house					A	78-93-3	430
Methyl ethyl ketone peroxide	38	NIOSH 3508 (Modified)	15	120	1	Ship on ice		1338-23-4	1750
Methyl ethyl ketoxime	3	GC FID In-house	2	10	0.1			96-29-7	R250
Methyl isoamyl ketone	128	GC FID In-house					A	110-12-3	1776
Methyl isoamyl ketone	1	GC FID In-house	2	25	0.2		A	110-12-3	1776
Methyl isobutyl carbinol	1	NIOSH 1402(GC)	1	10	0.2		B	108-11-2	1670
Methyl isobutyl ketone	1	NIOSH 1500/1501(GC)	1	10	0.2		A	108-10-1	1385
Methyl isobutyl ketone	128	GC FID In-house					A	108-10-1	1385
Methyl isocyanate	88	OSHA 54(HPLC)	15	15	0.05			624-83-9	1773
Methyl isopropyl ketone	128	GC FID In-house					A	563-80-4	M165
Methyl isopropyl ketone	1	GC FID In-house	3	3	0.05			563-80-4	M165
Methyl isothiocyanate	43	GC FID In-House	1.5	20	0.1		A	556-61-6	M345
Methyl mercaptan	156	GC MS In-house						74-93-1	1643
Methyl methacrylate	128	GC FID In-house					A	80-62-6	1774
Methyl methacrylate	112	OSHA 94(GC)	1.5	12	0.1	Ship on ice		80-62-6	1774
Methyl parathion	4	NIOSH 5600(GC)	12	240	1		E1	298-00-0	1775
Methyl pyrrolidinone(2-)	128	GC FID In-house					B	872-50-4	M139
Methyl pyrrolidinone(2-)	1	OSHA 83(GC)	1.5	12	0.2		B	872-50-4	M139

ANALYTE	SAMPLING MEDIA	REFERENCE METHOD	MIN VOLUME	MAX VOLUME	FLOW RATE	COMMENTS	COMPAT	CAS#	IMIS#
Methyl salicylate	1	GC FID In-house	2	12	0.2		A	119-36-8	R210
Methyl styrene(alpha)	128	GC FID In-house					A	98-83-9	1782
Methyl styrene(alpha)	112	GC FID In-house	3	30	0.2			98-83-9	1782
Methyl t-butyl ether	24	NIOSH 1615(GC)	2	96	0.2			1634-04-4	
Methyl t-butyl ether	128	GC FID In-house					A	1634-04-4	B146
Methyl testosterone(17-alpha)	9	OSHA PV2001(HPLC)		240	1	Ship on ice		58-18-4	M350
Methylcholanthrene(3-)	4	OSHA 58(HPLC)	960	960	2			56-49-5	M136
Methylene bisphenyl isocyanate (MDI)	124	OSHA 47(HPLC)	5	240	1	Sample open faced		101-68-8	1073
Methylene chloride	45	OSHA 80(GC)	1	3	0.05			75-09-2	1730
Methylene chloride	128	GC FID In-house					A	75-09-2	1730
Methylene dianiline(4-4) (MDA)	61	OSHA 57(GC)	15	100	1	Transfer to vial containing 2 mls DI H2O		101-77-9	1732
Methylenebis(2-chloroaniline) (MOCA)	61	OSHA 71(GC)	15	100	1	Transfer to vial containing 2 mls DI H2O		101-14-4	2650
Methylenebis(4-cyclohexylisocyanate)	124	HPLC In-house	5	240	1	Sample open faced		5124-30-1	2651
Metribuzin	4	OSHA 67(GC)		240	1			21087-64-9	A175
Mica	15	Gravimetric				See Particulates (Resp. or Total)		12001-26-2	9075
Microscopic particle identification		PLM/STEM				Contact lab for sampling details			
Mineral spirits	128	GC FID In-house				Reported as TVOC Hexane			9601
Mineral spirits	1	NIOSH 1500/1501(GC)	1	12	0.2	Reported as TVOC Hexane			9601
Mold and Spores	149	Culture/Speciation/ Quantitation				Wipe. 1 square inch recommended			S108
Mold and Spores	141	Culture/Speciation/ Quantitation	28.3	141.5	28.3	See page iii for detailed sampling instructions			S108
Mold and Spores		Culture/Speciation/ Quantitation				Bulk			
Mold and Spores	14	Culture/Speciation/ Quantitation	120	240	2	See page iii for detailed sampling instructions			S108
Mold and Spores	150	Culture/Speciation/ Quantitation				Wipe. 1 square inch recommended			S108
Mold and Spores	147	Microscopic ID/ quantitation				Tape lift sample			S108
Mold and Spores	139	Microscopic ID/Quantitation	75	150	15	See page iii for detailed sampling instructions			S108
Molybdenum(as Mo) insoluble	14	NIOSH 7303(ICP)	100	960	2			7439-98-7	1790
Molybdenum(as Mo) soluble	14	NIOSH 7303(ICP)	100	960	2	Soluble means water soluble		7439-98-7	1791
Naled	4	OSHA 67(GC)	60	480	1			300-76-5	932
Naphthalene	13	OSHA 35(GC)	3	10	0.2			91-20-3	1810
Naphthylamine(beta-)						Contact lab for sampling details		91-59-8	1820
Nickel, soluble compounds	14	NIOSH 7303(ICP)	100	960	2	Soluble means water soluble		7440-02-0	1842
Nickel,metal and insoluble	14	NIOSH 7303(ICP)	100	960	2	Total Ni		7440-02-0	1840

ANALYTE	SAMPLING MEDIA	REFERENCE METHOD	MIN VOLUME	MAX VOLUME	FLOW RATE	COMMENTS	COMPAT	CAS#	IMIS#
Nicotine	38	NIOSH 2551(GC)	0.5	600	0.1 - 1.0	Ship on ice. May also be collected on XAD-2		54-11-5	1855
Nitric acid	6	OSHA ID-165SG(IC)	3	100	0.5		D	7697-37-2	1860
Nitric oxide	90	OSHA ID190(IC)	1.5	24	0.1	Can be collected with NO2 - 3 tube sampling train		10102-43-9	1890
Nitroaniline(p-)	14	NIOSH 5033(HPLC)	16	350	3			100-01-6	1865
Nitrobenzene	3	NIOSH 2005(GC)	10	150	1			98-95-3	1870
Nitroethane	33	NIOSH 2526(GC)	1.5	3	0.05			79-24-3	1880
Nitrogen dioxide	91	OSHA ID182(IC)	3	10	0.2	Can be collected with NO on media 90		10102-44-0	1903
Nitroglycerin	8	OSHA 43(HPLC)	3	100	1			55-63-0	1912
Nitromethane	13	NIOSH 2527(GC)	1.2	3	0.05			75-52-5	1920
Nitrophenol(p-)	163	HPLC In-house	3	48	0.2	3 part tube - read instructions with media		100-02-7	N607
Nitropropane(1-)	38	OSHA 46(GC)	4	4	0.1			108-03-2	1940
Nitropropane(2-)	38	OSHA 46(GC)	4	4	0.1			79-46-9	1941
Nitrosoamines	92	LC MS In-house	5	75	1	Contact lab for sampling details			
Nitrotoluene	3	NIOSH 2005(GC)	1	30	0.02			99-08-1	1945
Nitrous oxide	156	OSHA ID 172(GC)						10024-97-2	1953
Nonane	128	GC FID In-house					A	111-84-2	N807
Nonane	1	NIOSH 1500/1501(GC)	1	12	0.2		A	111-84-2	N807
Nuisance Dust		See Particulates							
Octamethylcyclotetrasiloxane	1	NIOSH 1500/1501(GC)	1	12	0.2		A	556-67-2	m206
Octane	128	GC FID In-house					A	111-65-9	1957
Octane	1	NIOSH 1500/1501(GC)	1	12	0.2		A	111-65-9	1957
Oil mist(mineral)	122	NIOSH 5524	30	960	43468	Collection on PVC will only be analyzed as total weight.			5010
Oil mist(synthetic)	122	NIOSH 5524	30	960	43468	Unused reference bulk(s) required			C727
Organophosphorous pesticides	4	NIOSH 5600(GC)				Contact lab for sampling details			
Oxalic acid	14	IC In-house	30	960	2			144-62-7	1970
Ozone	36	OSHA ID214(IC)	22.5	90	0.5	30 day filter shelf life		10028-15-6	1980
PAH Scan	4	OSHA 58(HPLC)	960	960	2	See PAH Scan list in back of guide.			
PAPI	124	HPLC In-house	15	240	1	Sample open faced		9016-87-9	P125
PCB		See Chlorodiphenyl							
PNA	4	OSHA 58(HPLC)	960	960	2				
Paraffin wax fume	9	GC FID In-house	100	480	1			8002-74-2	2000
Paraquat	18	NIOSH 5003(HPLC)	40	1000	4			1910-42-5	1982
Parathion	4	OSHA 67(GC)	12	480	1		E1	56-38-2	1984
Particle identification		See Microscopic particle ID							
Particulates(inhalable) IOM or Button				960	2	Contact lab for sampling details			9135IO
Particulates(respirable)	15	NIOSH 0600(GRAV)	100	816		May use #136 (3 piece yellow) Use cyclone specific flow rate			9130

ANALYTE	SAMPLING MEDIA	REFERENCE METHOD	MIN VOLUME	MAX VOLUME	FLOW RATE	COMMENTS	COMPAT	CAS#	IMIS#
Particulates(total)	15	NIOSH 0500(GRAV)	100	960	43468				9135
Pentabromophenol	163	OSHA 39(HPLC)	48	48	0.2	3 part tube - read instructions with media		608-71-9	9930
Pentachlorophenol (PCP)	163	OSHA 39(HPLC)	3	48	0.2	3 part tube - read instructions with media		87-86-5	1989
Pentamidine isethionate	41	NIOSH 5032(HPLC)	50	1500	2			140-64-7	
Pentane	1	NIOSH 1500/1501(GC)	1	12	0.2		A	109-66-0	1990
Pentane	128	GC FID In-house					A	109-66-0	1990
Pentanone(2-)	1	NIOSH 1500/1501(GC)	1	12	0.2		A	107-87-9	2010
Pentanone(2-)	128	GC FID In-house					A	107-87-9	2010
Perchloric acid	56	ISE In-house	120	240	1			7601-90-3	1981
Perchloroethylene	128	GC FID In-house					A	127-18-4	2020
Perchloroethylene	1	NIOSH 1500/1501(GC)	1	12	0.2		A	127-18-4	2020
Permethrin	4	OSHA 67(GC)	12	480	1			645-53-1	9536
Perylene	4	OSHA 58(HPLC)	960	960	2			198-55-0	P117
Pesticide scan	4	In house(GC-ECD)	30	480	1	See Pesticide Scan at back of guide for details			
Pesticide scan(chlorinated)	4	GC ECD In-house							
Pesticide scan(organophosphate)	4					See Pesticide Scans at back of guide for details			
Phenanthrene	4	OSHA 58(HPLC)	960	960	2			85-01-8	2038
Phenol	27	OSHA 32(HPLC)	2	24	0.1			108-95-2	2040
Phenothiazine	9	OSHA PV2048(GC)	10	100	1		B	92-84-2	2041
Phenyl cellosolve	1	OSHA 83(GC)	1.5	12	0.2		B	122-99-6	P145
Phenyl cyclohexene(4-)	1	NIOSH 1500/1501(GC)	2	24	0.2				R222
Phenylene(o,m and p) diamine	61	OSHA 87(HPLC)	15	100	1			106-50-3	2042
Phorate	4	OSHA 67(GC)	12	480	1		E1	298-02-2	2064
Phosgene	10	OSHA 61(GC)	120	240	1	Ship on ice		75-44-5	2070
Phosphoric acid	14	OSHA ID-111(IC)	100	960	2	Can also use acid mist tube for NIOSH 7903	D	7664-38-2	2085
Phosphorus oxychloride	162	IC In-house	120	240	1	Analyzed as phosphate ion		10025-87-3	2094
Phosphorus pentoxide	14	OSHA ID 111(IC)	480	960	2	Analyzed as Phosphoric acid		1314-56-3	P103
Phosphorus trichloride	56	IC In-house	11	100	0.2			2125683	2093
Phthalic anhydride	111	OSHA 90(HPLC)	120	120	1	Sample open faced, 1 month shelf life, ship on ice		85-44-9	2110
Picric acid	14	NIOSH S228(HPLC)		180	1.5			88-89-1	2120
Pinene (alpha)	1	NIOSH 1500/1501(GC)	1	12	0.2		A	80-56-8	P127
Pinene (beta)	1	NIOSH 1500/1501(GC)	1	12	0.2		A	127-91-3	P148
Piperonyl butoxide	4	HPLC In-house		30	1			51-03-6	P209
Potassium and compounds	86	ICP In-house	100	960	2			2023695	P135
Potassium hydroxide	86	ICP In-house	100	960	2	Analyzed as K and reported as KOH		1310-58-3	2140
Progesterone	9	OSHA PV2001(HPLC)		240	1	Ship on ice		57-83-0	P446
Propane	37	OSHA ID172(GC)						74-98-6	2150

ANALYTE	SAMPLING MEDIA	REFERENCE METHOD	MIN VOLUME	MAX VOLUME	FLOW RATE	COMMENTS	COMPAT	CAS#	IMIS#
Propargyl Alcohol	66	OSHA 97(GC)	0.75	6	0.05			107-19-7	2167
Propionic acid	6	IC in-house	10	240	0.2-0.5	Ship on ice		79-09-4	2168
Propoxur	4	HPLC In-house	60	60	1		E2	114-26-1	318
Propoxyethanol(2-)	1	OSHA 83(GC)	1.5	12	0.2		B	2807-30-9	P136
Propoxypropanol-n	1	OSHA 83(GC)	1.5	12	0.2		B	1569-01-3	P202
Propyl acetate(n-)	1	NIOSH 1500/1501(GC)	1	12	0.2		A	109-60-4	2180
Propyl acetate(n-)	128	GC FID In-House					A	109-60-4	2180
Propyl alcohol	174	OSHA 100(GC)	0.75	5	0.05			71-23-8	2170
Propyl alcohol	128	GC FID In-House					B	71-23-8	2170
Propylene dichloride	1	NIOSH 1500/1501(GC)	1	12	0.2		A	78-87-5	2190
Propylene dichloride	128					GC FID In-house	A	78-87-5	2190
Propylene glycol	116	NIOSH 5523(GC)	5	60	0.5-2.0	Ship on ice		57-55-6	P108
Propylene glycol butyl ether	1	OSHA 83(GC)	1.5	12	0.2		B	5131-66-8	B145
Propylene glycol methyl	1	OSHA 83(GC)	1.5	12	0.2		B	107-98-2	2210
Propylene glycol methyl	128	GC FID In-House					B	107-98-2	2210
Propylene glycol methyl ether	1	OSHA 99(GC)	1.5	10	0.2		B	107-98-2	2210
Propylene glycol methyl ether acetate	1	OSHA 83(GC)	1.5	12	0.2		B	108-65-6	P218
Propylene glycol methyl ether acetate	128	GC FID In-House					A	108-65-6	P218
Propylene oxide	1	NIOSH 1500/1501(GC)	1	12	0.2		A	75-56-9	2215
Propylene oxide	128	GC FID In-House					A	75-56-9	2215
Pyrene	4	OSHA 58(HPLC)	960	960	2			129-00-0	2217
Pyrethrum	4	OSHA 70(GC)	60	480	1			8003-34-7	2216
Pyridine	1	OSHA 83(GC)	1.5	12	0.2		B	110-86-1	2220
Resmethrin	4	HPLC In-house	60	60	1		E2	10453-86-8	2233
Resorcinol	116	OSHA PV2053(GC)	15	60	1			108-46-3	2221
Respirable dust		See Particulates				Use cyclone specific flow rate			
Ribavirin	9	NIOSH 5027(HPLC)	5	1000	4			36791-04-5	
Rotenone	18	NIOSH 5007(HPLC)	8	400	4			83-79-4	2228
Safroin	4	OSHA 67(GC)	12	480	1		E1	31218-83-4	S229
Selenium	14	NIOSH 7303(ICP)	100	960	2			7782-49-2	2230
Sevoflurane	103	OSHA 106 (GC)	1	12	0.05		E1	28523-86-6	S775
Sewage screen	150	Colilert				Analyzed for coliforms and E. coli			
Silica (Respirable all forms)	15	OSHA ID142 (XRD)	200	1500		Use cyclone or sampler specific flow rate		14808-60-7	9000
Silica,crystalline,cristobalite	15	OSHA ID142(XRD)	300	816		Use cyclone specific flow rate		14464-46-1	9015
Silica,crystalline,quartz	15	OSHA ID142 (XRD)	200	1500		Use cyclone or sampler specific flow rate		14808-60-7	9010
Silver,metal and soluble com	14	NIOSH 7303(ICP)	100	960	2	Submit as separate sample			2240
Simazine	9	HPLC In-house	120	120	1		E2	122-34-9	C637
Sodium Polyacrylate	130	ICP In-house	100	960	2	Analyzed and reported as sodium		2594415	
Sodium azide	155	OSHA ID-211(IC)	5	5	1	Contact lab for sampling details. Ship on Ice		26628-22-8	S113
Sodium compounds	86	ICP In-house	100	960	2				S111
Sodium hydroxide	86	AA In-house	100	960	2	Analyzed as Na and reported as NaOH		1310-73-2	2260

ANALYTE	SAMPLING MEDIA	REFERENCE METHOD	MIN VOLUME	MAX VOLUME	FLOW RATE	COMMENTS	COMPAT	CAS#	IMIS#
Solvent scan						See Scan Section in back of guide for details.			
Solvents (Industrial)	1	NIOSH 1500/1501(GC)	1	10	0.2				
Solvents(Indoor air scan)	1	NIOSH 1500/1501(GC)	20	100	0.2	See Solvent Scan Section in back of guide for details.			
Solvents(Mini-can)	156	GC MS In-house Culture/Speciation/Quantitation				Contact lab for details			
Spores and Mold	149	Microscopic ID/quantitation				Wipe, 1 square inch recommended			S108
Spores and Mold	147	Semi- Culture/Speciation/Quantitation				Tape lift sample			S108
Spores and Mold	141	Culture/Speciation/Quantitation	28.3	141.5	28.3	See beginning of guide for detailed sampling instructions			S108
Spores and Mold	14	Culture/Speciation/Quantitation	120	240	2	See beginning of guide for detailed sampling instructions			S108
Spores and Mold	139	Microscopic identification/Quantitation	75	150	15	See beginning of guide for detailed sampling instructions			S108
Spores and Mold	150	Culture/Speciation/Quantitation				Wipe, 1 square inch recommended			S108
Spores and Mold		Culture/Speciation/Quantitation				Bulk			
Stoddard solvent	1	NIOSH 1500/1501(GC)	1	12	0.2	Reported as TVOC Hexane			9601
Stoddard solvent	128	GC FID In-House				Reported as TVOC Hexane			9601
Strontium	14	NIOSH 7303(ICP)	100	960	2			7440-24-6	S100
Strychnine	9	NIOSH 5016(HPLC)	70	1000	3			57-24-9	2275
Styrene	112	OSHA 89(GC)	1	12	0.05			100-42-5	2280
Styrene	128						A	100-42-5	2280
Sulfur Dioxide on filter	171	NIOSH 6004(IC)	4	200	0.5-1.5	Filter good for 6 months		2025884	2290
Sulfur dioxide - Do not use this method	106	Do Not Use	10	96	0.2	USE FILTER METHOD		2025884	2290
Sulfur monochloride	56	IC In-house	5	30	1	Analyzed for total chloride		10025-67-9	2320
Sulfuric acid	14	OSHA ID-113(IC)	100	960	2	May also use acid mist tube for NIOSH 7903	D	7664-93-9	2310
T(2,4,5-)	9	NIOSH 5001(HPLC)	15	200	3		E2	93-76-5	2324
TGIC						See Triglycidyl isocyanate(1,3,5-)			
Talc	15	Gravimetric				See Particulates (Resp. or Total)		14807-96-6	9030
Tefluthrin	4	OSHA 70(GC)	60	480	1			79538-32-2	9889
Terbufos	4	OSHA 67GC)	12	480	1		E1	13071-79-9	2333
Terpineol	1	NIOSH 1400(GC)	1.5	12	0.2			98-55-5	T139
Testosterone	9	OSHA PV2001(HPLC)		240	1	Ship on ice		58-22-0	T413
Tetrachloroethane(1,1,2,2-)	54	NIOSH 1019(GC)	1	12	0.2			79-34-5	2340
Tetrachloroethane(1,1,2,2-)	128	GC FID In-House						79-34-5	2340
Tetraethylenepentamine	47	HPLC In-house	1	10	0.1			112-57-2	T196
Tetrafluoroethane(1,1,1,2-)	45	GC FID In-house	0.45	3	0.05			811-97-2	R225
Tetrahydrofuran	1	NIOSH 1500/1501(GC)	1	12	0.2		A	109-99-9	2390
Tetrahydrofuran	128	GC FID In-House					A	109-99-9	2390

ANALYTE	SAMPLING MEDIA	REFERENCE METHOD	MIN VOLUME	MAX VOLUME	FLOW RATE	COMMENTS	COMPAT	CAS#	IMIS#
Tetrasodium pyrophosphate	15	Gravimetric (NIOSH 500)	100	960	2	Can be analyzed for total sodium or total phosphate		7722-88-5	T102
Thallium	14	NIOSH 7303(ICP)	100	960	2			7440-28-0	2420
Thiamethoxam	4	OSHA 67(GC)	12	480	1			153719-23-	9756
Thiram	18	NIOSH 5005(HPLC)	10	400	2			137-26-8	2427
Tin, inorganic compounds	14	NIOSH 7303(ICP)	100	960	2			7440-31-5	2430
Titanium	14	NIOSH 7303(ICP)	100	960	2			7440-32-6	T103
Titanium dioxide	15	NIOSH 500/600	480	960	2	Gravimetric analysis only		13464-67-7	2440
Toluene	128						A	108-88-3	2460
Toluene	1	NIOSH 1500/1501(GC)	1	12	0.2		A	108-88-3	2460
Toluene diisocyanate(2,4-)	124	OSHA 42(HPLC)	15	240	1	Sample open faced		584-84-9	2470
Toluene diisocyanate(2,6-)	124	OSHA 42(HPLC)	15	240	1	Sample open faced		91-08-7	T177
Toluenesulfonic acid	164	NIOSH 5043(HPLC)	10	1000	43468			104-15-4	T176
Toluidine(o-)	61	OSHA 73(GC)	15	100	1	Contact lab for sampling details		95-53-4	2475
Total VOCs as hexane	128	GC FID In-House					A		9604
Total VOCs as hexane	1	NIOSH 1500/1501(GC)	1	12	0.2		A		9601
Total weight		See particulates							
Toxaphene	14	NIOSH 5039(GC)	2	30	1		E1	8001-35-2	612
Tributyl phosphate	14	NIOSH 5034(GC)	10	100	1.5			126-73-8	2477
Trichloroethane(1,1,2-)	128						A	79-00-5	2495
Trichloroethane(1,1,2-)	1	NIOSH 1500/1501(GC)	1	12	0.2		A	79-00-5	2495
Trichloroethylene	1	NIOSH 1500/1501(GC)	1	12	0.2		A	79-01-6	2490
Trichloroethylene	128	GC FID In-House					A	79-01-6	2490
Triethanolamine	63	IC In-house	10	100	0.1-0.2			102-71-6	T185
Triethyl amine	63	IC In-house	10	100	0.1-0.2			121-44-8	2480
Triethylene Diamine	21	In-House (GC)	1.5	96	0.2			280-57-9	T118
Triethylenetetramine	47	OSHA 60/NIOSH 2540(HPLC)	1	20	0.1			112-24-3	2497
Trifluoromonobromomethane	24	NIOSH 1017(GC)	1	10	0.05	Ship on dry ice		75-63-8	2500
Trifluralin	4	OSHA 67(GC)	12	480	1			1582-09-8	T338
Triglycidyl isocyanurate(1,3,5-) (TGIC)	119	OSHA PV2055(GC-ECD)	60	120	1	Samples need to be field desorbed with 3 mls DMF		2451-62-9	T405
Trimelletic anhydride	111	OSHA 98(HPLC)	100	480	2	Sample open faced. One month shelf life. Ship on ice		552-30-7	2502
Trimethyl Benzene-1,3,5	1					Reported as total TMB. See Trimethyl benzene CAS#25551-13-7	A	108-67-8	
Trimethyl amine	63	IC In-house	10	100	0.1-0.2			75-50-3	T127
Trimethyl benzene -1,2,3	1					Reported as total TMB. See Trimethyl benzene CAS#25551-13-7	A	526-73-8	
Trimethyl benzene -1,2,4	1					Reported as total TMB. See Trimethyl benzene CAS#25551-13-7	A	95-63-6	

ANALYTE	SAMPLING MEDIA	REFERENCE METHOD	MIN VOLUME	MAX VOLUME	FLOW RATE	COMMENTS	COMPAT	CAS#	IMIS#
Trimethyl benzenes	1	NIOSH 1500/1501(GC)	1	12	0.2	Reported as total TMB.	A	25551-13-7	2505
Trimethyl benzenes	128	GC FID In-House				Reported as total TMB.	A	25551-13-7	2505
Triphenyl phosphate	14	NIOSH 5038(GC)	10	400	1.5			115-86-6	2535
Tungsten	15	NIOSH 0500/0600 (Gravimetric only)	200	1000	4			7440-33-7	2537
Turpentine	128	GC FID In-House				Reported as TVOC Hexane.			9601
Turpentine	1	NIOSH 1500/1501(GC)	1	12	0.2	Reported as TVOC Hexane.			9601
VM and P Naphtha	1					See total VOCs as hexane	A		
VM and P Naptha	128					See total VOCs as hexane			
VOCs						Contact lab for sampling details			
Vanadium dust(as V2O5)	14	NIOSH 7303(ICP)	100	960	2	Analyzed as total vanadium and reported as V2O5		1314-62-1	2570
Vinyl acetate	103	OSHA 51(GC)	3	24	0.2			108-05-4	2572
Vinyl acetate	128	GC FID In-House						108-05-4	2572
Vinyl chloride	128	GC FID In-house						75-01-4	2580
Vinyl chloride	45	OSHA 75(GC)	0.75	3	0.05			75-01-4	2580
Vinyl pyrrolidinone(N-)	1	OSHA 83(GC)	1.5	12	0.2		B	88-12-0	V107
Vinylidene chloride	1	NIOSH 1500/1501(GC)	1	12	0.2		A	75-35-4	2583
Vinylidene chloride	128						A	75-35-4	2583
Warfarin	18	NIOSH 5002(HPLC)	200	1000	3			81-81-2	2586
Welding fumes - metals only	14	NIOSH 7303(ICP)	30	960	2				2587
Welding fumes total-gravimetric & metals	15	NIOSH 0500(GRAV)	100	960	2				2587
Wood dust	102	Gravimetric	100	960	2			13983-17-0	9210
Xylene	1	NIOSH 1500/1501(GC)	1	12	0.2	Reported as all three isomers combined	A	1330-20-7	2590
Xylene	128	GC FID In-House				Reported as all three isomers combined	A	13330-20-7	2590
Xylene-m	1					Reported as total xylene. See Xylene CAS#1330-20-7	A	108-38-3	
Xylene-o	1			12		Reported as total xylene. See Xylene CAS#1330-20-7	A	95-47-6	2590
Xylene-p	1					Reported as total xylene. See Xylene CAS#1330-20-7	A	106-42-3	
Xylenediamine	61	OSHA 105(HPLC)	15	100	1			1477-55-0	2592
Zinc	14	NIOSH 7303(ICP)	100	960	2			7440-66-6	Z100
Zinc chloride fume	14	NIOSH 7303(ICP)	100	960	2	Collect as a separate sample. Analyzed as sol Zn		7646-85-7	2611
Zinc oxide fume	14	NIOSH 7303(ICP)	100	960	2	Analyzed as total zinc and reported as ZnO		1314-13-2	2610

WOHL Media List

MEDIA #	MEDIA NAME	DESCRIPTION	MANUFACTURE #
1	Charcoal tube, small	100/50 Charcoal tube	SKC 226-01
2	Charcoal tube, large	400/200 charcoal tube	SKC 226-09
3	Silica gel tube (small) 226-10	Untreated silica gel	SKC 226-10
4	OVS-2 tube	OVS-2 tube (fiberglass filter with xad-2 resin)	SKC 226-58
6	Acid mist tube (226-10-03)	Prewashed silica gel tube	SKC 226-10-03
8	TENAX Tube 226-35-03	TENAX Tube	SKC 226-35-3
9	Glass Fiber "A" filter	Glass fiber filter, 37 mm, 2 piece, labeled A, white band	
10	Formaldehyde tube (GC) (226-117)	2-(hydroxymethyl)-piperidine treated XAD-2 tube	SKC 226-117
11	Glass fiber filter + silica gel tube	13 mm Swinnex filter + small silica gel tube	
13	Chromosorb 106	Chromosorb 106	SKC 226-49-106
14	MCE filter, 37mm, 0.8 micron, 3 piece white	MCE filter, 37 mm, 0.8 micron, 3 piece, labeled AA, white band	AA
15	PVC filter, 37mm, 5 micron, 2 piece yellow	PVC, weighed, 37 mm, 5.0 micron, 2 piece, yellow band	2PYF
17	H2SO4, 0.1 N in Midget impinger	Midget impinger with 0.1 N H2SO4	
18	Teflon filter, unweighed	PTFE, 37 mm, 2 micron, 2 piece, labeled FA, lavender band	
19	Ammonia tube	Carbon beads impregnated with H2SO4	SKC 226-29
21	XAD-2 Tube	Untreated XAD-2 Tube	SKC 226-30
22	PCM filter	MCE, 25 mm, 0.8 micron, 3 piece, opaque plastic housing	
23	Bulk/Wipe shipping tube	50 ml screw top Plastic tube	
24	Charcoal tubes, large & small in series,	Large (400/200) & small (100/50) charcoal tube in series	
25	Porapak Q tube	Porapak Q tube	SKC 226-115
27	XAD-7 tube (skc # 226-95)	Untreated XAD-7 tube	SKC 226-95
28	Glass bubbler with bicarbonate buffer	Glass bubbler with 0.003 M NaHCO3 / 0.0024 M Na2CO3 buffer	
29	BF3 collecting solution	0.1 N ammonium fluoride solution	
31	Silica gel, two small tubes in series	Two small silica gel (media #3) in series	SKC 226-10
32	Charcoal tubes, two small in series	Two small charcoal tubes (media #1) in series.	SKC 226-01
33	XAD-2, two tubes in series	two untreated XAD-2 tubes	SKC 226-30
34	H2SO4 coated silica gel tubes	H2SO4 coated silica gel tubes	SKC 226-53
36	Ozone filter	2-GFF nitrite treated, 37 mm, 2 piece, labeled OZONE, green tape	
37	Grab sample: Foil bag, Tedlar bag or minican	Grab Sample using minican or bag	
38	XAD-4 tube (skc# 226-93)	XAD-4 tube	SKC 226-93
39	NaOH 0.1 N in Glass bubbler	Glass bubbler with dilute 0.1 N NaOH	
41	Polyvinylchloride (PVC) filter in opaque cassette	Polyvinylchloride (PVC) filter in opaque cassette	
42	Teflon filter + TENAX tube	Lavender banded cassette marked FA + TENAX tube	SKC 226-35-03
43	Charcoal tubes, two large in series	Two large charcoal tubes (media #2) in series	
44	Cyanide tube (SKC# 226-28)	Soda lime tube	SKC 226-28
45	ORBO 91	Carbosieve S III	
47	Treated XAD-2 tube	NITC Treated XAD-2 tubes	SKC 226-30-18
50	Discontinued	Use MDI filter. Media #124	
52	XAD-2 coated with octanoic acid	XAD-2 coated with octanoic acid	

MEDIA #	MEDIA NAME	DESCRIPTION	MANUFACTURE #
54	Charcoal tube, petroleum based	Petroleum based charcoal tube	SKC 226-38
56	Deionized water in Midget impinger	Midget impinger with Deionized water	
61	GFF (2), H2SO4 treated, 37 mm, / MDA, clear band	GFF (2), H2SO4 treated, 37 mm, 3 piece, labeled MDA, clear band	MDA Filter
62	MCE Filter + Chromosorb 102 tube	0.8 micron 37 mm White banded cassette marked AA + chromosorb 102	SKC 226-49-102
63	XAD-7 coated with H3PO4 (skc# 226-98)	XAD-7 coated with H3PO4	SKC 226-98
66	Ethylene oxide tubes	HBR treated Anasorb 747 tubes.	SKC 226-38-03
68	Glass bottle in metal shipping can	Prescription bottle + shipping can	
69	NaOH 0.1 N (Sodium Hydroxide)	0.1N Sodium hydroxide	
70	Glutaraldehyde, DNPH treated filter	GFF (2), DNPH treated, 37 mm, 4 piece, labeled DNPH, clear band	
71	Chlorine/Bromine Silver filter	Silver membrane filter, washed, 25 mm, 0.45 micron, 3 piece with PTFE prefilter, labeled Cl/Br, green tape	
72	MCE Filter+ midget impinger with Deionized water	0.8 micron 37 mm White banded cassette marked AA + Deionized water	
74	F/HF Filter	MCE filter with Na2CO3 treated pad, 37 mm, 0.8 micron, 3 piece, labeled F/HF, clear band	
75	H2O2 collectionsolution	Titanium Sulfate solution	
77	Char tube/ alkali metal hydroxide(226-151)	Charcoal tube impregnated with alkali metal hydroxide	Supelco ORBO 354
82	P-anisidine coated XAD-2 + uncoated XAD-2 in series		
83	Mercury Tube 226-17-1A	Carulite tube	SKC 226-17-1A
84	Silica gel tube (large)	Large untreated silica gel tube	Supelco ORBO 507
85	Petroleum based charcoal tubes, two in series	Petroleum based charcoal tubes	SKC 226-38
86	Na/K/Cr6 clear banded filter	Hexavalent Chrome filter, unweighed PVC, 37 mm, 5.0 micron, 2 piece, labeled Na/K/Cr6, clear band	
87	Discontinued		
88	XAD-7 tube coated with pyridyl piperazine	XAD-7 tube coated with pyridyl piperazine	
90	NO and NO2 Oxides of Nitrogen/Oxidizer	Two TEA Coated molecular sieve sections with oxidizer (3 tubes)	SKC 226-40
91	NO2 tube (without Oxidizer)	TEA coated molecular sieve tube	SKC 226-40-02
92	PPI Calibration Adapter	Special unit used to calibrated PPI samplers	
93	ClO2 collection solution	Buffered Potassium iodide solution	
94	Discontinued		
95	Teflon filter + XAD-2 tube	Lavender banded cassette marked FA + XAD-2 tube	SKC 226-30
97	Glass fiber filter + two XAD-7 tubes	White banded filter marked A+2 untreated XAD-7 tubes	SKC 226-94
102	Wood dust cassette (ESF)	PVC filter bonded to PVC capsule, weighed, 37 mm, 2 piece, labelled ESF, black band	
103	Anasorb 747 (skc# 226-81A)	Carbon bead tube	SKC 226-81A
104	Glass fiber filter + Chomosorb 102 tube	White banded cassette marked A + Chromosorb 102 tube	SKC 226-49-102
105	Mercury chloride coated silica gel tube	Mercury chloride coated silica gel tube	
106	SO2 tube (SKC# 226-80)	Treated anasorb 747 tubes	SKC 226-80
109	Midget impinger with ethyl acetate	Midget impinger with ethyl acetate	
111	Veratrylamine coated filter	GFF (2), veratrylamine & di-n-octyl phthalate treated, 37 mm, 4 piece, labeled VA, clear band	
112	Charcoal tube, TBC treated (226-73)	t-Butylcatechol treated charcoal tube	SKC 226-73
113	Discontinued		SKC 226-27
114	Discontinued		
116	OVS-7 TUBE (226-57)	Glass fiber filter backed by XAD-7 packing	
117	OVS-TENAX 226-56	Glass fiber filter backed by TENAX packing	
118	Discontinued	Use media # 174	

MEDIA #	MEDIA NAME	DESCRIPTION	MANUFACTURE #
119	TGIC filter (HBr coated)	GFF, HBr coated, 37 mm, 2 piece, labeled HBr, clear band	
120	ECOC Filter	Quartz, 37 mm, 3 piece, labeled ECOC, clear band	
121	Anasorb 708 , two tubes in series	Carbon bead tubes	SKC 226-30-08
122	Teflon filter for Metal working fluids	PTFE, washed, 37 mm, 2 micron, 2 piece, blue band & green tape	
123	Bottles, 1000 ml polyethylene with wide lid	1000 ml Polyethylene bottles with wide screw-on lids	
124	MDI filter	GFF, pyridyl piperazine treated, 37 mm, 3 piece, labeled MDI, orange band	
125	DNPH Tube	Lab recommends media #138	SKC 226-119
126	Discontinued	Use media # 15	
127	IOM Sampler	PVC or GFF, 25 mm, sampler number engraved on sampler	SKC 225-76A
128	Organic Vapor Monitor (OVM) 3M 3520	3M 3520 Organic Vapor Monitors	
129	Chloramine filter	GFF (2), arsenic treated, 37 mm, 4 piece with PTFE prefilter, labeled Chloramine, clear band	
130	Low Na filter washed PTFE Polyacrylate	PTFE, washed, 37 mm, 2 micron, 3 piece, green tape	
130.5	Low Sodium (with KC numbers)	Special polyacrylate filter for KC	
131	Whatman filters	Whatman 42 filters for wipe samples	
132	Hopcalite (SEE 83)	Mercury tube	
133	Lead wipes	Palintest wipes	
134	Mercury badges	Hg Passive badge	
135	PVC filter(5 micron)+ 10 mm nylon cyclone	Yellow banded filter + cyclone	
136	PVC filter, 37mm, 5 micron, 3 piece yellow	PVC, weighed, 37 mm, 5.0 micron, 3 piece, yellow band	
137	Discontinued		
138	DNPH Cartridge (SEPPAK) (EPA)	DNPH Cartridge (SEPPAK)	
139	Air-O-Cell	Air-O-Cell	
140	Anasorb 747	Carbon bead tube	SKC 226-81A
141	Malt Extract Agar	Malt Extract Agar for Andersen Sampler	
142	Malt Extract with NaCl Agar	Malt Extract Agar with NaCl for Andersen Sampler	
143	Cellulose Agar	Cellulose Agar for Andersen Sampler	
144	Tryptic Soy Agar	Tryptic Soy Agar for Andersen Sampler	
145	Sheep Blood Agar	Sheep Blood Agar for Andersen Sampler	
146	Legionella Water Bottle	Sterile 250 ml container with sodium thiosulfate	
147	Tape lift	Tape lift	
148	Mitest vacuum dust collectors		
149	Filter paper wipes, Not in room 114A	Whatman 1	
150	Swab for bacteria or mold	Sterile swab with transport media	
151	Sterile containers with green cap		
152	MSA saucer filter	PVC, aluminum shielded, weighed, 37 mm, 5.0 micron, 2 piece, white band	
153	Discontinued		
154	Discontinued		
155	Sodium Azide/hydrazoic acid tube	SKC 226-55	
156	Minican	Minican	
157	Isocyanate field desorption solution	Acetonitrile / DMSO solution	
158	Anasorb 747, two tubes in series	Two Anasorb 747 tubes in series	

MEDIA #	MEDIA NAME	DESCRIPTION	MANUFACTURE #
159	Cr6 ACID filter	Quartz, NaOH treated, 37 mm, 2 piece, labeled Cr6 ACID	
160	PVC filter, 5 micron, " yellow 25 mm"	PVC, 25 mm, 5.0 micron, 2 piece, yellow banded	
161	Cr6 WELD filter, 25 mm	PVC, 25 mm, 5.0 micron, 2 piece, labeled Cr6 WELD, clear band	
162	Phosphorous Oxychloride collecting solution	Phosphorous Oxychloride collecting solution	
163	XAD-7 Special for PCP/Phenol Scan (226-97).	Special 3 part XAD-7 tube (226-97)	
164	13 mm Glass fiber filter		
165	Midget Impinger with Isopropanol	Isopropanol solution	
166	Discontinued		
167	UMEX-100 Passive Sampler	DNPH - treated media. Freezer Storage!	
168	Polyacrylic acid filter (special)	MCE filter with plastic back-up pad	
169	Diacetyl tube (2 tubes in series)	Special cleaned & dried silica gel tube for diacetyl labeled part A and B	
170	Combustible dust sampling kit	Nonelectrostatic scoop, brush and 1 liter bottle	
171	Sulfur Dioxide Filter	37 mm Na2CO3 treated cellulose filter	
172	Carpet Sampler 25mm 0.45 MCE	Vacuum sampler for use with pumps	
173	Discontinued		
174	Large Anasorb 747 SKC# 226-83	Large Anasorb 747 used for H2s and Alcohols	
175	2 lpm PPI for Resp dust	2 lpm PPI with 5 um PVC (pre-weighed)	
176	Swab for Legionella	Special Legionella swab with test tube for transport	
177	Hydrogen Peroxide Filter	Two 25 mm quartz filters coated with titanium oxysulfate	
178	Methanol Badge: 575-007	Anasorb 747 badge with 500 mg for methanol sampling	
179	4 lpm PPI for Resp dust	4 lpm PPI with 5 um PVC (pre-weighed)	
180	8 lpm PPI for Resp dust	8 lpm PPI with 5 um PVC (pre-weighed)	

WOHL CASSETTE/WIPE/BADGE MEDIA

WOHL No.	Description	Label	Shelf life	Analytes	Comments
9	Glass Fiber A filter. 37mm 2-piece.	A	Indefinite	Paraffin, phthalates, PNA, PAH, CTPV, triethanolamine, Pesticides and herbicides	
14	MCE-Mixed Cellulose Ester. 37mm 3-piece.	AA Zefon	Indefinite	Metals, spores	
15	Yellow banded PVC. 37mm 2-piece		5 years	Dust, silica, oil mist	
18	Teflon filter unweighed. 37mm 2-piece	FA	Indefinite	Alkaline Dust	
22	PCM filter. 25mm 3-piece.	PCM	Indefinite	Asbestos	
36	Ozone filter. 37mm nitrite treated 2-piece	Ozone	1 month	Ozone	allow extra day for prep
61	GFF,H ₂ SO ₄ trtd 37mm. 3-piece.	MDA	6 months	MOCA, 4,4'-methylenedianiline, hydrazine, benzidines	field desorb
70	Gluteraldehyde,DNPH treated 4-piece	DNPH	3 months	Gluteraldehyde	allow extra day for prep
71	Chlorine/Bromine. 25mm Silver membrane, 3-piece	Cl/Br	8 months	Chlorine, bromine	
74	Fluoride Filter. 37mm MCEF w/treated backup pad. 3-piece.	F/HF	2 months	Hydrogen fluoride	allow extra day for prep. Filter collects fluoride, pad collects HF
86	Hexchrome filter. 37mm 2-piece	Zefon Na/K/Cr6	Indefinite	Sodium, potassium, hexavalent chromium	
102	Wood Dust Cassette. 37mm 2-piece. Black.	ESF	5 years	Hardwood dust, softwood dust, cotton dust, electrostatic dusts	
111	Veratrylamine cassette. 37mm 4-piece. Clear.	VA	1 month	maleic, trimellitic, phthalic, and acetic anhydrides	allow extra day for prep.
119	TGIC filter. 37mm 2-piece. Clear.	HBr	1 year	Triglycidal isocyanurate	Field desorb in 3 ml DMF.
120	ECOC filter. 37mm 3-piece. Quartz. Clear.	ECOC	Indefinite	Diesel exhaust (elemental carbon/organic carbon)	
122	Teflon filter. Preweighed (MWF). 37mm 2-piece.		5 years	Metals working fluids	

WOHL No.	Description	Label	Shelf life	Analytes	Comments
124	MDI cassette. 37mm 3-piece. Orange band.	MDI	1 month	Isocyanates	for aerosol or extreme dust conditions, limit sampling to 15 min or under and field desorb.
127	IOM sampler. Preweighed or unweighed 25mm steel			Inhalable dusts	assembled upon request
128	3M 3520 OVM badge	3M 3520		Organic vapors	
129	Chloramine filter. 37mm As ₂ O ₃ quartz 4-piece	chloramine	3 months	Chloramine	allow extra day for prep
130	Low Sodium. Green band. 37mm 3-piece	K number	Indefinite	Sodium Polyacrylate	
131	Whatman 110mm round filter paper		Indefinite		
133	Palintest. Spotted 17.9mmx12.7mm wipe		2 years	Environmental metals	
136	3 piece pre-weighed yellow banded. 37mm 3-piece		5 years	respirable dusts	
138	Seppak cartridge	foil package		Formaldehyde	
139	Air-O-Cell. 37mm	Air-O-Cell	1 year	Spores	
156	Minicans				
159	Cr6 Acid. 37mm NaOH treated quartz 2-piece.	Cr6 Acid	1 month	hexavalent chromium from chrome plating and acid environments.	allow extra day for prep.
160	Preweighed 25mm yellow banded 2-piece.		5 years	Welding fumes	
161	Cr6 Weld. 25mm 2-piece.	Cr6 Weld	Indefinite	hexavalent chromium	
167	Umex-100 badge	foil package.		formaldehyde	
171	Sulfur Dioxide Filter. 37mm 3-piece	SO2	6 months	Sulfur dioxide	allow extra day for prep
173	Teflon unweighed. 25mm 2-piece				
175	PPI. 2 lpm badge. 37mm		2 years	Silica	
177	Hydrogen Peroxide. 25mm quartz			Hydrogen peroxide	assembled upon request
179	PPI 4 lpm badge. 37mm		2 years	Silica	
180	PPI 8 lpm badge. 37mm		2 years	Silica	

WOHL Scans

Scan: Aldehyde Scan

Media: DNPH /Seppak (138)

Cost: \$295.00 per sample

Analytes included:

- Acetaldehyde
- Acetone
- Benzaldehyde
- Butyraldehyde
- 2,5-Dimethylbenzaldehyde
- Formaldehyde
- Hexanaldehyde
- Isovaleraldehyde
- Methyl Ethyl Ketone (MEK)
- Propionaldehyde
- m&p-Tolualdehyde
- o-Tolualdehyde
- Valeraldehyde

Scan: PAH 5

Media: OVS-2 (4)

Cost:\$205.00

Analytes included:

- Anthracene
- Benzo(a)pyrene
- Chrysene
- Phenanthrene
- Pyrene

Scan: PAH 11

Media: OVS-2 (4)

Cost: \$190.00

Analytes included:

- Anthracene
- Benz(a)anthracene
- Benzo(a)pyrene
- Chrysene
- Coronene
- Fluoranthene
- 3-Methylcholanthrene
- Naphthalene
- Perylene
- Phenanthrene
- Pyrene

Scan: Alcohols

Media: Large Anasorb 747 (174)

Cost:\$190.00

Analytes Included:

- n-Butyl Alcohol
- Ethanol
- Isobutyl Alcohol
- Isopropyl Alcohol
- Methanol
- n-Propanol
- Sec-Butanol

Scan: Acrylates

Media: (112)

Cost:\$190.00

Analytes included:

- Acetone
- Alpha-Methyl Styrene
- Butyl Acrylate
- Butyl Methacrylate
- Ethyl Acrylate
- 2-Ethyl Hexyl Acrylate
- Ethyl Methacrylate
- Methyl Acrylate
- Methyl Methacrylate
- Styrene

Scan: Inorganic Acid Mist I

Media: *acid mist tube (6)*

Cost: \$113.00

Analytes Included:

- Hydrogen Fluoride (HF)
- Hydrogen Chloride (HCl)
- Hydrogen Bromide (HBr)
- Nitric Acid
- Phosphoric Acid
- Sulfuric Acid

Scan: Organic Acid Mist IV

Media: acid mist tube (6)

Cost:\$199.00

Analytes included:

- Acetic Acid
- Butyric Acid
- Citric Acid
- Formic Acid
- Hydrochloric Acid (HCl)
- Hydrofluoric Acid (HF)
- Propionic Acid

Scan: Isocyanate

Media: MDI filter (124)

Cost: \$199.00

Analytes included:

- Hexamethylene Diisocyanate (HDI)
- Homopolymer of HDI
- Isophorone Diisocyanate (IPDI)
- Methylene Biscyclohexyl Isocyanate

(DESW/HDMI)

- Methylene Bisphenyl Isocyanate (MDI)
- PAPI
- 2,4-Toluene Diisocyanate
- 2,6-Toluene Diisocyanate

Scan: Amines

Media: H₃PO₄ coated XAD-7 tube (63)

Cost: \$147.00

Analytes included:

- Diethanolamine
- Ethanolamine (*Monoethanolamine*)
- Triethanolamine

Scan: Low Molecular Weight Aliphatic Amines

Media: H₃PO₄ coated XAD-7 tube (63)

Cost: \$220.00

Analytes included:

- Diethylamine
- Dimethylamine
- Dimethylethylamine
- Ethylamine
- Methylamine
- Triethylamine
- Trimethylamine

Scan: Solvent Scan A

Media: Large (2) or small (1) charcoal tube, Badge (128)*

Cost: \$190.00

Analytes included:

- Acetone
- Benzene
- n-Bromopropane
- n-Butyl Acetate
- 1-Chloro-4-trifluoromethylbenzene (*Chlorobenzo-tri fluoride*)
- Cyclohexane
- Cyclohexanone
- Diisobutyl ketone
- Ethyl Acetate
- Ethyl Alcohol (*Ethanol*)
- Ethyl Benzene
- Hexane n
- Isopropyl Alcohol (*Isopropanol, 2-propanol*)
- Isopropylbenzene (*Cumene*)
- Limonene
- Methyl Amyl Ketone n-
- Methyl Ethyl Ketone (*MEK, 2-butanone*)
- Methyl isobutyl ketone (*MIBK, hexone, 4-Methyl-2-pentanone*)
- Methylene Chloride
- Methyl Methacrylate
- Pentane
- 2-Pentanone
- Styrene
- 4-tert-Butyltoluene
- Tetrachloroethene (*tetrachloroethylene*)
- Toluene
- Total VOC as hexane (*Naphtha, mineral spirits, Stoddard solvent*)
- Trichloroethene (*trichloroethylene*)
- Trimethylbenzenes
- Xylenes

Scan: Solvent Scan B

Media: Large (2) or small (1) charcoal tube, Badge (128)*

Cost: \$190.00

Analytes included:

- 2-Butoxyethanol CAS: 111-76-2
- Butyl Carbitol CAS: 112-34-5
- Butyl Cellosolve Acetate CAS: 112-07-2
- Diethyl Carbitol CAS: 112-36-7
- Dimethyl Adipate CAS: 627-93-0
- Dimethyl Glutarate CAS: 1119-40-0
- Dimethyl Succinate CAS: 106-65-0
- Dipropylene Glycol Methyl Ether (*DPGME*) CAS: 34590-94-8
- 2-Ethoxyethanol CAS: 110-80-5
- Ethyl-2-pyrrolidone CAS: 2687-91-4
- Methyl Cellosolve CAS: 109-86-4
- 1-Methyl-2-Pyrrolidinone CAS: 872-50-4
- PG Methyl Ether Acetate (*PGMEA*) CAS: 108-65-6
- 2-Propoxyethanol CAS: 2807-30-9
- n-Propoxy Propanol CAS: 1569-01-3
- Propylene Glycol Butyl Ether CAS: 5131-66-8
- Propylene Glycol Ethyl Ether CAS: 1569-02-4
- Propylene Glycol Methyl Ether CAS: 107-98-2

METAL SCANS

	Aluminum	Arsenic	Chromium	Copper	Iron	Lead	Magnesium	Manganese	Nickel	Zinc	Antimony	Beryllium	Cadmium	Cobalt	Molybdenum	Titanium	Vanadium	Barium	Bismuth	Boron	Calcium	Lithium	Selenium	Strontium	Thallium	Tin	
\$80.00 BASIC SCAN	Al	As	Cr	Cu	Fe	Pb	Mg	Mn	Ni	Zn	Sb	Be	Cd	Co	Mo	Ti	V	Ba	Bi	B	Ca	Li	Se	Sr	Tl	Sn	
AIR	X	X	X	X	X	X	X	X	X	X																	
WHATMAN WIPE	X	X	X	X	X	X	X	X	X	X																	
PALINTEST WIPE	X	X	X	X	X	X	X	X	X	X																	
GHOST WIPE	X	X	X	X	X	X	X	X	X	X																	
BULK (+\$10)	X	X	X	X	X	X	X	X	X	X																	
\$119.00 EXPANDED SCAN	Al	As	Cr	Cu	Fe	Pb	Mg	Mn	Ni	Zn	Sb	Be	Cd	Co	Mo	Ti	V	Ba	Bi	B	Ca	Li	Se	Sr	Tl	Sn	
AIR	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X										
WHATMAN WIPE	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X										
GHOST WIPE	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X										
BULK (+\$10)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X										
\$179.00 FULL SCAN	Al	As	Cr	Cu	Fe	Pb	Mg	Mn	Ni	Zn	Sb	Be	Cd	Co	Mo	Ti	V	Ba	Bi	B	Ca	Li	Se	Sr	Tl	Sn	
AIR	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WHATMAN WIPE	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
BULK (+\$10)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

A variety of metals can be collected on the same filter; however, some need to be collected separately due to solubility differences. Please call the lab if you have questions about which metals can be collected together. Pricing for ICP analysis is as follows: The first metal on a filter is \$35. Each additional metal on the same filter is \$6. for special metals such as mercury and silver, please see the alphabetical listing. There is an additional \$10 prep charge per sample for bulks. Please note that oxide compounds cannot be determined specifically. The metal content is determined and a conversion factor is applied. The ICP determines metal content, which may or may not include all compounds of that metal. If you are interested in metal oxides, you should call the lab to determine the best sampling strategy.