



*Hong Kong University of Science & Technology
Health, Safety and Environment Office
Laboratory*

*Industrial Hygiene / IAQ Analysis
(Air Samples)*

Test Catalogue & Fee Schedule (USD)

February 2022

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QUALIFICATIONS AND ACCREDITATIONS

Health, Safety and Environment Office (HSEO) Laboratory has received accreditation by the American Industrial Hygiene Association (AIHA) since 1996. The following qualifying criteria currently apply to the laboratory:

- AIHA Accreditation (Laboratory # 102243)
 - The AIHA Laboratory Accreditation Programs (AIHA LAP,LLC)
 - Scope of Accreditation:
 - Chromatography Core
 - Gas Chromatography (GC/FID)
 - Gas Chromatography Mass Selective Detector (GC/MSD)
 - High Performance Liquid Chromatography (HPLC/UV)
 - Ion Chromatography (IC)
 - Spectrometry Core
 - Inductively Coupled Plasma Optical Emission Spectroscopy (ICP/OES)
 - Inductively Coupled Plasma Mass Spectroscopy (ICP/MS)
 - Miscellaneous Core
 - Gravimetric
 - Proficiency Testing (PT) Participation in:
 - AIHA Industrial Hygiene Proficiency Analytical Testing Programs (IHPAT)
 - Metals, Organic solvents and 3M Diffusive sampler
 - LGC Air & Stack Emissions Scheme (AIR PT) Scheme
 - Formaldehyde, Gravimetric
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TERMS & CONDITIONS

(Refer to HSEO Lab website)

<https://hseo.hkust.edu.hk/hseo-lab/service>

INDUSTRIAL HYGIENE ANALYSES

METALS BY ICP

MCE / PVC FILTERS:

<u>Method Code</u>	<u>Method Reference</u>	<u>Instrumentation</u>	<u>Detection Limit</u>
PAM001	NIOSH 7301, 7303	ICP/OES	mg/sample
PAM026	NIOSH 7300	ICP/MS	µg/sample

Analyte List:

						<u>Fee (USD)</u>
Aluminum, Al	Antimony, Sb [#]	Arsenic, As [#]	Barium, Ba	Beryllium, Be	Boron, B	45 / 20 *
Cadmium, Cd	Chromium, Cr	Cobalt, Co	Copper, Cu	Indium, In	Iron, Fe	
Lead, Pb	Manganese, Mn	Nickel, Ni	Mercury, Hg [#]	Selenium, Se [#]	Silver, Ag	
Titanium, Ti	Vanadium, V	Zinc, Zn				

* First analyte on a sample / additional analyte on same sample

Analyzed by ICP/MS only.

Special discount: USD 160 for any 8 analytes from above list per sample

OTHERS (Non AIHA accredited methods):

<u>Metal</u>	<u>Method Code</u>	<u>Method Reference</u>	<u>Instrumentation</u>	<u>Sampling Medium</u>	<u>Fee (USD)</u>
Lead in Paint	PAM004	ASTM E1645-94	ICP/OES	-	58
Lead in Wipe	PAM018	HUD-1539-LBP / NIOSH 9100	ICP/OES	Baby wipe	58

PARTICULATE (NUISANCE DUST /OIL MIST)

<u>Method Code</u>	<u>Method Reference</u>	<u>Instrumentation</u>	<u>Sampling Medium</u>	<u>Fee (USD)</u> (per analyte)
PAM017	NIOSH 0500 (Total Particulates) NIOSH 0600 (Respirable particulates)	Gravimetric	PVC filter SKC 225-8-01 (single filter) SKC 225-8202 (Matched-weight filter)	15
PAM025	HSE MDHS 14/3	Gravimetric	SKC 225-70A, 25mm (IOM Sampler)	28

INORGANIC ACIDS BY IC

<u>Method Code</u>	<u>Method Reference</u>	<u>Instrumentation</u>	<u>Sampling Medium</u>	<u>Fee (USD)</u>
PAM010	NIOSH 7903	IC	Silica gel (Specially cleaned) (+ Glass fiber filter plug) SKC 226-10-03	50 / 20 *

Analyte List:

Hydrobromic acid (HBr)	Hydrofluoric acid (HF)	Phosphoric acid (H ₃ PO ₄)
Hydrochloric acid (HCl)	Nitric acid (HNO ₃)	Sulfuric acid (H ₂ SO ₄)

* First analyte on a sample / additional analyte on same sample

Special discount: USD 130 for complete analyte list per sample

<u>Analyte</u>	<u>Method Reference</u>	<u>Instrumentation</u>	<u>Sampling Medium</u>	<u>Fee (USD)</u>
NaF as F	NIOSH 7906	IC	SKC 225-9001 (coated with sodium carbonate & preloaded in cassettes)	50
NO ₂	OSHA ID-182	IC	Ogawa Passive Sampler	50

ORGANIC SOLVENTS BY GC/FID

(For analyte not on the list, a one-time method development fee may apply. Please contact us for details.)

<u>Method Code</u>	<u>Method Reference</u>	<u>Instrumentation</u>	<u>Sampling Medium</u>	<u>Fee (USD)</u>
PAM002	NIOSH methods	GC/FID	Sorbent tube	50 / 20 *
PAM015	NIOSH methods	GC/FID	3M 3500 Organic Vapor Monitor	50 / 20 *
PAM015	NIOSH methods	GC/FID	3M 3520 Organic Vapor Monitor	75 / 25 *
	<u>Analyte List:</u>	<u>Method Reference</u>	<u>Sorbent tube</u>	<u>Diffusive sampler</u> (◇ 3M 3500)
Acetone		NIOSH 1300	Anasorb CSC, SKC 226-01	3M 3520
Acetonitrile		NIOSH 1606	Anasorb CSC, SKC 226-09	3M 3520
Biphenyl		NIOSH 2530 OSHA PV2022	Tenax, SKC 226-35-01 XAD-7, SKC 226-95	-
1-Butanol ◆		NIOSH 1401	Anasorb CSC, SKC 226-01	◇
n-Butyl Acetate		NIOSH 1450	Anasorb CSC, SKC 226-01	◇
Carbitol Acetate ◆		OSHA PV2013	Anasorb CSC, SKC 226-01	-
Carbon Tetrachloride		NIOSH 1003	Anasorb CSC, SKC 226-01	◇
Chloroform		NIOSH 1003	Anasorb CSC, SKC 226-01	◇
Cyclohexanone		NIOSH 1300	Anasorb CSC, SKC 226-01	-
1,2-Dichloroethane (Ethylene Dichloride)		NIOSH 1003	Anasorb CSC, SKC 226-01	◇
Dichloromethane (Methylene Chloride)		NIOSH 1005	Anasorb CSC, SKC 226-01	3M 3520
Diethyl ether		NIOSH 1610	Anasorb CSC, SKC 226-01	3M 3520
Ethanol ◆		NIOSH 1400	Anasorb CSC, SKC 226-01	3M 3520
Ethyl Acetate		NIOSH 1457	Anasorb CSC, SKC 226-01	◇
Ethyl Benzene		NIOSH 1501	Anasorb CSC, SKC 226-01	◇
2-Ethylhexyl Acrylate		OSHA PV2026	Anasorb CSC, SKC 226-01	-
n-Heptane		NIOSH 1500	Anasorb CSC, SKC 226-01	◇
n-Hexane		NIOSH 1500	Anasorb CSC, SKC 226-01	◇
Methanol		NIOSH 2000	Silica gel, SKC 226-51	-
Methyl Ethyl Ketone (MEK)		NIOSH 2500	Anasorb CMS, SKC 226-121	◇
Methyl Isobutyl Ketone (MIBK)		NIOSH 1300	Anasorb CSC, SKC 226-01	◇
Methyl Methacrylate		NIOSH 2537	XAD-2, SKC 226-30-06	◇
Methyl tert-Butyl Ether (MTBE)		NIOSH 1615	Anasorb CSC, SKC 226-37	◇
1-Methyl-2-Pyrrolidinone (NMP) ◆		NIOSH 1302	Anasorb CSC, SKC 226-01	◇
Petroleum Ether		NIOSH 1550	Anasorb CSC, SKC 226-01	-
Phenyl Ether		NIOSH 1617 OSHA PV2022	Anasorb CSC, SKC 226-01 XAD-7, SKC 226-95	◇
2-Propanol (Isopropanol) ◆		NIOSH 1400	Anasorb CSC, SKC 226-01	3M 3520
Pyridine ◆		NIOSH 1613	Anasorb CSC, SKC 226-01	-
Styrene		NIOSH 1501	Anasorb CSC, SKC 226-01	◇
Tetrahydrofuran		NIOSH 1609	Anasorb CSC, SKC 226-01	◇
Tetrachloroethylene (Perchloroethylene)		NIOSH 1003	Anasorb CSC, SKC 226-01	◇
Toluene		NIOSH 1501	Anasorb CSC, SKC 226-01	◇
1,1,1-Trichloroethane		NIOSH 1003	Anasorb CSC, SKC 226-01	◇

<u>Analyte List:</u>	<u>Method Reference</u>	<u>Sorbent tube</u>	<u>Diffusive sampler</u> (◇ 3M 3500)
Trichloroethylene	NIOSH 1022	Anasorb CSC, SKC 226-01	◇
Vinyl acetate ◆	NIOSH 1453	Carbon molecular sieve, Orbo-92 or equivalent	◇

◆ As different desorption solvents are required for the specified analytes, please use a separate Anasorb CSC, SKC 226-01 tube or diffusive sampler for collection.
* First analyte on a sample / additional analyte on same sample

OTHER ORGANIC SOLVENTS BY GC/FID				
<u>Analyte</u>	<u>Method Reference</u>	<u>Sorbent tube</u>	<u>Diffusive sampler</u> (◇ 3M 3500)	<u>Fee (USD)</u>
Acetic Acid ◆	NIOSH 1603	Anasorb CSC, SKC 226-01	-	65
Benzene	NIOSH 1501	Anasorb CSC, SKC 226-01	◇	65
o-, m-, p-Xylene	NIOSH 1501	Anasorb CSC, SKC 226-01	◇	65
Formaldehyde	NIOSH 2541	XAD-2, SKC 226-118	-	75 (3 samples minimum)
Total Hydrocarbons (as Hexane)	NIOSH 1500	Anasorb CSC, SKC 226-01	◇	65
Stoddard Solvent	NIOSH 1550	Anasorb CSC, SKC 226-01	◇	65
Paraffin Wax	OSHA PV2047	Glass fiber filter, SKC 225-7	-	65

◆ As different desorption solvents are required for the specified analytes, please use a separate Anasorb CSC, SKC 226-01 tube for collection.

ORGANIC SCAN BY GC/MSD				
<u>Organic Scan</u>	<u>Method Code</u>	<u>Sorbent tube</u>	<u>Diffusive sampler</u> (◇ 3M 3500)	<u>Fee (USD)</u>
Low Boiling or High Boiling Fraction	PAM006	Anasorb CSC, SKC 226-01	◇	150 * 250 **

* Either low boiling or high boiling fraction
** Fee for both low boiling & high boiling fractions (Requires duplicate sorbent tubes)

FORMALDEHYDE BY HPLC				
<u>Analyte</u>	<u>Method Code</u>	<u>Method Reference</u>	<u>Sampling Medium</u>	<u>Fee (USD)</u>
Formaldehyde	PAM023	NIOSH 2016	SKC UME ^X 100 or Silica gel 2,4-DNPH, SKC 226-119	75 (3 samples minimum)

MICROBIOLOGICAL ANALYSIS				
<u>Analyte</u>	<u>Method Code</u>	<u>Method Reference</u>	<u>Sampling Medium</u>	<u>Fee (USD)</u>
Airborne Bacteria Count (uncorrected number of colonies on agar plate)	PAM027	AIH (1) 4/86, ACGIH, TSA, 30 °C for 2 days	Tryptic Soy Agar	40
Airborne Molds & Yeasts (uncorrected number of colonies on agar plate)	PAM028	AIH (1) 4/86, ACGIH, MEA, 25 °C for 5 days	Malt Extract Agar	40

SAMPLING MEDIA

SORBENT TUBES & FILTERS				
<u>Cat. No.</u>	<u>Description</u>	<u>Treated</u>	<u>Sorbent (mg)</u>	<u>Unit Cost (USD)</u>
225-3-01	SKC MCE filter, 37mm, 0.8µm, clear, 3 piece	No	-	3
225-8202	SKC PVC matched-weight filter, 37mm, 5µm , 3 piece	No	-	9
226-01	SKC Anasorb CSC, Coconut charcoal	No	50 / 100	2
226-09	SKC Anasorb CSC, Coconut charcoal	No	200 / 400	3
226-10	SKC Silica gel	No	75 / 150	2
226-37	SKC Charcoal (2 tubes)	No	200 and 400	6
226-51	SKC Silica gel	No	50 / 100	4
226-95	SKC XAD-7	No	50 / 100	6
226-118	SKC XAD-2 (2HMPP) #	Yes	60 / 120	8
226-119	SKC Silica gel (2,4-DNPH) #	Yes	150 / 300	8
226-10-03	SKC Silica gel (Specially cleaned) #	Yes	200 / 400	4
226-10-06	SKC Silica gel (Sulfuric Acid) #	Yes	100 / 200	7

ORGANIC VAPOR MONITORS				
<u>Cat. No.</u>	<u>Description</u>	<u>Treated</u>	<u>Unit Cost (USD)</u>	
3500	3M Organic vapor monitor	No	48	
3520	3M Organic vapor monitor (2-stage)	No	38	
500-100	SKC UME ^x 100 Organic vapor monitor for formaldehyde #	Yes	25	
PS-134	Ogawa passive sampler filter for NO ₂ #	Yes	8	

Note: # Limited shelf-life

All media is subject to availability and may require a minimum order.

Prices are subject to change without notice.

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