



# LABORATORY SERVICES

**OCCUPATIONAL HEALTH AND SAFETY  
INDUSTRIAL HYGIENE  
WORKPLACE MONITORING**

**SGS**

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# ANALYTICAL SERVICES

HYGIENE	REFERENCE	LOR
Asbestos ID soil	PLM/Disp. Stain.	D / ND
Asbestos ID building materials	PLM/Disp. Stain	D / ND
Asbestos fibre count (per filter)	Phase Contrast Micr.	0.01 fibres/mL
Asbestos ID Water/Aqueous	In House	D / ND
Asbestos semi-quantitation in soil (<1Kg)	AS4964.2004	0.01 %
Asbestos quantitation in soil (>1Kg)	In House	0.001 %
Diesel Particulate Matter	NIOSH 5040	0.005mg/filter
Dust Deposition (complete)	AS 3580.10.1:2003	0.1g / m <sup>2</sup> / month
Dust, Ash Content	AS 3580.10.1:2003	0.1g / m <sup>2</sup> /month
Dust, Combustible Matter	AS 3580.10.1:2003	0.1g / m <sup>2</sup> /month
Dust, Insoluble Solids	AS 3580.10.1:2003	0.1g / m <sup>2</sup> /month
Dust, Soluble Matter	AS 3580.10.1:2003	0.1g / m <sup>2</sup> /month
Dust, Total Solids	AS 3580.10.1:2003	0.1g / m <sup>2</sup> /month
Formaldehyde	USEPA TO5, TO11	0.2 mg
Analysis of general gas (nitrogen rich): Includes ; Argon; carbon dioxide; carbon monoxide; ethane; ethylene; helium; hydrogen; methane; nitrogen and oxygen	Micro GC-TCD	
Hi-Vol (PM10, PM2.5, TSP)	AS 3580.9.3:2003	1mg/filter

HYGIENE	REFERENCE	LOR
Inorganic Gases :		
Carbon Disulfide by GC-SCD	NIOSH 1600	0.004 mg
Chloride by FIA	USEPA Method 26A	0.08 mg
Isocyanates	OSHA 42 & 47	5 mg
Fluoride by FIA	USEPA Method 13B	2 mg
Reduced Sulphur Gas	MA_1113	5 mg

HYGIENE	REFERENCE	LOR
Lead in Paint	ASNZS 1580	0.05%

HYGIENE	REFERENCE	LOR
Metals in Filters/Wipes (per element)	USEPA 6020	0.01mg
Metals in Tubes (per element)	USEPA 6020	0.05mg

Aluminium; antimony; arsenic; barium; beryllium; bismuth; boron; cadmium; calcium; cerium; chromium; cobalt; copper; gold; gallium; iron; lead; lithium; magnesium; manganese; mercury; molybdenum; nickel; phosphorus; potassium; rubidium; selenium; silver; sodium; strontium; tellurium; thallium; thorium; tin; titanium; uranium; vanadium; yttrium; zinc and zirconium

**HYGIENE**

Analysis of sorbent tubes:

Chloride by FIA

Cyanide as listed under 7.84.35

Fluoride by FIA

Nutrients as listed under 7.84.51

Sulfate by FIA

Nitrosamines

Pyridines

**HYGIENE**

Analysis of canisters:

Volatile Organic Compounds by GC-MS using USEPA TO-15

Aliphatic Fractions: C5 - C6; C6 - C8; C8 - C10; C10 - C12 by GC-MS using USEPA TO-15

Aromatic Fractions: C5 - C7; C7 - C9; C9 - C10; C10 - C12 by GC-MS using USEPA TO-15

**HYGIENE**

Analysis of carbon tubes, silica gel and passive badges:

Aniline; n-butanol; 2-butoxy ethanol; di-iodomethone; di-isobutyl ketone; ethyl acetate; MEK

**HYGIENE**

Analysis of sorbent tubes:

Aliphatic Amines by LC-MS

Aromatic Amines by GC-MS

Ethanol by GC-MS

Fractionated Total Petroleum Hydrocarbons (TPH): aliphatics and aromatics by GC-MS

Methanol by GC-MS

Volatile Organic Compounds (VOCs) : USEPA TO-17

Nitrosamines by GC-MS

Pyridines by GC-MS

**HYGIENE**

Analysis of adsorbent cartridges and DNPH solutions:

Acetaldehyde; acetone; acrolein; benzaldehyde; butanal; 2-butanone; butenal; formaldehyde;

hexanal; isobutyraldehyde; methacrolein; methyl ethyl ketone (MEK); pentanal; 2-pentanone;

propanal; tolualdehyde by HPLC using USEPA TO5

**HYGIENE**

Analysis of impinger solutions:

Aliphatic Amines by LC-MS

Aromatic Amines by GC-MS

Carboxylic Acids by HPLC

Dicarboxylic Acids by HPLC

Metals by ICP-MS using USEPA SW846 6020, USEPA

Hexavalent chromium by UV-vis using APHA 3500-Cr B

Iodide by HPLC

Mercury by AAS (cold vapour generation) using ASTM D6784, USEPA SW846 7470A, USEPA Method 29 and Method 60

**HYGIENE**

Analysis of XAD resin:

PAH and Phenols by GC-MS using USEPA SW846 8270

**HYGIENE**

Analysis all NIOSH methods

**HYGIENE**

Analysis of sorbent tubes and badges:

Organochlorine pesticides by GC-MS

Organophosphate pesticides: by GC-MS

Organo nitrogen and phosphorus pesticides: by GC-MS

Phthalates: by GC-MS

PCB's - Arochlors: by GC-ECD; GC-MS

**HYGIENE**

Analysis of sorbent tube and filters :

Glyphosate

**HYGIENE**

Analysis of Radiello tubes:

Sulfide by UV-vis spectroscopy using APHA 4500 H2S

HYGIENE		
External gamma dose -personal	Thermoluminescent dosimetry (TLD)	10 µSv
External photon (gamma/neutron/X-ray) dose	Energy-compensated GM monitor (gamma); area TLDs; ionisation chamber	2 nSv/h
Radioactivity in airborne dust - personal	Personal air sampling - gross alpha/beta determination	0.01 Bq
Radioactivity in airborne dust - area	High/medium volume air sampling - gross alpha/beta determination or specific radionuclide	0.001 - 0.05 Bq/m <sup>3</sup>
Radon in air - real time	RAD7 radon monitor	20 Bq/m <sup>3</sup>
Radon in air - integrated sample	Radon charcoal cup; passive alpha track detector	5 Bq/m <sup>3</sup>
Radioactive surface contaminants	Dual phosphor alpha/beta contamination monitor - direct measurement	0.005 Bq/cm <sup>2</sup>
Radioactive surface contaminants (transferable)	Surface wipe test - gross alpha beta determination	0.005 Bq/cm <sup>2</sup>
Radioactivity in contaminated solids/waste including enhanced natural radionuclides (NORM)	High resolution gamma spectrometry	0.01 - 0.1 Bq/kg
Radioactivity in potable/waste water - screening	Gross alpha/beta	0.03 - 0.05 Bq/L
Radioactivity in potable/waste water - specific radionuclide	High resolution gamma spectrometry/liquid scintillation counting	0.005 - 0.05 Bq/L

HYGIENE	REFERENCE	LOR
Respirable Silica	NIOSH 7603	20 µg/filter

HYGIENE	REFERENCE
Determination Of Volatile Organic Compounds (VOCs) In Air Collected In Specially Prepared Canisters And Analyzed By Gas Chromatography/Mass Spectrometry	Method TO-15
Determination of Volatile Organic Compounds in Ambient Air Using Active Sampling Onto Sorbent Tubes	Method TO-17

HYGIENE	REFERENCE
TSP (supply, weight & label filters)	AS 3580.9.3:2003
TSP Analysis (each)	AS 3580.9.3:2003

HYGIENE
Air sampling:
Sampling of soil vapour and sub-slab vapour onto sorbent tubes for metals, semi volatile organic
Semi-volatile organic compounds (SVOCs) and volatile organic compounds (VOCs)
Sampling of soil vapour and sub-slab vapour into gas bags
Sampling Air Using Summa Canisters
Passive Sampling Using Radiello Samplers
Sampling Ambient Air onto Sorbent Tubes
AS/NZS 4323.4 Area source sampling - Flux chamber technique (Sorbent Tubes)

HYGIENE	SGS REF METHOD	NATA PERTH
Asbestos in soil	AS4964	Y
Asbestos WA guideline	In House	N
Asbestos in water	In House	N
Asbestos in dust	-	N
Asbestos in Building Materials	-	Y
Asbestos in Brake pad/linings	-	N
Asbestos in clutch plates	-	N
Asbestos in swab	-	N
Asbestos counting	-	Y
Asbestos by SEM	subcon	Y-sub
Asbestos Cowel prep/load supply	-	-
Diesel Particulate Matter (DPM)	NIOSH 5040	Y
Respirable Dust	AS2985	Y
Inhalable Dust	AS3640	Y
Dust Deposition (All fractions)	AS3580	Y
Dust Depositions (Single fraction)	AS3580	Y
Inhalable (IOM) Dust determination	AS2985	Y
Metals in Filters	USEPA	Y
Metals in badges	USEPA	N
Metals in Paint	USEPA	N
Total Suspended Particulates (TSP)	AS3580	Y
Respirable Dust and Quartz (Crystalline Silica)	AS2985	Y
Welding Fumes	AS3853	Y
Hi-Vol (PM10, PM2.5, TSP)	AS3580	Y

**CONTACTS:**

**SGS ENVIRONMENTAL SERVICES**

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Townsville, Traralgon

Website: [www.sgs.com.au](http://www.sgs.com.au)

DESCRIPTION	ANALYSIS	PRODUCT
High Volume Filter	Dust, metals	Type A/E Glass Fibre Filter (8" x 10")
Preloaded Filter Cassette	Welding fumes, metals, not suitable for Hex Cr	Mixed Cellulose Ester (MCE) Membrane 0.8µ, clear plastic 3-piece, 37mm (pre banded)
Membrane Filter Only	Dust, Metals, Respirable Silica, Hex Cr	GLA-5000, 5µ 47mm PVC low ash
Membrane Filter Only	Dust, Metals, Hex Cr, Respirable Silica, Inhalables and Respirables use with IOMs, Suitable for inside welding helmets	GLA-5000, 5µ 25mm PVC
Membrane Filter Only	Asbestos Fibre count air monitoring	MCE Asbestos, 0.8µ 25mm gridded
Preloaded Asbestos Cassettes	Asbestos Fibre count air monitoring	MCE, 0.8 µm, black grid, carbon-filled conductive polypropylene, black, assembled with cowl, banded, tapered-end style for PCM analysis
Preloaded Filter Cassette	DPM analysis	37mm Quartz Filter, heat treated with support pad in 3-pc Clear plastic banded cassette
Inhalable cassettes only	IOM	IOM Cassettes with transport clip and cover

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WHEN YOU NEED TO BE SURE

