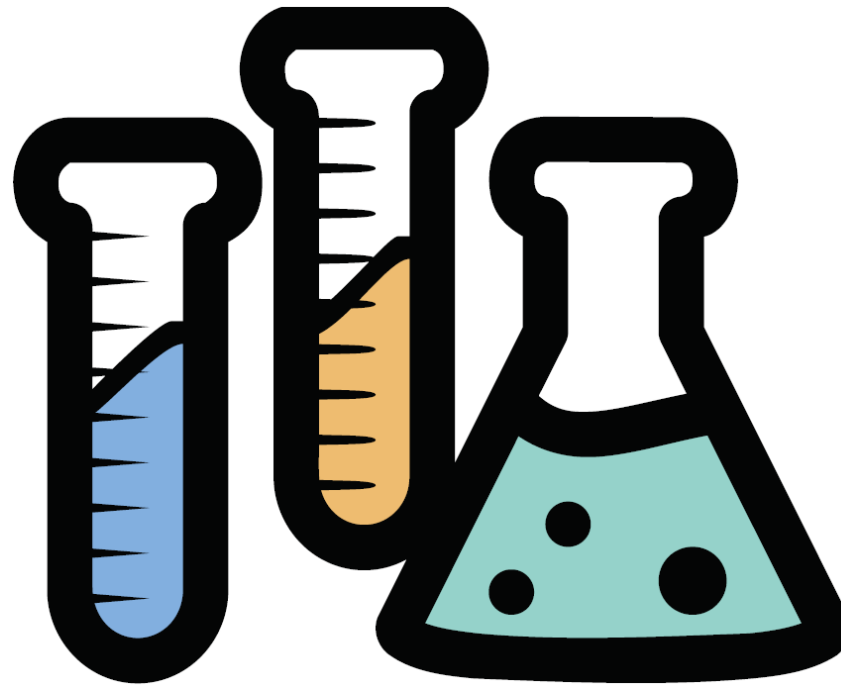


Laboratory Services Offered by the IRSST



PRICE LIST

Institut de recherche Robert-Sauvé en santé et en sécurité du travail (IRSST)

Laboratory Division
505, boul. de Maisonneuve Ouest Montréal, Québec
H3A 3C2

www.irsst.qc.ca

Customer Services - Laboratory division

Phone: 514 288-1551
Analyses: Ext. 315
Instrument Calibration and Rental : Ext. 306
Fax: 514 288-9632
sac.labo@irsst.qc.ca

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INTRODUCTION

Our laboratory services are offered to the occupational health network and to private enterprise.

Our services include environmental, toxicological and microbiological analyses, sampling equipment, and instrument rental and calibration.

For environmental and microbiological analyses, we recommend that you consult our Sampling Guide for Air Contaminants in the Workplace on the IRSST's Web site. www.irsst.qc.ca

For toxicological analyses, we recommend that you consult our *Guide de surveillance biologique – Stratégie de prélèvement et interprétation des résultats* and Le guide de prélèvement des échantillons biologiques available in hard copy from the IRSST's Communications Division or on the IRSST's Web site.

POLICY ON THE USE OF THE LABORATORY SERVICES OFFERED BY THE IRSST

Cost

The cost of the sampling equipment is included in the costs of analysis mentioned on the following pages.

The costs of the analytical services and instrument-related services are in effect as of January 1st, 2019.

The cost of the blank analysis is the same than a sample analysis.

Terms of payment

The client agrees to pay the IRSST for the costs of service within thirty (30) days of receipt of the invoice.

Using the following methods:

- Cheque payable to the IRSST
- Bank transfer: Banking information is on the invoice
- For payments by bank transfer, please email the payment slip to compte.recevable@irsst.qc.ca

Sampling equipment

The client agrees to use only the sampling equipment supplied by the IRSST, according to the *Sampling Guide for Air Contaminants in the Workplace*.

If the equipment ordered is not all used, the unused quantity must be returned to us within 60 days; otherwise it will be billed at market costs.

For toxicological analyses, the client agrees to obtain the sampling equipment himself, according to the *Guide de prélèvement des échantillons biologiques*.

Samples receipt

Samples received before 4:00 pm at the laboratory will be considered received the same day for the calculation of the analysis delay.

Samples received after 4:00 pm at the laboratory will be considered received the next working day.

Calibration certificates

The calibration certificates issued by the IRSST have a copyright in accordance with the requirements of the accreditation organizations. However, the client is authorized to reproduce all of the calibration certificates (in whole, as stipulated on the certificates) for the instruments that it owns in order to demonstrate, if need be, that they were calibrated according to the IRSST's standards.

Purchase order

- ✓ If a purchase order number must appear on the invoice, the client must enter it on all the IRSST's forms.

Subcontracted analysis

- ✓ For some substances, the IRSST laboratory subcontracts the analyses to other laboratories. If applicable, the client is consulted. A remark will then appear on the IRSST's analysis report, and the subcontractor laboratory's report will be provided. Additional costs of 25% will be billed as well as the costs for the sampling equipment, if applicable.

Rush turnaround

- ✓ Additional costs of 25% will be billed for prioritisation of any analysis compared to regular delay. Such demands need prior approval from Customer Service.
- ✓ Additional costs of 25% will be billed for any requisition for equipment rental required rapidly, meaning within a maximum of 5 working days following receipt of the requisition of instrument rental at Customer Service.
- ✓ Additional costs of 25% will be billed for any requisition for instrument calibration required rapidly, meaning within a maximum of 5 working days following receipt of the requisition at Customer Service.

List of forms to be used

Only the requisition for legionella analyses in cooling towers needs a paper form. They can be ordered by ClicLab with this inventory number.

Inventory no. IRSST	Description
1621	Requisition for legionella analyses – RBQ Cooling Towers

To order operating equipment (material), for instrument rental and service and analyses a web service ClicLab is available at:

<https://cliclab.irsst.qc.ca/Login>

For customers who have not yet registered to ClicLab, please contact Laboratory Customer Service by email at sac.labo@irsst.qc.ca or at 514-288-1551 extension ext. **306**.

Accreditation

With recognized expertise in occupational health and safety services, the IRSST has several accreditations that guarantee to its partners and clients the quality, integrity and recognition of its work.

Areas of accreditation and organizations

The Analytical and Calibration Laboratories are accredited by these organizations according to ISO/IEC 17025:2005 standard.

American Industrial Hygiene Association - Laboratory Accreditation Program (AIHA-LAP, LLC)

- Asbestos
- Metals (including beryllium)
- Microbiology
- Silica
- Solvents
- Ions
- Respirable compressed air (CRA)

Scope of accreditation of analytical laboratories: http://apps.aiha.org/qms_aiha/certificate/101913_certificate.pdf

Calibration Laboratory Assessment Service (CLAS) from National Council Research of Canada (NRC)

- Acoustical calibration (the only one in Canada)
- Electricity, frequency and time

Scope of accreditation of calibration laboratories:

- CLAS: <http://www.nrc-cnrc.gc.ca/eng/solutions/advisory/clas/certificates/irsst.html>
- SCC (Standard Council of Canada): <https://www.scc.ca/en/search/palcan/irsst> .

New York State Department of Health, Wadsworth Center-Environmental Laboratory Approval Program (NYSDOH-ELAP)

- Asbestos in Non-Friable Material by Transmission Electron Microscopy (TEM).

Certificate and scope of accreditation: http://www.irsst.gc.ca/Portals/0/upload/3-laboratoires/Certificat_NYSDOH_ELAP_2018_2019.pdf

Instrument rental policy

- 1) The client agrees to use the instrument according to the specifications described in the instrument's user manual or in any IRSST document accompanying the instrument. The instrument and its case must be returned to IRSST decontaminated and in good condition.
- 2) The costs of repair, cleaning or replacement made necessary following the use of the instrument are assumed in whole by the client. This includes damage caused during transportation, if applicable.
- 3) The rental costs are calculated by day, week or month (20 working days) and include an initial calibration by the IRSST's laboratories.
- 4) The rented instrument is made available to the client around 4 p.m. on the day before the first day of rental (working day).
- 5) The rented instrument must be returned to the IRSST's laboratories before 12 noon on the day following the final day of rental (working day).
- 6) Any cancellation will result in a penalty equivalent to a one-day rental fee per instrument that will be billed to the client, unless a two days' notice is given prior to the rental period.
- 7) For any instrument and sampling equipment shipments done by the IRSST, the IRSST assumes the transportation and insurance costs.
- 8) For any instrument and sampling equipment shipments done by the client, the latter assumes the transportation and insurance costs.
- 9) All rentals or rental extensions must be arranged with Laboratory Customer Service (514) 288-1551, ext. 306, or by e-mail: sac.labo@irsst.qc.ca.
- 10) Reminder: Additional costs of 25% will be billed for any requisition for equipment rental required rapidly, meaning within a maximum of 5 working days following receipt of the requisition of instrument rental at Customer Service

COSTS OF ANALYTICAL SERVICES

Environmental analyses

Substances	Equipment	Description of equipment	Cost for substance # 1	Cost for other substances
1,1,1-Trichloroethane	2120	Activated charcoal tube, 100/50	\$50	\$20
1,1,1-Trichloroethane	2695	Passive dosimeter	\$65	\$25
1,1,2-Trichloroethane	2120	Activated charcoal tube, 100/50	\$50	\$20
1,2-Dichloroethane	2120	Activated charcoal tube, 100/50	\$50	\$20
1,2-Dichloroethylene	2120	Activated charcoal tube, 100/50	\$50	\$20
1,3-Butadiene	2189	Activated charcoal tube with TBC	\$50	Not applicable
1-Bromopropane	2120	Activated charcoal tube, 100/50	\$50	\$20
1-Methoxy-2-propanol	2120	Activated charcoal tube, 100/50	\$50	\$20
2-Aminoethanol	2170	XAD-2 tube, 7 cm	\$116	Not applicable
2-Aminoethanol	955	Impregnated filter	\$150	\$75
2-Butoxyethanol	2120	Activated charcoal tube, 100/50	\$50	\$20
2-Ethoxyethanol	2120	Activated charcoal tube, 100/50	\$50	\$20
2-Methoxyethanol	2120	Activated charcoal tube, 100/50	\$50	\$20
3-Carene	2120	Activated charcoal tube, 100/50	\$50	\$20
Acenaphthene – Cassette	911	Glass Fiber Filter 37 mm 0.8 µm	\$80	\$15
Acenaphthene – Tube	2187	Orbo 42 L tube	\$80	\$15
Acetaldehyde	2186	Orbo 23 tube	\$123	\$20
Acetic acid	2120	Activated charcoal tube, 100/50	\$116	Not applicable
Acetone	2120	Activated charcoal tube, 100/50	\$50	\$20

Substances	Equipment	Description of equipment	Cost for substance # 1	Cost for other substances
Acetone	2695	Passive dosimeter	\$65	\$25
Acrolein	2186	Orbo 23 tube	\$123	\$20
Acrylonitrile	2120	Activated charcoal tube, 100/50	\$50	Not applicable
Allyl alcohol	2120	Activated charcoal tube, 100/50	\$50	\$20
Aluminum	913	MCEF 37 mm, 0.8 µm pre-weighed	\$45	\$11
Aluminum	916	MCEF 25 mm, 0.8 µm pre-weighed	\$45	\$11
Aluminum	990	Solu-Sert™ filter 25 mm	\$56	\$11
Aluminum	992	Solu-Sert™ filter 37 mm	\$56	\$11
Aluminum (Inhalable fraction)	928	MCEF 0.8 µm, 25 mm IOM in plastic	\$65	\$21
Aluminum	3090	Wipe sample kit for metals	\$75	See package
Aluminum	100	Miscellaneous	\$45	\$11
Aluminum (sol. salts)	903	PVCF 37 mm, 5 µm	\$45	Not applicable
Ammonia	2144	Treated charcoal tube	\$100	Not applicable
Aniline	955	Impregned filter	\$150	\$75
Anthracene – Cassette	911	Glass Fiber Filter 37 mm, 0.8 µm	\$80	\$15
Anthracene – Tube	2187	Orbo 42 L tube	\$80	\$15
Arsenic	990	Solu-Sert™ filter 25 mm	\$56	\$11
Arsenic	992	Solu-Sert™ filter 37 mm	\$56	\$11
Asbestos fibers by TEM (Tiles and other material)	100	Miscellaneous	123 \$	Not applicable
Barium, soluble	100	Miscellaneous	\$45	\$11
Barium, soluble	903	PVCF 37 mm, 5 µm	\$45	Not applicable

Substances	Equipment	Description of equipment	Cost for substance # 1	Cost for other substances
Benz(a)anthracene – Cassette	911	Glass Fiber Filter 37 mm, 0.8 µm	\$80	\$15
Benz(a)anthracene – Tube	2187	Orbo 42 L tube	\$80	\$15
Benzene	2120	Activated charcoal tube, 100/50	\$50	\$20
Benzene	2695	Passive dosimeter	\$65	\$25
Benzo(b+j+k)fluoranthene - Cassette	911	Glass Fiber Filter 37 mm, 0.8 µm	\$80	\$15
Benzo(b+j+k)fluoranthene - Tube	2187	Orbo 42 L tube	\$80	\$15
Benzo(a)pyrene – Cassette	911	Glass Fiber Filter 37 mm, 0.8 µm	\$80	\$15
Benzo(a)pyrene – Tube	2187	Orbo 42 L tube	\$80	\$15
Benzo(e)pyrene – Cassette	911	Glass Fiber Filter 37 mm, 0.8 µm	\$80	\$15
Benzo(e)pyrene – Tube	2187	Orbo 42 L tube	\$80	\$15
Benzyl chloride	2120	Activated charcoal tube, 100/50	\$50	\$20
Beryllium	100	Miscellaneous	\$45	\$11
Beryllium	3090	Wipe sample kit for metals	\$75	Not applicable
Beryllium	913	MCEF 37 mm, 0.8 µm pre-weighed	\$45	Not applicable
Beryllium	916	MCEF 25 mm, 0.8 µm pre-weighed	\$45	Not applicable
Beryllium	990	Solu-Sert™ filter 25 mm	\$56	Not applicable
Beryllium	992	Solu-Sert™ filter 37 mm	\$56	Not applicable
Beryllium (inhalable fraction)	928	MCEF 0.8 µm, 25 mm IOM in plastic	\$65	Not applicable
Butyraldehyde	2186	Orbo 23 tube	\$123	\$20
Cadmium	913	MCEF 37 mm, 0.8µm pre-weighed	\$45	\$11
Cadmium	916	MCEF 25 mm, 0.8 µm pre-weighed	\$45	\$11

Substances	Equipment	Description of equipment	Cost for substance # 1	Cost for other substances
Cadmium	990	Solu-Sert™ filter 25 mm	\$56	\$11
Cadmium	992	Solu-Sert™ filter 37 mm	\$56	\$11
Cadmium (Inhalable fraction)	928	MCEF 0.8 µm, 25 mm IOM in plastic	\$65	\$21
Cadmium	3090	Wipe sample kit for metals	\$75	See package
Cadmium	100	Miscellaneous	\$45	\$11
Calcium	100	Miscellaneous	\$45	\$11
Calcium	905	MCEF 37 mm, 0.8 µm	\$45	Not applicable
Calcium	3070	Wipe sample kit for metals (filter media)	\$45	Not applicable
Calcium	913	MCEF 37 mm, 0.8 µm pre-weighed	\$45	Not applicable
Calcium	915	MCEF 25 mm, 0.8 µm	\$45	Not applicable
Calcium	916	MCEF 25 mm, 0.8µm pre-weighed	\$45	Not applicable
Camphor (synthetic)	2120	Activated charcoal tube, 100/50	\$50	Not applicable
Carbon tetrachloride	2695	Passive dosimeter	\$65	\$25
Carbon tetrachloride	2120	Activated charcoal tube, 100/50	\$50	\$20
Chlorodifluoromethane	2121	Activated charcoal tube # 2 226-09	\$50	Not applicable
Chloroform	2120	Activated charcoal tube, 100/50	\$50	\$20
Chromium	100	Miscellaneous	\$45	\$11
Chromium	913	MCEF 37 mm, 0.8 µm pre-weighed	\$45	\$11
Chromium	916	MCEF 25 mm, 0.8 µm pre-weighed	\$45	\$11
Chromium	990	Solu-Sert™ filter 25 mm	\$56	\$11
Chromium	992	Solu-Sert™ filter 37 mm	\$56	\$11
Chromium (Inhalable fraction)	928	MCEF 0.8 µm, 25 mm IOM in plastic	\$65	\$21

Substances	Equipment	Description of equipment	Cost for substance # 1	Cost for other substances
Chromium	3090	Wipe sample kit for metals	\$75	See package
Chromium VI, water insoluble	976	Quartz filter	\$110	\$35
Chromium VI, water soluble	976	Quartz filter	\$110	\$35
Chromium VI, acid aerosol	977	Pretreated quartz filter	\$145	Not applicable
Chrysene – Cassette	911	Glass Fiber Filter 37 mm, 0.8 µm	\$80	\$15
Chrysene – Tube	2187	Orbo 42 L tube	\$80	\$15
Cobalt	100	Miscellaneous	\$45	\$11
Cobalt	913	MCEF 37 mm, 0.8 µm pre-weighed	\$45	\$11
Cobalt	916	MCEF 25 mm, 0.8 µm pre-weighed	\$45	\$11
Cobalt	990	Solu-Sert™ filter 25 mm	\$56	\$11
Cobalt	992	Solu-Sert™ filter 37 mm	\$56	\$11
Cobalt (Inhalable fraction)	928	MCEF 0.8 µm, 25 mm IOM in plastic	\$65	\$21
Cobalt	3090	Wipe sample kit for metals	\$75	See package
Copper	100	Miscellaneous	\$45	\$11
Copper	913	MCEF 37 mm, 0.8 µm pre-weighed	\$45	\$11
Copper	916	MCEF 25 mm, 0.8 µm, pre-weighed	\$45	\$11
Copper	990	Solu-Sert™ filter 25 mm	\$56	\$11
Copper	992	Solu-Sert™ filter 37 mm	\$56	\$11
Copper (Inhalable fraction)	928	MCEF 0.8 µm, 25 mm IOM in plastic	\$65	\$21
Copper	3090	Wipe sample kit for metals	\$75	See package
Cristobalite, cryst. silica	902	PVCF pre-weighed, 37 mm, 5 µm	\$170	\$41
Cristobalite, cryst. silica	997	PVCF 37 mm, 5 µm pre-weighed, 3	\$170	\$41

Substances	Equipment	Description of equipment	Cost for substance # 1	Cost for other substances
		parts		
Cumene	2120	Activated charcoal tube, 100/50	\$50	\$20
Cumene	2695	Passive dosimeter	\$65	\$25
Cyclohexane	2120	Activated charcoal tube, 100/50	\$50	\$20
Cyclohexane	2695	Passive dosimeter	\$65	\$25
Cyclohexanol	2120	Activated charcoal tube, 100/50	\$50	\$20
Cyclohexanone	2127	Chromosorb 106 tube	\$50	Not applicable
Desflurane	2190	Anasorb 747 tube	\$50	\$20
Diacetone alcohol	2120	Activated charcoal tube, 100/50	\$50	N/A
Dibutyl phthalate	912	Cellulose nitrate filter	\$116	\$50
Dicyclopentadiene	2120	Activated charcoal tube, 100/50	\$50	\$20
Diesel particulate matter(as total carbon)	952	Traited quartz fiber filter, 25 mm, 3 parts	100\$	Not applicable
Diesel particulate matter(as total carbon)	953	Traited quartz fiber filter, 37 mm, 3 parts	100\$	Not applicable
Diéthanamine	955	Impregned filter	\$150	\$75
Diethyl ether	2120	Activated charcoal tube, 100/50	\$50	\$20
Diethyl phthalate	912	Cellulose nitrate filter	\$116	\$50
Diisobutyl ketone	2120	Activated charcoal tube, 100/50,	\$50	\$20
Diméthylamine	955	Impregned filter	\$150	\$75
Dimethylphthalate	912	Cellulose nitrate filter	\$116	\$50
Dioxane	2120	Activated charcoal tube, 100/50	\$50	\$20
Di-sec-octyl phthalate	912	Cellulose nitrate filter	\$116	\$50

Substances	Equipment	Description of equipment	Cost for substance # 1	Cost for other substances
Dusts, inhalable	907	PVCF 25 mm, 5 µm IOM stainless steel pre-weighed	\$55	Not applicable
Dusts, respirable	902	PVCF, 37 mm, 5 µm pre-weighed	\$21	Not applicable
Dusts, respirable	997	PVCF 37 mm, 5 µm pre-weighed, 3 parts	\$21	Not applicable
Dusts, respirable	910	PVCF 37 mm, 5 µm pre-weighed Accucap insert	\$40	Not applicable
Dusts, respirable	913	MCEF 37 mm, 0.8 µm pre-weighed	\$21	Not applicable
Dusts, respirable	914	PVCF 25 mm, 5 µm pre-weighed	\$21	Not applicable
Dusts, respirable	916	MCEF 25 mm, 0.8 µm pre-weighed	\$21	Not applicable
Dusts, total	902	PVCF 37 mm, 5 µm pre-weighed	\$21	Not applicable
Dusts, total	910	PVCF 37 mm, 5 µm pre-weighed Accucap insert	\$40	Not applicable
Dusts, total	913	MCEF 37 mm, 0.8 µm pre-weighed	\$21	Not applicable
Dusts, total	914	PVCF 25 mm, 5 µm pre-weighed	\$21	Not applicable
Dusts, total	916	MCEF 25 mm, 0.8 µm, pre-weighed	\$21	Not applicable
Dusts, total	997	PVCF 37 mm, 5 µm pre-weighed, 3 parts	\$21	Not applicable
Enflurane	2120	Activated charcoal tube, 100/50	\$50	\$20
Epichlorohydrin	2120	Activated charcoal tube, 100/50	\$50	Not applicable
Ethyl acetate	2120	Activated charcoal tube, 100/50	\$50	\$20
Ethyl acetate	2695	Passive dosimeter	\$65	\$25
Ethyl acrylate	2189	Activated charcoal tube with TBC	\$50	\$20

Substances	Equipment	Description of equipment	Cost for substance # 1	Cost for other substances
Ethyl alcohol	2120	Activated charcoal tube, 100/50	\$50	\$20
Ethyl alcohol	2695	Passive dosimeter	\$65	\$25
Ethyl benzene	2120	Activated charcoal tube, 100/50	\$50	\$20
Ethyl benzene	2695	Passive dosimeter	\$65	\$25
Ethyl glycol acetate	2120	Activated charcoal tube, 100/50	\$50	\$20
Ethyl glycol acetate	2695	Passive dosimeter	\$65	\$25
Fibres by PCM (Phase Contrast Microscopy)	918	MCEF 25 mm, 0.8 µm	\$84	Not applicable
Fibres by PLM (Polarized Light Microscopy)	100	Miscellaneous	\$125	Not applicable
Fluoranthene – Cassette	911	Glass Fiber Filter 37 mm, 0.8 µm	\$80	\$15
Fluoranthene – Tube	2187	Orbo 42 L tube	\$80	\$15
Fluorene – Cassette	911	Glass Fiber Filter 37 mm, 0.8 µm	\$80	\$15
Fluorene – Tube	2187	Orbo 42 L tube	\$80	\$15
Formaldehyde	2186	Orbo 23 tube	\$123	\$20
Formaldehyde	2188	XAD-2 tube,	\$50	\$20
Formaldehyde	6100	Passive dosimeter: form. # UMEX-100	\$116	Not applicable
Furfural	2186	Orbo 23 tube	\$123	\$20
Furfuryl alcohol	2162	Porapak Q tube	\$50	Not applicable
Gasoline	2120	Activated charcoal tube, 100/50	\$50	\$20
Halothane	2120	Activated charcoal tube, 100/50	\$50	\$20
HDI (monomer) – High sensitivity	970	Impregnated GF filter	\$175	\$100

Substances	Equipment	Description of equipment	Cost for substance # 1	Cost for other substances
HDI (monomer)	917	Teflon and Glass fibre filters with jar	See package	See package
HDI (oligomers)	917	Teflon and Glass fibre filters with jar	See package	See package
HDI (monomer)	1415	Impinger	See package	See package
HDI (oligomers)	1415	Impinger	See package	See package
HDI (monomer)	981	Impinger with filter for isocyanate	See package	See package
HDI (oligomers)	981	Impinger with filter for isocyanate	See package	See package
Heptanal	2186	Orbo 23 tube (20257-U)	\$123	\$20
Hexanal	2186	Orbo 23 tube (20257-U)	\$123	\$20
HMDI (monomer)	917	Teflon and Glass fibre filters with jar	See package	See package
HMDI (monomer) - High sensitivity	970	Impregnated GF filter	\$175	Not applicable
HMDI (oligomers)	917	Teflon and Glass fibre filters with jar	See package	See package
Hydrobromic acid	2147	Silica gel tube	\$100	\$25
Hydrochloric acid	2147	Silica gel tube	\$100	\$25
Indium	905	MCEF 37 mm, 0.8 µm	\$45	Not applicable
Indium	913	MCEF 37 mm, 0.8 µm pre-weighed	\$45	Not applicable
Indium	915	MCEF 25 mm, 0.8 µm	\$45	Not applicable
Indium	916	MCEF 25 mm, 0.8 µm, pre-weighed	\$45	Not applicable
IPDI (monomer)	917	Teflon and Glass fibre filters with jar	See package	See package
IPDI (monomer) – High sensitivity	970	Impregnated GF filter	\$175	\$100
IPDI (oligomer)	917	Teflon and Glass fibre filters with jar	See package	See package
IPDI (monomer)	1415	Impinger	See package	See package
IPDI (oligomers)	1415	Impinger	See package	See package

Substances	Equipment	Description of equipment	Cost for substance # 1	Cost for other substances
IPDI (monomer)	981	Impinger with filter for isocyanate	See package	See package
IPDI (oligomers)	981	Impinger with filter for isocyanate	See package	See package
Iron	100	Miscellaneous	\$45	\$11
Iron	913	MCEF 37 mm, 0.8 µm pre-weighed	\$45	\$11
Iron	916	MCEF 25 mm, 0.8 µm pre-weighed	\$45	\$11
Iron	990	Solu-Sert™ filter 25 mm	\$56	\$11
Iron	992	Solu-Sert™ filter 37 mm	\$56	\$11
Iron (Inhalable fraction)	928	MCEF 0.8 µm, 25 mm IOM in plastic	\$65	\$21
Iron	3090	Wipe sample kit for metals	\$75	See package
Isoamyl acetate	2120	Activated charcoal tube, 100/50	\$50	\$20
Isobutyl acetate	2120	Activated charcoal tube, 100/50	\$50	\$20
Isobutyl acetate	2695	Passive dosimeter	\$65	\$25
Isobutyl alcohol	2120	Activated charcoal tube, 100/50	\$50	\$20
Isobutyl alcohol	2695	Passive dosimeter	\$65	\$25
Isobutyraldehyde	2186	Orbo 23 tube	\$123	\$20
Isoflurane	2120	Activated charcoal tube, 100/50	\$50	\$20
Isophorone	2120	Activated charcoal tube, 100/50	\$50	\$20
Isopropyl acetate	2120	Activated charcoal tube, 100/50	\$50	\$20
Isopropyl alcohol	2120	Activated charcoal tube, 100/50	\$50	\$20
Isopropyl alcohol	2695	Passive dosimeter	\$65	\$25
Isopropylamine	955	Impregnated filter	\$150	\$75
Isovaleraldehyde	2186	Orbo 23 tube	\$123	\$20

Substances	Equipment	Description of equipment	Cost for substance # 1	Cost for other substances
Kerosene	2120	Activated charcoal tube, 100/50	\$50	\$20
Lead	100	Miscellaneous	\$45	\$11
Lead	3090	Wipe sample kit for metals	\$75	See package
Lead	913	MCEF 37 mm, 0.8 µm pre-weighed	\$45	\$11
Lead	916	MCEF 25 mm, 0.8 µm pre-weighed	\$45	\$11
Lead	990	Solu-Sert™ filter 25 mm	\$56	\$11
Lead	992	Solu-Sert™ filter 37 mm	\$56	\$11
Lead (Inhalable fraction)	928	MCEF 0.8 µm, 25 mm IOM in plastic	\$65	\$21
Limonene	2120	Activated charcoal tube, 100/50	\$50	\$20
Magnesium	100	Miscellaneous	\$45	\$11
Magnesium	913	MCEF 37 mm, 0.8 µm pre-weighed	\$45	\$11
Magnesium	916	MCEF 25 mm, 0.8 µm pre-weighed	\$45	\$11
Magnesium	990	Solu-Sert™ filter 25 mm	\$56	\$11
Magnesium	992	Solu-Sert™ filter 37 mm	\$56	\$11
Magnesium (Inhalable fraction)	928	MCEF 0.8 µm, 25 mm IOM in plastic	\$65	\$21
Magnesium	3090	Wipe sample kit for metals	\$75	See package
Manganese	100	Miscellaneous	\$45	\$11
Manganese	913	MCEF 37 mm, 0.8 µm pre-weighed	\$45	\$11
Manganese	916	MCEF 25 mm, 0.8 µm pre-weighed	\$45	\$11
Manganese	990	Solu-Sert™ filter 25 mm	\$56	\$11
Manganese	992	Solu-Sert™ filter 37 mm	\$56	\$11
Manganese (Inhalation fraction)	928	MCEF 0.8 µm, 25 mm IOM in plastic	\$65	\$21

Substances	Equipment	Description of equipment	Cost for substance # 1	Cost for other substances
Manganese	3090	Wipe sample kit for metals	\$75	See package
MDI (monomer)	917	Teflon and Glass fibre filters with jar	See package	See package
MDI (oligomers)	917	Teflon and Glass fibre filters with jar	See package	See package
MDI (monomer) – High sensitivity	970	Impregnated GF filter	\$175	\$100
MDI (monomer)	1415	Impinger	See package	See package
MDI (oligomers)	1415	Impinger	See package	See package
MDI (monomer)	981	Impinger with filter for isocyanate	See package	See package
MDI (oligomers)	981	Impinger with filter for isocyanate	See package	See package
Methyl acetate	2120	Activated charcoal tube, 100/50	\$50	\$20
Methyl acetate	2695	Passive dosimeter	\$65	\$25
Methyl acrylate	2189	Activated charcoal tube with TBC	\$50	\$20
Methyl alcohol	2140	Silica gel tube	\$50	Not applicable
Méthylamine	955	Impregnated filter	\$150	\$75
Methyl ethyl ketone	2120	Activated charcoal tube, 100/50	\$50	\$20
Methyl ethyl ketone	2190	Anasorb 747 tube	\$50	Not applicable
Methyl ethyl ketone	2695	Passive dosimeter	\$65	\$25
Methyl formate	2121	Activated charcoal tube, 400/200	\$50	Not applicable
Methyl glycol acetate	2120	Activated charcoal tube, 100/50	\$50	\$20
Methyl isoamyl ketone	2120	Activated charcoal tube, 100/50	\$50	\$20
Methyl isobutyl ketone	2120	Activated charcoal tube, 100/50,	\$50	\$20
Methyl isobutyl ketone	2695	Passive dosimeter	\$65	\$25
Methyl methacrylate	2185	Anasorb 727 tube	\$65	Not applicable

Substances	Equipment	Description of equipment	Cost for substance # 1	Cost for other substances
Methyl n-amyl ketone	2120	Activated charcoal tube, 100/50	\$50	\$20
Methyl propyl ketone	2120	Activated charcoal tube, 100/50	\$50	\$20
Methylcyclohexane	2120	Activated charcoal tube, 100/50	\$50	\$20
Methylcyclohexanol	2120	Activated charcoal tube, 100/50	\$50	\$20
Methylene chloride	2120	Activated charcoal tube, 100/50	\$50	\$20
Methylene chloride	2695	Passive dosimeter	\$65	\$25
Methyl styrene (alpha)	2120	Activated charcoal tube, 100/50	\$50	\$20
Mineral composition (phase identification)	100	Miscellaneous	\$150	Not applicable
Morpholine	955	Impregned filter	\$150	\$75
N,N-Dimethylformamide	2140	Silica gel tube (226-10)	\$50	Not applicable
n-Amyl acetate	2120	Activated charcoal tube, 100/50	\$50	\$20
n-Amyl acetate	2695	Passive dosimeter	\$65	\$25
Naphtha, VM and P	2120	Activated charcoal tube, 100/50	\$50	\$20
Naphthalene	2120	Activated charcoal tube, 100/50	\$50	Not applicable
n-Butyl acetate	2120	Activated charcoal tube, 100/50	\$50	\$20
n-Butyl alcohol	2120	Activated charcoal tube, 100/50	\$50	\$20
n-Butyl alcohol	2695	Passive dosimeter	\$65	\$25
n-Heptane	2120	Activated charcoal tube, 100/50	\$50	\$20
n-Heptane	2695	Passive dosimeter	\$65	\$25
n-Hexane	2120	Activated charcoal tube, 100/50	\$50	\$20
n-Hexane	2695	Passive dosimeter	\$65	\$25

Substances	Equipment	Description of equipment	Cost for substance # 1	Cost for other substances
Nickel	100	Miscellaneous	\$45	\$11
Nickel	913	MCEF 37 mm, 0.8 µm pre-weighed	\$45	\$11
Nickel	916	MCEF 25 mm, 0.8 µm pre-weighed	\$45	\$11
Nickel	990	Solu-Sert™ filter 25 mm	\$56	\$11
Nickel	992	Solu-Sert™ filter 37 mm	\$56	\$11
Nickel (Inhalable fraction)	928	MCEF 0.8 µm, 25 mm IOM in plastic	\$65	\$21
Nickel	3090	Wipe sample kit for metals	\$75	See package
Nickel, soluble	903	PVCF 37 mm, 5 µm	\$45	Not applicable
Nitric acid	2147	Silica gel tube	\$100	\$25
N-Nitrosodibutylamine	2210	Florisil tube, 500 mg	\$180	Package only
N-Nitrosodiethylamine	2210	Florisil tube, 500 mg	\$180	Package only
N-Nitrosodimethylamine	2210	Florisil tube, 500 mg	\$180	Package only
N-Nitrosodipropylamine	2210	Florisil tube, 500 mg	\$180	Package only
N-Nitrosomethylethylamine	2210	Florisil tube, 500 mg	\$180	Package only
N-Nitrosomorpholine	2210	Florisil tube, 500 mg	\$180	Package only
N-Nitrosopiperidine	2210	Florisil tube, 500 mg	\$180	Package only
N-Nitrosopyrrolidine	2210	Florisil tube, 500 mg	\$180	Package only
Nonane	2120	Activated charcoal tube, 100/50	\$50	\$20
Nonane	2695	Passive dosimeter	\$65	\$25
n-Pentane	2120	Activated charcoal tube, 100/50	\$50	\$20
n-Pentane	2695	Passive dosimeter	\$65	\$25

Substances	Equipment	Description of equipment	Cost for substance # 1	Cost for other substances
n-Propyl acetate	2120	Activated charcoal tube, 100/50	\$50	\$20
n-Propyl acetate	2695	Passive dosimeter	\$65	\$25
n-Propyl alcohol	2120	Activated charcoal tube, 100/50	\$50	\$20
n-Propyl alcohol	2695	Passive dosimeter	\$65	\$25
Octane	2120	Activated charcoal tube, 100/50	\$50	\$20
Octane	2695	Passive dosimeter	\$65	\$25
o-Dichlorobenzene	2120	Activated charcoal tube, 100/50	\$50	\$20
Oil mist	960	Teflon B. oil filter	\$130	Not applicable
p-Chlorotrifluoromethylbenzene	2120	Activated charcoal tube, 100/50	\$50	\$20
p-Dichlorobenzene	2120	Activated charcoal tube, 100/50	\$50	\$20
Perchloroethylene	2120	Activated charcoal tube, 100/50	\$50	\$20
Perchloroethylene	2695	Passive dosimeter	\$65	\$25
Phenanthrene – Cassette	911	Glass Fiber Filter 37 mm, 0.8 µm	\$80	\$15
Phenanthrene – Tube	2187	Orbo 42L tube	\$80	\$15
Phenol	1422	Midget impinge with standard nozzle	\$116	Not applicable
Phosphoric acid	2147	Silica gel tube	\$100	\$25
Pinene (alpha)	2120	Activated charcoal tube, 100/50	\$50	\$20
Pinene (beta)	2120	Activated charcoal tube, 100/50	\$50	\$20
Potassium, soluble	903	PVCF 37 mm, 5 µm	\$45	Not applicable
Propionaldehyde	2186	Orbo 23 tube	\$123	\$20

Substances	Equipment	Description of equipment	Cost for substance # 1	Cost for other substances
Pyrene – Cassette	911	Glass Fiber Filter 37 mm, 0.8 µm	\$80	\$15
Pyrene – Tube	2187	Orbo 42 L tube	\$80	\$15
Pyridine	2120	Activated charcoal tube, 100/50	\$50	Not applicable
Quantitative analysis of solvents	2120	Activated charcoal tube, 100/50	\$50	\$20
Quartz, crystalline silica	902	PVCF 37 mm, 5 µm pre-weighed	\$170	\$41
Quartz, crystalline silica	997	PVCF 37 mm, 5 µm pre-weighed, 3 parts	\$170	\$41
Respirable combustible dust	951	Silver filter pre weighed	\$60	Not applicable
Rubber solvent	2120	Activated charcoal tube, 100/50	\$50	\$20
sec-Amyl acetate	2120	Activated charcoal tube, 100/50	\$50	\$20
sec-Butyl acetate	2120	Activated charcoal tube, 100/50	\$50	\$20
sec-Butyl acetate	2695	Passive dosimeter	\$65	\$25
sec-Butyl alcohol	2120	Activated charcoal tube, 100/50	\$50	\$20
Sevoflurane	2190	Anasorb 747 tube	\$50	\$20
Silver	100	Miscellaneous	\$45	\$11
Silver	905	MCEF 37 mm, 0.8 µm	\$45	Not applicable
Silver	3070	Wipe sample kit for metals (filter media)	\$45	Not applicable
Silver	913	MCEF 37 mm, 0.8 µm pre-weighed	\$45	Not applicable
Silver	915	MCEF 25 mm, 0.8 µm	\$45	Not applicable
Silver	916	MCEF 25 mm, 0.8 µm pre-weighed	\$45	Not applicable
Sodium, soluble	903	PVCF 37 mm, 5 µm	\$45	Not applicable
Soluble fraction in benzene	911	Glass Fiber Filter 37 mm, 0.8µm	\$108	Not applicable

Substances	Equipment	Description of equipment	Cost for substance # 1	Cost for other substances
Solvent composition	100	Miscellaneous	\$150	Not applicable
Solvent composition	2120	Activated charcoal tube, 100/50	\$150	Not applicable
Stoddard solvent	2120	Activated charcoal tube, 100/50	\$50	\$20
Styrene (monomer)	2120	Activated charcoal tube, 100/50	\$50	\$20
Styrene (monomer)	2695	Passive dosimeter	\$65	\$25
Sulfuric acid	2147	Silica gel tube	\$100	\$25
TDI-2,4 (monomer)	917	Teflon and Glass fibre filters with jar	See package	See package
TDI-2,4 (oligomers)	917	Teflon and Glass fibre filters with jar	See package	See package
TDI-2,4 (monomer) – High sensitivity	970	Impregnated GF filter	\$175	\$100
TDI-2,4 (monomer)	1415	Impinger	See package	See package
TDI-2,4 (oligomers)	1415	Impinger	See package	See package
TDI-2,4 (monomer)	981	Impinger with filter for isocyanate	See package	See package
TDI-2,4 (oligomers)	981	Impinger with filter for isocyanate	See package	See package
TDI-2,6 (monomer)	917	Teflon and Glass fibre filters with jar	See package	See package
TDI-2,6 (oligomers)	917	Teflon and Glass fibre filters with jar	See package	See package
TDI-2,6 (monomer) – High sensitivity	970	Impregnated GF filter	\$175	\$100
TDI-2,6 (monomer)	1415	Impinger	See package	See package
TDI-2,6 (oligomers)	1415	Impinger	See package	See package
TDI-2,6 (monomer)	981	Impinger with filter for isocyanate	See package	See package

Substances	Equipment	Description of equipment	Cost for substance # 1	Cost for other substances
TDI-2,6 (oligomers)	981	Impinger with filter for isocyanate	See package	See package
tert-Butyl acetate	2120	Activated charcoal tube, 100/50	\$50	\$20
tert-Butyl alcohol	2120	Activated charcoal tube, 100/50	\$50	\$20
Tetrahydrofuran	2120	Activated charcoal tube, 100/50	\$50	\$20
Thallium	905	MCEF 37 mm, 0.8 µm	\$45	Not applicable
Thallium	913	MCEF 37 mm, 0.8 µm pre-weighed	\$45	Not applicable
Thallium	915	MCEF 25 mm, 0.8 µm	\$45	Not applicable
Thallium	916	MCEF 25 mm, 0.8 µm, pre-weighed	\$45	Not applicable
Toluene	2120	Activated charcoal tube, 100/50	\$50	\$20
Toluene	2695	Passive dosimeter	\$65	\$25
Total organic matter- (asphalt fumes)	937	PTFE filter 1µm 37 mm pre-weighed with Orbo 42L tube	121 \$	Not applicable
Trichloroethylene	2120	Activated charcoal tube, 100/50	\$50	\$20
Trichloroethylene	2695	Passive dosimeter	\$65	\$25
Trichlorotrifluoroethane	2120	Activated charcoal tube, 100/50	\$50	Not applicable
Triglycidyl isocyanurate	910	PVCF 37 mm, pre-weighed Accucap insert, 5 µm	\$135	Not applicable
Trimethyl benzene	2120	Activated charcoal tube, 100/50	\$50	\$20
Trimethyl benzene	2695	Passive dosimeter	\$65	\$25
Turpentine	2120	Activated charcoal tube, 100/50	\$50	\$20
Valeraldehyde	2186	Orbo 23 tube	\$123	\$20
Vanadium	100	Miscellaneous	\$45	\$11

Substances	Equipment	Description of equipment	Cost for substance # 1	Cost for other substances
Vanadium	913	MCEF 37 mm, 0.8 µm pre-weighed	\$45	\$11
Vanadium	916	MCEF 25 mm, 0.8 µm pre-weighed	\$45	\$11
Vanadium	990	Solu-Sert™ filter 25 mm	\$56	\$11
Vanadium	992	Solu-Sert™ filter 37 mm	\$56	\$11
Vanadium (Inhalable fraction)	928	MCEF 0.8 µm, 25 mm IOM in plastic	\$65	\$21
Vanadium	3090	Wipe sample kit for metals	\$75	See package
Vinyl acetate	2195	Orbo 92 tube	\$50	Not applicable
Vinyl chloride (monomer)	2120	Activated charcoal tube, 100/50	\$50	Not applicable
Xylenes (o, m, p isomers)	2120	Activated charcoal tube, 100/50	\$50	\$20
Xylenes (o, m, p isomers)	2695	Passive dosimeter	\$65	\$25
Yttrium	905	MCEF 37 mm, 0.8 µm	\$45	Not applicable
Yttrium	913	MCEF 37 mm, 0.8 µm pre-weighed	\$45	Not applicable
Yttrium	915	MCEF 25 mm, 0.8 µm	\$45	Not applicable
Yttrium	916	MCEF 25 mm, 0.8 µm, pre-weighed	\$45	Not applicable
Zinc	100	Miscellaneous	\$45	\$11
Zinc	913	MCEF 37 mm, 0.8 µm pre-weighed	\$45	\$11
Zinc	916	MCEF 25 mm, 0.8 µm pre-weighed	\$45	\$11
Zinc	990	Solu-Sert™ filter 25 mm	\$56	\$11
Zinc	992	Solu-Sert™ filter 37 mm	\$56	\$11
Zinc (Inhalable fraction)	928	MCEF 0.8 µm, 25 mm IOM in plastic	\$65	\$21

Toxicological analyses

Analyses	Cost
Acetone, urinary	\$65
Cadmium, urinary by ICP-MS	\$50
Carboxyhemoglobin	\$16
Chromium, urinary by ICP-MS	\$50
Cobalt, urinary by ICP-MS	\$50
Fluorine, urinary	\$50
Hemoglobin, total	\$16
Lead, blood	\$31
Mandelic acid	\$125
Mercury, blood	\$31
Mercury, urinary	\$50
Methanol, urinary	\$65
Methyl ethyl ketone, urinary	\$65
Methyl isobutyl ketone, urinary	\$65
Methylhippuric acid	\$125
Nickel, urinary by ICP-MS	\$50
o-Cresol, urinary	\$65
Phenylglyoxylic acid	\$125
S-Phenylmercapturic, urinary	\$125
Urinary density and creatinine included in the cost of the analysis	

Microbiological analyses

Analyses	Basic cost	*Additional cost	Cost by genus	Cost by species
Bacterial count	\$100	\$60	n/a	n/a
Bacterial identification **	\$100	\$60	\$17	\$46
Endotoxin	\$205	n/a	n/a	n/a
Gram negative count	\$100	\$60	n/a	n/a
Gram negative identification **	\$100	\$60	\$17	\$46
Identification and enumeration of <i>Legionella pneumophila</i> and <i>Legionella sp</i> **	\$240	n/a	\$17	\$46
Identification and enumeration of <i>Legionella pneumophila</i> and <i>Legionella sp</i> - RBQ Cooling Towers **	\$240	n/a	\$17	\$46
Mycological count	\$100	\$60	n/a	n/a
Mycological identification **	\$100	\$60	\$17	\$46
Mycological structure (sponge and process)	\$86	n/a	n/a	n/a
Mycological structure on slides	\$60	n/a	n/a	n/a
Spore count and characterization (Posi-track)	\$80	n/a	n/a	n/a

Notes: *Additional cost for sampling on cassette, for liquid or solid process samples, and for water samples. No additional cost for air samples with a petri.

** The identification includes the counts for quantitative samples (air or liquid process).

PACKAGES

12 metals by ICP-MS for cassettes or process sample \$125
<ul style="list-style-type: none"> Aluminium Cadmium Chromium Cobalt Copper Iron Lead Magnesium Manganese Nickel Vanadium Zinc

11 metals by ICP-MS – Wipe-3090 \$150
<ul style="list-style-type: none"> Aluminum Cadmium Chromium Cobalt Copper Iron Lead Magnesium Manganese Nickel Vanadium

13 metals by ICP-MS for Solu-Sert™ cassette 990 et 992 140 \$
<ul style="list-style-type: none"> Aluminium Arsenic Cadmium Chrome Cobalt Cuivre Fer Magnésium Manganèse Nickel Plomb Vanadium Zinc

11 PAHs (particules) by GC-MS cassette 911 \$150
<ul style="list-style-type: none"> Acenaphthene Anthracene Benz(a)anthracene Benzo(b+j+k)fluoranthene Benzo(a)pyrene Benzo(e)pyrene Chrysene Fluoranthene Fluorene Phenanthrene Pyrene

11 HAP (vapours) by GC-MS tube 2187 \$150
<ul style="list-style-type: none"> Acenaphthene Anthracene Benz(a)anthracene Benzo(b+j+k)fluoranthene Benzo(a)pyrene Benzo(e)pyrene Chrysene Fluoranthene Fluorene Phenanthrene Pyrene

11 aldéhydes par GC-MS –tube 2186 250 \$
<ul style="list-style-type: none"> Acétaldéhyde Acroléine Butyraldéhyde Furfural Formaldéhyde Heptanal Hexanal Isobutyraldéhyde Isovaléraldéhyde Propionaldéhyde Valéraldéhyde

**8 Nitrosamines by GC-NPD
tube 2210**

\$180

- N-Nitrosodibutylamine
- N-Nitrosodiethylamine
- N-Nitrosodimethylamine
- N-Nitrosodipropylamine
- N-Nitrosomethylethylamine
- N-Nitrosomorpholine
- N-Nitrosopiperidine
- N-Nitrosopyrrolidine

**7 amines par LC_MS
Cassette 955**

250 \$

- 2-Aminoéthanol
- Aniline
- Diéthanolamine
- Diméthylamine
- Isopropylamine
- Méthylamine
- Morpholine

PACKAGES (cont.)

Quantitative composition of 37 solvents by GC-MS on tube 2120	
\$300	
• n- Amyl acetate	• Methylcyclohexane
• Acetone	• Methylene chloride
• Benzene	• n-Butyl acetate
• Chloroform	• n-Butyl alcohol
• Cumene	• n-Heptane
• Cyclohexane	• n-Hexane
• Diethyl ether	• Nonane
• Ethyl acetate	• n-Pentane
• Ethyl alcohol	• n-Propyl acetate
• Ethylbenzene	• Octane
• Isobutyl acetate	• Perchloroethylene
• Isobutyl alcohol	• sec-Butyl acetate
• Isopropyl acetate	• Styrene
• Isopropyl alcohol	• Tetrahydrofuran
• Methyl acetate	• Toluene
• Methyl ethyl ketone	• Trichloroethylene
• Methyl isobutyl ketone	• Trimethylbenzenes
• Methyl n-amyl ketone	• Xylenes
• Methyl propyl ketone	

PACKAGES (cont.)

Respirable compressed air (CRA) \$360	Isocyanates monomer et oligomers cassette 981 and impinger 1415 2 results : total monomer and oligomers \$190 for the first isocyanate and \$50 for the other
<p>The portable device for sampling and analyzing compressed breathing air was designed by IRSST in reference of the standard CAN/CSA-Z180.1-00. This device allows the determination of the quality of the breathing air and compressed breathing air generated by systems such as supplied-air respirators, supplied-air suits, self-contained breathing apparatus (SCBA) (open-circuit) and other systems, as long as they generate a pressure equal or above 10 lbf/in² (10 psi).</p>	<ul style="list-style-type: none"> • 2,4-TDI
	<ul style="list-style-type: none"> • 2,6-TDI
	<ul style="list-style-type: none"> • HDI
	<ul style="list-style-type: none"> • IPDI
	<ul style="list-style-type: none"> • MDI

PACKAGES

Isocyanates monomer only cassette 917 3 results :vapor monomer , aerosol monomer and total monomer \$160 for the first isocyanate and \$50 for the other	Isocyanates monomer et oligomers cassette 917 4 results : vapor monomer, aerosol monomer, total monomer and oligomers \$190 for the first isocyanate and \$50 for the other
<ul style="list-style-type: none"> • 2,4-TDI 	<ul style="list-style-type: none"> • 2,4-TDI
<ul style="list-style-type: none"> • 2,6-TDI 	<ul style="list-style-type: none"> • 2,6-TDI
<ul style="list-style-type: none"> • HDI 	<ul style="list-style-type: none"> • HDI
<ul style="list-style-type: none"> • HMDI 	<ul style="list-style-type: none"> • HMDI
<ul style="list-style-type: none"> • IPDI 	<ul style="list-style-type: none"> • IPDI
<ul style="list-style-type: none"> • MDI 	<ul style="list-style-type: none"> • MDI

LIST OF WIPE SAMPLE KITS AVAILABLE TO ORDER

IRSST Inventory #	Description of the kit	Cost/kit
2625	Wipe sample kit – Chromium VI	\$50
3020	Wipe sample kit – Cyanides	\$50
3050	Wipe sample kit – Aliphatics Isocyanates (HDI)	\$71
3060	Wipe sample kit – Aromatics Isocyanates (MDI et TDI)	\$71

INSTRUMENT CALIBRATION COSTS

For Acoustics, Electromagnetism and Flow meters, if a deviation from the manufacturer's method is required, authorization from the client is required before proceeding to the calibration of the instrument.

Acoustics

Sound calibrator – See models below	
Calibration of Sound Calibrator -250hz 114dB in conformance to CEI-60942 : 2003	\$138*
Calibration of Sound Calibrator -1000hz 94dB in conformance to CEI-60942 : 2003	\$138*
Calibration of Sound Calibrator -1000hz 114dB in conformance to CEI-60942 : 2003	\$138*
All makes of sound calibrators specified must comply with the following standards	
IEC 60942: 2003-01	
IEC 60942: 1997-11	
IEC 942: 1988	
To be calibrated, the sound calibrator must allow the calibration of 1 inch or ½ inch diameter microphones.	
<i>Calibration of sound level, frequency and percentage of total distortion of the acoustic signal generated according to IEC 60942: 2003-01, Third edition "Electroacoustics – Sound calibrators – Annex B – Periodic tests."</i>	
* For sound calibrators consisting of more than one level, each one constitutes a calibration. If the level is not specified, two levels will be calibrated.	
Models:	
Brüel & Kjaer 4230 and 4231	
Larson Davis CAL150,CAL200 and CAL250	
Quest QC-10	

For a sound calibrator model that is not included in this list, please contact Customer Service sac.labo@irsst.qc.ca to obtain confirmation regarding its possible calibration by the Acoustical Laboratory.

Acoustics (cont.)

Noise dosimeter or sound level meter, integrating-averaging sound level meter, sound-level meter – frequency analyzer and microphone alone – All makes	
Acoustical calibration of noise dosimeter	\$230
Acoustical calibration of sound level meter (See Appendix 1)	\$230
Free field acoustical calibration of the A weighting of the instrument compared to the tolerances of standard IEC 61672-1: 2002-05, First edition, “Electroacoustics – Sound level meters – Part 1: Specifications.”	
Acoustical calibration of the frequency weighting is done according to the instructions for tests in sections 9.4.2.2 to 9.4.2.5 of standard IEC 61672-2: 2003-04, First edition, “Electroacoustics - Sound level meters – Part 2: Pattern evaluation tests.”	

Sound level meter, integrating-averaging sound level meter, sound level meter - frequency analyzer – See models below	
Calibration of sound level meter- acoustical and electrical -1 level in conformance to 61672-3 : 2006-10 (See Appendix 1)	\$552
Acoustical and electrical calibration of the instrument according to standard IEC 61672-3: 2006-10, First edition, “Electroacoustics – Sound level meters – Part 3: Periodic tests.”	
This calibration is available only for noise measuring instruments reported by the manufacturer as complying with standard IEC 61672-1: 2002-05, First edition, “Electroacoustics - Sound level meters – Part 1: Specifications.”	

Models:
Brüel & Kjaer 2240 and 2250
Larson Davis LXT1, 831

Acoustics (cont.)

Integrating-averaging sound level meter, Brüel and Kjaer model 2240 only	
Calibration of sound level meter- acoustical and electrical -2 levels in conformance to 61672-3 : 2006-10	\$736
Same calibrations as calibration of sound level meter- acoustical and electrical – 1 level (the range from 60-140 dB), with the addition of the electrical tests performed over the range from 30-110 dB	

Lighting

Luxmeter – See models below	
5-point linearity calibration	\$276

Models:
Cal-Light 400
Haghnner E2 and EC-1
Topcon IM-2D

Electromagnetism

Multimeter,– Models: Fluke 12, Fluke 73, Fluke 111, Fluke 112, Fluke 115 and Fluke 117	
Calibration <u>without</u> correction in accordance to ILAC G8 (2009) following the same range of measurements as the manufacturer.	\$92
Calibration <u>with</u> corrections in accordance to ILAC G8 (2009) following the same range of measurements as the manufacturer. The values before and after calibration are supplied.	\$230

Multimeter,– Model: Fluke 87	
Calibration <u>without</u> correction in accordance to ILAC G8 (2009) following the same range of measurements as the manufacturer.	\$138
Calibration <u>with</u> corrections in accordance to ILAC G8 (2009) following the same range of measurements as the manufacturer. The values before and after calibration are supplied.	\$322

Electromagnetism (cont.)

Multimeter,— Models: HP 3478A and Agilent 34401A	
Calibration <u>without</u> correction on the front or rear terminal in accordance to ILAC G8 (2009) following the same range of measurements as the manufacturer.	\$276
Calibration <u>without</u> correction on the front and rear terminals in accordance to ILAC G8 (2009) following the same range of measurements as the manufacturer.	\$598
Calibration <u>with</u> corrections on the front or rear in accordance to ILAC G8 (2009) following the same range of measurements as the manufacturer. The values before and after calibration are supplied.	\$644
Calibration <u>with</u> corrections on the front and rear terminals in accordance to ILAC G8 (2009) following the same range of measurements as the manufacturer. The values before and after calibration are supplied.	\$1288

Chemical measurements

CO₂ analyzer – Models: MultiRAE IR and GasAlertMicro5 IR from BW	
Calibration of CO ₂ analyzer- 3 points calibration according to the measurement scale	\$184
Mercury analyzer – Model: Jerome 405	
Calibration <u>without</u> correction with suspension of mercury vapours at room temperature	\$184
Personal detector for CO, NO, NO₂, SO₂, NH₃ and H₂S – Models: PAC 7000	
Calibration of personal detector- 3-points calibration according to the measurement scale	\$184
4-Gas detector (explosivity, oxygen, CO, H₂S) – Models: MultiRAE Plus and X-am 2000, X-am 2500 and X-am 5000 from Dräger	
Calibration of 4-Gas detector – 2 points calibration of the oxygen sensor, 3 points for the other sensors	\$184

Chemical measurements (cont.)

Photoionizer – Models MultiRAE Plus, MiniRAE 3000 and ToxiRAE PROPID	
Calibration of photionizer – 2 points calibration with reference to isobutylene	\$184

Indoor air quality analyzer – Models: Q-Trak 8554 from TSI, Fluke 975	
3-point calibration of CO and CO ₂ sensors	\$184
Calibration of temperature sensors – 9 points calibration	\$138
Calibration of relative humidity sensors- 9 points calibration	\$138

Thermohygrometry

WBGT heat stress monitor <u>with</u> datalogger module	
Calibration of WBGT TEMP at 9 points	\$230
Models:	
QuestTemp 34	
RSS-214 DL	

WBGT heat stress monitor <u>with</u> datalogger module	
Calibration of WBGT HUM at 9 points	\$138
Model:	
QuestTemp 34	

WBGT heat stress monitor <u>without</u> datalogger module	
Calibration of WBGT TEMP at 3 points	\$368
Model:	
RSS-214	

Thermohygrometry (cont.)

Dry bulb temperature measuring instrument <u>without</u> datalogger module	
Calibration of thermo hydrometer – temperature at 3 points	\$184
Models:	
HM 34	
HM 40	

Relative humidity measuring instrument <u>without</u> datalogger module	
Calibration of thermo hydrometer – humidity at 2 or 3 points	\$184
Models:	
HM 34	
HM 40	

IR Infrared digital thermometer (without contact) <u>without</u> datalogger module – All makes	
4-point calibration between 35 and 500°C	\$184

Ventilation

Anemometer – Models: 8384A and 9535	
15-point calibration	\$368
Flow meter –BIOS Defender and DC-Lite	
5-pt calibration for low- flow meters: Calibration in conformance to ILAC G8 (2009) except if the result is undetermined = failed, which represents a risk level lower than ILAC G8 (2009).	\$300
5-pt calibration for high- flow meters: Calibration in conformance to ILAC G8 (2009) except if the result is undetermined = failed, which represents a risk level lower than ILAC G8 (2009).	\$300
5-pt calibration for very high- flow meters: Calibration in conformance to ILAC G8 (2009) except if the result is undetermined = failed, which represents a risk level lower than ILAC G8 (2009).	\$300

Pumps

High flow pump – Models: Gilian Gil Air, SKC PCXR and Aircheck Touch	
Verification and adjustment	\$138
Low flow pump – Model Gilian LFS-113	
Verification and adjustment	\$138
Charger	
Verification	\$92
5-Station charger	
Verification	\$92
Manual pump – Models Draeger and Gastec	
Verification and adjustment	\$92

INSTRUMENT RENTAL COSTS

Acoustics				
Description	Type	Rental 1 day	Rental 5 working days	Rental 1 calendar month
Sound level calibrator (94 and 114 dB)	BK 4231	\$50	\$120	\$250
Noise dosimeter	Spark 706 (RC)	\$100	\$250	\$500
Portable computer and software	For Spark 706	\$90	\$180	\$350
Integrating sound level meter	BK 2240	\$175	\$300	\$550
Physics measurement				
Description	Type	Rental 1 day	Rental 5 working days	Rental 1 calendar month
Luxmeter	CL400	\$100	\$250	\$500
Thermohygrometer	HM34C	\$90	\$180	\$350

Gas analyzers				
Description	Type	Rental 1 day	Rental 5 working days	Rental 1 calendar month
4-gas detector explosivity meter	X-am 2000	\$150	\$300	\$600
CO-LC personal detector	PAC 7000	\$100	\$250	\$500
DRI – Indoor air quality	Fluke 975	\$150	\$300	\$600
Formaldehyde detector	Formaldemeter htv-m	\$100	\$250	\$500
Mercury analyzer	Jerome 405	\$150	\$300	\$600
NO2 personal detector	PAC 7000	\$100	\$250	\$500
Ozone personal detector	GasAlert Extreme	\$150	\$300	\$600
Personal photoionization detector	ToxiRae PRO PID	\$150	\$300	\$600

Pumps and flow meters				
Description	Type	Rental 1 day	Rental 5 working days	Rental 1 calendar month
5-station charger	Various models	Included in a pump rental		
Charger		Included in pumps rental		
Elutriator and flow meter	Vertical	\$120	\$300	\$500
Flow meter	Defender	\$70	\$150	\$350
Flow meter	Allegro 9900-40	\$90	\$180	\$350
Gastec pump	Gastec	\$50	\$120	\$250
High flow pump	Gil Air	\$70	\$150	\$350
High flow pump	Gil Air 5	\$70	\$150	\$350
High flow pump	SKC PCXR	\$70	\$150	\$350
Impactor	Andersen N6	\$90	\$180	\$350
Low flow pump	LFS 113	\$70	\$150	\$350
Very high flow pump (for spores)	Leland Legacy	\$70	\$150	\$350
Very high flow pump (30 L/min)	Aircon	\$150	\$300	\$600
Air quality				
Description	Type	Rental 1 day	Rental 5 working days	Rental 1 calendar month
Anemometer	TSI 8384A-M-GB	\$90	\$180	\$350
DRI – for aerosols	Dust Trak II 8530	\$120	\$300	\$500
Endoscope + lamp	080-024-090-55	\$120	\$300	\$500
Moisture meter (penetration)	Surveymaster SM	\$70	\$150	\$350

Electromagnetism				
Description	Type	Rental 1 day	Rental 5 working days	Rental 1 calendar month
Static Triaxial Fieldmeter (B)	THM-7025	\$70	\$210	\$350
Detector/Dosimeter (S) 10 MHz-100GHz ⁽¹⁾	Nardalert D8861/8865	\$70	\$150	\$350
Induced Curent Meter	Narda 8850	\$70	\$150	\$350
Ion Meter Kit	Simco 4007273	\$70	\$150	\$350
Contact Curent Meter	Narda 8870	\$70	\$150	\$350
Laser Distance Meter	Leica Disto A5	\$70	\$210	\$350
Triaxial Teslameter (B, O, P) 5 Hz to 32 kHz	Narda EFA-200	\$100	\$250	\$500
Triaxial Teslameter/Dosimeter (B) @ 60 Hz	Dexsil Field Star 4 000	\$100	\$250	\$500
Distance Measuring Wheel for Mapping ⁽²⁾	RM 4 000	\$70	\$150	\$350
Triaxial Fieldmeter (B, O, P) 1 Hz to 400 kHz	Narda ELT-400	\$170	\$605	\$1670

Notes

E : Electric Field (V/m) H : Magnetic Field (A/m) B : Magnetic Density (Tesla) S : Power Density (mW/cm²)

O : Percentage of the ICNIRP(1998) Occupational Recommendation

P : Percentage of the ICNIRP(1998) Public Recommendation

(1) A computer is required to read the data. The instrument is autonomous for data gathering but has to be configured using a computer.

(2) The distance measuring wheel is used with the Dexsil FieldStar 4 000 and with a software included in the carrying case of the instrument

(3) A BNC output on the instrument facilitates the connection to an oscilloscope to determine the field frequency.

Respirable compressed air

Description		Preparation costs	Rental 5 working days	Rental 1 calendar month
RCA case	Costs of analysis not included	\$70	n/a	n/a

Cyclones

Description	Type	Rental 1 day	Rental 5 working days	Rental 1 calendar month
Cyclone	GS-3	\$25	\$60	\$120
Cyclone, nylon	York- Dorr Oliver	\$25	\$60	\$120
Jar for cyclone calibration	IP7013376	\$25	\$60	\$120

APPENDIX I

The laboratory offers two types of acoustical calibration for sound level meters:

Sound level meter, integrating-averaging sound level meter, sound level meter - frequency analyzer and microphone alone – All makes
Calibration sound level meter acoustical
✓ Simple acoustical calibration that verifies the instantaneous response of a noise measuring instrument for 39 sound levels and frequencies between 125 Hz and 20 000 Hz.
✓ Identification of a problem with the microphone, or minimally, with the Rms value (Fast or Slow) measuring circuit or with the frequency weighting circuit used.
✓ Available for all noise measuring instruments, independent of the manufacturer's specifications or the instrument standards stipulated for the noise measuring instrument.
✓ Inappropriate if there is a need for demonstrating, beyond reasonable doubt, the compliance of the measuring instrument with instrument standard IEC 61672-1 (2002-05). In legal metrology, this demonstration is now commonly required (e.g., calls for tender for measuring the noise generated by wind turbines, etc.). Note also that all CSA International Canadian standards in acoustics now stipulate the use of a noise measuring instrument that has been demonstrated compliant with the requirements of IEC 61672-1 (2002-05).

Sound level meter, integrating-averaging sound level meter, sound level meter - frequency analyzer

Acoustical and electrical calibration- 1 level for sound level meter

- ✓ Available since the publication of IEC 61672-3 (2006-10) "Periodic tests" and applies only to noise measuring instruments that are certified compliant with IEC 61672-1 (2002-05).
- ✓ Includes acoustical calibration (see above) as well as all the electrical tests periodically recommended by IEC 61672-3 (2006-10) for a noise measuring instrument.
- ✓ The electrical tests stipulated by IEC 61672-3 (2006-10) allow minimum verification of all the measuring characteristics of a noise measuring instrument:
 - Time and frequency weightings;
 - Linear operating range;
 - Self-generated electrical and acoustical noise;
 - Precision of the peak detector;
 - Precision of the exposure level calculations, the response of the noise measuring instrument to signals of different polarities;
 - The initiation level for the overload detection circuit.
- ✓ Required in legal metrology, because the Calibration Laboratory can, following this calibration, issue a declaration on the compliance of the noise measuring instrument with the complete requirements of IEC 61672-1 (2002-05).

RESOURCES

Mr. Martin Beuparlant, M.Sc. Chemist
Director
Laboratory Division:

For all requests related to instruments, sampling equipment and billing, please contact Laboratory Customer Service at (514) 288 1551, ext. **306** or by e-mail: sac.labo@irsst.qc.ca

For all technical information regarding analyses, please contact Laboratory Customer Service at (514) 288-1551, ext. **315** or by e-mail: sac.labo@irsst.qc.ca