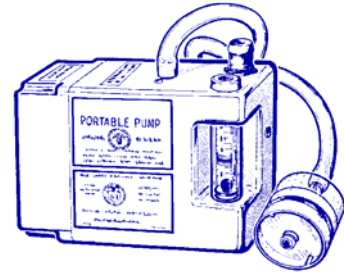


Occupational Hygiene Air Sampling Workshop



Toronto, Ontario,

Next course date May 2 - 4, 2012.

Presented by:

ALARA Industrial Hygiene Services Ltd.

Course Director - C.W. Pilger CIH, ROH

The American Board of Industrial Hygiene and the Canadian Registration Board of Occupational Hygienists have each awarded 3 CM points for attendance at this workshop.

WORKSHOP OBJECTIVES

Air contaminants in the workplace are a significant source of potential worker exposure to chemical hazards. Reliable monitoring for these contaminants is an essential part of the health risk assessment process. The largest contributor to errors in air monitoring data is usually sample collection. To minimize these errors, the hygienist must understand air sampling strategies and be skilled in air sampling techniques.

As part of its commitment to occupational health education and training, **ALARA** Industrial Hygiene Services is offering a three-day course in practical air sampling techniques. This course will provide participants with the practical skills and theoretical knowledge to enable them to conduct reliable air monitoring surveys. Participants will gain experience with conventional air sampling equipment for personal exposure monitoring, and real-time air monitoring instruments. The course has been designed for professional occupational hygienists who feel the need to enhance their knowledge of air monitoring as well as recent entrants to the hygiene field who need to know how to conduct air sampling for chemical contaminants in their workplaces. This will be the 35th offering of this popular workshop.

Course enrolment will be limited to 15 participants to maximize hands on experience with sampling equipment, and participant interaction.

REGISTRATION

By Mail: Fill out the registration form on the last page of this brochure and mail to **ALARA** with your cheque.

You may reserve a space by phone, fax, or email. Registration will be confirmed on receipt of payment.

Fee: \$1025 plus 13% H.S.T. (Total cost \$1158.25)

Registration fee includes course manual, materials, and coffee breaks.

WORKSHOP PROGRAM

DAY ONE - Wednesday

- 8:30 **Introductory remarks**
- 8:45 **Sampling strategies and sampling equipment**
Identifying sampling objectives, sampling strategies, choice of methods and equipment
- 9:45 **Sampling Equipment** *[practical exercise]*
Preliminary familiarization with personal sampling pumps and associated sampling media
- 10:00 **Break**
- 10:15 **Calibration of air sampling pumps**
Calibration devices, primary and secondary calibration standards, calibration protocols, pre and post sampling calibration
- 11:00 **Calibration of sampling trains** *[practical exercise]*
Calibration of personal and area sampling trains for gases, vapours and particulates. Soap bubble meters, calibrated rotameters, mass flowmeters and other calibration tools
- 12:00 **Lunch (on your own)**
- 1:00 **Calibration of sampling trains, continued**
- 2:10 **Adsorbent sampling for gases and vapours**
Advantages and disadvantages of adsorbent sampling, sorbent types, coated sorbents, solvent desorption, thermal desorption, desorption efficiency, humidity effects, displacement of analyte, DAV sampling, passive dosimetry
- 3:00 **Break**
- 3:15 **Sorbent tube sampling** *[practical exercise]*
Preparation and calibration of sampling trains, choice of sorbent, sampler manifolds, sorbent tube handling storage, and transport
- 4:30 **Adjournment**
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DAY TWO – Thursday

- 8:30 **Impinger sampling techniques**
Applications, advantages, and limitations, specificity of absorbent solutions, collection efficiency, "spill proof" impingers, more convenient techniques for replacement of impinger procedures
- 9:15 **Impinger sampling techniques** *[practical]*
Formaldehyde sampling, isocyanate sampling
- 10:00 **Break**
- 10:15 **Aerosol sampling**
Types of aerosols, aerosol dynamics, filter types, and example applications - respirable dust, fibres, metals, silica, PAHs, "total" dust and size selective sampling
- 11:00 **Aerosol sampling** *[practical exercise]*
Cassettes, cassette/cyclone combinations for size selective sampling, flowrate limitations, leak testing
- 12:00 **Lunch (on your own)**

- 1:00 **Real time monitoring instruments**
Applications and limitations of direct reading instruments in air monitoring, interferences, calibration procedures
- 2:00 **Sampling with real time monitors** *[practical exercise]*
Sampling with real time monitoring instruments - CO, VOCs, CO₂ combustible gases
- 3:00 **Break**
- 3:15 **Air sampling calculations** *[practical exercise]*
Calculating air volume sampled, corrections for temperature and barometric pressure. Units of concentration, calculating concentrations, converting between ppm and mg/m³
- 4:30 **Adjournment**
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DAY THREE – Friday

- 8:30 **Sampling equipment - care and maintenance**
Sampling pump design, flow control mechanisms, common pump faults, rechargeable battery problems, pump QA procedures
- 9:15 **Sampling pump maintenance** *[practical exercise]*
- 10:15 **Break**
- 10:30 **Pump maintenance exercise, continued**
- 12:00. **Lunch** (on your own)
- 1:00 **Selection of sampling methods**
Selecting appropriate sampling protocols, the NIOSH Analytical Methods Manual, the OSHA Technical Manual, choosing and working with a laboratory
- 1:30 **Air sampling exercise** *[practical exercise]*
Each participant will demonstrate an exposure monitoring strategy for an assigned air contaminant
- 2:15 **Sample handling** *[practical exercise]*
Shipping / transporting samples, separation of air and bulk samples, storage precautions, chain of custody considerations
- 2:30 **Indoor Environmental Quality Assessments**
Investigation protocols and special sampling and equipment requirements for air contaminants at the low concentrations found in indoor air
- 3:15 **Break**
- 3:30 **Air sampling exercise, conclusion**
- 4:00 **Course review and evaluation**
Question and answer session
- 4:30 **Closure**
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The workshop will be held at the
Best Western Primrose Hotel,
111 Carlton Street, Toronto,
1-800-268-8082

REGISTRATION FORM

Occupational Hygiene Air Sampling Workshop

Toronto, Ontario, May 2 - 4, 2012

Presented by:
ALARA Industrial Hygiene Services Ltd.

(Please print or type and mail with payment)

Dr./Mr./Ms. _____

Title: _____

Employer: _____

Street: _____

City: _____ Province/State: _____

Postal / Zip Code: _____ Phone: (____) _____ Fax: (____) _____

E-mail Address: _____

- I can't attend this time but please reserve a space at the next air-sampling workshop and add me to your mailing list for future workshops

Registration Fee: \$1025.00 + 13% H.S.T. (\$1158.25)
H.S.T. Registration No. 100107622

Payment must be received 10 days before the starting date of the workshop in order to guarantee a space.

Make cheque payable to: **ALARA** Industrial Hygiene Services Ltd.

Mail to: **ALARA** Industrial Hygiene Services Ltd.
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Toronto, ON M4B1R5 Canada

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