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## H<sub>2</sub>S Alive® Instructor Application Guide

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### Pre-requisites

The following pre-requisites are the minimum required to be granted entry into the Energy Safety Canada H<sub>2</sub>S Alive® instructor training program:

1. A *minimum* of three (3) years of field-based “hands on” work experience in work environments that include exposure to hazardous atmospheres and require knowledge of rescue techniques.

**Hazardous environment experience may include:**

- Petroleum refining operations
  - Pulp/paper manufacturing/processing
  - Civil water/sewage treatment
  - Agriculture processes (waste, fertilizer manufacturing processing)
  - Chemical - plant processing, handling, transportation, monitoring
  - Civil construction - Confined space entry, monitoring, rescue, oxygen deficient atmospheres
  - Mining, resource extraction and/or processing
  - Emergency Response - firefighter, oil & gas safety / emergency response personnel
2. An adequate working knowledge (validated during pre-entrance exam and skills evaluation) of respiratory protection equipment (RPE) and gas detection equipment (detector tube, personal, portable and fixed monitors).
  3. Current, valid Standard First Aid certificate, including CPR certification (or equivalent).
  4. Current (passed with a minimum 90% within the last 6 months) and valid H<sub>2</sub>S Alive® certificate.

### Pre-entry Examination and Practical Skills Demonstration

The following is a general guide, but is not limited to, what the candidate will be expected to explain, describe or demonstrate. A mark of 85% is required to pass the pre-entry exam and the skills evaluation.

#### Breathing Apparatus

- Pre-Use Inspection - all components
- Donning
- Demonstration of face piece seal, alarm, bypass/purge valve
- SCBA vs. SABA - components and differences
- Breathing apparatus approval agencies

#### Detector Devices

- Pre-service checks
- Principle of operation of detector tube devices
- Operation of piston and bellows type detector devices
- Manufacturer’s specifications

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### Detector Tubes

- H<sub>2</sub>S concentration scale
- Catalyst reaction
- Accuracy range
- Factors which affect accuracy

### Electronic Monitors

- Major components
- Function (bump) test vs. calibration

### Rescue Techniques

- Demonstrate all rescue drags and carries (4)
- 7 Step Initial Response Strategy

## Required References

To prepare for the H<sub>2</sub>S Alive® instructor pre-entry examination and practical skills demonstration, candidates should have a general working knowledge of the following:

- H<sub>2</sub>S Alive course student manual
- CSA Standard : CAN/CSA-Z94.4-11 - Selection, use and care of respirators \*
- CSA Standard : CSA Z180.1-13 - Compressed breathing air and systems \*
- Completion of manufacturer equipment training for gas monitor equipment from the approved list: <http://raetraining.litmos.com/online-courses>
- Please note - Gas detection technology and sensor theory course is mandatory. Please complete all courses appropriate to the gas monitors you use.
- Manufacturer's care and operating instructions for common makes and models of positive-pressure breathing apparatus (SCBA/SABA), detector tube systems and electronic H<sub>2</sub>S monitors.

### Approved list of Manufacturer Equipment Training for SCBA equipment:

- MSA Online University - upload certification of completion.
- MSA - <https://www.youtube.com/watch?v=sZdz5XBzrnM>
- MSA - <https://www.youtube.com/watch?v=jrl7f1Vg6Uk>
- Scott Safety video - <https://www.youtube.com/watch?v=A637GazUACA>
- Drager - <https://www.youtube.com/watch?v=OX4QWdOFolk>
- Survivair - <https://www.youtube.com/watch?v=K00eknUz5Gf>
- Current Occupational Health and Safety Regulations for the four (4) Western Canadian provinces pertaining to hydrogen sulfide exposure limits and respiratory protection.

\* CSA standards may be ordered on-line at [csa.ca](http://csa.ca), and may be available for reference at local public libraries.

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## Maintenance of certification:

1. Instruct the minimum number of required courses.
2. Maintain and furnish Energy Safety Canada with copies of required certifications.
3. Access and use the Energy Safety Canada instructor portal to:
  - maintain instructor profile information
  - review and acknowledge all required program standards and information bulletins
  - review and sign required codes of ethics and instructor agreements