

RISK ALERT

CONFINED SPACES: RECOGNIZING THE DANGER

Seven workers either lost consciousness, or became confused, trying to rescue one another in an oxygen deficient confined space. Luckily, they suffered only minor injuries; however, this accident could have resulted in many fatalities. Too often, workers don't recognize a confined space and its dangers.

What is a confined space?

A confined space is a space that:

- Is enclosed or partially enclosed;
- Is not designed or intended for continuous human occupancy;
- Has restricted access; and
- Is, or may, become hazardous because of its design, location, construction, atmosphere, the materials in it and/or other factors.

Causes of death in confined spaces

Accident statistics suggest that approximately 60% of deaths in confined spaces result from oxygen deficiency and lack of air quality testing. More than half of those who died in confined spaces did so while trying to rescue fellow workers.

There are four main dangers in confined spaces: oxygen deficiency/enrichment, fire or explosion, toxicity, and drowning in liquids or free-flowing solids.



ACTIONS NECESSARY PRIOR TO ENTERING A CONFINED SPACE

• Pre-entry testing

New Brunswick law requires that a "competent person" test the atmosphere in a confined space for oxygen level, flammable contaminants and toxic contaminants before any entry takes place. Never trust your senses of sight or smell – you cannot see, taste or smell many hazardous substances, or deficient or enriched oxygen, and you cannot hold your breath until you get out.

• Purging/Ventilating

If the results of the tests show that the atmosphere may be harmful or flammable, purging and/or ventilating needs to be conducted. Purging consists of displacing the existing atmosphere with agents such as air, nitrogen, water or steam. Air contaminants can also be removed, and oxygen levels corrected, by mechanical ventilation.

• At least three people required

The minimum number of people required at the site of a confined space entry is three: the entrant, a person standing at the entrance, and a back-up employee within sight and shouting distance that has no obstructions or barriers to overcome in order to reach the space (for example, not in another room or a parking lot). Each has to be properly trained to carry out their responsibilities.

• Personal Protective Equipment (PPE) and lifeline

Workers exposed to hazards in a confined space must be protected from injury by PPE. The employer must ensure that the appropriate equipment is available and that workers wear it. Also, each entrant must wear a full body harness attached to a lifeline in order to effect a rescue. If the entry hole is very small, wrist cuffs may be necessary.

• Continuous monitoring and communication

Confined spaces often make talking difficult because of noise, distance, PPE, lighting, etc. Special equipment and techniques, such as radio, microphones, hand signals and flags, must be in place to allow communication among all personnel involved with the work.

Any confined space entry shall comply with the Occupational Health and Safety Act, General Regulation 91-191, Part XVII – Confined Space, sections 262-272.