## **Safety Meeting**

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T0109

## Small spaces, big risks

There are many types of confined spaces tanks, vats, pits, tunnels, pipes, boilers — and more. All of them can be dangerous.

A confined space has three characteristics: It has limited openings for entry and exit, it is large enough to permit a worker to enter, and it is not designed for continuous worker occupancy.

These characteristics of a confined space cause it to present serious hazards. Here are some of the common ones:

- lack of oxygen, resulting in risk of suffocation
- fire or explosion from an accumulation of flammable vapors
- toxic vapors
- difficulty exiting the space in the event of an emergency
- cramped spaces to work in, resulting in a danger of being caught in equipment
- poor visibility
- high levels of noise
- temperature extremes

Working in a confined space requires special training. For example, it requires a good understanding of gas monitoring, ventilation systems, fire and explosion prevention, equipment lockout, and a thorough knowledge of the worksite's specific hazards.

You must know your company's procedures for safely entering a confined space and working in it. Confined spaces should be identified and classified, and safe entry procedures developed. Some confined spaces require a permit for entry.

Once you have determined if a work space is considered a confined space, be sure the confined space hazard assessment and control program has been followed.



A key question to ask is whether it's absolutely necessary the work be carried out inside the confined space. In many cases where there have been deaths in con-fined spaces, the work could have been done outside the confined space.

Before entering any confined space, a trained and experienced person should identify and evaluate all the potential hazards.

An important step in determining the hazards in a confined space is air testing. The air within the space should be tested from outside before entry into the confined space. Care should be taken to ensure that air is tested throughout the confined space —side to side and top to bottom.

A trained worker using detection equipment that has remote probes and sampling lines should do the air quality testing.

Another very important thing to remember is what to do if someone working in a confined space becomes ill or injured. In the event of such an emergency, you should never enter a confined space to rescue someone without the proper equipment, training, and atmospheric testing. Chances are, whatever caused the illness or injury will claim you as a victim too.

Victims should be rescued from outside the confined space, if possible. More than 60 per cent of deaths in con-fined spaces are would-be rescuers, who are not fully trained and adequately equipped.

Another worker qualified in confined spaces rescue procedures must be present outside the confined space before the first rescuer enters the confined space. Do not use the same air as the confined space workers you are rescuing. Wear SCBA (self-contained breathing apparatus) or sup-plied air respirator with an escape bottle.

In general, then, these are the things you should be aware of before you work in a confined space:

- how to enter and exit safely
- the atmosphere in the space has been tested and found to be free of dangerous levels of toxic or flammable vapors, and there is sufficient oxygen
- the atmosphere is going to remain safe while you are working
- the rescue plan in the event of an emergency, and that proper rescue equipment is available and in good condition
- another person outside the confined space is keeping an eye on you as you work, and they also know the rescue plan
- other procedures necessary to work safely, such as locking out energy sources

Performing a task safely in a confined space requires careful planning and preparation. Don't be tempted to take shortcuts. Follow all safety precautions and don't hesitate to speak up if you are unsure of the correct procedures.

The material contained in this document has been prepared from sources believed to be accurate and reliable. Application of this information to a specific worksite should be reviewed by a safety professional. Anyone making use of the information set forth herein does so at their own risk and assumes any and all liability arising therefrom. Specific medical advice should be obtained through consultation with a physician or other trained health care practitioner.