

Confined Space Hazard Assessment

Confined Space Name: _____

Confined Space Location: _____

Written by: _____ **Date:** _____

This plan is specific to the confined space named and identified above and is written in accordance with Ontario Regulation 632/05, Confined Spaces made under the Occupational Health and Safety Act of Ontario and the University of Guelph Confined Spaces Management Program.

1) Hazard Identification and Control

The list below indicates the hazards and the control measures that have been identified for the confined space name above. The list includes actual and potential existing hazards that have been identified based on the hazard assessment. It also includes the hazards that may develop during the work activity inside the confined space. The hazards assessed include atmospheric and physical hazards as well as general safety and health hazards present in the space.

Identified Hazards	Hazard Control Measures

2) Duties of Entrants in the Confined Space

University of Guelph Entrants/Other Related Personnel:

#	Name	Duties
1		
2		
3		

Contractor(s) Entrants/Other Related Personnel:

#	Name	Employer	Duties
1			
2			
3			
4			

3) Multi-Employer Involvement

Is this a multi-employer involvement? _____

Where the workers of more than one employer are to perform work in the same confined space or related work with respect to the same confined space, and before any worker enters the confined space or begins related work with respect to the confined space, the University of Guelph as the lead employer is required by Ontario Regulation 632/05, Confined Spaces made under the Occupational Health and Safety Act of Ontario, to prepare a **co-ordination document** to make certain that the duties imposed on employers by the regulation are performed in a way that protects the health and safety of **all workers** who perform work in the confined space or related work with respect to the confined space.

Are the Co-ordination Document attached? _____

4) Attendant

Name: _____ Employer: _____

An attendant is a worker who is trained in the hazards of confined spaces and whose primary responsibility is to monitor the safety of the worker(s) and to communicate with the workers in the confined space.

Method of Communication with workers (entrants): Check all that apply.

- | | | |
|--------------------------------|---|---|
| <input type="checkbox"/> Phone | <input type="checkbox"/> Intercom | <input type="checkbox"/> Visual Hand Signal |
| <input type="checkbox"/> Radio | <input type="checkbox"/> Audible Signal | <input type="checkbox"/> Rope Signal |

5) Entry/Exit Procedures

An adequate means for entering and exiting must be provided for all entrants who enter a confined space. Check all that apply.

Entry/Exit Procedures	Yes	No	N/A
Opening(s) into the confined space are large enough to permit the entry of workers wearing safety equipment:			
Opening(s) into the confined space are large enough to permit rescue workers' personal protective equipment and rescue equipment:			
Ladder or other suitable means provided to give ready access/egress:			

Other provisions for safe entry/exit: _____

6) Protective Equipment

Operational Protective Equipment

Operational protective equipment is used to secure the worksite and to address general hazards in the confined space and/or adjacent work areas.

Protective equipment required: Select all that apply:

- | | |
|--|--|
| <input type="checkbox"/> Warning Signs | <input type="checkbox"/> Ground Fault Circuit Interrupter (GFCI) |
| <input type="checkbox"/> Barricade Tape or Cones | <input type="checkbox"/> Intrinsically Safe |
| <input type="checkbox"/> Ventilation Equipment | <input type="checkbox"/> Grounding/Bonding Equipment |
| <input type="checkbox"/> Fire Protection Equipment | |
| <input type="checkbox"/> Other: _____ | |
| <input type="checkbox"/> Other: _____ | |
| <input type="checkbox"/> Other: _____ | |
| <input type="checkbox"/> Other: _____ | |

Check all that apply in the table:

Operational Protective Equipment	Yes	No	N/A
All confined space jobs shall be barricaded (as appropriate) to provide a clear work area and to keep unauthorized personnel out			
All portable electrical equipment shall be equipped with a ground fault circuit interrupter			
If flammable or explosive atmospheres are possible, all interior or entryway lighting shall be rated for use in hazardous locations (e.g. low voltage, explosion-proof lighting or 110V explosion proof lighting equipped with a GFCI or air driven lights)			
Any equipment that could generate a static charge, shall be adequately grounded and bonded (e.g. hose nozzles, air movers, hydro blasters, etc.)			

Personal Protective Equipment (PPE)

Personal protective equipment required: Check all that apply:

- | | |
|--|---|
| <input type="checkbox"/> Hearing Protection | <input type="checkbox"/> Fall Protection |
| <input type="checkbox"/> Self-Contained Breathing Apparatus | <input type="checkbox"/> Boots |
| <input type="checkbox"/> Chemical Splash Goggles | <input type="checkbox"/> Retrieval Ropes for Horizontal Entry |
| <input type="checkbox"/> Safety Glasses | <input type="checkbox"/> Rain Gear |
| <input type="checkbox"/> Airline Respirator (Supplied Air) with 5-minute Egress Bottle | |
| <input type="checkbox"/> Gloves (Type): _____ | |
| <input type="checkbox"/> Specify Other Respiratory Protection: _____ | |

All entrants and other related personnel:

- Shall be equipped with appropriate PPE
- Using respiratory protective equipment shall be appropriately trained

7) Isolation of Energy and Control of Materials Movement

Before working in the confined space, **all** energy sources, which are potentially hazardous to workers in the space, shall be identified and de-energized, secured, relieved, disconnected, restrained or otherwise controlled. Also, entrants shall be protected against any collapse or shift of material.

Check all that apply in the table:

Operational Protective Equipment	Yes	N/A
<p>All connecting supply lines, which are potentially hazardous to workers in the space, have been depressurized, vented and disconnected with a blank inserted into the line. Blinds or blanks have been sized for proper pressure and diameter.</p> <p>Other adequate means: _____</p>		
<p>All electrical components, which are potentially hazardous to workers in the space, have been disconnected/de-energized, locked out and tagged (group lockout procedures shall be used for all authorized entrants).</p> <p>Other adequate means: _____</p>		
<p>All hydraulic and pneumatic systems and moving parts of equipment, which are potentially hazardous to workers in the space, have been disconnected/de-activated/de-energized, mechanical components have been blocked or supported in place and have been locked-out and tagged.</p> <p>Other adequate means: _____</p>		
<p>Before entry, all heated or steamed spaces have cooled to an acceptable temperature.</p> <p>Other adequate means: _____</p>		
<p>Entrants are adequately protected against drowning, engulfment, entrapment, suffocation and other hazards from free-flowing material.</p> <p>Other adequate means: _____</p>		

8) Ventilation and Purging

“**Purging**” involves **removing contaminants** inside the confined space by displacement with air to achieve acceptable atmospheric levels. After the contaminants have been removed (purged), the confined space may be ventilated. “**Ventilation**” means the continuous **provision of fresh air** into the confined space by mechanical means to maintain acceptable atmospheric levels. It must be continued while work is being carried out within the space, to maintain an acceptable oxygen concentration, to provide protection in case of accidental release of chemicals, to remove contaminants generated by the work performed or to cool the enclosure. Check all that apply:

- If atmospheric hazards exist or are likely to exist in the confined space, the confined space shall be purged and/or ventilated before any worker enters it.
- If mechanical ventilation is required to maintain acceptable atmospheric levels, an adequate warning system (a flow or pressure switch in the air stream) and exit procedure shall also be provided to make certain that workers have adequate warning of ventilation failure and are able to exit the confined space safely

9) Procedures for Working in the Presence of Explosive or Flammable Substances

The accumulation of flammable, combustible or explosive agents in confined spaces can present a significant risk to workers; as a result, very stringent criteria are applied to work performed in such atmospheres. Check all that apply:

- No worker shall enter or remain in a confined space that contains or is likely to contain an airborne combustible dust or mist whose concentration may create a hazard of explosion.
- The confined space contains or is likely to contain an explosive or flammable gas or vapour. If this option is checked continue below, if not move onto #10.

Confined Space with explosive or flammable gas

*In the case of a worker performing **only inspection work**: Check all that apply:*

- That does not produce a source of ignition: the atmospheric concentration of the explosive or flammable gas or vapour is **less than 25% of its lower explosive limit**

If the above under “**only inspection work**” is not checked, specify control measure(s):

- Purging Ventilation Inerting
- Other adequate means: _____

*In the case of a worker performing **only cold work**: Check all that apply:*

- The atmospheric concentration of the explosive or flammable gas or vapour is **less than 10% of its lower explosive limit**

If the above under “**only cold work**” is not checked, specify control measure(s):

- Purging Ventilation Inerting
- Other adequate means: _____

*In the case of a worker performing **hot work**: Check all that apply:*

- The atmospheric concentration of the explosive or flammable gas or vapour is at 0% of its lower explosive limit
- The atmospheric concentration of oxygen is not likely to be greater than 23%
- The atmosphere in the confined space will be monitored continuously
- The entry permit includes adequate provisions for hot work and corresponding control measures
- An adequate alarm system and exit procedure are provided to make certain that workers have adequate warning and are able to exit the confined space safely if either or both of the following occur: 1) the atmospheric concentration of the explosive or flammable gas or vapour exceeds 5% of its lower explosive limit and/or 2) the atmospheric concentration of oxygen exceeds 23%

If **any** of the above under “**hot work**” is not checked, specify control measure(s):

- Purging Ventilation Inerting
- Other adequate means: _____

10) Atmospheric Testing

Atmospheric testing is required for entry and work in confined spaces.

- Testing shall be performed by an adequately trained person using continuous monitoring, before and while a worker is in the confined space
- Test results shall be recorded at adequate intervals. Recording Interval(s): _____

The atmospheric hazards of concern are:

- Oxygen
- Carbon Monoxide
- LEL
- Hydrogen Sulphide
- Other: _____
- Other: _____
- Other: _____
- Other: _____

11) On-Site Rescue - Procedures, Equipment and Method of Communication

Well-designed confined space entry and work procedures should eliminate or control hazardous conditions. Rescue plans must be prepared to respond to unanticipated situations.

The following shall be in place before any worker enters the confined space:

- Adequate written on-site rescue procedures have been developed (see attached plan/procedures) and are ready for immediate implementation
- All emergency procedures, including procedures relating to emergencies outside the confined space shall be reviewed with all entrants and other related personnel
- An adequate number of appropriately trained persons (see attached plan) shall be available for immediate implementation of the on-site rescue procedures that apply to the confined space. This training includes: on-site rescue procedures that apply to the confined space, first-aid and cardio-pulmonary resuscitation, use of the pertinent rescue equipment
- The rescue equipment identified in the attached plan/procedures shall be readily available to affect a rescue in the confined space
- The rescue equipment identified in the attached plan/procedures is appropriate for entry into the confined space

12) Additional Considerations
