

# CONFINED SPACE ENTRY SAFETY FACT SHEET

## WHAT IS A CONFINED SPACE?

A confined space is an area that is or has:

- **Limited Entry/Exit:** Small openings make it difficult to enter or leave.
- **Not Designed for Continuous Occupancy:** It's not intended for someone to stay inside for long periods.
- **Potential Hazards:** Includes risks like toxic atmospheres, oxygen deficiency, or engulfment hazards.

## PERMIT-REQUIRED CONFINED SPACES

A permit-required confined space has one or more of the following characteristics:

- **Hazardous Atmosphere:** May contain gases or chemicals that can be harmful.
- **Engulfment Hazard:** Materials such as grain or liquids may trap or drown the entrant.
- **Configuration Hazards:** The shape or structure could trap or asphyxiate workers.
- **Other Serious Hazards:** Moving machinery, electrical risks, or extreme heat.

## CALTECH'S CONFINED SPACE ENTRY PROGRAM REQUIREMENTS

Caltech's Confined Space Entry Program includes:

- **Identification and Evaluation:** All confined spaces on campus are evaluated for potential hazards and classified based on the presence of atmospheric, physical, or other dangers.
- **Permit System:** Spaces with serious hazards are classified as permit-required confined spaces, and entry into these spaces requires a formal written permit issued by Environmental Health & Safety (EHS).
- **Atmospheric Testing:** Pre-entry atmospheric testing must be performed for oxygen levels (19.5-23.5%), explosive gases, and toxic substances.
- **Monitoring and Entry Supervision:** All entrants must have a trained attendant stationed outside the confined space, monitoring conditions and ensuring continuous communication.

## HAZARDS TO WATCH FOR

- **Toxic Gases:** Carbon monoxide, hydrogen sulfide, and other harmful gases.
- **Oxygen Deficiency:** If oxygen levels fall below 19.5%, it becomes life-threatening.
- **Physical Hazards:** Such as machinery, electrical equipment, or extreme temperatures.

## TRAINING REQUIREMENTS

- Workers must be trained in confined space hazards, use of protective equipment, emergency procedures, and the permit system.
- Rescue personnel must receive specific training and practice rescue operations at least once annually as per Caltech's Confined Space Entry Program.

## RESCUE AND EMERGENCY

- **Non-Entry Rescue:** Should be the first option, using equipment like a winch or tripod. Caltech emphasizes planning and training for non-entry rescues.
- **Entry Rescue:** Requires trained personnel equipped with respiratory protection and rescue gear. Caltech ensures that rescue teams are trained in confined space entry, retrieval, and medical response.

## PERSONAL PROTECTIVE EQUIPMENT (PPE)

- **Gloves, helmets, fall protection harnesses,** and any other required gear should be provided to protect workers from specific hazards.
- Caltech's Confined Space Program mandates the use of appropriate PPE based on hazard evaluations.

## KEY Cal/OSHA REGULATIONS

- **Title 8, Section 5157:** Confined Spaces – General Industry

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For more detailed information, refer to [Caltech's Confined Space Entry Program](#).