# Winery Confined Spaces Meeting Kit




## WHAT'S AT STAKE

As part of the wine-making process, winery workers are often called upon to enter tanks, vats, and presses for cleaning, inspection, and maintenance. These wineries confined spaces can be hazardous.

**THREE CHARACTERISTICS OF A CONFINED SPACE**

1. The space must be large enough for a person to enter and perform job duties.
2. The space will also have restricted access to enter and/or exit.
3. The space is not designed nor intended for continuous employee occupancy.

**Employers and employees must be aware that "entry" into a confined space is classified as any part of the body (including extremities) breaching the plane of the space.**

**ANOTHER TYPE OF CONFINED SPACE IS A PERMIT-REQUIRED CONFINED SPACE.**

A confined space requires a permit if at least one of the following characterizations is present.

1. The space contains, or may potentially contain, a hazardous atmosphere.
2. The space contains material with the potential for engulfment.
3. The space is constructed so that an entrant may potentially be trapped or asphyxiated.

## WHAT'S THE DANGER

**DANGERS OF WINERY CONFINED SPACES FOR WORKERS.** Winery tanks, vats, and presses are confined spaces because they are fully or partially enclosed, are not intended as a primary workplace, and have a restricted means of entry and exit. Due to fermentation, the grapes, juices, pomace, and wines in the tanks, vats, and presses can produce or contain sulfur dioxide, carbon dioxide, ethanol, and/or water vapor. These gases and vapors can reach concentrated levels, displace oxygen, and create a hazardous atmosphere for workers.

Workers risk injury or death if they are overcome by a high concentration of air

contaminants or a lack of oxygen when they enter winery confined spaces.

The most common scenarios for confined space entry in a winery occur during crush season with the increased usage of fermentation tanks and press equipment. A permit-required confined space may contain a hazardous atmosphere due to the displacement of oxygen by grape fermentation by-products during the fermentation process.

Carbon dioxide is a colorless, tasteless, and odorless gas. In fact, people typically are not aware they have been exposed to carbon dioxide until the symOld wine cellar with wine storage cases and open vintage wooden doors. Black and white image.ptoms of toxicity have appeared. If the atmosphere is not monitored regularly, carbon dioxide poses a serious threat to employees.

Another hazard when working with fermentation tanks is engulfment. Engulfment occurs when a person is overcome by a liquid or flowing solid, which may result in death. A potential hazard may occur if an employee who is performing a “dig-out” (shoveling grape skins out of a fermentation tank) is unexpectedly exposed to dangerous levels of carbon dioxide within the tank. The employee could slip or fall, rapidly become unconscious, and consequently become engulfed.

## HOW TO PROTECT YOURSELF

**PRECAUTIONS/PROTECTIONS FOR WORKERS**

- **Presses, tanks, and vats should be posted with warning signs that they are confined spaces.** Written permit confined space programs are required to control confined space entries. Every worker, supervisor, and manager working in or around winery confined spaces must be trained on confined space hazards, entry methods, and rescue operations.
- **Workers should avoid entering winery confined spaces.** Using long-handled tools for shoveling or cleaning, installing automatic cleaning systems, or hiring trained outside contractors for tank repairs can help avoid entries. The winery is responsible for providing or arranging rescue support to contractors that enter confined spaces.
- **When workers enter or even place a body part such as a hand, arm, or leg into a confined space, formalized entry and rescue procedures are required.** The tank, vat, or press should be completely emptied and ventilated using air handlers before entry. Oxygen levels should be tested using a monitor inserted into the tank on a long-handled tool. Once a confined space has been monitored as safe, a trained team, including, at minimum, the entry worker, an observer, a rescuer, and the permit person (usually a manager or supervisor) should be gathered.
- **The permit person must document the entry.** The entry worker should be equipped with a lifeline, alarmed oxygen and carbon dioxide meters, and appropriate respiratory protection such as a self-contained breathing apparatus (SCBA). The rescuer should be equipped with a lifeline and SCBA. The rescuer should maintain control of the entry worker’s lifeline and, with the help of the observer, monitor the work progress during the entry.
- **If a rescue is needed, the rescuer should first attempt to extract the entry worker using the lifeline.** If that is unsuccessful, the rescuer should don the SCBA, ensure that his/her own lifeline is manned by the observer (now the stand-by rescuer), and enter the area to extract the worker. Because 60 percent of all confined space fatalities occur among

attempted rescuers, workers should never attempt rescues without the proper equipment and training.

- **Well-trained personnel can drown or be asphyxiated when their work requires them to be exposed to the dangerous atmospheres created by wine making in a small or confined area.** Wherever possible, tank work should be done without entering the tank or vat space. Long handled tools for shoveling and automated cleaning systems can keep wine makers away from potential danger.
- **Entry into areas that may contain toxic environments must be made by people trained in confined space entry.** Those workers must have the appropriate protective gear (PPE) including a gas monitor for testing the atmosphere, a means of safe entrance and egress of the space, and the ability to be retrieved by competent people outside the space if they are overcome while working.
- **The best line of defense against potential harm is knowledge of the dangers lurking in confined spaces.** Training and written confined space programs are a must so these dangers are apparent to all workers. All areas that may contain dangerous atmospheres where a person might conceivably enter and become trapped should be labeled with warning signs and written permissions must be obtained each time workers want to enter those spaces.

## FINAL WORD

Confined spaces within the wine industry can relate to any areas, fully enclosed, partially enclosed or even open topped, which are not intended to be a normal, habitable workspace. These can include fermentation vats, bins, and even some barrels.