5-minute solutions

A tool used for successful injury prevention

Confined space entry

Introduction:

Every so often we may be asked to enter a confined space. Entering a confined space present special hazards. If these hazards are not controlled serious injury or even death can result from asphyxiation, exposure to toxic or flammable gasses, mechanical hazards, untrained rescuers, and electrocution.

Types of confined spaces:

- Manholes
- Furnaces
- Boilers
- Trenches
- Tanks
- Silos
- Utility Vaults

Hazards of confined spaces:

The atmosphere. For example, lack of oxygen, flammable gasses and toxic atmospheres.

- Oxygen Deficient Atmosphere has less than 19.5% breathable oxygen and should NOT be entered without an approved self-contained breathing apparatus (SCBA).
- A Flammable Atmosphere is comprised of sufficient oxygen and high enough proportions of a flammable gas or vapor that if an ignition source such as heat, flame or spark is provided an explosion may occur.
- Toxic Atmosphere are the presence within the confined space of any substance that may be hazardous to health when ingested, breathed, or absorbed through the skin.

Safe procedures:

- Test all levels of the confined space including the top, middle, and bottom air levels for hazardous atmospheres with calibrated equipment. (Gasses and vapors can be either lighter or heavier than air.)
- If the air is deemed unacceptable, use fans, blowers, or ventilation to remove the toxic substances (depending on the size of the confined space.)
- Use proper lockout/tagout procedures to deal with mechanical.
- Train employees on the hazards of specific tools, equipment, and material.

In conclusion:

Sixty percent of all fatalities in confined spaces happen to the would-be-rescuers and 65 percent of all confined space fatalities occur because of hazardous atmospheres in which workers failed to use monitoring devices or ventilation.

Failure to follow written procedures when entering a confined space and failure to conduct air monitoring may cause serious injury or death. If these two procedures are completed, fatalities in confined spaces will decline.

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