Job site:	Date:
Foreman:	G.C

SMOHIT Safety SenseToolbox Talks for the Sheet Metal Industry

Hazardous Atmospheres in Confined Spaces

- Confined spaces are spaces that are large enough and configured so that a worker can enter the space and perform work, but also has limited openings for entry or exit, and is not designed for continuous occupancy. Confined spaces can be dangerous because they could contain or produce toxic air contaminants or inert gases, explosive conditions, and may have oxygen-deficient atmospheres.
- Never trust your instincts when it comes to testing the atmosphere in confined spaces for lack of oxygen or toxic substances. Some gases are odorless, colorless and/or tasteless, and cannot be detected based on human senses. Chemical vapors and fumes settle or accumulate in various areas of the space (some settle to the bottom, some rise to the top, others mix throughout the air space). Make sure that a qualified person has properly tested a confined space before entering it.
- The following gases are hazardous and typically found in confined spaces:
- Freon® is a non-flammable gas used in refrigeration and cooling systems. Inhaling Freon can cause dizziness and irritation to the mouth, throat, lungs, and nose. Freon is heavier than air and will settle to the floor. If you become aware of Freon in the atmosphere, leave the area immediately and walk as upright as you can.
- Carbon monoxide is usually produced by combustion sources such as an engine or heater exhaust. Odorless, colorless and tasteless, it creates a lethal and often undetected hazard. Unconsciousness and death occur quickly when you breathe carbon monoxide gas.
- Ammonia has a potent odor and is extremely irritating to the eyes, nose, and moist skin. Extensive or prolonged exposure to ammonia could result in severe irritation to the respiratory tract, which could lead to respiratory arrest and death.
- Hazardous welding gases include acetylene, oxygen, argon, and helium, all with different properties and different hazards. Typically these gases enter confined spaces by human error. For instance, these gases may enter a confined space by an unattended welding hose.

Instructor Tips

- Perform a walkthrough on the job site and have workers point out examples of confined spaces (e.g., tunnels, shafts, vaults, boilers, ducts, manholes, pipelines, and crawl spaces).
- Emphasize that using chemicals in confined spaces can be dangerous due to the lack of oxygen and the increased likelihood of chemical overexposure.

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Reference: OSHA 29 CFR 1926.651