

Location: \_\_\_\_\_ Instructor: \_\_\_\_\_ Date/Time: \_\_\_\_\_

## TOPIC C476: SEWER GAS

**Introduction:** One of the most common sulfur compounds is hydrogen sulfide, also known as sewer gas. Sewer gas is colorless, extremely toxic and is recognizable by its odor of rotten eggs. It's produced naturally by the decay of organic substances containing sulfur. Following is information and safety guidelines regarding sewer gas:

- Sewer gas vapors can cause drowsiness, skin dryness or cracking. It can be fatal if inhaled. Inhalation of a single breath at a concentration of 1000 PPM, or 0.1%, can cause comas; It is corrosive when moist, and will cause burns in contact with skin
- It will deteriorate your sense of smell rapidly at concentrations above 150 ppm. You will underestimate your exposure as the gas becomes less detectible. Perception threshold ranges from 0.5 ppm to 0.1 ppm
- Sewer gas can be explosive in air. Sewer gas is incompatible with strong oxidizing agents and many metals, which can cause violent reactions when exposed to metal oxides, copper, fluorine, sodium and ethanol
- Explosions of sewer gas can occur if exposed to electric spark, friction, fire or any other source of ignition

**Confined Spaces:** Sewer gas presents a confined space hazard:

- Once tested for hazardous atmospheres, if the test detects sewer gases, the space must be ventilated and re-tested prior to entry
- An entry permit system must be used with Sewer Gas. The permit system ensures that all means, practices and procedures for safe entry have been performed
- The completed permit must be available to all by posting or other means

**Ventilation Equipment:** Use fans, blowers, or other methods to ventilate the confined space based on the size of the space, the openings available, the level of Sewer gas to be exhausted and the source of air used. Ventilation must continue throughout the workers occupancy. Blowers and fans provide mechanical dilution ventilation. Place explosion proof blower motor far enough away from any source of contamination.

**Respiratory Equipment:** If the atmosphere has concentrations of hazardous contaminants not immediately dangerous to life or health, but above the threshold limit value for the Sewer Gas, the worker entering the space must wear respiratory protective equipment approved for the exposure. Supplied air respirator systems provide safety beyond the ventilation system in place.

- Make sure the proper eye, face, skin, and foot protection is worn and meets all of OSHA's requirements for work done near sewer gas
- Have on hand confined space PPE and rescue/retrieval equipment.
- The Hazcom Program is in place to inform you about chemical hazards, and how to protect yourself from them. Make sure that all SDS have been read, and that there's an emergency response program posted at the site

**Conclusion:** Sewer gas can be fatal. Use extreme caution whenever entering an area where sewer gas may be present. All workers need to be trained in the proper procedures for using protective equipment.

**Employee Attendance:**(Names or signatures of personnel who are attending this meeting)

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These guidelines do not supersede local, state or federal regulations, and must not be construed as a substitute for, or legal interpretation of, any OSHA regulations.