



Hydrogen Sulfide (H₂S) Safety Talk

Hydrogen sulfide, also known as H₂S, is a gas found both in nature and also produced by many industrial processes. Hydrogen sulfide is a colorless, flammable, extremely hazardous gas with a "rotten egg" smell. There are many dangers **if exposed** to too much H₂S gas in a short time (acute exposure) or a lesser amount over a long time (chronic exposure). Many workers have been overcome and killed in environments that have had a large amount of H₂S gas present in them. It is important to be familiar with the characteristics of hydrogen sulfide and the effects it can have on your health.

H₂S gas is heavier than air and often collects in low areas such as basements, vaults, or pits. While the gas has the smell of rotten eggs at low concentrations, your sense of smell is affected at higher concentrations and should not be relied on. When hydrogen sulfide is burned it releases toxic gases and vapors such as sulfur dioxide. Concentrations as low as 2 to 5 parts per million (ppm) can start to cause health issues if workers are exposed to the gas for an extended period of time.

Hydrogen Sulfide Health Hazards

- It is a chemical asphyxiant that interferes with oxygen utilization and the central nervous system.
- It irritates eyes, nose, and throat at low concentrations.
- It causes dizziness, nausea, and vomiting at moderate exposures.
- Rapid loss of consciousness, coma, and death can occur at high exposure levels.

Safe Work Practices for Hydrogen Sulfide Hazards (*source: www.osha.gov*)

- Employers should always clearly mark areas where H₂S gas may be present. All workers should be trained on H₂S gas and what processes in their work areas produce this gas.
- Any low lying areas or confined spaces should always be tested before any work begins for toxic gases including H₂S. Some facilities should have permanent fixed alarm systems to alert workers if there is increased amount of H₂S gas in their areas.
- If gas testing shows that H₂S gas is present and cannot be fully removed then proper continuous ventilation needs to be done to make the work area safe.
- For concentrations less than 100ppm a full-face respirator should be used in conjunction with the appropriate air purifying cartridge to protect the worker.
- A concentration over 100ppm is considered immediately dangerous to life and health. These environments should be avoided. If it is absolutely necessary to enter to complete work, then an air supplying or air on demand system needs to be used

Discussion point:

-Where can we be exposed to hydrogen sulfide gas in our jobs?