

Hydrogen Sulfide (H₂S)

Hydrogen sulfide is a colorless, flammable, extremely hazardous gas with a "rotten egg" smell. It occurs naturally in crude petroleum and natural gas, and can be produced by the breakdown of organic matter and human/ animal wastes (e.g., sewage). It is heavier than air and can collect in low-lying and enclosed, poorly ventilated areas such as basements, manholes, sewer lines and underground telephone/electrical vaults.

Detection by Smell

- Can be smelled at low levels, but with continuous low-level exposure or at higher concentrations you lose your ability to smell the gas even though it is still present.
At high concentrations – your ability to smell the gas can be lost instantly.
- **DO NOT depend on your sense of smell for indicating the continuing presence of this gas or for warning of hazardous concentrations.**

Health Effects

Health effects vary with how long, and at what level, you are exposed. Asthmatics may be at greater risk.

- **Low concentrations** – irritation of eyes, nose, throat, or respiratory system; effects can be delayed.
- **Moderate concentrations** – more severe eye and respiratory effects, headache, dizziness, nausea, coughing, vomiting and difficulty breathing.
- **High concentrations** – shock, convulsions, unable to breathe, coma, death; effects can be extremely rapid (within a few breaths).

Before Entering Areas with Possible Hydrogen Sulfide

- The air needs to be tested for the presence and concentration of hydrogen sulfide by a qualified person using test equipment. This individual also determines if fire/explosion precautions are necessary.
- If gas is present, the space should be ventilated.
- If the gas cannot be removed, use appropriate respiratory protection and any other necessary personal protective equipment (PPE), rescue and communication equipment. Atmospheres containing high concentrations (greater than 100 ppm) are considered immediately dangerous to life and health (IDLH) and a self-contained breathing apparatus (SCBA) is required.

Source Contents: Occupational Safety and Health Administration (OSHA)) (Users of Safety Talk are advised to determine the suitability of the information as it applies to local situations and work practices and its conformance with applicable laws and regulations).