

Safety Meeting



H2S

EDM Services, Inc.

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What is H₂S?

Hydrogen Sulfide or *sour gas* (H₂S) is a flammable, colorless gas that is toxic at extremely low concentrations. It is heavier than air, and may accumulate in low-lying areas.

It smells like "rotten eggs" at low concentrations and causes you to quickly lose your sense of smell. Many areas where the gas is found have been identified, but pockets of the gas can occur anywhere.



Guidelines

Active monitoring for hydrogen sulfide gas and good planning and training programs for workers are the best ways to prevent injury and death.

- Use detection equipment when working in an area where there is a possibility of H₂S gas, especially in enclosed or below grade areas such as holes, trenches, & reserve pits.
- Maintain and calibrate detection equipment per manufacturer's specifications.
- Do not enter an H₂S area without proper training and authorization.
- In IDLH atmospheres a standby person(s) with suitable Self Contained Breathing Apparatus (SCBA) must be available for purposes of rescue.
- **Never attempt to rescue an H₂S victim without a SCBA.**
- Employees working in H₂S areas are required to be properly "fit tested".
- All H₂S exposure victims should be treated by a physician before returning to work.
- In the event of a H₂S emergency, all personnel should follow the site emergency plan.
- H₂S areas, facilities, pipelines, and/or flowlines should be properly identified with signage.



Hazards and Effects of H₂S

- ***Do not rely on your sense of smell to detect H₂S.***
- H₂S causes paralysis of the respiratory center in the brain and can result in immediate collapse and death.
- Inhalation of lower concentrations of H₂S gas can cause irrational behavior resulting in unsafe acts and injuries.
- H₂S is very flammable.
- H₂S reacts with steel to form iron sulfide which can ignite when exposed to air.
- H₂S when burned produces Sulfur Dioxide (SO₂) which is also toxic.
- H₂S is highly corrosive and may lead to metal embrittlement/fatigue.
- H₂S effects are influenced and possibly accelerated by alcohol and certain medications.



Concentrations of H₂S may affect each individual differently! Exposure may cause:

- Skin and/or eye irritation Dizziness
- Loss of appetite Dryness in nose and/or throat
- Fatigue Coughing
- Nausea Loss of consciousness or death
- Headache



Metal fatigue, including hydrogen embrittlement or sulfide stress cracking, can result in a release of hydrogen sulfide gas.