

TEST ANSWERS: HYDROGEN SULPHIDE (H₂S)

The *BSO Plus Safety Topic* is a review designed from the BSO Plus agenda. This safety topic is your way to stay current on the safety information over the 3 years between BSO Plus and BSR.

1. Which of the following are properties of H₂S? (Circle all the apply)

- a. Colourless gas
- b. Occurs naturally
- c. Rotten egg smell at high concentrations
- d. Heavier than air

RATIONALE: H₂S is an extremely toxic colourless gas. It is highly flammable, even explosive in some gas/air mixtures. It has a “rotten egg” smell at very low concentrations but this cannot always be detected. H₂S gas is heavier than air. It collects in low-lying areas and poorly ventilated areas such as trenches, basements, sewers lines, and pits.

2. H₂S at low concentrations can cause:

- a. Headache and nausea
- b. Lung and eye irritation
- c. Rapid loss of sense of smell
- d. All of the above

RATIONALE: Exposure to high concentrations of H₂S can kill you in only seconds. This gas is both an irritant and a chemical asphyxiant that affects the central nervous system and your ability to breathe.

3. H₂S may be found in:

- a. Crude petroleum and natural gas
- b. Pulp mills and mines
- c. Low-lying or poorly ventilated areas
- d. All of the above

RATIONALE: H₂S is often found in oil and natural gas deposits, and in some mineral rock. It may also form when organic material such as manure or vegetable matter breaks down without oxygen. H₂S is often a by-product in the making of pulp and paper, fertilizers, glues, dyes, plastic wrap, and other products. It collects in low-lying areas and poorly ventilated areas such as trenches, basements, sewers lines, and pits.

4. You can trust your sense of smell to detect the presence of H₂S.

a. True

b. False

RATIONALE: According to the Canadian Centre for Occupational Health and Safety (CCOHS), H₂S takes only 100 ppm to overwhelm and deaden your sense of smell. You must never rely on your sense of smell to identify H₂S. Signs let you know the areas where H₂S is or may be present, and both personal and audible alarms warn you of a toxic vapour release.

5. If your work partner goes down in an H₂S area, you should go in and rescue him/her as quickly as possible.

a. True

b. False

RATIONALE: High concentrations of H₂S, can kill you in seconds. Attempting to rescue your partner could be fatal to you. Contact the rescue team who is fully trained for such incidents and properly outfitted with personal protective equipment.