TOOLBOX TALK AWARENESS PACKAGES

HAZ-HSU · Hydrogen Sulphide Awareness

Product Overview

Audience: Workers and supervisors in sewers, wastewater, oil and gas, farming and any work near drains, pits, tanks or rotting organic material · Duration: 20–30 minutes

Version 1.0 · 22 November 2026

For anyone who works in or near sewers, wastewater, oil and gas, effluent ponds or pits: where hydrogen sulphide is found, why the smell cannot be trusted, gas detection, and why nobody goes in to rescue.

Hydrogen sulphide is a toxic, flammable gas made when organic material rots without air. It is found in sewers, pump stations and wastewater plants, in oil and gas work, in livestock effluent ponds and manure pits, and in drains, pits, tanks and holds of rotting material. It is heavier than air and collects low down. At low levels it smells of rotten eggs, but at higher levels it quickly deadens the sense of smell, so the smell fades just as the danger grows. It can cause sudden collapse and death.

This talk covers where hydrogen sulphide is found, why it is so dangerous, the signs of exposure, the controls that keep people out of it, how gas detectors are used, and what to do when an alarm sounds or someone collapses: get out upwind and uphill, warn others, call the emergency number, and never go in to rescue. It is awareness, not confined space entry, gas testing or breathing apparatus training.

Learning outcomes

By the end of the session participants will be able to:

- Name where hydrogen sulphide is found at work, from sewers and wastewater to oil and gas, effluent ponds and pits
- Explain why the rotten egg smell cannot be trusted: it fades as the gas gets stronger
- Recognise the signs of exposure, from sore eyes and a headache to sudden collapse
- Explain the controls, starting with not entering where the work can be done from outside
- Wear and act on a gas detector as your site requires, and never ignore an alarm
- Respond to an alarm or a collapse: get out upwind and uphill, warn others, call the emergency number, and never go in to rescue

What it covers

Module	Covers
Why it matters	Where hydrogen sulphide is found; Why the smell cannot be trusted; The signs of exposure
Controls that work	Stay out where you can; Ventilation and gas testing; Gas detectors and permits
Your part	Act on an alarm; Never go in to rescue; Report it

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Activities

- Where is the gas: workers find the hydrogen sulphide risk in four jobs, from a sewer pump station to an effluent pond, and decide on a safer way
- What would you do: workers decide what to do in four situations, from a smell that has gone away to a workmate who collapses in a pit

What is in the package

Item	File
Editable PowerPoint presentation with speaker notes, plus PDF	02_TRAINING_PRESENTATION/Training Presentation.pptx and .pdf
Facilitator guide with a running sheet, discussion prompts and model answers	03_FACILITATOR_GUIDE/Facilitator Guide.docx and .pdf
Participant handout with the key points to take away	04_PARTICIPANT_HANDOUT/Participant Handout.docx and .pdf
Attendance record form, to capture who attended, when, and who facilitated	06_RECORDS/Attendance Record.docx and .pdf
Excel attendance register	06_RECORDS/Attendance Register.xlsx
Multiple-choice theory assessment, to record understanding if your business wants to	05_ASSESSMENT/Theory Assessment.docx and .pdf
Answer key for the assessment	05_ASSESSMENT/Assessment Answer Key.docx and .pdf
Certificate template	06_RECORDS/Certificate Template.docx
Start here: Read Me First, Product Overview, Permitted Use Terms, Version Information	01_START_HERE/ (four PDFs)

What you need to deliver it

- A facilitator such as a supervisor, leading hand or WHS adviser who has read the facilitator guide and knows your site's arrangements for the topic
- A screen or projector, or printed slides or handouts: it works in a crib room, site office or on a video call
- Your own site procedures for the topic, to point to during the session

Questions

Does it cover confined space entry and gas testing? Only as what the talk is not. Hydrogen sulphide is one of the main reasons sewers, pits and tanks are dangerous, but entering a confined space, testing its air and using breathing apparatus need their own training, permits and equipment. The talk tells workers never to enter a space where hydrogen sulphide may be present unless they are trained, authorised and the air has been tested, and never to go in to rescue.

Can we add our own site procedures and photos? Yes. The slides, handout and guide are editable, and the facilitator guide marks the places to add your own procedures, contacts and photos of your workplace.

Do we have to use the assessment? No. It is there if your business wants a record that each worker understood the key points. The attendance record on its own shows who attended and when.

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TOOLBOX TALK

Hydrogen Sulphide Awareness

The gas that takes away its own warning: where it is found and how to stay safe

20–30 minutes · Workers and supervisors in sewers, wastewater, oil and gas, farming and any work near drains, pits, tanks or rotting organic material

[Company name] · [Date] · [Facilitator name]

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What this talk is, and is not

This talk covers

- ✓ Where hydrogen sulphide is found
- ✓ Why the smell cannot be trusted
- ✓ The controls and gas detectors
- ✓ What to do in an alarm or a collapse

This talk is not

- ✗ Confined space entry training
- ✗ Gas detector training
- ✗ Breathing apparatus training
- ✗ Our procedure: **[Our gas procedure]**

Awareness only. Confined space entry, gas testing and breathing apparatus need specific training, permits and equipment.

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Where hydrogen sulphide is found

Wherever organic material rots without air, it can make hydrogen sulphide.

- Sewers, pump stations, manholes and wastewater plants
- Septic tanks, grease traps, drains and sumps
- Livestock effluent ponds, manure pits and slurry
- Oil and gas wells, pipelines and processing
- Tanks, holds and pits of rotting food, waste or water

A composite example

- A worker climbs down into a farm effluent pit to clear a blocked pump. The pit smelt bad at first, then not at all.
- He collapses at the bottom. A workmate climbs in to help him and collapses too.

Stirring sludge can release a burst of gas.

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Duties under health and safety laws

The business must

- Identify where the gas may be
- Keep people out where it can
- Test the air and provide detectors
- Plan for emergencies and rescue

You must

- Follow the procedure and permits
- Wear and test your gas detector
- Act on alarms and the signs
- Report smells, faults and near misses

Most health and safety laws give these duties. Check the law where you work (in Australia, WHS or OHS laws).

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The order of controls for hydrogen sulphide

1. **Elimination** Do the job from outside: no entry to pits, sewers or tanks
2. **Substitution** Remote cameras, long tools and pumps instead of entry
3. **Isolation** Isolate flows, close and lock covers, barricade openings
4. **Engineering** Mechanical ventilation and fixed gas detection
5. **Administrative** Permits, gas testing, worn detectors, standby person
6. **PPE** Breathing apparatus for trained people; masks do not filter it

HIGHER ORDER

Higher order controls remove or control the hazard at the source, or put a barrier between people and the hazard.

LOWER ORDER

Lower order controls rely on people to do a thing or wear a thing, every time, tired, distracted or rushed.

Behaviours are not on the hierarchy, but behaviours and culture decide whether every control on it actually works.

An ordinary dust mask does nothing against hydrogen sulphide.

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Hydrogen Sulphide Awareness

Participant handout · keep this

Hydrogen sulphide smells of rotten eggs, until it does not. Keep out of it. Keep this page.

The order of controls

1. Do the job from outside: no entry
2. Remote tools and pumps instead of entry
3. Isolate flows; close and barricade openings
4. Ventilation and fixed gas detection
5. Permits, gas testing, detectors, standby
6. Masks do not filter hydrogen sulphide

The signs

- Sore eyes, sore throat, cough, headache
- Dizziness, confusion, sudden collapse

Never

- Trust your nose
- Go in after a collapsed worker

Before you start

- ☐ Could this job involve sewage, effluent, sludge or rotting material?
- ☐ Can the job be done from outside, without anyone going in?
- ☐ Is my gas detector on, tested and worn near my face?
- ☐ Has the air been tested, and is there a permit if one is needed?
- ☐ Do I know the way out upwind and uphill, and the rescue plan?

Alarm or signs

- Get out upwind and uphill; warn others
- Call your local emergency number (000 in Australia) if unwell; never go in to rescue

Who and where

- **[Gas detector arrangements]**
- **[Who to report to here]**

Never trust your nose. Alarm or collapse: get out, and never go in to rescue.

This is awareness training. It is not a licence, a ticket, a permit or a competency. It is not confined space entry, gas testing, breathing apparatus or first aid training.

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