

# Safety Alert: 14

Date: October 2019

## Hydrogen Sulphide Exposure results in reportable lost time incident

*This safety alert is shared in order to promote learning and improve safety. You should seek appropriate guidance regarding the relevance, accuracy, and completeness of this alert to your circumstances prior to implementation.*

### Theme

Work control & permits, hazard & risk assessment

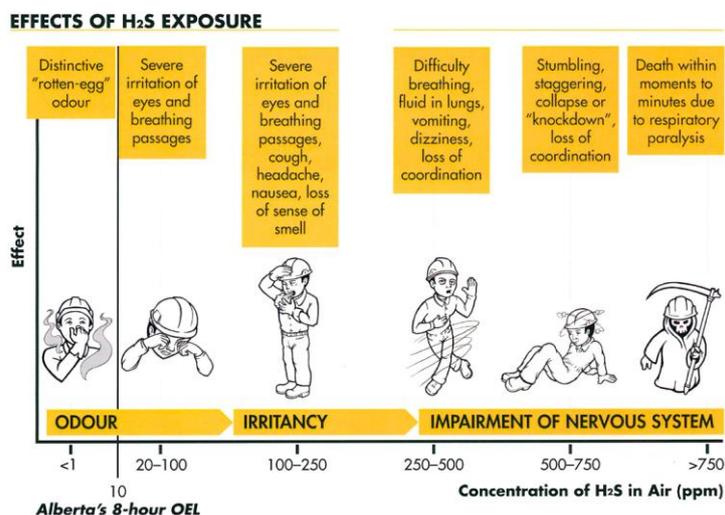
### Issue

An operator had to leave work after feeling unwell. He went to hospital where he was diagnosed with pulmonary oedema (fluid on the lung). He was advised to rest to help his recovery. The operator has since returned to work and is expected to make a full recovery.

The operator's symptoms have been linked with exposure to hydrogen sulphide (H<sub>2</sub>S), which happened when sampling three storage tanks of 'ballast water', two days before he reported unwell. The ballast water had been standing in the tanks for several weeks after being received by ship. The samples that he took from the tanks were confirmed as containing significant concentrations of H<sub>2</sub>S. It is recognised that, after H<sub>2</sub>S exposure, it can take up to 72 hours for pulmonary symptoms to show.

The investigation identified some significant issues:

- The analytical information on the product lacked clarity and detail.
- No safety data sheet was obtained at the product enquiry stage.
- Lack of knowledge and awareness of the hazards of H<sub>2</sub>S.
- Absence of personal H<sub>2</sub>S monitors meant there was no early warning to the operator.



Reference: Info-graphic taken from H<sub>2</sub>S – The Killer from the Alberta Government

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### Learning

If you hear 'it's only water', be wary. Insist on detailed, accurate analytical and safety data at the product enquiry stage so a proper risk assessment can be made.

Hazard awareness and training. All at risk need knowledge of H<sub>2</sub>S, its initial 'rotten eggs' smell, and awareness that when it reaches a high concentration, and at its most dangerous, there is no odour.

If H<sub>2</sub>S is present, or suspected to be present, proper controls are essential to minimise exposure. These include H<sub>2</sub>S monitors and personal protective equipment, including respiratory protective equipment.

### Further Resources

The Alberta government in Canada has published a booklet to alert employers and workers to the dangers involved in working with H<sub>2</sub>S and to provide guidance for controlling these dangers. The booklet is available [here](#).

The UK Control of Substances Hazardous to Health Regulations 2002 (COSHH) regulations provides information on exposure limits. For further information click [here](#).

*The Process Safety Forum has been set up to provide an industry association platform whereby initiatives, best practice, lessons from incidents and process safety strategy can be distilled and shared across sectors, to influence our stakeholders (including the Regulators), and to drive the process safety management agenda. The Process Safety Forum consists of representatives from across industry, refer to the website for details*

The website is [www.p-s-f.org.uk](http://www.p-s-f.org.uk)