



What is Hydrogen Sulphide (H₂S)?

Hydrogen sulphide (H₂S) is a colorless gas that smells like rotten eggs. At very high levels, hydrogen sulphide can be flammable.

Where does Hydrogen Sulphide come from?

Hydrogen sulphide often occurs naturally in some environments (gas wells, sulfur springs, swamps, etc.). It can also be associated with animal farms, industrial plants, sewers or sewage treatment plants.

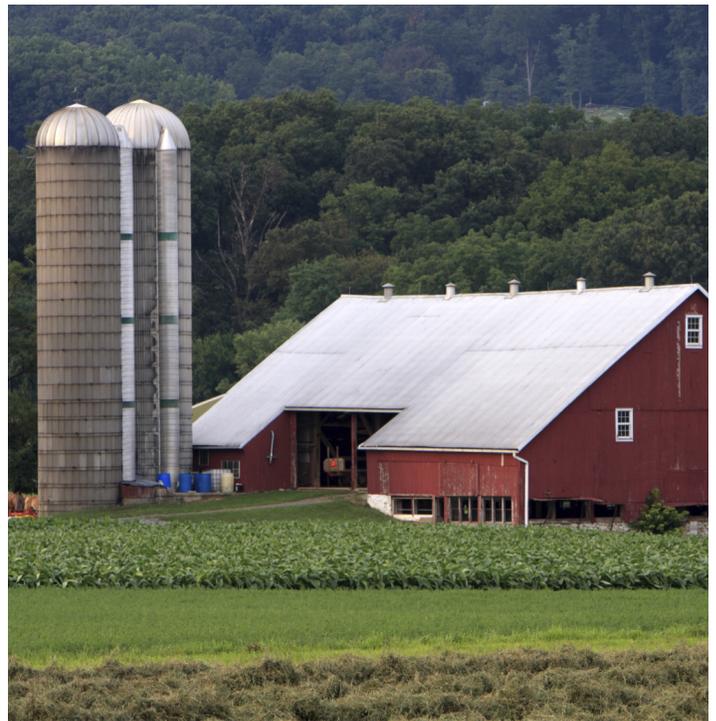
How would a person be exposed to Hydrogen Sulphide?

Hydrogen sulphide is part of the natural environment; the general population will have likely had some exposure to hydrogen sulphide. The release of hydrogen sulphide from a specific source does not always lead to human exposure. You can only be exposed to the gas when you come into direct contact with it by breathing it in, eating or drinking something contaminated with it, or when it touches your skin. Any absorbed hydrogen sulphide does not accumulate in the body as it is rapidly metabolized in the liver and excreted in the urine. Hydrogen sulphide usually breaks down in the air and therefore exposure is only likely to continue if there is an ongoing source.

How is Hydrogen Sulphide detected?

People usually can smell hydrogen sulphide even at very low concentrations in the air, ranging from 0.0005 to 0.3 parts per million (ppm). These levels in the air are not dangerous and will not cause negative health effects. It should be noted that there is no way to tell by smell alone if you are detecting low or high concentrations of hydrogen sulphide; in fact, concentrations around 100ppm will temporarily eliminate one's ability to smell the gas. You cannot rely on your nose to tell you how much hydrogen sulphide gas is present!

Hydrogen sulphide levels can change based on a number of factors such as fluctuations from the source (i.e., a gas well), or from changes in weather patterns (i.e., wind direction). Detecting a low concentration is not indicative of the range of gas levels that a source could produce at any given time, therefore, this means an individual's exposure to hydrogen sulphide can also fluctuate.

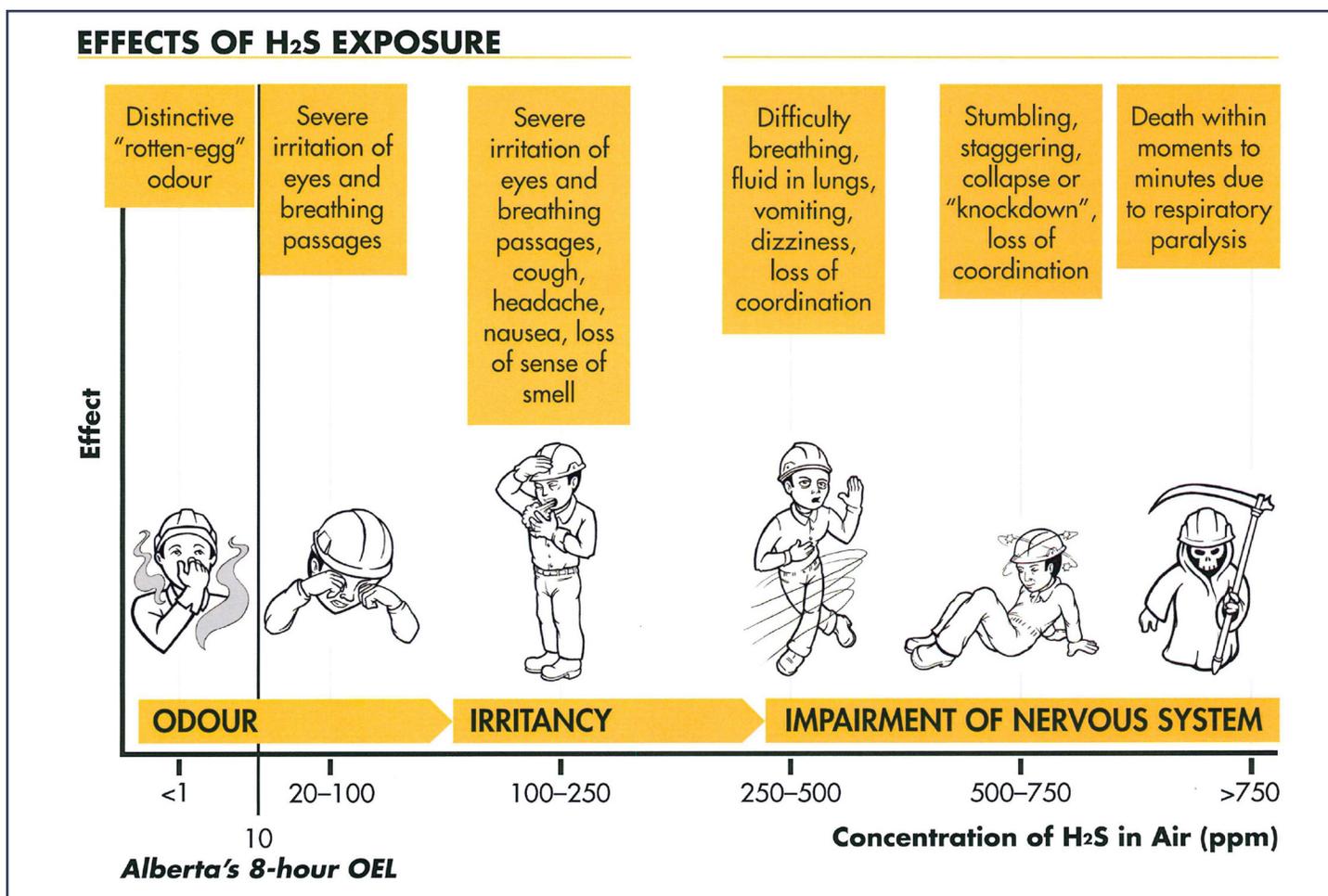


What are the health effects of Hydrogen Sulphide?

Exposure to low concentrations of hydrogen sulphide may cause irritation to the eyes, nose, or throat. It may also cause difficulty in breathing for some people with asthma. Low concentrations of hydrogen sulphide may cause headaches, poor memory, tiredness, and balance problems.

Brief exposures to high concentrations of hydrogen sulphide (greater than 1000 ppm) can cause a loss of consciousness. In most cases, the person appears to regain consciousness without any other effects. However, in some individuals, there may be permanent or long-term effects such as headaches, poor attention span, poor memory, and poor motor function.

Numbers related to Short-Term Exposure?



Reference: Info-graphic taken from H₂S - The Killer from the Alberta Government

Note: There is currently no research on the effects of long-term exposures.

What if I smell Hydrogen Sulphide in my well water?

The 'rotten egg' smell of hydrogen sulphide and its accompanying 'sulphur water' taste, will appear in water at low concentrations. Even at these low levels, water will become aesthetically unpleasant and most users will avoid drinking the water at that time. The odor may be more noticeable when hot water is run as heat forces the gas into the air which may cause the odor to be especially offensive when showering. If there is an ongoing issue with hydrogen sulphide in your water supply, there are a variety of water treatment devices capable of removing it. Consult a licensed plumber or a water treatment company to determine what water treatment device will best suit your needs.

Water samples submitted to the Health Unit are only sampled for bacteria at the Public Health Lab. Chemical sampling can be done for a fee through a licensed private lab. For more information contact the Health Unit at 519-426-6170.

What to do if I suspect a Hydrogen Sulphide gas leak?

If you notice a rotten egg scent near your home and suspect hydrogen sulphide, call the Spills Action Centre of the Ministry of Environment at 416-325-3000, 1-800-268-6060 (toll-free), or 1-855-889-5775 (TTY).

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