

## Acknowledgement:

This Fact Sheet is one of a series developed by an Interagency Committee with representatives from Saskatchewan Ministry of Health, Regional Health Authorities, Saskatchewan Watershed Authority, Saskatchewan Ministry of Environment, Saskatchewan Ministry of Agriculture, Agriculture and Agri-Food Canada - AESB and Health Canada.

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Government of  
Saskatchewan

# Hydrogen Sulphide (H<sub>2</sub>S)

(For Private Water and Health Regulated Public Water Supplies)

## What Is H<sub>2</sub>S?

Hydrogen sulphide is a clear, colourless gas that can be identified in relatively low concentrations, by a characteristic "rotten-egg" odour. H<sub>2</sub>S may accumulate in low areas and pose a suffocation risk in areas such as well pits and cisterns. Hydrogen sulphide odours can be recognized in low concentrations. The odour of hydrogen sulphide will increase as the gas becomes more concentrated. At very high levels no odour may be detected by smell. All safety procedures should be followed before entering a confined space.

Hydrogen sulphide can: corrode metals such as iron, steel, copper, and brass, tarnish silverware, discolour copper and brass utensils, cause yellow or black stains on fixtures, discolour beverages made with water containing it, and alter the appearance and taste of cooked foods.

## How Does H<sub>2</sub>S Get Into Water?

Hydrogen sulphide gas can occur naturally in groundwater. It may be produced from the decomposition of organic matter underground, such as decaying plant material, or by chemical reduction of sulphate by sulphate-reducing bacteria. Hydrogen sulphide can be found in deep or shallow wells. It is often present in areas underlain by shale or sandstone, near coal or peat deposits, or near oil fields.

H<sub>2</sub>S can also be produced through a chemical reaction with the magnesium corrosion control rod present in many hot water heaters.

## How Does H<sub>2</sub>S Affect My Health?

Drinking water with hydrogen sulphide in very high concentrations can cause laxative effects, nausea, vomiting, and stomach pain. It is unlikely that a person would consume a harmful dose of hydrogen sulphide from drinking water, because of its unpleasant taste and odour.

## How Can I Remove H<sub>2</sub>S From My Drinking Water?

Effective treatment options include: adsorption, aeration, chlorination and filtration, chlorination and activated-carbon filter, greensand filtration, oxidation and filtration. Shock chlorination and regular maintenance of a well can be an effective measure to decrease H<sub>2</sub>S at the source.

## What Is The Standard For H<sub>2</sub>S In Drinking Water?

Saskatchewan Ministry of Environment's Drinking Water Quality Standards and Objectives have established an aesthetic objective of 0.05 mg/L.

## How Can I Find Out If There Is H<sub>2</sub>S In My Water?

Most water quality testing laboratories can determine how much H<sub>2</sub>S is present in a water supply by conducting a sulphide analysis. For information on sampling instructions and containers, you should contact an accredited laboratory.

## Need More Information?

### Health Regulated Public Water Supply

For more information on this fact sheet and/or other water quality issues relating to health regulated public water supplies contact your local health region public health inspector.

### Private Water Supply

For more information on how H<sub>2</sub>S impacts on human health contact your local health region office. For information on how H<sub>2</sub>S impacts agricultural operations contact Saskatchewan Ministry of Agriculture through your Regional Office or the Agricultural Knowledge Centre at 1-866-457-2377 or on the internet (<http://www.agriculture.gov.sk.ca>).

<p><b>Government of Saskatchewan</b> Water Information website <a href="http://www.SaskH2O.ca">www.SaskH2O.ca</a></p>	<p><b>Water Inquiry Line</b> Questions about water? Call 1-866-SASK H2O (1-866-727-5420) to be referred to proper agency.</p>
<p><b>Saskatchewan Ministry of Health</b> <a href="http://www.health.gov.sk.ca/environmental-health">http://www.health.gov.sk.ca/environmental-health</a> <b>Regional Health Offices</b> Saskatoon: Saskatoon (306) 655-4605 Sunrise: Yorkton (306) 786-0600 Kelsey Trail: Melfort (306) 752-6310 Five Hills: Moose Jaw (306) 691-1500 Sun Country: Weyburn (306) 842-8618 Heartland: Rosetown (306) 882-6413 Prairie North: North Battleford (306) 446-6400 Prince Albert Parkland: Prince Albert (306) 765-6600 Cypress: Swift Current (306) 778-5280 Regina Qu'Appelle: Regina (306) 766-7755 Mamawetan Churchill River: La Ronge (306) 425-8512 Keewatin Yatthe: Buffalo Narrows (306) 235-5811</p>	<p><b>Saskatchewan Watershed Authority</b>, Head Office, Moose Jaw (306) 694-3900 Website: <a href="http://www.swa.ca">www.swa.ca</a> <i>Regional Offices:</i> <a href="http://www.swa.ca/AboutUs/Contact.asp?type=Offices">http://www.swa.ca/AboutUs/Contact.asp?type=Offices</a></p> <p><b>Sask Water Corporation</b> Head Office, Moose Jaw Customer Service 1-888-230-1111 Website: <a href="http://www.saskwater.com">http://www.saskwater.com</a></p> <p><b>Agri-Environment Services Branch</b> * Agriculture and Agri-Food Canada Website <a href="http://www4.agr.gc.ca/AAFC-AAC/display-afficher.do?id=1187362338955&amp;lang">http://www4.agr.gc.ca/AAFC-AAC/display-afficher.do?id=1187362338955&amp;lang</a> <i>Regional Office:</i> <a href="http://www4.agr.gc.ca/AAFC-AAC/display-afficher.do?id=1254830746884&amp;lang=eng">http://www4.agr.gc.ca/AAFC-AAC/display-afficher.do?id=1254830746884&amp;lang=eng</a></p>
<p><b>Saskatchewan Ministry of Health</b> <b>Saskatchewan Disease Control Laboratory, Regina</b> General Inquiry 1-866-450-0000 Phone: (306) 798-2125 // Fax (306) 798-0071 Website: <a href="http://www.health.gov.sk.ca/lab">http://www.health.gov.sk.ca/lab</a></p>	<p><b>Saskatchewan Ministry of Agriculture</b> General Inquiry 1-866-457-2377 Agricultural Operations Regina (306) 787-4680 Irrigation Development Outlook (306) 867-5500 Website: <a href="http://www.agriculture.gov.sk.ca">www.agriculture.gov.sk.ca</a></p>
<p><b>Health Canada</b> First Nation and Inuit Health Branch, Regina (306) 780-5434 // FAX (306) 780-5107 Website: <a href="http://www.hc-sc.gc.ca">http://www.hc-sc.gc.ca</a></p>	<p><b>Saskatchewan Ministry of Environment</b> Toll-Free 1-800-567-4224 Spill Emergency Toll-Free 1-800-667-7525 Website: <a href="http://www.environment.gov.sk.ca">http://www.environment.gov.sk.ca</a></p>

\* Agri-Environment Services Branch (AESB) is an integration of three existing components: Prairie Farm Rehabilitation Administration (PFRA), National Land and Water Information Service (NLWIS) and Agri-Environmental Policy Bureau (AEPB).