

# Mercury

(For Private Water and Health Regulated Public Water Supplies)

## What Is Mercury?

Mercury occurs naturally and has several forms. It is found in natural deposits as ores containing other elements. It combines with chlorine, sulphur, or oxygen to form inorganic mercury compounds and combines with carbon and other elements to make organic mercury compounds. The metallic mercury is a shiny, silver-white, odourless, and toxic liquid metal. The most commonly found form – methylmercury - is produced mainly by microscopic organisms in the water and soil.

Mercury and its compounds are used in some batteries, thermometers, ultraviolet and fluorescent lamps, and dental fillings. It also sometimes used as a fungicide and preservative for seeds, wood products, and paint. Industry uses it in processes to produce chlorine gas and caustic soda.

## How Does Mercury Get Into Water?

Mercury is released to water from natural deposits, disposal of wastes, volcanic activity, and human industrial activity. In lakes, bacteria change the mercury to methylmercury that can be accumulated by aquatic life.

## How Does Mercury Affect My Health?

Mercury is poisonous and serves no beneficial function in humans. The human nervous system and kidneys are very sensitive to mercury and are easily damaged. It may cause change in vision or hearing, brain damage, and possibly affect the memory. Children are more vulnerable to mercury than adults.

Mercury is very dangerous for unborn children and infants, who can be exposed to mercury through their mother. Harmful effects include brain damage, intellectual disability, blindness, seizures, and inability to speak.

## What Are Some Other Considerations?

The primary means by which people are exposed to mercury compounds is through food. In particular, learn about aquatic life and fish advisories in your area, as people can be exposed to mercury by eating fish or shellfish.

Blood, urine and hair samples can be tested for mercury. Doctors also can do additional kidney and nervous functions tests. Seek medical advice if you have any symptoms that you think may be due to exposure to mercury.

## How Can I Remove Mercury From My Drinking Water?

Mercury can be removed from water through the use of coagulation/filtration, granular activated carbon, lime softening, ion exchange and reverse osmosis. However, the amount of mercury removed is quite variable and depends upon other water characteristics and the form of mercury present.

## What Is The Standard For Mercury In Drinking Water?

The Health Canada's Guidelines for Canadian Drinking Water Quality and Saskatchewan Environment's Drinking Water Quality Standards and Objectives have established a maximum acceptable concentration (MAC) of 0.001 mg/L.

## Acknowledgement:

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

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## How Can I Find Out If There Is Mercury In My Water?

Most water quality testing laboratories can determine how much mercury is present in a water supply. For information on sampling instructions and containers, you should contact an accredited laboratory. If using the Saskatchewan Disease Control Laboratory, sample containers are available from the laboratory, local Health Regions, or rural municipalities.

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

<b>Government of Saskatchewan</b> Water Information website <a href="http://www.SaskH2O.ca">www.SaskH2O.ca</a>	<b>Water Inquiry Line</b> Questions about water? Call 1-866-SASK H2O (1-866-727-5420) to be referred to proper agency.
<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 (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	<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> <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> <b>Prairie Farm Rehabilitation Administration (PFRA)</b> - Agriculture and Agri-Food Canada Website <a href="http://www.agr.gc.ca/pfra/water/intro_e.htm">http://www.agr.gc.ca/pfra/water/intro_e.htm</a> <i>Regional Offices:</i> <a href="http://www.agr.gc.ca/pfra/sask_e.htm">http://www.agr.gc.ca/pfra/sask_e.htm</a>
<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>	<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>
<b>Health Canada</b> First Nation and Inuit Health Branch, Regina (306) 780-6561 Website: <a href="http://www.hc-sc.gc.ca">http://www.hc-sc.gc.ca</a>	<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>