

## 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 – PFRA and Health Canada.

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Government of  
Saskatchewan

# Selenium

(For Private Water and Health Regulated Public Water Supplies)

## What Is Selenium?

Selenium is a metal found in natural deposits as ores containing other elements. Selenium compounds are widely used in electric and photocopier components. They are also used in pigments, rubber, glass, textiles, metal alloys, photographic emulsions, petroleum, and medical therapeutic agents.

## How Does Selenium Get Into Water?

Selenium compounds are released to the environment during the combustion of coal, petroleum fuels and during the smelting and refining of other metals. Research has shown the copper smelting industry has caused the large releases of selenium to the environment in some industrial nations.

## How Does Selenium Affect My Health?

At low levels Selenium is an essential nutrient. Research has found selenium to cause health affects when people are exposed to levels above the MAC for short time periods. The symptoms include hair and fingernail changes, fatigue, irritability, and damage to the peripheral nervous system.

Long-term exposures to Selenium above the MAC level can cause health affects including, hair and fingernail loss, liver and kidney damage, and damage to the nervous and circulatory systems.

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

The following treatment methods are effective for removing selenium: Reverse Osmosis, Activated Alumina, Coagulation/Filtration and Lime softening.

## What Is The Standard For Selenium 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 0.01 mg/l.

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

Most water quality testing laboratories can determine how much Selenium 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 **Selenium** impacts on human health contact your local health region office. For information on how **Selenium** 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>).

<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></p> <p><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>Health Canada</b> Website: <a href="http://www.hc-sc.gc.ca">http://www.hc-sc.gc.ca</a> <b>First Nation and Inuit Health – Saskatchewan</b> Phone: (306) 780-6561//FAX (306) 780-7733</p> <p><b>First Nations Environmental Health Providers</b> <i>BTC Indian Health Services Inc.</i> Phone: (306) 937-6700 <i>File Hills Qu'Appelle Tribal Council Health Services</i> Phone: (306) 332-8241 <i>Meadow Lake Tribal Council, Health and Social Development</i> Phone: (306) 236-8261 <i>Northern Inter-Tribal Health Authority</i> Phone: (306) 765-2421 <i>Prince Albert Grand Council, Health and Social Development</i> Phone: (306) 953-7248 <i>Saskatoon Tribal Council, Health, and Family Services Inc.</i> Phone: (306) 956-6100</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>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>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></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>Saskatchewan Ministry of Environment</b> Toll-Free 1-800-567-4224 or (306) 953-3750 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>