

### **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

# **Aluminum**

(For Private Water and Health Regulated Public Water Supplies)

## **What Is Aluminum?**

Aluminum is a silver-grey metal and is the most abundant metal found in the earth's crust. Several hundred minerals contain aluminum usually in combination with oxygen. Aluminum is present in some personal hygiene products as well as some indigestion relieving medications.

## **How Does Aluminum Get Into Water?**

While aluminum may enter drinking water supplies through leaching from minerals, the predominant source of aluminum in treated water is from aluminum sulphate (alum) used in the clarification process (i.e. turbidity reduction). The aluminum sulphate removes certain parasites that are resistant to disinfection by chlorination as well as organic matter that may result in disinfection byproducts.

Adding aluminum sulphate causes microscopic particles suspended in water to cluster together in a coagulation process so that they may be removed by settling out or filtration.

Coagulation results in a small amount of residual aluminum being left in the finished drinking water. Dietary aluminum is the primary means of exposure to aluminum with water being a minor source.

## **How Does Aluminum Affect My Health?**

High aluminum consumption can result in nerve damage and has been linked to Alzheimer's disease. Aluminum can also cause an upset stomach in particularly sensitive individuals and can also affect bone development in babies.

## **How Can I Remove Aluminum From My Drinking Water?**

Aluminum can be effectively removed from drinking water by distillation, or reverse osmosis treatment.

## **What Is The Standard For Aluminum In Drinking Water?**

Health Canada has yet to establish a health based guideline for aluminum in drinking water. Conventional water treatment plants using aluminum based coagulants are recommended to maintain a residual total aluminum level of less than 0.1 mg/L while not compromising the effectiveness of the disinfection process.

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

Most water quality testing laboratories can determine how much aluminum 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 aluminum impacts on human health contact your local health region office. For information on how aluminum 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) - Agriculture and Agri-Food Canada</b> 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>