

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

Cyanide

(For Private Water and Health Regulated Public Water Supplies)

What Is Cyanide?

Cyanide is a carbon-nitrogen chemical unit and can be produced naturally and artificially. Certain bacteria, fungi, and algae can form cyanides. It is also found in a number of foods and plants such as stone fruits, lima beans, fiddle heads and almonds.

Cyanide is also used in electroplating, photographic development, making plastics, mining processes, and herbicides. It is also released in car exhaust.

How Does Cyanide Get Into Water?

Cyanide can be released into groundwater and soil from natural processes. Very small amounts of cyanide can be toxic to aquatic life. Mining can also be a source of cyanide pollution to ground and surface water.

How Does Cyanide Affect My Health?

Cyanide is a fast-acting poison. Cyanide is very poisonous and ingesting high levels of cyanide may cause breathing difficulties, convulsion, loss of consciousness, brain and heart damage, or even coma and death.

Ingesting lower levels of cyanide over the long term may increase blood cyanide level, which will show toxic effects such as weakness of the fingers and toes, difficulty walking, dimness of vision, deafness, and decreased thyroid gland function. It may also change the metabolism in adults and slowing growth or development in children.

Other Considerations

There are medical tests to show whether you have been exposed to cyanide. Doctors can measure cyanide levels in the blood, and urine; however, small amounts of cyanide are always detectable. An almond-like in the breath may indicate that person was exposed to cyanide. Seek a medical advice if you think you may be exposed.

Studies have shown that cigarette smokers generally have higher cyanide-related compound levels in their blood levels.

How Can I Remove Cyanide From My Drinking Water?

Cyanide can be removed from water by demineralization through the use of ion exchange, reverse osmosis, and oxidation by chlorine followed by filtration.

What Is The Standard For Cyanide In Drinking Water?

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 of 0.20 mg/L.

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

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

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| <p>Government of Saskatchewan Water Information website www.SaskH2O.ca</p> | <p>Water Inquiry Line Questions about water? Call 1-866-SASK H2O (1-866-727-5420) to be referred to proper agency.</p> |
| <p>Saskatchewan Ministry of Health http://www.health.gov.sk.ca/environmental-health</p> <p>Regional Health Offices 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>Health Canada Website: http://www.hc-sc.gc.ca First Nation and Inuit Health – Saskatchewan Phone: (306) 780-6561//FAX (306) 780-7733</p> <p>First Nations Environmental Health Providers <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>Saskatchewan Ministry of Health Saskatchewan Disease Control Laboratory, Regina General Inquiry 1-866-450-0000 Phone: (306) 798-2125 // Fax (306) 798-0071 Website: http://www.health.gov.sk.ca/lab</p> | <p>Saskatchewan Ministry of Agriculture General Inquiry 1-866-457-2377 Agricultural Operations Regina (306) 787-4680 Irrigation Development Outlook (306) 867-5500 Website: www.agriculture.gov.sk.ca</p> |
| <p>Saskatchewan Watershed Authority, Head Office, Moose Jaw (306) 694-3900 Website: www.swa.ca <i>Regional Offices:</i> http://www.swa.ca/AboutUs/Contact.asp?type=Offices</p> | <p>Prairie Farm Rehabilitation Administration (PFRA) - Agriculture and Agri-Food Canada Website http://www.agr.gc.ca/pfra/water/intro_e.htm <i>Regional Offices:</i> http://www.agr.gc.ca/pfra/sask_e.htm</p> |
| <p>Sask Water Corporation Head Office, Moose Jaw Customer Service 1-888-230-1111 Website: http://www.saskwater.com</p> | <p>Saskatchewan Ministry of Environment Toll-Free 1-800-567-4224 or (306) 953-3750 Spill Emergency Toll-Free 1-800-667-7525 Website: http://www.environment.gov.sk.ca</p> |