

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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Government of
Saskatchewan

pH

(For Private Water and Health Regulated Public Water Supplies)

What Is pH?

The pH value is a measure of the hydrogen ion concentration in solution. The pH scale ranges from 0 to 14 and is logarithmic. Therefore, a pH value of 6 units is ten times more acidic than a value of 7 units. The pH is also temperature dependant. At room temperature samples with a pH value less than 7 are acidic and those above 7 are basic or alkaline. For comparison soft drinks have a pH of 3, tomato juice 4.5, milk 6.5 and sea water 8.

What Influences pH in Water?

The pH of water is dependent on the impurities that enter the water supply. For example, erosion from rocks and soil will cause mineral salts to be dissolved, and acid rain can lower the pH in surface waters..

What Are Some Other Considerations?

Water with a low pH can be corrosive and leach metals from pipes, solder, and fixtures leading to staining and potentially trace metal concerns. While a high pH could indicate that the water is hard, resulting in the build-up of scale in plumbing and lowering the efficiency of electric water heaters.

How Does pH Affect My Health?

The pH is classified as a secondary drinking water contaminant whose impact is considered an aesthetic concern. A low pH has the potential to cause the erosion of tooth enamel in extreme cases, although this is more of an issue with the pH values encountered in soft drinks than in drinking water. .

How Can I Adjust The pH In My Drinking Water?

The presence of bicarbonates and carbonates increase the pH value above 7, therefore water treatment methods that remove those compounds such as reverse osmosis and distillation will help reduce the pH value. Acidic water with a low pH can be treated with a neutralizer, typically using a solution of soda ash, to increase the pH. Post treatment monitoring of pH values is recommended to ensure that the pH is within guidelines.

What Is The Standard For pH In Drinking Water?

Corrosion effects may become significant below pH 6.5, and the frequency of incrustation and scaling problems may be increased above pH 8.5. With increasing pH levels, there is also a progressive decrease in the efficiency of chlorine disinfection processes. The Saskatchewan Drinking Water Quality Standards and Objective sets the objective for pH values in the range of 6.5 to 9.0.

How Can I Find Out The pH In My Water?

Most water quality testing laboratories can determine the water pH of 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 pH impacts on human health contact your local health region office. For information on how pH 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>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 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>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>Sask Water Corporation Head Office, Moose Jaw Customer Service 1-888-230-1111 Website: http://www.saskwater.com</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>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>Health Canada First Nation and Inuit Health Branch, Regina (306) 780-5434 Website: http://www.hc-sc.gc.ca</p>	<p>Saskatchewan Ministry of Environment Toll-Free 1-800-567-4224 Spill Emergency Toll-Free 1-800-667-7525 Website: http://www.environment.gov.sk.ca</p>