

# E. Coli Bacteria

(For Private Water and Health Regulated Public Water Supplies)

## What Is *E. Coli*?

*Escherichia coli* or *E.coli* is a type of coliform bacteria commonly found in the intestines of humans and warm-blooded animals. Most strains of *E.coli* do not cause illness in healthy humans and are beneficial to the synthesis of vitamins. Some strains, however, cause cramps and diarrhea in humans. One particular strain named O157:H7 produces a powerful toxin that can cause severe illness.

Health organizations have selected *E.coli* as the most reliable indicator for the bacteriological quality of drinking water. The presence of *E.coli* in water is a strong indication of recent sewage or animal waste contamination. This type of contamination would suggest your water might contain many types of disease-causing organisms.

## How Does *E. Coli* Get Into Water?

During rainfalls, snowmelts, or other types of precipitation, *E.coli* may be washed into creeks, rivers, lakes, or groundwater. When these waters are used as sources of drinking water and the water is not treated or inadequately treated, *E.coli* may end up in drinking water. Care is also needed to prevent contamination when performing maintenance to your water supply.

## How Does *E. COLI* Affect My Health?

Most strains are harmless to healthy humans however the strain O157:H7 may cause serious diseases. This strain produces toxins and can cause bloody diarrhea and abdominal cramps and frequently no fever is present. Risks from *E.coli* O157:H7 are greater for young children, the elderly, pregnant women, and those with a weakened immune system. Consult with your physician immediately if you experience any of these symptoms.

## How Can I Remove *E. COLI* Bacteria From My Drinking Water?

Water containing *E. coli* bacteria should not be consumed.

For groundwater sources, refer to procedures described in the [High Level Well Disinfection](#) Fact Sheet or [Low Level Well Disinfection](#) Fact Sheet.

## Health Regulated Public Water Supplies

A positive water sample test result, for the presence of *E. coli*, in a Health regulated public water supply will result in the local health region issuing an emergency boil water order (EBWO) for the supply. The EBWO will remain in effect until all required corrective action is completed and subsequent water test results indicate that the water supply is safe.

## What Is The Standard For *E. Coli* Bacteria In Drinking Water?

The Saskatchewan Drinking Water Quality Standards state that the maximum acceptable concentration (MAC) for *E. coli* in drinking water is no organisms detectable per 100 mL.

### Acknowledgement:

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

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## How Can I Find Out If There Is *E. Coli* In My Water?

It is not practical to isolate all the pathogens found in water instead microbial indicators are used. The presence of *E.coli* bacteria does not necessarily mean that your drinking water contains a strain of *E.coli* O157:H7. However, if *E.coli* O157:H7 is present in your well, it is highly likely that potentially disease causing organisms are present.

For information on sampling instructions and containers, you should contact an accredited laboratory. If using the Saskatchewan Disease Control Laboratory (Provincial Lab), sample containers are available from the laboratory, local Health Regions, or rural municipalities.

Before consuming water from a new well, disinfect and flush the entire system (see [High Level Chlorine Well Disinfection](#) Fact Sheet) and then sample for coliform and *E. coli* bacteria. In general, all private systems should be analyzed frequently, at least once or twice a year, or whenever there is reason to believe that the water supply may have become contaminated (e.g. spring flooding or flooding). Health regulated public water supplies must sample as required by the health region.

## 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 *E. coli* impacts on human health contact your local Health Region office. For information on how *E. coli* impacts agricultural operations contact Saskatchewan Ministry of Agriculture through your regional office or the Agricultural Knowledge Centre at 1-866-45-SAFRR (1-866-457-2377). (<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 the proper agency.
<b>Saskatchewan 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 - 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 Parkland - Prince Albert (306) 765-6600 Cypress - Swift Current (306) 778-5280 Regina Qu'Appelle – Regina (306) 766-7755 Mamawetan Churchill River - LaRonge (306) 425-8512 Keewatin Yatthe - Buffalo Narrows (306) 235-5811	<b>Saskatchewan Watershed Authority</b> Head Office, Moose Jaw (306) 694-3900 <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 (SWC)</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 <a href="http://www.agr.gc.ca/pfra/water/intro_e.htm">www.agr.gc.ca/pfra/water/intro_e.htm</a> <i>Regional Offices Contact:</i> <a href="http://www.agr.gc.ca/pfra/sask_e.htm">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 Regina (306) 780-5434 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>