

Milwaukee Water Works Safe Drinking Water Report

Safe, Abundant Drinking Water.



The Milwaukee Safe Drinking Water Report is a service of the Milwaukee Water Works, a national leader in providing safe, high quality drinking water. In this report, you will find:

- Information about the source of your drinking water
- The treatment process that ensures the highest quality water
- Results of water quality testing and compliance with water quality laws
- Additional educational information

The U.S. Environmental Protection Agency (EPA) requires drinking water utilities to provide an annual Consumer Confidence Report to help consumers understand where their drinking water comes from so they can make informed decisions about their health and protection of the environment. Detailed water quality information is available at the Milwaukee Water Works website, www.water.mpw.net.

Overview

The Milwaukee Water Works provides safe, abundant drinking water to the City of Milwaukee and 15 communities in south-eastern Wisconsin. The utility is a self-financing enterprise owned by the City of Milwaukee. It is regulated by the Public Service Commission of Wisconsin (PSC), the U.S. Environmental Protection Agency (EPA), and the Wisconsin Department of Natural Resources (DNR).

Milwaukee Water Works drinking water quality meets all state and federal health standards for drinking water.

The Milwaukee Water Works treats Lake Michigan water to protect the public health with a multiple-step process that removes illness-causing microorganisms and contaminants. The water is initially disinfected with ozone, a highly reactive gas that destroys micro-organisms, controls taste and odor, and reduces byproducts from chlorine disinfection. Coagulation, settling, and filtration remove additional particles. Fluoride is added for dental health. A final disinfection ensures safe, high quality drinking water throughout the distribution system and at your faucets.

Only tap water delivers

Tap water delivers public health protection. Milwaukee water meets federal and state health-protecting standards.

A well-maintained water system provides fire suppression.

Reliable pressure protects communities from large, uncontrollable fires. The ability to suppress fires influences new construction, business location decisions, and insurance rates.

Tap water delivers support for the economy. Milwaukee Water Works commercial customers rely on a high quality water source to provide jobs for the Milwaukee region.

Tap water delivers overall quality of life. Any measure of a successful society — low mortality, economic diversity, productivity, and public safety — is in some way related to access to safe water. Every day, safe water is available for eating and cooking, bathing, clothes washing, and a myriad of other purposes.

Milwaukee's safe drinking water — a great value

- Milwaukee tap water is a great value. Four gallons of tap water cost one cent. Bottled water, sold for \$1.25 for 16 ounces (one pint), costs \$40.00 per gallon.
- Drinking tap water is a sustainable thing to do. We've already paid to purify the water. Refill your bottle at the tap.



Important Information

This report contains important information about your drinking water. Translate it, or speak with someone who understands it.

Información Importante Para Nuestros Clientes que Hablan Español

Esta informe contiene información muy importante sobre su agua beber. Tradúzcalo ó hable con alguien que lo entienda bien.

Lug tseem ceeb rua cov siv dlej kws has lug Moob

Ntawm nuav yog cov lug tseem ceeb qha txug kev haus dlej nyob nroog Milwaukee. Yog mej nyeem tsi tau cov lug nuav, thov lwm tug txhais rua mej.

The table below shows the regulated substances that were detected in water quality testing in 2007. Every regulated substance that is detected, even in trace amounts, is listed here. All are below levels allowed by state and federal laws. The table contains the name of each substance, the highest level allowed by regulation (MCL), the ideal goals for public health (MCLG), the amount detected, the usual sources of such contamination, and footnotes explaining the findings

and units of measurement. The presence of a substance in drinking water does not necessarily indicate the water poses a health risk. Certain quantities of some substances are essential to good health, but excessive quantities can be hazardous. A list of the hundreds of other compounds tested for but not detected in our water quality monitoring effort can be found at: www.water.mpw.net/1waterquality.htm

Substance	Ideal Goals (MCLG)	Highest Level Allowed (MCL)	Median Value	Highest Level Detected	Source(s) of Contaminant
Aluminum	0.2 mg/L	NR	0.039 mg/L	0.118 mg/L	2,3
Barium	2 mg/L	2 mg/L	0.018 mg/L	0.019 mg/L	3
Bromate	10 µg/L	10 µg/L (RAA)	4 µg /L (RAA)	NR	4
Chlorine, total		4 mg/L	1.34 mg/L	1.50 mg/L	5
Chromium	100 µg/L	100 µg/L	9 µg/L	15 µg/L	3
Coliform Bacteria, total	0	<5% of samples /month	< 0.1%	< 0.1%	7
Copper	1.3 mg/L	1.3 mg/L (AL)	0.068 mg/L (AL)	NR	6
Fluoride		4 mg/L	0.93 mg/L	1.3 mg/L	2,3
Haloacetic Acids, total	0 µg/L	60 µg/L	2.9 µg/L	6.3 µg/L	4
Lead	0 µg/L	15 µg/L (AL)	4.3 µg/L (AL)	NR	6
Organic Carbon, total	TT	TT	1.4 mg/L	2.1 mg/L	3
Potassium	NR	NR	1.3 mg/L	1.4 mg/L	3
Radium, combined ¹	0 pCi/L	5 pCi/L	0.7 pCi/L	0.7 pCi/L	3
Sodium	NR	NR	6.8 mg/L	13.5 mg/L	3
Sulfate	500 mg/L	NR	27 mg/L	28 mg/L	3
Trihalomethanes, total	0 µg/L	80 µg/L	6.1 µg/L	12.2 µg/L	4
Turbidity		<0.3 NTU 95% of the time	0.04 NTU 95% of the time	0.17 NTU 1-day max	3
Uranium, total ¹		20 pCi/L	0.54 pCi/L	0.57 pCi/L	3

Definitions and Notes

< – “less than” or not detected

AL – Action Level – The concentration of a contaminant that, if exceeded, triggers treatment or other requirement that a water system must follow. Action Levels are reported at the 90th percentile for homes at greatest risk.

Haloacetic Acids – Mono-, di-, and tri-chloroacetic acid; mono- and di-bromoacetic acid; and bromochloroacetic acids

MCL – Maximum Contaminant Level – The highest level of a contaminant that is allowed in drinking water. MCL is set as close to the MCLG as feasible using the best available technology.

MCLG – Maximum Contaminant Level Goal – The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG allows for a margin of safety.

µg/L – microgram per liter or parts per billion

mg/L – milligram per liter or parts per million

Median – The middle value of the entire data set for the parameter (range from high to low)

NTU – Nephelometric Turbidity Unit – unit to measure turbidity

NR – Not regulated

pCi/L – Picocuries per liter, a measure of radioactivity. A picocurie is 10⁻¹² curies.

RAA – Running Annual Average – The average of (4) quarterly samples collected in one year

TT – Treatment Technique – A required process intended to reduce the level of a contaminant in drinking water.

Trihalomethanes Chloroform, bromochloromethane, dibromochloromethane and bromoform

1 Results are from samples collected in 2003

2 Water treatment additive

3 Natural deposits

4 Byproduct of drinking water disinfection

5 Residual of drinking water disinfection

6 Corrosion of household plumbing systems

7 Naturally present in the environment



Source of Milwaukee's Drinking Water

The source of Milwaukee's drinking water is Lake Michigan, a surface water source. As water flows through rivers and lakes and over land surfaces, naturally occurring substances may be dissolved in the water. The substances are called contaminants. Surface water sources may be highly susceptible to contaminants. Surface water is also affected by animal and human activities. A Wisconsin DNR Source Water Assessment for Milwaukee is available on the Internet: www.dnr.state.wi.us/org/water/dwg/swap/surface/milwaukee.pdf

Contaminants that may be present in source water include microbial contaminants, such as viruses, protozoa and bacteria; inorganic contaminants such as salts and metals; pesticides and herbicides; organic chemical contaminants; and radioactive contaminants.

To ensure that tap water is safe to drink, the EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. Learn more about contaminants and potential health effects by calling the EPA Safe Drinking Water Hotline, **1-800-426-4791**.

Information for Persons with Compromised Immune Systems

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons, such as persons undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly persons, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their healthcare providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection are available from the Safe Drinking Water Hotline, **1-800-426-4791**, and the Centers for Disease Control (CDC) www.cdc.gov

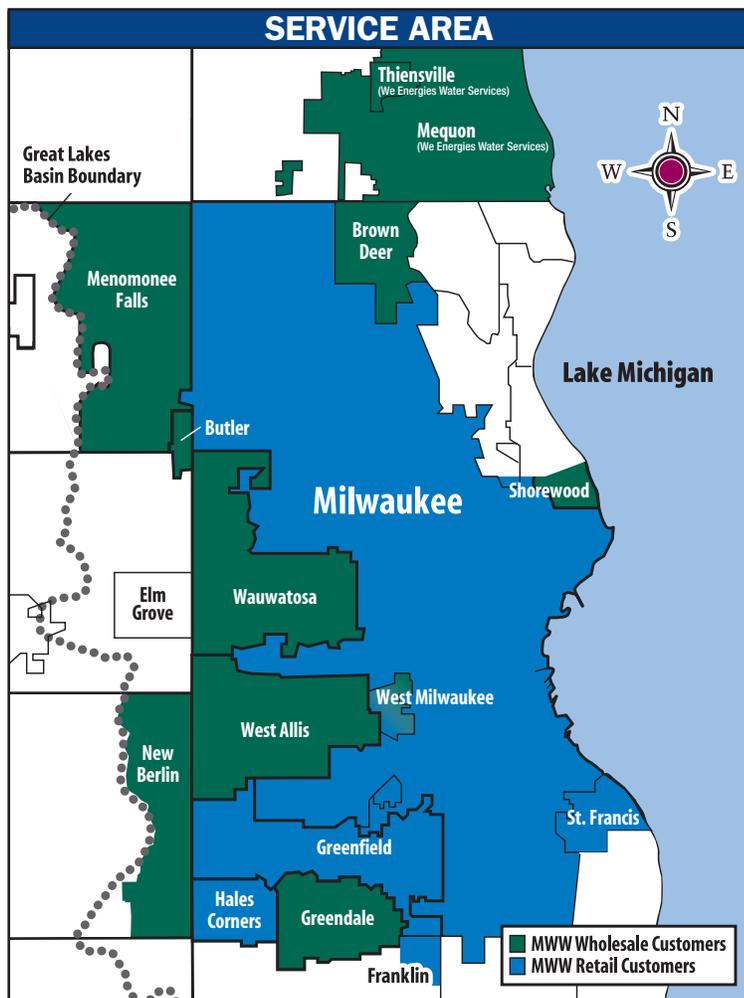
Cryptosporidium

Cryptosporidium is a microscopic protozoan that when ingested, can result in diarrhea, fever, and other gastrointestinal symptoms. The Milwaukee Water Works and the Milwaukee Health Department consider *Cryptosporidium* detection a priority, and since 1993, have continued to test the untreated and treated water for *Cryptosporidium*. The organism is found in many surface water sources (lakes, rivers, streams) and comes from human and animal wastes in the watershed. The risk of *Cryptosporidium* from drinking water in Milwaukee has been reduced to extremely low levels by an effective treatment combination including ozonation, coagulation, sedimentation, filtration, and disinfection.

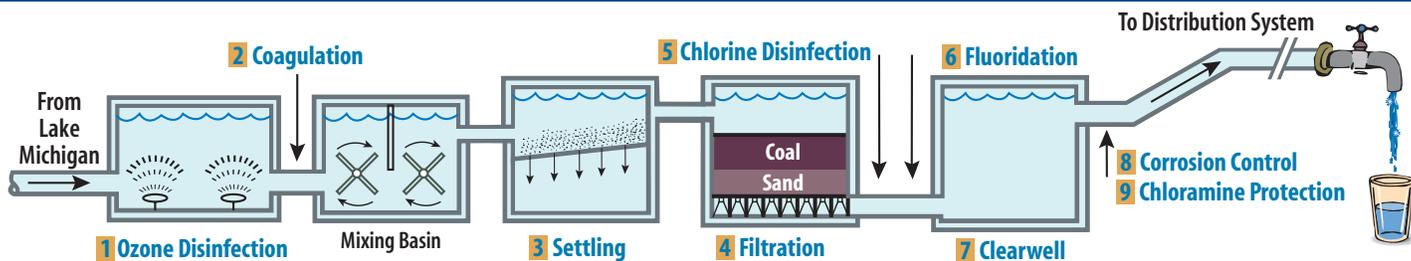
The City of Milwaukee Health Department has prepared a pamphlet based on EPA and CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium*. Copies of this pamphlet are available from the Milwaukee Health Department, **(414) 286-3606**. Or, view a copy in English or Spanish at www.milwaukee.gov/health and click on *Air/Water/Toxics*.

Lead and Copper

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The Milwaukee Water Works is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to two minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline, **1-800-426-4791** or at www.epa.gov/safewater/lead



Milwaukee Water Works Drinking Water Treatment Process



- 1. Ozone Disinfection** — Ozone gas is bubbled through the incoming lake water. Ozone destroys disease-causing microorganisms including *Giardia* and *Cryptosporidium*, controls taste and odor, and reduces chlorinated disinfection byproducts.
- 2. Coagulation** — Very fine particles in the water adhere together to form larger particles as the coagulant alum is mixed into the water. Large particles are more effectively removed during the settling and filtering processes.
- 3. Settling** — Settling is the process in which solid particles settle out and are removed from the water.

- 4. Filtration** — The water is slowly filtered through 24" of biologically active anthracite coal and 12" of crushed sand to remove very small particles.
- 5. Chlorine Disinfection** — After filters, chlorine is added as a secondary disinfectant. This provides extra protection from potentially harmful microorganisms.
- 6. Fluoridation** — Fluoride, when administered at low levels, is proven to help prevent tooth decay.
- 7. Clearwell** — Treated water is stored in deep underground tanks and pumped as needed through the distribution system.

- 8. Corrosion Control** — A phosphorous compound is added to help control corrosion of pipes. This helps prevent lead and copper from leaching from plumbing into the water.
- 9. Chloramine Protection** — Ammonia changes the chlorine to chloramine, a disinfectant that maintains bacteriological protection in the distribution system.

ADDITIONAL INFORMATION

Milwaukee Water Works

841 N. Broadway, Room 409, Milwaukee, Wisconsin 53202
Customer Service Center
Open Monday-Friday, 7:30 a.m. to 5 p.m.
Phone (414) 286-2830 ■ TDD (414) 286-2025
Fax (414) 286-2672

24-Hour Water Control Center (414) 286-3710

Email for non-emergency contact: watwebcs@milwaukee.gov

Please visit the Milwaukee Water Works website,
www.water.mpw.net

City of Milwaukee Health Department

www.milwaukee.gov/health

U.S. Centers for Disease Control

www.cdc.gov

U.S. Environmental Protection Agency

www.epa.gov/safewater/index.html

Wisconsin Department of Natural Resources

www.dnr.state.wi.us

Public Service Commission of Wisconsin

www.psc.wi.gov

American Water Works Association

www.drinktap.org

Participate in Water Decisions

You may attend any of the following meetings

- The Public Works Committee of the Milwaukee Common Council
- The Milwaukee Common Council – call **(414) 286-2221** or visit www.city.milwaukee.gov

The best and most cost-effective way to ensure safe water at the tap is to keep source waters clean. Do not flush unused medications down the toilet or sink. Instead, find out if your pharmacy accepts medications for disposal and look for special collection days for unused medications. The Milwaukee Metropolitan Sewerage District holds Medicine Collection Days. See www.mmsd.com

The Milwaukee Water Works is a WaterSense Partner. WaterSense is a voluntary public-private partnership program sponsored by the EPA. Its mission is to protect the future of our nation's water supply. Learn more at www.epa.gov/watersense

Environmental Terms Glossary

www.epa.gov/OCEPAterms

Research about Lake Michigan from the University of Wisconsin Milwaukee Great Lakes WATER Institute

www.uwm.edu/Dept/GLWI

Educational websites for children

www.epa.gov/kids

www.scholastic.com/magicschoolbus

The Milwaukee Water Works is a member of the American Water Works Association, the Association of Metropolitan Water Agencies, the American Water Works Research Foundation, and the Wisconsin Water Association.