

Purchased Water

PWS ID	PWS Name
24101000	MILWAUKEE WATERWORKS

To obtain a summary of the source water assessment please contact, Alexander S Parker at 414-550-4361.

Educational Information

The sources of drinking water, both tap water and bottled water, include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally- occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff and septic systems.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which shall provide the same protection for public health.

Definitions

Term	Definition
AL	Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
HA and HAL	HA: Health Advisory. An estimate of acceptable drinking water levels for a chemical substance based on health effects information. HAL: Health Advisory Level is a concentration of a contaminant which, if exceeded, poses a health risk

Term	Definition
	and may require a system to post a public notice. Health Advisories are determined by US EPA.
HI	HI: Hazard Index: A Hazard Index is used to assess the potential health impacts associated with mixtures of contaminants. Hazard Index guidance for a class of contaminants or mixture of contaminants may be determined by the US EPA or Wisconsin Department of Health Services. If a Health Index is exceeded a system may be required to post a public notice.
Level 1 Assessment	A Level 1 assessment is a study of the water system to identify potential problems and determine, if possible, why total coliform bacteria have been found in our water system.
Level 2 Assessment	A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine, if possible, why an E. coli MCL violation has occurred or why total coliform bacteria have been found in our water system, or both, on multiple occasions.
MCL	Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment 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. MCLGs allow for a margin of safety.
MFL	million fibers per liter
MRDL	Maximum residual disinfectant level: The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
MRDLG	Maximum residual disinfectant level goal: The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
mrem/year	millirems per year (a measure of radiation absorbed by the body)
NTU	Nephelometric Turbidity Units
pCi/l	picocuries per liter (a measure of radioactivity)
ppm	parts per million, or milligrams per liter (mg/l)
ppb	parts per billion, or micrograms per liter (ug/l)
ppt	parts per trillion, or nanograms per liter
ppq	parts per quadrillion, or picograms per liter
PHGS	PHGS: Public Health Groundwater Standards are found in NR 140 Groundwater Quality. The concentration of a contaminant which, if exceeded, poses a health risk and may require a system to post a public notice.
RPHGS	RPHGS: Recommended Public Health Groundwater Standards: Groundwater standards proposed by the Wisconsin Department of Health Services. The

Term	Definition
	concentration of a contaminant which, if exceeded, poses a health risk and may require a system to post a public notice.
SMCL	Secondary drinking water standards or Secondary Maximum Contaminant Levels for contaminants that affect taste, odor, or appearance of the drinking water. The SMCLs do not represent health standards.
TCR	Total Coliform Rule
TT	Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.

Detected Contaminants

Your water was tested for many contaminants last year. We are allowed to monitor for some contaminants less frequently than once a year. The following tables list only those contaminants which were detected in your water. If a contaminant was detected last year, it will appear in the following tables without a sample date. If the contaminant was not monitored last year, but was detected within the last 5 years, it will appear in the tables below along with the sample date.

Disinfection Byproducts

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
HAA5 (ppb)	SAMPLE 1	60	60	4	3 - 4		No	By-product of drinking water chlorination
TTHM (ppb)	SAMPLE 1	80	0	11.9	6.3 - 11.2		No	By-product of drinking water chlorination
HAA5 (ppb)	SAMPLE 3	60	60	4	3 - 4		No	By-product of drinking water chlorination
TTHM (ppb)	SAMPLE 3	80	0	11.7	6.2 - 12.7		No	By-product of drinking water chlorination
HAA5 (ppb)	SAMPLE 4	60	60	4	2 - 4		No	By-product of drinking water chlorination
TTHM (ppb)	SAMPLE 4	80	0	10.7	5.5 - 9.4		No	By-product of drinking water chlorination

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
HAA5 (ppb)	SAMPLE 6	60	60	3	2 - 4		No	By-product of drinking water chlorination
TTHM (ppb)	SAMPLE 6	80	0	9.4	7.3 - 11.0		No	By-product of drinking water chlorination

Inorganic Contaminants

Contaminant (units)	Action Level	MCLG	90th Percentile Level Found	# of Results	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
COPPER (ppm)	AL=1.3	1.3	0.045	0 of 30 results were above the action level.	09/11/2023	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
LEAD (ppb)	AL=15	0	0.79	0 of 30 results were above the action level.	09/11/2023	No	Corrosion of household plumbing systems; Erosion of natural deposits

Unregulated Contaminants

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. EPA required us to participate in this monitoring.

Contaminant (units)	Level Found	Range	Sample Date (if prior to 2023)
NAPHTHALENE (ppb)	0.41	0.41	

UCMR CONTAMINAT DATA

<u>CONTAMINANT</u>	<u>DATE</u>	<u>AVERAGE</u>	<u>RANGE</u>
1-Butanol	2018	2	2.0-2.0
2-Methoxyethonal	2018	0.4	0.4-0.4
2-propen-1-01	2018	0.5	0.5-0.5
Alpha-hexachlorocyclohexan	2018	0.01	0.01-0.01
Anatoxin-a	2019	0.03	0.03-0.03
Butylated Hydroxyanisole	2018	0.03	0.03-0.03
Chlorpyrifos	2018	0.03	0.03-0.03
Cylindrospermopsin	2019	0.09	0.09-0.09
Dimethipin	2018	0.2	0.2-0.2
Ethoprop	2018	0.03	0.03-0.03
Germanium	2018	0.03	0.03-0.03
HAA5	2018-19	3.161	1.332-4.08
HAA6Br	2018-19	3.446	2.066-5.47
HAA9	2018-19	5.959	3.398-7.922
Manganese	2018	0.4	0.4-0.4
O-toluidine	2018	0.007	0.007-0.007
Oxyfluorfen	2018	0.05	0.05-0.05
Profenofos	2018	0.3	0.3-0.3
Quinoline	2018	0.02	0.02-0.02
Tebuconazole	2018	0.2	0.2-0.2
Total Microcystin	2019	0.3	0.3-0.3
Total Permethrin	2018	0.04	0.04-0.04
Tribufos	2018	0.07	0.07-0.07

Additional Health Information

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. Greendale Waterworks 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 2 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 or at www.epa.gov/safewater/lead.

2022 CCR CONTAMINANT DETECT INFORMATION

CONTAMINANT(UNITS)	MEDIAN VALUE	RANGE
CL2	1.26	1.12-1.30
DIBROMOACETIC ACID	0.54	0.32-0.74
DICHLOROACETIC ACID	2.1	0.91-2.8
HAA5	3.0	2.0-4.0
MONOBROMOACETIC ACID	0.37	0.33-0.44
MONOCHOLOROACETIC ACID	ND	ND
TRICHOLOACETIC ACID	0.73	0.51-0.91
BROMODICHOLOROMETHANE	2.7	1.9-4.2
BROMOFORM	0.29	0.27-0.38
CHLOROFORM	3.6	1.8-5.9
DIBROMOCHLOROMETHANE	1.7	1.3-2.2
TTHM(IN WATER)	9.4	7.3-11.0

Purchased Water

Our water system purchases water from MILWAUKEE WATERWORKS. In addition to the detected contaminants listed above, these are the results from MILWAUKEE WATERWORKS.

<https://city.milwaukee.gov/water/WaterQuality>

Other Compliance

Monitoring Violations

Description	Contaminant Group	Sample Location	Compliance Period Beginning	Compliance Period Ending
DBP Monitoring/Reporting	Dbp	Distribution System	11/29/2023	12/9/2023

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not your drinking water meets health standards. During the compliance period noted in the above table, we did not complete all monitoring or testing for the contaminant(s) noted, and therefore cannot be sure of the quality of your drinking water during that time.

Actions Taken

The Village of Greendale has corrected the address for shipping of sampling materials as well as posted the sampling schedule to ensure compliance. We will return to compliance after 4 sample periods or by 2025.

Other Drinking Water Regulations Violations

Description of Violation	Date of Violation	Date Violation Resolved
Failure to correct: System is not implementing a comprehensive Cross-Connection Control Program.	4/1/2023	12/31/2023

Actions Taken

The Village of Greendale is current and up to date on residential and commercial cross connection inspections. Inspections were conducted by independent contractors.

Uncorrected Significant Deficiencies

Deficiency Description and Progress to Date	Date System Notified	Scheduled Correction Date
The valve exercise/replacement program is not adequate.	10/14/2020	10/31/2025

Actions Taken

The Village of Greendale has been practicing the Emergency Operations Plan by performing tabletop exercises. As for the valve exercising/ replacement program, we have kept up with our 5-year program implemented in 2020. Replacement occurs upon an inoperable valve while exercising.