

Consumer Confidence Report – 2023



This report summarizes the results of water monitoring as required by the Environmental Protection Agency (EPA). Many of these analyses are required by the Safe Drinking Water Act and other regulations, and we monitor for contaminants beyond the basic requirements. If you have questions regarding this report, please contact the Waterworks at 319-524-5285.

The Keokuk Municipal Waterworks (KMW) is dedicated to providing safe, reliable and affordable water to the residents and businesses in our community.

The Keokuk Municipal Waterworks sources its water from the Mississippi River and its tributaries. This water is susceptible to contamination from runoff, landfills and livestock confinements.

A detailed source water evaluation was conducted by the Iowa Department of Natural Resources and is available by contacting the Waterworks.

Our customers are welcome to join the meetings of our water utility. The Waterworks Board of Trustees meets monthly, and the meetings are open to the public. Inquiries may be directed to:

Keokuk Municipal Waterworks
General Manager: David Bogner
Plant Superintendent: Jim Maddox
20 N 4th St, Keokuk, IA 52632
(319) 524-5285

Many customers wish to know if **BOTTLED WATER** is safer than tap water. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. Their presence does not necessarily indicate that the water poses a health risk.

NITRATE in drinking water at levels above 10 ppm is a health risk for infants less than 6 months old. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods due to rainfall or agricultural activity. If you are caring for an infant, you should ask your health care provider for advice regarding drinking water for your infant.

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

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised people, such as those undergoing chemotherapy, those who have had organ transplants, people with HIV/AIDS or other immune system disorders, some elderly and infants can be particularly at risk of infection. These people should seek advice from their health care providers about drinking water. The EPA and Centers for Disease Control guidelines on appropriate means to lessen infection risk by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline.

LEAD: If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water comes mostly from materials in home plumbing and service lines. KMW is responsible for providing high quality drinking water but cannot control the materials in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing the tap for 1-2 minutes before using the water to drink or cook.

More information about contaminants and potential health effects can be obtained by contacting the EPA's Safe Drinking Water Hotline:

EPA Safe Drinking Water Hotline
1-800-426-4791
<http://water.epa.gov/drink>

2023 WATER QUALITY RESULTS

Substance	Year Tested	Violation Yes/No	EPA MCL (MCLG)	Highest level detected	Range detected	Source of Contaminant / Notes
FINISHED WATER AT PLANT						
Turbidity (NTU)	2023	No	0.30 (100%)	0.28	0.02-0.28	Soil runoff
Total Coliform / E. Coli Bacteria	2023	No	5% (0)	0	0	Microbiological contaminant. Naturally present in the environment
Fluoride (ppm)	2023	No	4 (4)	0.98	0.35-0.98	Inorganic contaminant. Additive to promote strong teeth, erosion of natural deposits, discharge from fertilizer and aluminum factories.
Sodium (ppm)	2023	No	N/A (N/A)	22	SGL	Inorganic contaminant. Erosion of natural deposits, added during water treatment process.
Nitrate (as N) (ppm)	2023	No	10 (10)	3.0	0.69-3.0	Inorganic contaminant. Runoff from fertilizer use, leaching from septic tanks, sewage, erosion of natural deposits.
Atrazine (ppb)	2022	No	3 (3)	0.0002	SGL	Inorganic contaminant. Runoff from herbicide used on row crops.
Dalapon	2022	No	200 (200)	0.001	SGL	Synthetic organic contaminant. Runoff from herbicide used on right of way.
Total Trihalomethane (TTHM - ppb)	2023	No	80 (N/A)	0.057 LRAA	0.024-0.057	Organic contaminant. Byproduct of water disinfection
Total Haloacetic Acids (HAA5 - ppb)	2023	No	60 (N/A)	0.019 LRAA	0.01-0.019	Organic contaminant. Byproduct of water disinfection
Cholorate	2020	N/A	N/A (N/A)	239	SGL	Unregulated contaminant
Hexavalent Chromium	2020	N/A	N/A (N/A)	2.27	SGL	Unregulated contaminant
Vanadium	2020	N/A	N/A (N/A)	0.50	SGL	Unregulated contaminant
Molybdenum	2020	N/A	N/A (N/A)	1.5	SGL	Unregulated contaminant
Strontium	2020	N/A	N/A (N/A)	106	SGL	Unregulated contaminant
Chromium	2020	N/A	N/A (N/A)	2.40	SGL	Unregulated contaminant
FINISHED WATER IN DISTRIBUTION SYSTEM						
Chlorine (ppm)	2023	No	4 (4 MRDLG)	3.13	0.04-3.13	Disinfectant. Additive to control microbes.
FINISHED WATER AT CUSTOMER TAP						
Copper (ppm)	2023	No	AL = 1.3 (1.3)	0.02 (90th)	ND-0.04	Corrosion of household plumbing, erosion of natural deposits.
Lead (ppb)	2023	No	AL = 15 (0)	6 (90th) 1 sample exceeded AL	ND-0.41	Corrosion of household plumbing, erosion of natural deposits.
Substance	Year Tested		% Removal Range		% Removal Required	Source of Contaminant
RAW WATER (MISSISSIPPI RIVER)						
Total Organic Carbon (%)	2023		41.7-71.1%		35%	Naturally present in the environment.
<p>NOTE: The EPA requires monitoring of over 80 drinking water contaminants. Those listed above are the only contaminants detected in your drinking water. For a complete list, contact Keokuk Municipal Waterworks.</p>						

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Definitions

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.

Action level (AL): The concentration of of contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Maximum Residual Disinfectant Level (MRDL): 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.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Organic Contaminants: Includes synthetic and volatile organic chemicals, which are industrial and petroleum process byproducts and can also come from gas stations, urban storm water runoff and septic systems.

SGL: Single sample result

N/A: Not applicable

RAA: Running annual average

LRAA: Locational running annual average

ND: None detected

NTU: Nephelometric turbidity units

Inorganic Contaminants: Such as salts and metals, which can occur naturally or come from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

ppb: Parts contaminant per billion parts of water. One ppb is equivalent to a single penny in \$10 million. ppb may also be called ug/liter or micrograms per liter.

ppm: Parts contaminant per million parts of water. One ppm is equivalent to a single penny in \$10 thousand. ppm may also be called mg/liter or milligrams per liter.

Chlorine Disinfectant: The most common drinking water treatment is disinfection. Disinfection is considered to be the primary mechanism to kill bacteria and other germs to prevent the spread of waterborne diseases. Chlorine is the most widely used disinfectant. Disinfectants combine with organic and inorganic matter present in water, to form chemicals called disinfection byproducts. EPA sets standards for controlling the levels of disinfectants and disinfectant byproducts in drinking water. The chart above reflects these standards and the utility's ability to meet those standards.

Fluoride: Some fluoride is naturally present in the source water. The amount is carefully monitored every day so optimum concentration is maintained. If you have concerns about fluoride, you should discuss this topic with your dentist and doctor.

Sodium: Erosion of natural deposits; Added to water during treatment process.

Turbidity: Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microparasites that can cause symptoms such as nausea, cramps, diarrhea and associated headaches.

Total Trihalomethanes (TTHM): Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system and may have an increased risk of getting cancer.

Unregulated Contaminants: Contaminants with dates indicate results from the most recent testing done in accordance with regulations. Keokuk Municipal Waterworks is participating in a study with the Environmental Protection Agency (EPA) related to the "Unregulated Contaminant Monitoring Rule". Unregulated contaminants are those for which the EPA has not established drinking water standards. The purpose of the unregulated contaminants monitoring is to assist the EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. None of the contaminants currently have a maximum contaminant level (MCL).

Note: The most recent list of unregulated contaminants can be obtained on the EPA Website at: www.epa.gov/safewater/ucmr/index.html