

WaterOne

Water District No. 1 of Johnson County

Definitions

MCLG Maximum Contaminant Level Goal (MCLG): 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.

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

MRDL 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.

MRDLG Maximum Residual Disinfectant Level Goal (MRDLG): The level of 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.

SMCL Secondary Maximum Contaminant Level (SMCL): Secondary MCLs for various water quality indicators are established to protect public welfare.

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

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

ND Not Detected

NTU Nephelometric Turbidity Units: a measure of the clarity of water.

pCi/L Picocuries per liter (a measure of radioactivity)

ppm Parts per million, or milligrams per liter

ppb Parts per billion, or micrograms per liter

T.O.N. Threshold Odor Number

Water Treatment

In 2005 we treated approximately 18.6 billion gallons of Missouri River water, 3.8 billion gallons of Kansas River water, and a little less than 0.1 billion gallons of well water from wells south of the Kansas River.



Water Hardness

WaterOne softens the water using lime and sometimes soda ash to reduce the mineral content related to hardness. WaterOne has a goal to keep the hardness between 120 and 140 milligrams per liter (mg/l). At times, however, due to river water quality, the hardness may vary, sometimes below the target and sometimes above it. This range helps reduce the leaching of lead and copper from customers' plumbing systems. Rarely does the hardness exceed 160 mg/l. Although significantly less than the hardness of the raw river water which often exceeds 250 mg/l, which is considered very hard, our water is still classified as hard water. Further reducing the hardness would add significant cost to the water treatment process. Customers preferring softer water can further reduce hardness using a point of use treatment unit designed to soften water. There is no evidence that further softening the water improves the health and safety of the water, but some customers may prefer it from an aesthetic standpoint.

Summary of Water Quality

The USEPA requires monitoring of over 100 drinking water contaminants. Listed below are the only contaminants detected in your drinking water. None of the contaminants detected exceed state or federal standards. The summary shows monitoring results for January 1 to December 31, 2005.

Parameter	MCL	MCLG	WaterOne Value	WaterOne Range	Met Standard	Source
Inorganic Chemicals						
Barium	2 ppm	2 ppm	0.026 ppm	0.012 - 0.026 ppm	Yes	Discharge of drilling waters; discharge from metal refineries; erosion of natural deposits.
Chloramines	MRDL= 4 ppm ¹	MRDLG= 4 ppm	3.0 ppm	1.6 - 4.1 ppm	Yes	Water additive used to control microbes.
Chlorine Dioxide	MRDL= 800 ppb	MRDLG= 800 ppb	214 ppb	ND (20) - 214 ppb	Yes	Water additive used to control microbes.
Chlorite	1 ppm	0.8 ppm	0.04 ppm	ND (0.02) - 0.68 ppm	Yes	By-product of drinking water disinfection.
Chromium	100 ppb	100 ppb	2 ppb	ND (1) - 2 ppb	Yes	Discharge from steel and pulp mills; erosion of natural deposits.
Copper	AL=1.3 ppm	1.3 ppm	0.017	0 Samples exceeding	Yes	Corrosion of household plumbing systems; erosions of natural deposits.
Fluoride	4 ppm	4 ppm	0.93 ppm	0.25 - 0.93 ppm	Yes	Erosions of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Lead	AL = 15 ppb	0 ppb	8.7 ppb ²	1 sample exceeding	Yes	Corrosion of household plumbing systems; erosions of natural deposits.
Nitrate	10 ppm	10 ppm	3.75 ppm	0.05 - 3.75 ppm	Yes	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Selenium	50 ppb	50 ppb	3.6 ppb	ND (1) - 3.6 ppb	Yes	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines.
Synthetic Organic Chemicals						
Atrazine	3 ppb	3 ppb	0.29 ppb	ND (0.2) - 5.2 ppb	Yes	Runoff from herbicide used on row crops.
Volatile Organic Chemicals						
Haloacetic Acids (HAA5)	60 ppb	N/A	12.7 ppb	ND (5) - 28.8 ppb	Yes	By-product of drinking water disinfection.
(TTHMs) Total Trihalomethanes	80 ppb	N/A	17.2 ppb	1.3 ppb - 42.3 ppb	Yes	By-product of drinking water disinfection.
Microbiological Contaminants						
Total Coliforms	MCL: presence of coliform bacteria in $\geq 5\%$ of monthly samples	<1/100 mls	0.4% Positive	0.4% Positive samples per month	Yes	Naturally present in the environment.
Total Organic Carbon (TOC)	TT removal ratio ⁴	N/A	43% (30% Required)	22% - 62% removed	Yes	Naturally present in the environment.
Turbidity	TT	N/A	0.21 NTU ⁵	100% (lowest monthly % meeting 0.3 NTU)	Yes	Soil runoff.
Radiological Contaminants						
Beta Particle & Photon Radioactivity	50 pCi/L	0 pCi/L	5.9 pCi/L	4.6 - 5.9 pCi/L	Yes	Decay of natural and man-made deposits.
Radium -226	5 pCi/L	0 pCi/L	0.4 pCi/L	ND (0.2) - 0.4 pCi/L	Yes	Erosion of natural deposits.
Radium-228	5 pCi/L	0 pCi/L	1.2pCi/L	0.3-1.2 pCi/L	Yes	Erosion of natural deposits.
Uranium	30 ppb	0 ppb	1.6 pp6	1.1 -0 1.6 ppb	Yes	Erosion of natural deposits.

1. WaterOne is required to maintain a minimum residual of 1.0 ppm throughout our distribution system by the Kansas Dept. of Health & Environment as a means to provide some measure of protection against microbiological contamination.
2. Data from 2005 when we conducted additional sampling. This value is the 90th percentile result.
3. WaterOne takes the presence of fecal coliforms very seriously. Follow-up samples did not show the presence of any bacteria.
4. The monthly TOC removal ratio is calculated as the ratio between the actual TOC removal and the TOC rule removal requirements.
5. This is the highest turbidity measurement for 2005. Compliance is based on 95% of monthly samples being less than 0.3 NTU. The average turbidity was around 0.06 NTU. Turbidity is measured as an indicator of the effectiveness of the water treatment process. The lower the turbidity, the more effective the treatment process.
6. EPA considers 50 pCi/L to be the level of concern for beta particles.



Constituents Having Secondary MCL's

Unregulated Parameters are monitored in the interest of the customer, and to assist regulators in developing future regulations.

Parameter	Federal Level Recommended	WaterOne Value	Range
Aluminum	200 ppb	46 ppb	ND(5) - 258 ppb
Chloride	250 ppm	37 ppm	23 - 91 ppm
Copper	1 ppm	0.004 ppm	ND(0.001) - 0.017 ppm
Fluoride	2 ppm	0.70 ppm	0.25 - 0.93 ppm
Odor-Threshold 3(T.O.N)	3 (T.O.N)	1 (T.O.N.)	1 - 5 (T.O.N.)
Sulfate	250 ppm	135 ppm	55 - 196 ppm
Total Dissolved Solids (TDS)	500 ppm	316 ppm	209 - 416 ppm

Unregulated Contaminant Monitoring Rule (UCMR)

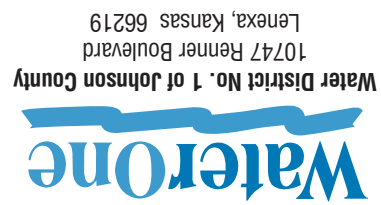
These parameters are monitored under the UCMR. Results from 2002 are the average of four consecutive quarters. No UCMR compounds were detected.

Parameter	WaterOne Average	Range
2,4-Dinitrotoluene	ND (0.002) ppm	ND
2,6-Dinitrotoluene	ND (0.002) ppm	ND
DCPA, mono-acid degradate	ND (0.001) ppm	ND
DCPA, di-acid degradate	ND (0.001) ppm	ND
4,4' -DDE	ND (0.0008) ppm	ND
EPTC	ND (0.001) ppm	ND
Molinate	ND (0.0009) ppm	ND
MTBE	ND (0.005) ppm	ND
Nitrobenzene	ND (0.010) ppm	ND
Terbacil	ND (0.002) ppm	ND
Acetochlor	ND (0.002) ppm	ND
Perchlorate	ND (0.004) ppm	ND

Interested in More Information?

Attend and participate in the WaterOne Board's monthly meeting, held the second Tuesday of each month at 7:00 p.m. at the Byron N. Johnson Administrative Headquarters and Service Center, 10747 Renner Boulevard. Water quality fact sheets, answers to frequently asked questions, and additional information is available on our website at waterone.org.

You are always welcome to call a WaterOne Customer Service Representative at 913-895-1800. Another good source of drinking water information is: www.epa.gov/safewater. EPA Hotline: 1-800-426-4791.



Setting the Standard for Utility Excellence

Lead Protection

Public water suppliers are required by the EPA and KDHE to take tap samples for lead. Since 1992, WaterOne has had a lead corrosion control program in place. As a result, WaterOne lead levels have been well below EPA standards. WaterOne goes beyond federal requirements by sampling for lead and copper every year. In 2004 WaterOne increased the number of samples to further ensure that lead and copper levels throughout our system were well below federal standards and to determine if any enhancements to water treatment can lower lead and copper levels even further. **Precautions to take** - Children under the age of six are the primary group at risk from the effects of lead. Pregnant women should also take care to minimize lead exposure as infants in the womb are at risk. While WaterOne's monitoring shows that lead levels are very low, there will be some variability from home to home. Brass faucet's and lead solder are the primary sources of lead. To assist higher risk customers in minimizing their exposure to lead, EPA recommends flushing the water from a faucet for at least 30 seconds to 2 minutes before drinking or cooking with it. The longer the water sits in the plumbing, the more important it is to flush it.



2006 Annual Water Quality Report

Your Water At A Glance

Your Water is Safe to Drink!

WaterOne makes the quality of your drinking water our number one priority. It is our goal to continually produce water that meets or exceeds all state and federal standards for safe drinking water. We continually monitor water quality with on-line analyzers and perform daily testing to ensure your water is safe. WaterOne continues to make security a high priority and remains proactive to ensure the safety of your water.

Sources of Drinking Water

The sources of your tap water include the Kansas and Missouri Rivers, 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. At different times of the year, the content of the water varies. We treat it accordingly to produce high quality water that is safe to drink.

Ensuring Safe Tap Water

The Environmental Protection Agency (EPA) prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Contaminants in bottled water are regulated by the Food and Drug Administration (FDA). The FDA sets limits that protect the public in the same manner as tap water regulations. 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.

Contaminants that may be present in source water include:

A. Microbial contaminants, such as viruses, bacteria, and protozoa which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

B. 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.

C. Pesticides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.

D. 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.

E. Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791). To understand the possible health effects described for most customers, consider the following example. A person would have to drink two liters of water every day at the maximum drinking water standard for a lifetime to have a one-in-a-million chance of having the described health effect.

Special Health Requirements

Some people may be more vulnerable to contaminants found in drinking water than the general population. Immuno-compromised persons, such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants, can be particularly at risk from infections. These people should seek advice from their health care providers about drinking water.

