

What's In Our Water?

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. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline at 1-800-426-4791.

The sources of drinking water, both tap 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.

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (U.S. EPA) and the State Water Resources Control Board (State Water Board) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations and California law also establish limits for contaminants in bottled water that provide the same protection for public health.

Contaminants that may be present in source water (pre-treated water) include:

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

How to Read the Table:

1. Identify constituent in the left column.
2. Compare the detection range and averages to the Maximum Contaminant Level (MCL) and the Public Health Goal/Maximum Contaminant Level Goal (PHG/MCLG).

Table Definitions:

Maximum Contaminant Level (MCL) – The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste and appearance of drinking water.

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 are set by the USEPA.

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. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Primary Drinking Water Standards (PDWS) – MCLs and MRDLs for contaminants that affect health, along with their monitoring and reporting requirements, and water treatment requirements.

Public Health Goal (PHG) – The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

Regulatory Action Level (AL) – The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

Secondary Drinking Water Standards (SDWS) – MCLs for contaminants that affect taste, odor or appearance of the drinking water. Contaminants with SDWS do not affect health at the MCL levels.

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

Not Applicable (N/A)

None Detected (ND) – Analyzed, not detectable at testing limit.

Water Quality Measurement Units:

Micromhos – A measure of the ability of water to conduct electricity.

NTU (Nephelometric Turbidity Units) – A measure of water's clarity. Turbidity in excess of 5 NTU is just noticeable to the average person.

ppb (parts per billion) – A measurement of the concentration of a substance roughly equivalent to one drop in one of the largest tanker trucks used to haul gasoline or one part in 1,000,000,000.

ppm (parts per million) – A measurement of the concentration of a substance roughly equivalent to 4 drops in 55 gallons or one part in 1,000,000.

pCi/L (picocuries per liter) – A measure of radioactivity.

Lead and Copper (30 Sites Sampled 8/2024)

Constituents	Unit of Measure	AL	PHG	90th Percentile	No of sites exceeding AL	Typical Source
Copper	ppm	1.3	0.3	.092	0	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead	ppb	15	0.2	ND	0	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits

Detected Primary Drinking Water Constituents

Constituents	Unit of Measure	MCL or [MRDL]	PHG or (MCLG)	Surface Water Average	Ground-water Range	Ground-water Average	Typical Source
Microbiological Constituents (2024)							
Turbidity, percent of time less than 0.1 NTU (a)	NTU	TT=95% of sample <0.1	N/A	100%	N/A	N/A	Soil Runoff
Turbidity, max level found (a)	NTU	TT	N/A	0.02	ND-0.22	0.07	Soil runoff
Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.							
(a) only surface water sources must comply with PDWS for turbidity							
Radioactive Constituents (2023)							
Gross Alpha Activity*	pCi/L	15	0	ND	ND-1.83	0.89	Erosion of natural deposits
Uranium*	pCi/L	20	0.43	ND	ND-2.8	0.70	Erosion of natural deposits
Inorganic Constituents (GW 2023 SW 2024)							
Arsenic	ppb	10	0.004	ND	ND-2.5	0.625	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Barium	ppm	1	2	ND	ND-0.18	0.08	Erosion of natural deposits
Cyanide	ppb	150	150	ND	ND - 6.9	1.73	Discharge from steel/metal, plastic and fertilizer factories
Nitrate (as N)	ppm	10	10	.24	ND - 4.6	1.3	Runoff and leaching from fertilizer use; leaching from septic tanks; erosion of natural deposits
Hexavalent Chromium	ppb	10	.02	.097	ND - 1.4	.35	Discharge from electroplating factories, leather tanneries, wood preservation, chemical synthesis, refractory production, and textile manufacturing facilities; erosion of natural deposits

*Surface water samples collected in 2024. Groundwater samples collected in 2023 except when indicated.

Organic Constituents (2024)

Tetrachloroethylene (PCE)	ppb	5	0.06	ND	ND-4.1	2.3	Discharge from factories, dry cleaners and auto shops (metal degreaser)
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Detected Secondary Drinking Water Constituents (regulated for aesthetic qualities)(2023)

Odor-Threshold	TON (units)	3	N/A	1.8	ND	ND	Naturally-occurring organic materials
Total Dissolved Solids	ppm	1000	N/A	47	120-330	205	Runoff/leaching from natural deposits
Specific Conductance	micromhos	1600	N/A	53	130-440	260	Substances that form ions when in water
Chloride	ppm	500	N/A	1.9	2.5-25	9.6	Runoff/leaching from natural deposits
Manganese	ppm	.05	N/A	N/D	N/D - .085	.021	Leaching from natural deposits
Sulfate	ppm	500	N/A	1.8	3.5-16	8.3	Runoff/leaching from natural deposits; industrial wastes

Other Unregulated Constituents of Interest (2023)

Sodium	ppm	N/A	N/A	2.3	6.0-17	10.1	Naturally occurring salt in the water
Alkalinity	ppm	N/A	N/A	24	69-170	119	Indicates the buffering capacity in the basic pH range of the water
Calcium	ppm	N/A	N/A	5.2	10-45	25	Erosion of natural deposits
Hardness	ppm	N/A	N/A	20	53-210	121	The sum of polyvalent cations present, generally naturally occurring magnesium and calcium
Magnesium	ppm	N/A	N/A	1.8	6.5-23	14	Erosion of natural deposits

Organic Samples from the Distribution System (2023)

Constituents	Unit of Measure	MCL or [MRDL]	PHG or [MRDLG]	Range	Average	Typical Source
Chlorine Residual	ppm	[4]	[4]	0.34-1.26	0.91	Drinking water disinfectant added for treatment
TTHM (Total Trihalomethanes)(b)	ppb	80	N/A	9-30	16	By-product of drinking water disinfection
HAA5 (Haloacetic Acids)(b)	ppb	60	N/A	5.6-14	9	By-product of drinking water disinfection
TOC (Total Organic Carbon) (c)	ppm	TT	N/A	N/A	0.77	Various natural and manmade sources

(b) based on the running annual average, (c) raw water



Per- and Polyfluoroalkyl Substances (PFAS) - What Are They?

Per- and polyfluoroalkyl substances (PFAS) are a large, complex group of synthetic chemicals that have been used in consumer products around the world since about the 1950s. Known for their resistance to heat, oil, stains, and water, PFAS are found in many common household products such as nonstick cookware, furniture, clothing, carpets, cosmetics, and food packaging. Concerns about the public health impact of PFAS have arisen for the following reasons: widespread occurrence, numerous exposures, persistent, and growing numbers. The District has monitored for PFAS in 2024 under UCMR 5. An explanation of UCMR 5 and the results can be found below.

Special Health Information:

Some people may be more vulnerable to contaminants 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 about drinking water from their health care providers. USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

Lead can cause serious health effects in people of all ages, especially pregnant people, infants (both formula-fed and breastfed), and young children. Lead in drinking water is primarily from materials and parts used in service lines and in home plumbing. Carmichael Water District is responsible for providing high-quality drinking water and removing lead pipes, but it cannot control the variety of materials used in the plumbing in your home. Because lead levels may vary over time, lead exposure is possible even when your tap sampling results do not detect lead at one point in time. You can help protect yourself and your family by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Using a filter certified by an American National Standards Institute accredited certifier to reduce lead is effective in reducing lead exposures. Follow the instructions provided with the filter to ensure the filter is used properly. Use only cold water for drinking, cooking, and making baby formula. Boiling water does not remove lead from water. Before using tap water for drinking, cooking, or making baby formula, flush your pipes for several minutes. You can do this by running your tap, taking a shower, doing laundry or a load of dishes. If you have a lead service line or galvanized requiring replacement service line, you may need to flush your pipes for a longer period. If you are concerned about lead in your water and wish to have your water tested, contact CWD at (916) 483-2452.

Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at <https://www.epa.gov/safewater/lead>.

Lead Service Line Inventory:

State Water Resource Control Board, in alignment with the U.S. Environmental Protection Agency (US EPA), enforces the Lead and Copper Rule (LCR). The US EPA recently made changes to the LCR with the Lead and Copper Rule Revisions (LCRR). To ensure public water systems are reducing lead exposure to their customers, the US EPA is requiring all large public water purveyors to complete an Initial Lead Service Line Inventory (Initial LSL Inventory). The objective of the Initial LSL Inventory is to determine if there are any lead pipes in the water distribution system on both the public and customer (private) portions. This inventory must be completed and submitted by October 16, 2024. The District has completed the Lead Service Line Inventory and has met the October 2024 deadline. Results from the LSL Inventory found that there were no lead service lines in the district.

Lead service line information can be found on our website at: <https://carmichaelwd.org/201/Lead-Copper-Testing>

Sodium and Hardness:

Sodium is a naturally occurring chemical element that is present in our source water. The level of sodium measured was 2.3 ppm from our surface water source and an average of 10 ppm from our groundwater source.

Hardness of the water in our system depends on the seasonal source of supply and your service location within the District. The level of hardness measured during fall and winter was 20 ppm which classifies the water in the "soft" category based on water quality standards. During spring and summer when we supplement with groundwater, the hardness ranges from 53

Detected Primary Drinking Water Constituents:

The District takes hundreds of water samples annually in order to determine the presence of any constituents. This is a table of **detected constituents**. The intent is to give you an idea of where the District stands with regard to water quality standards set by the State Board and the USEPA. The State Board allows us to monitor for some constituents less than once per year because the concentrations of these constituents do not change frequently. Some of our data, though representative, are more than one year old.

Fifth Unregulated Contaminant Monitoring Rule:

The Safe Drinking Water Act (SDWA) mandates that the Environmental Protection Agency (EPA) publish a list of unregulated contaminants for monitoring by public water systems (PWSs) every five years. The fifth Unregulated Contaminant Monitoring Rule (UCMR 5) was issued on December 27, 2021. UCMR 5 requires the collection of samples for 30 chemical contaminants between 2023 and 2025, using analytical methods developed by the EPA and consensus organizations.

In line with the EPA's PFAS Strategic Roadmap, UCMR 5 aims to provide new data that will enhance the agency's understanding of the occurrence and levels of 29 per- and polyfluoroalkyl substances (PFAS) and lithium in the nation's drinking water systems. This monitoring data will assist the EPA in determining future regulations and actions to protect public health under the SDWA.

For UCMR 5, samples will be collected at entry points to the distribution system for all contaminants. Public water systems drawing from groundwater that is directly influenced by surface water must be monitored four times during a consecutive 12-month period, with sample collections occurring three months apart. Groundwater systems, on the other hand, must be monitored twice during the same 12-month period, with sample events occurring five to seven months apart.

Carmichael Water District contracted with BSK Associates to conduct the UCMR 5 sampling. Sampling was completed in January of 2025. All active sources returned results of non-detect for the 30 constituents.

Sample results can be found in the 2024 Annual Water Quality Report on the District's web site.

<https://carmichaelwd.org/>

