

IMPORTANT FACTS FROM THE US EPA ABOUT DRINKING WATER

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, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, that 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, that 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, that are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems.
- Radioactive contaminants, that can be naturally-occurring or be the result of oil and gas production and mining activities.

ABBREVIATIONS KEY

AL = Regulatory Action Level

MCL = Maximum Contaminant Level

MCLG = Maximum Contaminant Level Goal

MRDL = Maximum Residual Disinfectant Level

MRDLG = Maximum Residual Disinfectant Level Goal

PHG = Public Health Goal

TT = Treatment Technique

MFL = million fibers per liter

NTU = Nephelometric Turbidity Units

N/A = not applicable

pCi/L = picocuries per liter (a measure of radioactivity)

mrem/year = millirems per year (a measure of radiation absorbed by the body)

ppm = parts per million, or milligrams per liter (mg/L)

ppb = parts per billion, or micrograms per liter (µg/L)

ppt = parts per trillion, or nanograms per liter (ng/L)

ppq = parts per quadrillion, or picograms per liter (pg/L)

IMPORTANT
INFORMATION

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. State Water Board regulations also establish limits for contaminants in bottled water that provide the same protection for public health.

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 U.S. EPA's Safe Drinking Water Hotline (1-800-426-4791).

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. U.S. EPA/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).

For information on ground water and drinking water, please visit:
<https://www.epa.gov/ground-water-and-drinking-water>



UNITS: A COMPARISON TO TIME

mg/L (milligrams per liter) AND ppm (parts per million) = 1 second in 11.5 days

µg/L (micrograms per liter) AND ppb (parts per billion) = 1 second in nearly 32 years

ng/L (nanograms per liter) AND ppt (parts per trillion) = 1 second in nearly 32,000 years

pg/L (picograms per liter) AND ppq (parts per quadrillion) = 1 second in nearly 32,000,000 years

This report contains important information about your drinking water. Please contact the City of Redlands at 35 Cajon Street, Suite 15A, Redlands CA 92373 or 909-798-7698 for assistance.

Este informe contiene información muy importante sobre su agua para beber. Favor de comunicarse City of Redlands a 909-798-7698 para asistirlo en español.

يحتوي هذا التقرير على معلومات مهمة حول مياه الشرب الخاصة بك. يرجى الاتصال بمدينة ريدلاندز على الرقم 7698-798-909 للحصول على المساعدة باللغة العربية.

Ang pag-uulat na ito ay naglalaman ng mahalagang impormasyon tungkol sa inyong inuming tubig. Mangyaring makipag-ugnayan sa City of Redlands, 35 Cajon Street, Suite 15A, Redlands CA 92373 o tumawag sa 909-798-7698 para matulungan sa wikang Tagalog.

这份报告含有关于您的饮用水的重要讯息。请用以下地址和电话联系 City of Redlands 以获得中文的帮助 City of Redlands, 35 Cajon Street, Suite 15A, Redlands CA 92373 909-798-7698

PRIMARY DRINKING WATER STANDARDS

MICROBIOLOGICAL CONTAMINANTS

CONTAMINANT (CCR UNITS)	YEAR	TRADITIONAL MCL	PHG (MCLG) in CCR units	DISTRIBUTION SUPPLY
Total Coliform Bacteria (state Total Coliform Rule)	2019	MCL: Systems that collect ≥40 samples/month: 5.0% of monthly samples are positive	0	1%
Total Coliform Bacteria (federal Revised Total Coliform Rule)	2019	TT	N/A	1%
Turbidity [1]	2019	TT	N/A	0.18 (average)

[1] Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality. High turbidity can hinder the effectiveness of disinfectants.

LEAD & COPPER

CONTAMINANT	MCL	PHG	AVERAGE	RANGE	SAMPLE DATE	VIOLATION
Lead (µg/L)	AL = 15	0.2	ND	33 sites sampled; 0 sites over AL	2017	No
Copper (mg/L)	AL = 1.3	0.3	0.15	33 sites sampled; 0 sites over AL	2017	No

The State allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old. 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.

This Consumer Confidence Report (CCR) reflects changes in drinking water regulatory requirements during 2016. All water systems are required to comply with the state Total Coliform Rule. Effective April 1, 2016, all water systems are also required to comply with the federal Revised Total Coliform Rule. The new federal rule maintains the purpose to protect public health by ensuring the integrity of the drinking water distribution system and monitoring for the presence of microbials (i.e., total coliform and E. coli bacteria).

SURFACE WATER SUPPLY (TREATED)	VIOLATION	MAJOR SOURCES IN DRINKING WATER	HEALTH EFFECTS LANGUAGE
ND	No	Naturally present in the environment	Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.
ND	No	Naturally present in the environment	Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) to identify problems and to correct any problems that were found during these assessments.
".03 (average)"	No	Soil runoff	Turbidity has no health effects. However, high levels of turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

NUMBER OF SCHOOLS REQUESTING LEAD SAMPLING	TYPICAL SOURCE
0	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
N/A	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

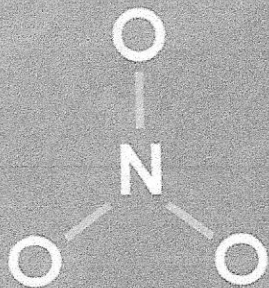
The City of Redlands is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes 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 <http://www.epa.gov/lead>.

The U.S. EPA anticipates greater public health protection as the new rule requires water systems that are vulnerable to microbial contamination to identify and fix problems. Water systems that exceed a specified frequency of total coliform occurrences are required to conduct an assessment to determine if any sanitary defects exist. If found, these must be corrected by the water system.

INORGANIC CONTAMINANTS

Contaminant (CCR units)	Year	MCL in CCR units	PHG (MCLG) in CCR units	Groundwater Supply Average	Groundwater Supply Range	Surface Water Supply Average (Treated)
Aluminum (mg/L)	2019	1	0.6	0.01	.02 - .13	ND
Fluoride (naturally occurring) (mg/L)	2019	2	1	0.63	.29 - 1.6	0.48
Nitrate (mg/L)	2019	10 (as N)	10 (as N)	2.3	.7 - 4.9	0.2
Perchlorate (µg/L)	2019	6	1	0.9	ND - 4.4	ND

A NOTE ABOUT NITRATE



Nitrate in drinking water at levels above 10 mg/L is a health risk for infants of less than six months of age. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in a serious illness; symptoms include shortness of breath and blueness of the skin. Nitrate levels above 10 mg/L may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain specific enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should ask advice from your health care provider.

Surface Water Supply Range (Treated)	Violation	Major Sources in Drinking Water	Health Effects Language
ND	No	Erosion of natural deposits; residue from some surface water treatment processes	Some people who drink water containing aluminum in excess of the MCL over many years may experience short-term gastrointestinal tract effects.
.29 - .6	No	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories	Some people who drink water containing fluoride in excess of the federal MCL of 4 mg/L over many years may get bone disease, including pain and tenderness of the bones. Children who drink water containing fluoride in excess of the state MCL of 2 mg/L may get mottled teeth.
ND - 1.4	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits	Infants below the age of six months who drink water containing nitrate in excess of the MCL may quickly become seriously ill and, if untreated, may die because high nitrate levels can interfere with the capacity of the infant's blood to carry oxygen. Symptoms include shortness of breath and blueness of the skin. High nitrate levels may also affect the oxygen-carrying ability of the blood of pregnant women.
ND	No	Perchlorate is an inorganic chemical used in solid rocket propellant, fireworks, explosives, flares, matches, and a variety of industries. It usually gets into drinking water as a result of environmental contamination from historic aerospace or other industrial operations that used or use, store, or dispose of perchlorate and its salts.	Perchlorate has been shown to interfere with uptake of iodide by the thyroid gland, and to thereby reduce the production of thyroid hormones, leading to adverse effects associated with inadequate hormone levels. Thyroid hormones are needed for normal prenatal growth and development of the fetus, as well as for normal growth and development in the infant and child. In adults, thyroid hormones are needed for normal metabolism and mental function.

CONVENTIONAL SURFACE WATER TREATMENT PLANT FILTER PERFORMANCE

CONTAMINANT	MCL	PHG	LEVEL FOUND	RANGE	SAMPLE DATE	VIOLATION	TYPICAL SOURCE
Turbidity	TT = 1 NTU	N/A	0.28 NTU	.03 - .28	2019	No	Soil runoff
	TT = 95% of samples ≤ 0.3 NTU		100%	.03 - .28			

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.

REGULATED CONTAMINANTS WITH SECONDARY DRINKING WATER STANDARDS

CONSTITUENT	YEAR	Secondary MCL in CCR units	GROUNDWATER SUPPLY	GROUNDWATER RANGE
Aluminum	2019	200 µg/L	11	ND - 130
Foaming Agents [MBAS]	2019	500 µg/L	0.01	ND - .04
Iron	2019	300 µg/L	0.03	ND - .17
Turbidity	2019	5 Units	0.4	.1 - 1.6
Total Dissolved Solids [TDS]	2019	1,000 mg/L	240	130 - 380
Specific Conductance	2019	1,600 µS/cm	394	280 - 610
Chloride	2019	500 mg/L	20	5 - 53
Sulfate	2019	500 mg/L	32	18 - 77

Note: There are no PHGs, MCLGs, or mandatory standard health effects language for these constituents because secondary MCLs are set on the basis of aesthetic concerns.

CONSTITUENT	YEAR	MCL / PHG (MCLG)	GROUNDWATER SUPPLY	GROUNDWATER RANGE	SURFACE WATER SUPPLY (TREATED)
Sodium mg/L	2019	N/A	23	11 - 79	13
Hardness mg/L	2019	N/A	152	100 - 200	115

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CYANOTOXINS	YEAR	MINIMUM REPORTING LEVEL	SYSTEM AVERAGE	SYSTEM RANGE	TYPICAL SOURCE OF CONTAMINANT
Manganese	2019	0.4 µg/L	0.41	ND - 1.5	Leaching from natural deposits
Total Organic Carbon (TOC) *	2019	N/A	1	0 - 3.7	Various natural and manmade sources
Bromide *	2019	N/A	0.02	ND - 1.1	N/A

* RAW SURFACE WATER SOURCES

UNREGULATED CONTAMINANT MONITORING HELPS U.S. EPA AND THE STATE WATER RESOURCES CONTROL BOARD TO DETERMINE WHERE CERTAIN CONTAMINANTS OCCUR AND WHETHER THE CONTAMINANTS NEED TO BE REGULATED.

MONITORING REQUIRED BY SECTION 64449 OF THE CALIFORNIA CODE OF REGULATIONS, TITLE 22.

SURFACE WATER SUPPLY (TREATED)	SURFACE WATER SUPPLY (TREATED) RANGE	TYPICAL SOURCE OF CONTAMINANT
ND	ND	Erosion of natural deposits; residual from some surface water treatment processes
0.04	.03 - .04	Municipal and industrial waste discharges
0.01	.01 - .02	Leaching from natural deposits; industrial wastes
0.03	.03 - .28	Soil runoff
175	175 - 190	Runoff/leaching from natural deposits
275	275 - 310	Substances that form ions when in water; seawater influence
7	7 - 9	Runoff/leaching from natural deposits; seawater influence
19	19 - 23	Runoff/leaching from natural deposits; industrial wastes

SAMPLING RESULTS FOR SODIUM & HARDNESS

SURFACE WATER SUPPLY RANGE (TREATED)	SOURCE INFORMATION
8 - 19	"Sodium" refers to the salt present in the water and is generally naturally occurring.
89 - 140	"Hardness" is the sum of polyvalent cations present in the water, generally magnesium and calcium. The cations are usually naturally occurring.

HEALTH EFFECTS LANGUAGE

Manganese exposures resulted in neurological effects. High levels of manganese in people have been shown to result in adverse effects to the nervous system.
Total organic carbon (TOC) has no health effects. However, TOC provides a medium for the formation of disinfection byproducts. These byproducts include trihalomethanes (THMs) and haloacetic acids (HAAs). Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver, or kidney problems, or nervous system effects, and may lead to an increased risk of getting cancer.
N/A

BACKGROUND

THE 1996 AMENDMENTS TO THE SDWA REQUIRED THE U.S. EPA TO ESTABLISH CRITERIA FOR A MONITORING PROGRAM FOR UNREGULATED CONTAMINANTS, AND TO PUBLISH, ONCE EVERY FIVE YEARS, A LIST OF NO MORE THAN 30 CONTAMINANTS TO BE MONITORED BY PUBLIC WATER SYSTEMS (PWS).

SECTION 64450 OF THE CALIFORNIA CODE OF REGULATIONS ALSO REQUIRED CERTAIN WATER SYSTEMS TO MONITOR A NUMBER OF UNREGULATED CONTAMINANTS, WITH CONTAMINANT LISTS THAT WERE PUBLISHED OR REVISED IN 1990, 1996, 2000, AND 2003. THIS SECTION OF THE CALIFORNIA CODE OF REGULATIONS WAS REPEALED EFFECTIVE OCTOBER 18, 2007. WATER SYSTEMS THAT CONTINUED TO MONITOR FOR STATE UNREGULATED CONTAMINANTS ARE ENCOURAGED, BUT NOT REQUIRED, TO INCLUDE THE INFORMATION REGARDING DETECTED CONTAMINANTS IN THE CCR.

ALTHOUGH SECTION 64450 OF THE CALIFORNIA CODE OF REGULATIONS WAS REPEALED, THE STATE WATER BOARD MAY REQUEST WATER SYSTEMS TO MONITOR FOR SPECIFIC CONTAMINANTS PER HSC SECTION 116375(b).

DISINFECTION BY PRODUCTS, DISINFECTANT RESIDUALS, AND

CONTAMINANT (CCR UNITS)	YEAR	MCL OR [MRDL] IN CCR UNITS	PHG, (MCLG) OR [MRDLG]	DISTRIBUTION SYSTEM AVERAGE
THMs [Total Trihalomethanes] (µg/L)	2019	80	N/A	17
HAA5 [Sum of 5 Haloacetic Acids] (µg/L)	2019	60	N/A	11
Chlorine (mg/L)	2019	[MRDL = 4.0 (as Cl ₂)]	[MRDLG = 4 (as Cl ₂)]	0.8
Control of DBP Precursors (TOC)	2019	TT	N/A	0.76

RADON

Constituent	Year	MCL	Notification Level	System Average	System Range
Radon (pCi/L)	2007	N/A	N/A	756	682 - 793

RADIOACTIVE CONTAMINANTS

CONTAMINANT (CCR UNITS)	YEAR	MCL IN CCR UNITS	PHG (MCLG) in CCR units	GROUNDWATER SUPPLY AVERAGE	GROUNDWATER SUPPLY RANGE	SURFACE WATER SUPPLY AVERAGE (Treated)	SURFACE WATER SUPPLY RANGE (Treated)
Gross Beta Particle Activity (pCi/L)	2019	50[1]	0	4.8	1.05 - 13.3	1.54	1.49 - 1.58
Strontium-90 (pCi/L)	2019	8	0.35	0.56	ND - 2.1	0.34	.2 - .48
Gross Alpha Particle Activity (pCi/L)	2019	15	0	7	3 - 15	2	0 - 4
Combined Radium (pCi/L)	2019	5	(0)	0.06	.04 - .08	ND	ND
Uranium (pCi/L)	2019	20	0.43	3	ND - 12	0.4	ND - 1

[1] Effective June 11, 2006, the gross beta particle activity MCL is 4 millirem/year annual dose equivalent to the total body or any internal organ. 50 pCi/L is used as a screening level.

DISINFECTION BYPRODUCT PRECURSORS

DISTRIBUTION SYSTEM RANGE	VIOLATION	MAJOR SOURCES IN DRINKING WATER	HEALTH EFFECTS LANGUAGE
ND - 59	No	Byproduct of drinking water disinfection	Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience liver, kidney, or central nervous system problems, and may have an increased risk of getting cancer.
ND - 38	No	Byproduct of drinking water disinfection	Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.
.23 - 1.58	No	Drinking water disinfectant added for treatment	Some people who use water containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chlorine well in excess of the MRDL could experience stomach discomfort.
ND - 2.7	No	Various natural and manmade sources	Total organic carbon (TOC) has no health effects. However, total organic carbon provides a medium for the formation of disinfection byproducts. These byproducts include trihalomethanes (THMs) and haloacetic acids (HAAs). Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased risk of cancer.

INFORMATION ABOUT RADON TESTED IN 2007

Radon is a radioactive gas that you cannot see, taste, or smell. It is found throughout the U.S. Radon can move up through the ground and into a home through cracks and holes in the foundation. Radon can build up to high levels in all types of homes. Radon can also get into indoor air when released from tap water from showering, washing dishes, and other household activities. Compared to radon entering the home through soil, radon entering the home through tap water will in most cases be a small source of radon in indoor air. Radon is a known human carcinogen. Breathing air containing radon can lead to lung cancer. Drinking water containing radon may also cause increased risk of stomach cancer. If you are concerned about radon in your home, test the air in your home. Testing is inexpensive and easy. You should pursue radon removal for your home if the level of radon in your air is 4 picocuries per liter of air (pCi/L) or higher. There are simple ways to fix a radon problem that are not too costly. For additional information, call your State radon program (1-800-745-7236), the U.S. EPA Safe Drinking Water Hotline (1-800-426-4791), or the National Safety Council Radon Hotline (1-800-767-7236).

VIOLATION	MAJOR SOURCES IN DRINKING WATER	HEALTH EFFECTS LANGUAGE
No	Decay of natural and man-made deposits	Certain minerals are radioactive and may emit forms of radiation known as photons and beta radiation. Some people who drink water containing beta and photon emitters in excess of the MCL over many years may have an increased risk of getting cancer.
No	Decay of natural and man-made deposits	Some people who drink water containing strontium-90 in excess of the MCL over many years may have an increased risk of getting cancer.
No	Erosion of natural deposits	Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.
No	Erosion of natural deposits	Some people who drink water containing radium 226 or 228 in excess of the MCL over many years may have an increased risk of getting cancer.
No	Erosion of natural deposits	Some people who drink water containing uranium in excess of the MCL over many years may have kidney problems or an increased risk of getting cancer.

The State Water Resources Control Board considers 50 pCi/L to be the level of concern for beta particles.

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