

2019 Consumer Confidence Report Data — Carlsbad Desalination Plant Source Water
Date: January 1, 2019 to December 31, 2019

Parameter	Units	State or Federal MCL	PHG (MCLG)	State DLR	Range Average	Source Water (a)	Major Sources in Drinking Water
						<i>Agua Hedionda Lagoon</i> Carlsbad Desalination Plant	
PRIMARY STANDARDS—Mandatory Health-Related Standards							
ORGANIC CHEMICALS							
<i>Pesticides/PCBs</i>							
Alachlor	ppb	2	4	1	Range Average	NA NA	Runoff from herbicide used on row crops
Atrazine	ppb	1	0.15	0.5	Range Average	NA NA	Runoff from herbicide used on row crops and along highways
Bentazon	ppb	18	200	2	Range Average	NA NA	Runoff/leaching from herbicide used on rice, alfalfa, and grapes
Carbofuran	ppb	18	1.7	5	Range Average	NA NA	Leaching of soil fumigant used on rice, alfalfa, and grapes
Chlordane	ppt	100	30	100	Range Average	NA NA	Residue of banned insecticide
2,4-D	ppb	70	20	10	Range Average	NA NA	Runoff from herbicide used on row crops, rangeland, lawns, and aquatic weeds
Dalapon	ppb	200	790	10	Range Average	NA NA	Runoff from herbicide used on rights-of-way, crops, and landscapes
Dibromochloropropane (DBCP)	ppt	200	1.7	10	Range Average	NA NA	Banned nematocide that may still be present in soils
Dinoseb	ppb	7	14	2	Range Average	NA NA	Runoff from herbicide used on soybeans, vegetables, and fruits
Diquat	ppb	20	15	4	Range Average	NA NA	Runoff from herbicide used for terrestrial and aquatic weeds
Endothall	ppb	100	94	45	Range Average	NA NA	Runoff from herbicide used for terrestrial and aquatic weeds
Endrin	ppb	2	1.8	0.1	Range Average	NA NA	Residue of banned insecticide and rodenticide
Ethylene Dibromide (EDB)	ppt	50	10	20	Range Average	NA NA	Petroleum refinery discharges; underground gas tank leaks
Glyphosate	ppb	700	900	25	Range Average	NA NA	Runoff from herbicide use
Heptachlor	ppt	10	8	10	Range Average	NA NA	Residue of banned insecticide
Heptachlor Epoxide	ppt	10	6	10	Range Average	NA NA	Breakdown product of heptachlor
Lindane	ppt	200	32	200	Range Average	NA NA	Runoff/leaching from insecticide used on cattle, lumber, and gardens
Methoxychlor	ppb	30	0.09	10	Range Average	NA NA	Runoff/leaching from insecticide uses
Molinate (Ordram)	ppb	20	1	2	Range Average	NA NA	Runoff/leaching from herbicide used on rice
Oxamyl (Vydate)	ppb	50	26	20	Range Average	NA NA	Runoff/leaching from insecticide uses
Pentachlorophenol	ppb	1	0.3	0.2	Range Average	NA NA	Discharge from wood preserving factories other insecticidal and herbicidal uses
Picloram	ppb	500	500	1	Range Average	NA NA	Herbicide runoff
Polychlorinated Biphenyls (PCBs)	ppt	500	90	500	Range Average	NA NA	Runoff from landfills; discharge of waste chemicals
Simazine	ppb	4	4	1	Range Average	NA NA	Herbicide runoff
Thiobencarb	ppb	70	70	1	Range Average	NA NA	Runoff leaching from rice herbicide
2,4,5-TP (Silvex)	ppb	50	3	1	Range Average	NA NA	Residue of banned herbicide
Toxaphene	ppb	3	0.03	1	Range Average	NA NA	Runoff/leaching from insecticide used on cotton and cattle
<i>Semi-Volatile Organic Compounds (a)</i>							
Benzo(a)pyrene	ppt	200	7	100	Range Average	NA NA	Leaching from water storage tank linings and distribution lines

Di(2-ethylhexyl)adipate	ppb	400	200	5	Range	NA	
					Average	NA	Discharge from chemical factories
Di(2-ethylhexyl)phthalate	ppb	4	12	3	Range	NA	Chemical factory discharge; inert ingredient
					Average	NA	in pesticides
Hexachlorobenzene	ppb	1	0.03	0.5	Range	NA	Discharge from metal refineries & agrichemicals
					Average	NA	factories; wastewater chlorination reaction by-product
Hexachlorocyclopentadiene	ppb	50	2	1	Range	NA	Discharge from chemical factories
2,3,7,8-TCDD (Dioxin)	ppq	30	0.05	5	Range	NA	Waste incineration emissions; chemical factory
					Average	NA	discharge
Volatile Organic Compounds							
Benzene	ppb	1	0.15	0.5	Range	NA	Plastics factory discharge; gas tanks
					Average	NA	and landfill leaching
Carbon Tetrachloride	ppt	500	100	500	Range	NA	Discharge from chemical plants and other industrial
					Average	NA	waste
1,2-Dichlorobenzene	ppb	600	600	0.5	Range	NA	Discharge from industrial chemical factories
					Average	NA	
1,4-Dichlorobenzene	ppb	5	6	0.5	Range	NA	Discharge from industrial chemical factories
					Average	NA	
1,1-Dichloroethane	ppb	5	3	0.5	Range	NA	Extraction and degreasing solvent; fumigant
					Average	NA	
1,2-Dichloroethane	ppt	500	400	500	Range	NA	Discharge from industrial chemical factories
					Average	NA	
1,1-Dichloroethylene	ppb	6	10	0.5	Range	NA	Discharge from industrial chemical factories
					Average	NA	
cis-1,2-Dichloroethylene	ppb	6	100	0.5	Range	NA	Industrial chemical factory discharge;
					Average	NA	by-product of TCE and PCE biodegradation
trans-1,2-Dichloroethylene	ppb	10	60	0.5	Range	NA	Industrial chemical factory discharge;
					Average	NA	by-product of TCE and PCE biodegradation
Dichloromethane (Methylene Chloride)	ppb	5	4	0.5	Range	NA	Discharge from pharmaceutical
					Average	NA	and chemical factories
1,2-Dichloropropane	ppb	5	0.5	0.5	Range	NA	Industrial chemical factory discharge;
					Average	NA	primary component of some fumigants
1,3-Dichloropropene	ppt	500	200	500	Range	NA	Runoff/leaching from nematocide used on
					Average	NA	croplands
Ethylbenzene	ppb	300	300	0.5	Range	NA	Petroleum refinery discharges; industrial
					Average	NA	chemical factories
Methyl-tert-butyl ether (MTBE)	ppb	13	13	3	Range	NA	Gasoline discharge from watercraft engines
					Average	NA	
Monochlorobenzene	ppb	70	70	0.5	Range	NA	Discharge from industrial, agricultural, and chemical
					Average	NA	factories, and dry cleaners
Styrene	ppb	100	0.5	0.5	Range	NA	Rubber and plastics factories discharges;
					Average	NA	landfill leaching
1,1,2,2-Tetrachloroethane	ppb	1	0.1	0.5	Range	NA	Discharge from industrial, agricultural, and chemical
					Average	NA	factories; solvent uses
Tetrachloroethylene (PCE)	ppb	5	0.06	0.5	Range	NA	Discharge from factories, dry cleaners,
					Average	NA	and auto shops
Toluene	ppb	150	150	0.5	Range	NA	Discharge from petroleum and chemical refineries
					Average	NA	
1,2,4-Trichlorobenzene	ppb	5	5	0.5	Range	NA	Discharge from textile-finishing factories
					Average	NA	
1,1,1-Trichloroethane	ppb	200	1,000	0.5	Range	NA	Metal degreasing site discharge; manufacture
					Average	NA	of food wrappings
1,1,2-Trichloroethane	ppb	5	0.3	0.5	Range	NA	Discharge from industrial chemical factories
					Average	NA	
Trichloroethylene (TCE)	ppb	5	1.7	0.5	Range	NA	Discharge from metal degreasing sites and
					Average	NA	other factories
Trichlorofluoromethane (Freon-11)	ppb	150	1,300	5	Range	NA	Industrial factory discharge; degreasing solvent;
					Average	NA	propellant
1,1,2-Trichloro-1,2,2- trifluoroethane (Freon-113)	ppm	1.2	4	0.01	Range	NA	Discharge from metal degreasing sites and other
					Average	NA	factories; dry cleaning solvent; refrigerant
Vinyl Chloride	ppt	500	50	500	Range	NA	Leaching from PVC piping; plastic factory
					Average	NA	discharge; by-product of TCE and PCE biodegradation
Xylenes	ppm	1.750	1.8	0.0005	Range	NA	Discharge from petroleum and chemical refineries;
					Average	NA	fuel solvent
INORGANIC CHEMICALS							
					Range	NA	Residue from water treatment process;

Aluminum	ppb	1,000	600	50	Average	NA	natural deposits erosion
					Range	NA	
Antimony	ppb	6	20	6	Average	NA	Petroleum refinery discharges; fire retardants; solder; electronics
					Range	NA	
Arsenic	ppb	10	0.004	2	Average	NA	Natural deposits erosion, glass and electronics production wastes
					Range	NA	
Asbestos	MFL	7	7	0.2	Average	NA	Asbestos cement pipes internal corrosion; natural deposits erosion
					Range	NA	
Barium	ppb	1,000	2,000	100	Average	NA	Oil and metal refineries discharges; natural deposits erosion
					Range	NA	
Beryllium	ppb	4	1	1	Average	NA	Discharge from metal refineries, aerospace, and defense industries
					Range	NA	
Cadmium	ppb	5	0.04	1	Average	NA	Internal corrosion of galvanized pipes; natural deposits erosion
					Range	NA	
Chromium	ppb	50	(100)	10	Average	NA	Discharge from steel and pulp mills; natural deposits erosion
					Range	NA	
Chromium VI	ppb	10	0.02	1	Average	NA	Runoff/leaching from natural deposits; discharge from industrial waste factories
					Range	NA	
Copper	ppm	AL = 1.3	0.3	0.05	Average	NA	Internal corrosion of household pipes; natural deposits erosion
					Range	NA	
Cyanide	ppb	150	150	100	Average	NA	Discharge from steel/metal, plastic, and fertilizer factories
					Range	NA	
Fluoride (naturally-occurring)	ppm	2.0	1	0.1	Average	NA	Erosion of natural deposits; discharge from fertilizer and aluminum factories
					Range	NA	
Lead	ppb	AL = 15	0.2	5	Average	NA	House pipes internal corrosion; erosion of natural deposits
					Range	NA	
Mercury	ppb	2	1.2	1	Average	NA	Erosion of natural deposits; factory discharge; landfill runoff
					Range	NA	
Nickel	ppb	100	12	10	Average	NA	Erosion of natural deposits; discharge from metal factories
					Range	NA	
Nitrate (as Nitrogen)	ppm	10	10	0.4	Average	NA	Runoff and leaching from fertilizer use; septic tank and sewage; natural deposits erosion
					Range	NA	
Nitrite (as Nitrogen)	ppm	1	1	0.4	Average	NA	Runoff and leaching from fertilizer use; septic tank and sewage; natural deposits erosion
					Range	NA	
Perchlorate	ppb	6	1	4	Average	NA	Industrial waste discharge
					Range	NA	
Selenium	ppb	50	30	5	Average	NA	Refineries, mines, and chemical waste discharge; runoff from livestock lots
					Range	NA	
Thallium	ppb	2	0.1	1	Average	NA	Leaching from ore processing; electronics factory discharge
					Range	NA	
RADIOLOGICALS							
Gross Alpha Particle Activity	pCi/L	15	(0)	3	Range	NA	
					Average	NA	Erosion of natural deposits
Gross Beta Particle Activity	pCi/L	4 mrem/yr	(0)	4	Range	NA	
					Average	NA	Decay of natural and man-made deposits
Radium-226	pCi/L	NA	0.05	1	Range	NA	
					Average	NA	Erosion of natural deposits
Radium-228	pCi/L	NA	0.019	1	Range	NA	
					Average	NA	Erosion of natural deposits
Combined Radium-226 + 228	pCi/L	5	(0)	NA	Range	NA	
					Average	NA	Erosion of natural deposits
Strontium-90	pCi/L	8	0.35	2	Range	NA	
					Average	NA	Decay of natural and man-made deposits
Tritium	pCi/L	20,000	400	1,000	Range	NA	
					Average	NA	Decay of natural and man-made deposits
Uranium	pCi/L	20	0.43	1	Range	NA	
					Average	NA	Erosion of natural deposits
SECONDARY STANDARDS—Aesthetic Standards							
Aluminum	ppb	200	600	50	Range	NA	Residue from water treatment process; natural deposits erosion
					Average	NA	
Chloride	ppm	500	NA	NA	Range	NA	Runoff/leaching from natural deposits; seawater influence
					Average	NA	
Color	Color Units	15	NA	NA	Range	NA	Naturally-occurring organic materials
					Average	NA	
Copper	ppm	1.0	0.3	0.05	Range	NA	Internal corrosion of household pipes; natural deposits erosion; wood preservatives leaching
					Average	NA	
Foaming Agents (MBAS)	ppb	500	NA	NA	Range	NA	Municipal and industrial waste discharges
					Average	NA	

Iron	ppb	300	NA	100	Range	NA	
					Average	NA	Leaching from natural deposits; industrial wastes
Manganese	ppb	50	NL = 500	20	Range	NA	
					Average	NA	Leaching from natural deposits
MTBE	ppb	5	13	3	Range	NA	
					Average	NA	Gasoline discharge from watercraft engines
Odor Threshold	TON	3	NA	1	Range	NA	
					Average	NA	Naturally-occurring organic materials
Silver	ppb	100	NA	10	Range	NA	
					Average	NA	Industrial discharges
Specific Conductance	µS/cm	1,600	NA	NA	Range	NA	
					Average	NA	Source water is the pacific ocean, conductivity will vary widely from surface and groundwater
Sulfate	ppm	500	NA	0.5	Range	NA	
					Average	NA	Runoff/leaching from natural deposits; industrial wastes
Thiobencarb	ppb	1	70	1	Range	NA	
					Average	NA	Runoff/leaching from rice herbicide
Total Dissolved Solids (TDS)	ppm	1,000	NA	NA	Range	NA	
					Average	NA	Runoff/leaching from natural deposits; seawater influence
Turbidity	NTU	5	NA	0.1	Range	NA	
					Average	NA	Soil runoff
Zinc	ppm	5.0	NA	0.05	Range	NA	
					Average	NA	Runoff/leaching from natural deposits; industrial wastes
OTHER PARAMETERS							
MICROBIOLOGICAL							
Total Coliform Bacteria	MPN/100 m	NA	NA	NA	Range	ND-24196	
					Median	63	Naturally present in the environment
E. coli	MPN/100 m	NA	NA	NA	Range	ND-24196	
					Median	20	Human and animal fecal waste
CHEMICAL							
Alkalinity	ppm	NA	NA	NA	Range	NA	
					Average	NA	
Boron	ppm	NA	NA	NA	Range	NA	
					Average	NA	Runoff/leaching from natural deposits; industrial wastes
Calcium	ppm	NA	NA	NA	Range	NA	
					Average	NA	
Hardness	ppm	NA	NA	NA	Range	NA	
					Average	NA	
Magnesium	ppm	NA	NA	NA	Range	NA	
					Average	NA	
pH	pH Units	NA	NA	NA	Range	NA	
					Average	NA	
Potassium	ppm	NA	NA	NA	Range	NA	
					Average	NA	
Radon	pCi/L	NA	NA	100	Range	NA	
					Average	NA	
Sodium	ppm	NA	NA	NA	Range	NA	
					Average	NA	
Chloride	ppm	NA	NA	NA	Range	NA	
					Average	NA	
Total Organic Carbon (TOC)	ppm	NA	NA	NA	Range	NA	
					Average	NA	Various natural and man-made sources
Vanadium	ppb	NL = 50	NA	3	Range	NA	
					Average	NA	Naturally-occurring; industrial waste discharge
Dichlorodifluoromethane (Freon 12)	ppb	NL = 1,000	NA	0.5	Range	NA	
					Average	NA	Industrial waste discharge
Ethyl-tert-butyl ether (ETBE)	ppb	NA	NA	3	Range	NA	
					Average	NA	Used as gasoline additive
tert-Amyl-methyl ether (TAME)	ppb	NA	NA	3	Range	NA	
					Average	NA	Used as gasoline additive
tert-Butyl alcohol (TBA)	ppb	NL = 12	NA	2	Range	NA	
					Average	NA	MTBE breakdown product; used as gasoline additive

ABBREVIATIONS AND FOOTNOTES

Abbreviations

AL	Action Level	NL	Notification Level
CDPH	California Department of Public Health	NTU	Nephelometric Turbidity Units
CFU	Colony-Forming Units	pCi/L	picocurie per liter
DLR	Detection Limits for Purposes of Reporting	PHG	Public Health Goal
MBAS	Methylene Blue Active Substances	ppb	parts per billion or micrograms per liter ($\mu\text{g/L}$)
MCL	Maximum Contaminant Level	ppm	parts per million or milligrams per liter (mg/L)
MCLG	Maximum Contaminant Level Goal	ppq	parts per quadrillion or nanograms per liter (ng/L)
MFL	Million Fibers per Liter	ppt	parts of the paramter per trillion parts of the solution
NA	Not Applicable	TT	Treatment Technique is a required process intended to reduce the level of a contaminant in drinking water
NC	Not Collected		
ND	Not Detected	$\mu\text{S/cm}$	microSiemen per centimeter; or micromho per centimeter ($\mu\text{mho/cm}$)

Footnotes

- (a) A source water assessment (Watershed Sanitary Survey) was completed in August 2005 and is available by contacting your local water utility. A number of potential contaminant sources evaluated in the Watershed Sanitary Survey are not likely to impact the water quality at the desalination plant intake.

2019 Consumer Confidence Report Data — Carlsbad Desalination Plant Influent
Date: January 1, 2019 to December 31, 2019

Parameter	Units	State or Federal MCL	PHG (MCLG)	State DLR	Range Average	Treatment Plant Influent	Major Sources in Drinking Water
						Carlsbad Desalination Plant	
PRIMARY STANDARDS—Mandatory Health-Related Standards							
MICROBIOLOGICAL							
Total Coliform Bacteria	MPN/100 ml	NA	NA	NA	Range Median	NA NA	Naturally present in the environment
<i>E. coli</i>	MPN/100 ml	NA	NA	NA	Range Median	NA NA	Human and animal fecal waste
INORGANIC CHEMICALS							
Aluminum	ppb	1,000	600	50	Range Average	ND ND	Residue from water treatment process; natural deposits erosion
Antimony	ppb	6	20	6	Range Average	ND ND	Petroleum refinery discharges; fire retardants; solder; electronics
Arsenic	ppb	10	0.004	2	Range Average	ND ND	Natural deposits erosion, glass and electronics production wastes
Barium	ppb	1,000	2,000	100	Range Average	ND ND	Oil and metal refineries discharges; natural deposits erosion
Beryllium	ppb	4	1	1	Range Average	ND ND	Discharge from metal refineries, aerospace, and defense industries
Cadmium	ppb	5	0.04	1	Range Average	ND ND	Internal corrosion of galvanized pipes; natural deposits erosion
Chromium	ppb	50	(100)	10	Range Average	ND ND	Discharge from steel and pulp mills; natural deposits erosion
Chromium VI	ppb	10	0.02	1	Range Average	NA NA	Runoff/leaching from natural deposits; discharge from industrial waste factories
Copper	ppm	AL = 1.3	0.3	0.05	Range Average	ND ND	Internal corrosion of household pipes; natural deposits erosion
Fluoride (naturally-occurring)	ppm	2.0	1	0.1	Range Average	0.660-0.834 0.792	Erosion of natural deposits; discharge from fertilizer and aluminum factories
Lead	ppb	AL = 15	0.2	5	Range Average	ND ND	House pipes internal corrosion; erosion of natural deposits
Mercury	ppb	2	1.2	1	Range Average	ND ND	Erosion of natural deposits; factory discharge; landfill runoff
Nickel	ppb	100	12	10	Range Average	ND ND	Erosion of natural deposits; discharge from metal factories
Perchlorate	ppb	6	1	4	Range Average	ND ND	Industrial waste discharge
Selenium	ppb	50	30	5	Range Average	ND ND	Refineries, mines, and chemical waste discharge; runoff from livestock lots
Thallium	ppb	2	0.1	1	Range Average	ND ND	Leaching from ore processing; electronics factory discharge
SECONDARY STANDARDS—Aesthetic Standards							
Aluminum	ppb	200	600	50	Range Average	ND ND	Residue from water treatment process; natural deposits erosion
Copper	ppm	1.0	0.3	0.05	Range Average	ND ND	Internal corrosion of household pipes; natural deposits erosion; wood preservatives leaching
Iron	ppb	300	NA	100	Range Average	ND ND	Leaching from natural deposits; industrial wastes
Manganese	ppb	50	NL = 50	20	Range Average	ND ND	Leaching from natural deposits
Silver	ppb	100	NA	10	Range Average	ND ND	Industrial discharges
Specific Conductance	µS/cm	1,600	NA	NA	Range Average	41,210-51,600 50,300	Substances that form ions in water; seawater influence
Turbidity	NTU	5	NA	0.1	Range Average	0.20-10.34 1.1	Soil runoff
Zinc	ppm	5.0	NA	0.05	Range Average	ND ND	Runoff/leaching from natural deposits; industrial wastes

OTHER PARAMETERS

MICROBIOLOGICAL

	oocysts/ 10 L	TT	(0)	NA	Range	NA	
<i>Cryptosporidium</i>					Average	NA	Human and animal fecal waste
	cysts/ 10 L	TT	(0)	NA	Range	NA	
<i>Giardia</i>					Average	NA	Human and animal fecal waste

CHEMICAL

					Range	109-138	
Alkalinity	ppm	NA	NA	NA	Highest RAA	114	
					Range	ND	Runoff/leaching from natural deposits;
Boron	ppb	NL = 1,000	NA	100	Average	ND	industrial wastes
					Range	6163-7042	
Hardness as CaCO ₃	ppm	NA	NA	NA	Average	6585	
	pH				Range	7.51-8.38	
pH	Units	NA	NA	NA	Average	8.10	
					Range	1.16-9.68	
Total Organic Carbon (TOC)	ppm	TT	NA	0.30	Highest RAA	3.31	Various natural and man-made sources
					Range	NA	
Vanadium	ppb	NL = 50	NA	3	Average	NA	Naturally-occurring; industrial waste discharge

ABBREVIATIONS AND FOOTNOTES

Abbreviations

AL	Action Level	NTU	Nephelometric Turbidity Units
CFU	Colony-Forming Units	PHG	Public Health Goal
DLR	Detection Limits for Purposes of Reporting	ppb	parts per billion or micrograms per liter (µg/L)
MCL	Maximum Contaminant Level	ppm	parts per million or milligrams per liter (mg/L)
MCLG	Maximum Contaminant Level Goal	RAA	Running Annual Average; highest RAA is the highest of all
NA	Not Applicable		Running Annual Averages calculated as average
NC	Not Collected		of the all samples collected within a 12-month period
ND	Not Detected	TT	Treatment Technique is a required process intended to reduce
NL	Notification Level		the level of a contaminant in drinking water
		µS/cm	microSiemen per centimeter; or micromho per centimeter (µmho/cm)

2019 Consumer Confidence Report Data — Carlsbad Desalination Plant Effluent
Data Date: January 1, 2019 to December 31, 2019

Parameter	Units	State or Federal MCL [MRDL]	PHG (MCLG) [MRDLG]	State DLR	Range Average	Treatment Plant Effluent	Major Sources in Drinking Water
						Carlsbad Desalination Plant	
PRIMARY STANDARDS—Mandatory Health-Related Standards							
CLARITY							
Combined Filter Effluent Turbidity	NTU %	TT = 0.1 (a) TT (a)	NA	NA	Highest % ≤ 0.1	0.06 100%	Soil runoff
MICROBIOLOGICAL							
Total Coliform Bacteria (b)	%	5.0	(0)	NA	Range Average	ND	Naturally present in the environment
E. coli	(c)	(c)	(0)	NA	Range Average	ND	Human and animal fecal waste
Heterotrophic Plate Count (HPC) (d)	CFU/ml	TT	NA	NA	Range Average	NA	Naturally present in the environment
Cryptosporidium	oocysts/200 L	TT	(0)	NA	Range Average	NA	Human and animal fecal waste
Giardia	cysts/200 L	TT	(0)	NA	Range Average	NA	Human and animal fecal waste
ORGANIC CHEMICALS							
Pesticides/PCBs							
Alachlor	ppb	2	4	1	Range Average	ND	Runoff from herbicide used on row crops
Atrazine	ppb	1	0.15	0.5	Range Average	ND	Runoff from herbicide used on row crops and along highways
Bentazon	ppb	18	200	2	Range Average	ND	Runoff/leaching from herbicide used on rice, alfalfa, and grapes
Carbofuran	ppb	18	1.7	5	Range Average	ND	Leaching of soil fumigant used on rice, alfalfa, and grapes
Chlordane	ppt	100	30	100	Range Average	ND	Residue of banned insecticide
2,4-D	ppb	70	20	10	Range Average	ND	Runoff from herbicide used on row crops, rangeland, lawns, and aquatic weeds
Dalapon	ppb	200	790	10	Range Average	ND	Runoff from herbicide used on rights-of-way, crops, and landscapes
Dibromochloropropane (DBCP)	ppt	200	1.7	10	Range Average	ND	Banned nematocide that may still be present in soils
Dinoseb	ppb	7	14	2	Range Average	ND	Runoff from herbicide used on soybeans, vegetables, and fruits
Diquat	ppb	20	15	4	Range Average	ND	Runoff from herbicide used for terrestrial and aquatic weeds
Endothal	ppb	100	94	45	Range Average	ND	Runoff from herbicide used for terrestrial and aquatic weeds
Endrin	ppb	2	1.8	0.1	Range Average	ND	Residue of banned insecticide and rodenticide
Ethylene Dibromide (EDB)	ppt	50	10	20	Range Average	ND	Petroleum refinery discharges; underground gas tank leaks
Glyphosate	ppb	700	900	25	Range Average	ND	Runoff from herbicide use
Heptachlor	ppt	10	8	10	Range Average	ND	Residue of banned insecticide
Heptachlor Epoxide	ppt	10	6	10	Range Average	ND	Breakdown product of heptachlor
Lindane	ppt	200	32	200	Range Average	ND	Runoff/leaching from insecticide used on cattle, lumber, and gardens
Methoxychlor	ppb	30	0.09	10	Range Average	ND	Runoff/leaching from insecticide uses
Molinate (Ordram)	ppb	20	1	2	Range Average	ND	Runoff/leaching from herbicide used on rice
Oxamyl (Vydate)	ppb	50	26	20	Range Average	ND	Runoff/leaching from insecticide uses
Pentachlorophenol	ppb	1	0.3	0.2	Range Average	ND	Discharge from wood preserving factories other insecticidal and herbicidal uses
Picloram	ppb	500	500	1	Range Average	ND	Herbicide runoff
Polychlorinated Biphenyls (PCBs)	ppt	500	90	500	Range Average	ND	Runoff from landfills; discharge of waste chemicals
Simazine	ppb	4	4	1	Range Average	ND	Herbicide runoff
Thiobencarb	ppb	70	70	1	Range Average	ND	Runoff leaching from rice herbicide
2,4,5-TP (Silvex)	ppb	50	3	1	Range Average	ND	Residue of banned herbicide
Toxaphene	ppb	3	0.03	1	Range Average	ND	Runoff/leaching from insecticide used on cotton and cattle
Semi-Volatile Organic Compounds							
Acrylamide	NA	TT	(0)	NA	Range Average	NA	Water treatment chemical impurities
Benzo(a)pyrene	ppt	200	7	100	Range Average	ND	Leaching from water storage tank linings and distribution lines
Di(2-ethylhexyl)adipate	ppb	400	200	5	Range Average	ND	Discharge from chemical factories
Di(2-ethylhexyl)phthalate	ppb	4	12	3	Range Average	ND	Chemical factory discharge; inert ingredient in pesticides
Epichlorohydrin	NA	TT	(0)	NA	Range Average	NA	Water treatment chemical impurities
					Range	ND	Discharge from metal refineries & agrichemicals

Hexachlorobenzene	ppb	1	0.03	0.5	Average	ND	factories; wastewater chlorination reaction byproduct
					Range	ND	
Hexachlorocyclopentadiene	ppb	50	2	1	Average	ND	Discharge from chemical factories
2,3,7,8-TCDD (Dioxin)	ppq	30	0.05	5	Range	ND	Waste incineration emissions; chemical factory discharge
					Average	ND	
Volatile Organic Compounds							
Benzene	ppb	1	0.15	0.5	Range	ND	Plastics factory discharge; gas tanks and landfill leaching
					Average	ND	
Carbon Tetrachloride	ppt	500	100	500	Range	ND	Discharge from chemical plants and other industrial waste
					Average	ND	
1,2-Dichlorobenzene	ppb	600	600	0.5	Range	ND	Discharge from industrial chemical factories
					Average	ND	
1,4-Dichlorobenzene	ppb	5	6	0.5	Range	ND	Discharge from industrial chemical factories
					Average	ND	
1,1-Dichloroethane	ppb	5	3	0.5	Range	ND	Extraction and degreasing solvent; fumigant
					Average	ND	
1,2-Dichloroethane	ppt	500	400	500	Range	ND	Discharge from industrial chemical factories
					Average	ND	
1,1-Dichloroethylene	ppb	6	10	0.5	Range	ND	Discharge from industrial chemical factories
					Average	ND	
cis-1,2-Dichloroethylene	ppb	6	100	0.5	Range	ND	Industrial chemical factory discharge; byproduct of TCE and PCE biodegradation
					Average	ND	
trans-1,2-Dichloroethylene	ppb	10	60	0.5	Range	ND	Industrial chemical factory discharge; byproduct of TCE and PCE biodegradation
					Average	ND	
Dichloromethane (Methylene Chloride)	ppb	5	4	0.5	Range	ND	Discharge from pharmaceutical and chemical factories
					Average	ND	
1,2-Dichloropropane	ppb	5	0.5	0.5	Range	ND	Industrial chemical factory discharge; primary component of some fumigants
					Average	ND	
1,3-Dichloropropene	ppt	500	200	500	Range	ND	Runoff/leaching from nematocide used on croplands
					Average	ND	
Ethylbenzene	ppb	300	300	0.5	Range	ND	Petroleum refinery discharge; industrial chemical factories
					Average	ND	
Methyl-tert-butyl ether (MTBE)	ppb	13	13	3	Range	ND	Gasoline discharge from watercraft engines
					Average	ND	
Monochlorobenzene	ppb	70	70	0.5	Range	ND	Discharge from industrial, agricultural, and chemical factories, and dry cleaners
					Average	ND	
Styrene	ppb	100	0.5	0.5	Range	ND	Rubber and plastics factories discharge; landfill leaching
					Average	ND	
1,1,2,2-Tetrachloroethane	ppb	1	0.1	0.5	Range	ND	Discharge from industrial, agricultural, and chemical factories; solvent uses
					Average	ND	
Tetrachloroethylene (PCE)	ppb	5	0.06	0.5	Range	ND	Discharge from factories, dry cleaners, and auto shops
					Average	ND	
Toluene	ppb	150	150	0.5	Range	ND	Discharge from petroleum and chemical refineries
					Average	ND	
1,2,4-Trichlorobenzene	ppb	5	5	0.5	Range	ND	Discharge from textile-finishing factories
					Average	ND	
1,1,1-Trichloroethane	ppb	200	1,000	0.5	Range	ND	Metal degreasing site discharge; manufacture of food wrappings
					Average	ND	
1,1,2-Trichloroethane	ppb	5	0.3	0.5	Range	ND	Discharge from industrial chemical factories
					Average	ND	
Trichloroethylene (TCE)	ppb	5	1.7	0.5	Range	ND	Discharge from metal degreasing sites and other factories
					Average	ND	
Trichlorofluoromethane (Freon-11)	ppb	150	1300	5	Range	ND	Industrial factory discharge; degreasing solvent; propellant
					Average	ND	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	ppm	1.2	4	0.01	Range	ND	Discharge from metal degreasing sites and other factories; dry cleaning solvent; refrigerant
					Average	ND	
Vinyl Chloride	ppt	500	50	500	Range	ND	Leaching from PVC piping; plastic factory discharge; byproduct of TCE and PCE biodegradation
					Average	ND	
Xylenes	ppm	1.750	1.8	0.0005	Range	ND	Discharge from petroleum and chemical refineries; fuel solvent
					Average	ND	
INORGANIC CHEMICALS							
Aluminum	ppm	1	0.6	0.05	Range	ND	Residue from water treatment process; natural deposits erosion
					Average	ND	
Antimony	ppb	6	20	6	Range	ND	Petroleum refinery discharges; fire retardants; solder; electronics
					Average	ND	
Arsenic	ppb	10	0.004	2	Range	ND	Natural deposits erosion, glass and electronics production wastes
					Average	ND	
Asbestos (f)	MFL	7	7	0.2	Range	NA	Asbestos cement pipes internal corrosion; natural deposits erosion
					Average	NA	
Barium	ppb	1,000	2,000	100	Range	ND	Oil and metal refineries discharge; natural deposits erosion
					Average	ND	
Beryllium	ppb	4	1	1	Range	ND	Discharge from metal refineries, aerospace, and defense industries
					Average	ND	
Cadmium	ppb	5	0.04	1	Range	ND	Internal corrosion of galvanized pipes; natural deposits erosion
					Average	ND	
Chromium	ppb	50	(100)	10	Range	ND	Discharge from steel and pulp mills; natural deposits erosion
					Average	ND	
Chromium VI	ppb	10	0.02	1	Range	NA	Runoff/leaching from natural deposits; discharge from industrial waste factories
					Average	NA	
Copper	ppm	AL = 1.3	0.3	0.05	Range	ND	Internal corrosion of household pipes; natural deposits erosion
					Average	ND	
Cyanide	ppb	150	150	100	Range	ND	Discharge from steel/metal, plastic, and fertilizer factories
					Average	ND	
Fluoride (e) Treatment-related	ppm	2.0	1	0.1	Range	0.600-0.803	Erosion of natural deposits; water additive that promotes strong teeth
					Average	0.703	
Lead	ppb	AL = 15	0.2	5	Range	ND	House pipes internal corrosion; erosion of natural deposits
					Average	ND	
Mercury	ppb	2	1.2	1	Range	ND	Erosion of natural deposits; factory discharge; landfill runoff
					Average	ND	
Nickel	ppb	100	12	10	Range	ND	Erosion of natural deposits; discharge from metal factories
					Average	ND	

Nitrate (as Nitrogen)	ppm	10	10	0.4	Range Average	ND ND	Runoff and leaching from fertilizer use; septic tank and sewage; natural deposits erosion
Nitrite (as Nitrogen)	ppm	1	1	0.4	Range Average	ND ND	Runoff and leaching from fertilizer use; septic tank and sewage; natural deposits erosion
Perchlorate	ppb	6	1	4	Range Average	ND ND	Industrial waste discharge
Selenium	ppb	50	30	5	Range Average	ND-5.89 ND	Refineries, mines, and chemical waste discharge; runoff from livestock lots
Thallium	ppb	2	0.1	1	Range Average	ND ND	Leaching from ore processing; electronics factory discharge
RADIOLOGICALS							
Gross Alpha Particle Activity	pCi/L	15	(0)	3	Range Average	ND ND	Erosion of natural deposits
Gross Beta Particle Activity	pCi/L	50 (l)	(0)	4	Range Average	ND ND	Decay of natural and man-made deposits
Radium-226	pCi/L	NA	0.05	1	Range Average	ND ND	Erosion of natural deposits
Radium-228	pCi/L	NA	0.019	1	Range Average	ND ND	Erosion of natural deposits
Combined Radium-226/228	pCi/L	5	(0)	NA	Range Average	-0.0891-0.446 0.206	Erosion of natural deposits
Strontium-90	pCi/L	8	0.35	2	Range Average	ND ND	Decay of natural and man-made deposits
Tritium	pCi/L	20000	400	1,000	Range Average	ND ND	Decay of natural and man-made deposits
Uranium	pCi/L	20	0.43	1	Range Average	ND ND	Erosion of natural deposits
DISINFECTION BYPRODUCTS, DISINFECTANT RESIDUALS, AND DISINFECTION BYPRODUCT PRECURSORS							
Total Trihalomethanes (TTHM)	ppb	80	NA	1.0	Range Average	ND ND	Byproduct of drinking water chlorination
Total Trihalomethanes (TTHM)	ppb	80	NA	1.0	Highest LRAA	ND	Byproduct of drinking water chlorination
Total Trihalomethanes (TTHM)	ppb	80	NA	1.0	Range Highest LRAA	ND ND	Byproduct of drinking water chlorination
Haloacetic Acids (five) (HAA5)	ppb	60	NA	1.0	Range Average	ND ND	Byproduct of drinking water chlorination
Haloacetic Acids (five) (HAA5)	ppb	60	NA	1.0	Range Highest LRAA	ND ND	Byproduct of drinking water chlorination
Haloacetic Acids (five) (HAA5)	ppb	60	NA	1.0	Range Highest LRAA	ND ND	Byproduct of drinking water chlorination
Total Chlorine Residual	ppm	[4.0]	[4.0]	NA	Range Highest RAA	2.99-3.68 3.26	Drinking water disinfectant added for treatment
Bromate	ppb	10	0.1	1.0	Range Highest RAA	NA NA	Byproduct of drinking water ozonation
DBP Precursors Control as Total Organic Carbon (TOC)	ppm	TT	NA	0.30	Range Average	NA NA	Various natural and man-made sources; TOC as a medium for the formation of disinfection byproducts
SECONDARY STANDARDS—Aesthetic Standards							
Aluminum	ppm	1	0.6	0.05	Range Average	ND ND	Residue from water treatment process; natural deposits erosion
Chloride	ppm	500	NA	NA	Range Average	65.7-94.0 79.1	Runoff/leaching from natural deposits; seawater influence
Color	Color Units	15	NA	NA	Range Average	ND ND	Naturally-occurring organic materials
Copper	ppm	1.0	0.3	0.05	Range Average	ND ND	Internal corrosion of household pipes; natural deposits erosion; wood preservatives leaching
Foaming Agents (MBAS)	ppm	0.5	NA	NA	Range Average	NA NA	Municipal and industrial waste discharges
Iron	ppm	0.3	NA	0.1	Range Average	ND ND	Leaching from natural deposits; industrial wastes
Manganese	ppm	0.5	NL = 500	20	Range Average	ND ND	Leaching from natural deposits
MTBE	ppb	5	13	3	Range Average	ND ND	Gasoline discharge from watercraft engines
Odor Threshold	TON	3	NA	1	Range Average	ND ND	Naturally-occurring organic materials
Silver	ppb	100	NA	10	Range Average	ND ND	Industrial discharges
Specific Conductance	µS/cm	1,600	NA	NA	Range Average	345.07-495.87 408.28	Substances that form ions in water; seawater influence
Sulfate	ppm	500	NA	0.5	Range Average	10.0-19.3 12.2	Runoff/leaching from natural deposits; industrial wastes
Thiobencarb	ppb	1	70	1	Range Average	ND ND	Runoff/leaching from rice herbicide
Total Dissolved Solids (TDS)	ppm	500	NA	NA	Range Average	147-282 212	Runoff/leaching from natural deposits; seawater influence
Turbidity	NTU	5	NA	0.1	Range Average	ND-0.37 ND	Turbidity is a measure of the cloudiness of the water, an indicator of the effectiveness of our filtration system
Zinc	ppm	5.0	NA	0.05	Range Average	ND ND	Runoff/leaching from natural deposits; industrial wastes
OTHER PARAMETERS							
MICROBIOLOGICAL							
HPC	CFU/m	TT	NA	NA	Range Median	NA NA	Naturally present in the environment
CHEMICAL							
Alkalinity	ppm	NA	NA	NA	Range Average	37-75 62	
Boron (g)	ppm	NA	NA	NA	Range Average	0.460-0.733 0.596	Runoff/leaching from natural deposits; industrial wastes and naturally occurring in seawater
Calcium	ppm	NA	NA	NA	Range Average	15.60-24.88 19.29	
					Range	NA	Byproduct of drinking water chlorination;

Chlorate	ppb	NL = 800	NA	20	Average	NA	industrial processes
Corrosivity (as Aggressiveness Index)	AI	NA	NA	NA	Range	11.55-12.90	Elemental balance in water; affected by temperature, other factors
Corrosivity (as Saturation Index)	SI	NA	NA	NA	Average	12.02	
					Range	-0.05-0.51	Elemental balance in water; affected by temperature, other factors
					Average	0.27	
Total Hardness	ppm	NA	NA	NA	Range	39.0-62.2	
					Average	48.2	
Magnesium	ppm	NA	NA	NA	Range	0.605-1.250	
					Average	0.833	
pH	pH Units	NA	NA	NA	Range	6.00-8.68	
					Average	8.48	
Potassium	ppm	NA	NA	NA	Range	1.86-3.57	
					Average	2.43	
Radon	pCi/L	NA	NA	100	Range	NA	
					Average	NA	
Sodium	ppm	NA	NA	NA	Range	47.8-77.8	
					Average	61.8	
TOC	ppm	TT	NA	0.30	Range	NA	Various natural and man-made sources; TOC as a medium for the formation of disinfection byproducts
					Highest RAA	NA	
Vanadium	ppb	NL = 50	NA	3	Range	NA	Naturally-occurring; industrial waste discharge
N-Nitrosodimethylamine (NDMA)	ppt	NL = 10	3	2	Range	NA	Byproduct of drinking water chloramination; industrial processes
Dichlorodifluoromethane (Freon 12)	ppb	NL = 1,000	NA	0.5	Range	ND	
					Average	ND	Industrial waste discharge
Ethyl-tert-butyl ether (ETBE)	ppb	NA	NA	3	Range	NA	
					Average	NA	Used as gasoline additive
tert-Amyl-methyl ether (TAME)	ppb	NA	NA	3	Range	NA	
					Average	NA	Used as gasoline additive
tert-Butyl alcohol (TBA)	ppb	NL = 12	NA	2	Range	NA	
					Average	NA	MTBE breakdown product; used as gasoline additive

ABBREVIATIONS AND FOOTNOTES

Abbreviations

AI	Aggressiveness Index	MCL	Maximum Contaminant Level
AL	Action Level	MCLG	Maximum Contaminant Level Goal
CDPH	California Department of Public Health	MFL	Million Fibers per Liter
CFU	Colony-Forming Units	MRDL	Maximum Residual Disinfectant Level
DBP	Disinfection Byproducts	MRDLG	Maximum Residual Disinfectant Level Goal
DLR	Detection Limits for Purposes of Reporting	NA	Not Applicable
LRAA	Locational Running Annual Average; highest LRAA is the highest of all Locational Running Annual Averages calculated as average of all samples collected within a 12-month period	ND	Not Detected
		NL	Notification Level
		NTU	Nephelometric Turbidity Units
		pCi/L	picoCuries per Liter
		PHG	Public Health Goal
MBAS	Methylene Blue Active Substances	ppb	parts per billion or micrograms per liter (µg/L)

Footnotes

- The reverse osmosis filter effluent turbidity must be equal to or less than 0.1 NTU in 95% of the measurements taken each month, shall not exceed 0.5 NTU in more than two (2) consecutive 15-minute samples and shall not exceed 1.0 NTU at any time. Turbidity is an indicator of the effectiveness of the filters.
- Total coliform MCLs: No more than 5.0% of the monthly samples may be total coliform-positive. Compliance is based on the combined distribution system sampling from all the treatment plants.
- E. coli MCL: The occurrence of two consecutive total coliform-positive samples, one of which contains E. coli, constitutes an acute MCL violation. The MCL was not violated.
- All product water tank effluent samples collected had detectable total chlorine residuals and no HPC was required. HPC reporting level is 1 CFU/ml. Values are based on monthly median per State guidelines and recommendations.
- Fluoride samples that were below target ranges were blended with other water supply sources to maintain compliance in water distributed to consumers.
- Not used
- Boron analysis is included as seawater is a natural source for this constituent.