

2020 Consumer Confidence Report Data — Carlsbad Desalination Plant Effluent
Data Date: January 1, 2020 to December 31, 2020

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)	NA	NA	Highest % ≤ 0.1	0.08	Soil runoff
	%	TT (a)	NA	NA		100%	
MICROBIOLOGICAL							
Total Coliform					Range	ND	
Bacteria (b)	%	5.0	(0)	NA	Average	ND	Naturally present in the environment
					Range	ND	
E. coli	(c)	(c)	(0)	NA	Average	ND	Human and animal fecal waste
Heterotrophic Plate Count (HPC) (d)	CFU/ml	TT	NA	NA	Range	NA	Naturally present in the environment
	oocysts/				Average	NA	
Cryptosporidium	200 L	TT	(0)	NA	Range	NA	Human and animal fecal waste
	cysts/				Average	NA	
Giardia	200 L	TT	(0)	NA	Range	NA	Human and animal fecal waste
					Average	NA	
ORGANIC CHEMICALS							
Pesticides/PCBs							
					Range	ND	
Alachlor	ppb	2	4	1	Average	ND	Runoff from herbicide used on row crops
					Range	ND	
Atrazine	ppb	1	0.15	0.5	Average	ND	Runoff from herbicide used on row crops and along highways
					Range	ND	
Bentazon	ppb	18	200	2	Average	ND	Runoff/leaching from herbicide used on rice, alfalfa, and grapes
					Range	ND	
Carbofuran	ppb	18	1.7	5	Average	ND	Leaching of soil fumigant used on rice, alfalfa, and grapes
					Range	ND	
Chlordane	ppt	100	30	100	Average	ND	Residue of banned insecticide
					Range	ND	
2,4-D	ppb	70	20	10	Average	ND	Runoff from herbicide used on row crops, rangeland, lawns, and aquatic weeds
					Range	ND	
Dalapon	ppb	200	790	10	Average	ND	Runoff from herbicide used on rights-of-way, crops, and landscapes
					Range	ND	
Dibromochloropropane (DBCP)	ppt	200	1.7	10	Average	ND	Banned nematocide that may still be present in soils
					Range	ND	
Dinoseb	ppb	7	14	2	Average	ND	Runoff from herbicide used on soybeans, vegetables, and fruits
					Range	ND	
Diquat	ppb	20	15	4	Average	ND	Runoff from herbicide used for terrestrial and aquatic weeds
					Range	ND	
Endothall	ppb	100	94	45	Average	ND	Runoff from herbicide used for terrestrial and aquatic weeds
					Range	ND	
Endrin	ppb	2	1.8	0.1	Average	ND	Residue of banned insecticide and rodenticide
					Range	ND	
Endrin (EDB)	ppt	50	10	20	Average	ND	Petroleum refinery discharges; underground gas tank leaks
					Range	ND	
Glyphosate	ppb	700	900	25	Average	ND	Runoff from herbicide use
					Range	ND	
Heptachlor	ppt	10	8	10	Average	ND	Residue of banned insecticide
					Range	ND	
Heptachlor Epoxide	ppt	10	6	10	Average	ND	Breakdown product of heptachlor
					Range	ND	
Lindane	ppt	200	32	200	Average	ND	Runoff/leaching from insecticide used on cattle, lumber, and gardens
					Range	ND	

Methoxychlor	ppb	30	0.09	10	Average	ND	Runoff/leaching from insecticide uses
					Range	ND	
Molinate (Ordram)	ppb	20	1	2	Average	ND	Runoff/leaching from herbicide used on rice
					Range	ND	
Oxamyl (Vydate)	ppb	50	26	20	Average	ND	Runoff/leaching from insecticide uses
					Range	ND	
Pentachlorophenol	ppb	1	0.3	0.2	Average	ND	Discharge from wood preserving factories other insecticidal and herbicidal uses
					Range	ND	
Picloram	ppb	500	500	1	Average	ND	Herbicide runoff
					Range	ND	
Polychlorinated Biphenyls (PCBs)	ppt	500	90	500	Average	ND	Runoff from landfills; discharge of waste chemicals
					Range	ND	
Simazine	ppb	4	4	1	Average	ND	Herbicide runoff
					Range	ND	
Thiobencarb	ppb	70	70	1	Average	ND	Runoff leaching from rice herbicide
					Range	ND	
2,4,5-TP (Silvex)	ppb	50	3	1	Average	ND	Residue of banned herbicide
					Range	ND	
Toxaphene	ppb	3	0.03	1	Average	ND	Runoff/leaching from insecticide used on cotton and cattle
					Range	ND	
Semi-Volatile Organic Compounds							
Acrylamide	NA	TT	(0)	NA	Range	NA	
					Average	NA	Water treatment chemical impurities
Benzo(a)pyrene	ppt	200	7	100	Range	ND	Leaching from water storage tank linings and distribution lines
					Average	ND	
Di(2-ethylhexyl)adipate	ppb	400	200	5	Range	ND	Discharge from chemical factories
					Average	ND	
Di(2-ethylhexyl)phthalate	ppb	4	12	3	Range	ND	Chemical factory discharge; inert ingredient in pesticides
					Average	ND	
Epichlorohydrin	NA	TT	(0)	NA	Range	NA	Water treatment chemical impurities
					Average	NA	
Hexachlorobenzene	ppb	1	0.03	0.5	Range	ND	Discharge from metal refineries & agrichemicals factories; wastewater chlorination reaction byproduct
					Average	ND	
Hexachlorocyclopentadiene	ppb	50	2	1	Range	ND	Discharge from chemical factories
					Average	ND	
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	
					Range	ND	Runoff/leaching from nematocide used on

1,3-Dichloropropene	ppt	500	200	500	Average	ND	croplands
					Range	ND	
Ethylbenzene	ppb	300	300	0.5	Average	ND	Petroleum refinery discharge; industrial chemical factories
					Range	ND	
Methyl-tert-butyl ether (MTBE)	ppb	13	13	3	Average	ND	Gasoline discharge from watercraft engines
					Range	ND	
Monochlorobenzene	ppb	70	70	0.5	Average	ND	Discharge from industrial, agricultural, and chemical factories, and dry cleaners
					Range	ND	
Styrene	ppb	100	0.5	0.5	Average	ND	Rubber and plastics factories discharge; landfill leaching
					Range	ND	
1,1,2,2-Tetrachloroethane	ppb	1	0.1	0.5	Average	ND	Discharge from industrial, agricultural, and chemical factories; solvent uses
					Range	ND	
Tetrachloroethylene (PCE)	ppb	5	0.06	0.5	Average	ND	Discharge from factories, dry cleaners, and auto shops
					Range	ND	
Toluene	ppb	150	150	0.5	Average	ND	Discharge from petroleum and chemical refineries
					Range	ND	
1,2,4-Trichlorobenzene	ppb	5	5	0.5	Average	ND	Discharge from textile-finishing factories
					Range	ND	
1,1,1-Trichloroethane	ppb	200	1,000	0.5	Average	ND	Metal degreasing site discharge; manufacture of food wrappings
					Range	ND	
1,1,2-Trichloroethane	ppb	5	0.3	0.5	Average	ND	Discharge from industrial chemical factories
					Range	ND	
Trichloroethylene (TCE)	ppb	5	1.7	0.5	Average	ND	Discharge from metal degreasing sites and other factories
					Range	ND	
Trichlorofluoromethane (Freon-11)	ppb	150	1300	5	Average	ND	Industrial factory discharge; degreasing solvent; propellant
					Range	ND	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	ppm	1.2	4	0.01	Average	ND	Discharge from metal degreasing sites and other factories; dry cleaning solvent; refrigerant
					Range	ND	
Vinyl Chloride	ppt	500	50	500	Average	ND	Leaching from PVC piping; plastic factory discharge; byproduct of TCE and PCE biodegradation
					Range	ND	
Xylenes	ppm	1.750	1.8	0.0005	Average	ND	Discharge from petroleum and chemical refineries; fuel solvent
					Range	ND	
INORGANIC CHEMICALS							
Aluminum	ppm	1	0.6	0.05	Average	ND	Residue from water treatment process; natural deposits erosion
					Range	ND	
Antimony	ppb	6	20	6	Average	ND	Petroleum refinery discharges; fire retardants; solder; electronics
					Range	ND	
Arsenic	ppb	10	0.004	2	Average	ND	Natural deposits erosion, glass and electronics production wastes
					Range	NA	
Asbestos (f)	MFL	7	7	0.2	Average	NA	Asbestos cement pipes internal corrosion; natural deposits erosion
					Range	ND	
Barium	ppb	1,000	2,000	100	Average	ND	Oil and metal refineries discharge; natural deposits erosion
					Range	ND	
Beryllium	ppb	4	1	1	Average	ND	Discharge from metal refineries, aerospace, and defense industries
					Range	ND	
Cadmium	ppb	5	0.04	1	Average	ND	Internal corrosion of galvanized pipes; natural deposits erosion
					Range	ND	
Chromium	ppb	50	(100)	10	Average	ND	Discharge from steel and pulp mills; natural deposits erosion
					Range	ND	
Chromium VI	ppb	10	0.02	1	Average	ND	Runoff/leaching from natural deposits; discharge from industrial waste factories
					Range	ND	
Copper	ppm	AL = 1.3	0.3	0.05	Average	ND	Internal corrosion of household pipes; natural deposits erosion
					Range	ND	
Cyanide	ppb	150	150	100	Average	ND	Discharge from steel/metal, plastic, and fertilizer factories
					Range	0.605-0.796	
Fluoride (e) Treatment-related	ppm	2.0	1	0.1	Average	0.705	Erosion of natural deposits; water additive that promotes strong teeth
					Range	ND	
Lead	ppb	AL = 15	0.2	5	Average	ND	House pipes internal corrosion; erosion of natural deposits
					Range	ND	
Mercury	ppb	2	1.2	1	Average	ND	Erosion of natural deposits; factory discharge; landfill runoff
					Range	ND	

Nickel	ppb	100	12	10	Range Average	ND ND	Erosion of natural deposits; discharge from metal factories
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-6.1 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	-0.00109-0.712 0.094	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	Range Highest LRAA	ND 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	2.80-3.41 3.19	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	54.0-100 74.6	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	ND ND	Municipal and industrial waste discharges

Iron	ppm	0.3	NA	0.1	Average	ND	Leaching from natural deposits; industrial wastes
					Range	ND	
Manganese	ppm	0.5	NL = 500	20	Average	ND	Leaching from natural deposits
					Range	ND	
MTBE	ppb	5	13	3	Average	ND	Gasoline discharge from watercraft engines
					Range	ND	
Odor Threshold	TON	3	NA	1	Average	ND	Naturally-occurring organic materials
					Range	ND	
Silver	ppb	100	NA	10	Average	ND	Industrial discharges
					Range	291.9-515.7	Substances that form ions in water;
Specific Conductance	µS/cm	1,600	NA	NA	Average	404.0	seawater influence
					Range	12-16.7	Runoff/leaching from natural deposits;
Sulfate	ppm	500	NA	0.5	Average	13.68	industrial wastes
					Range	ND	
Thiobencarb	ppb	1	70	1	Average	ND	Runoff/leaching from rice herbicide
					Range	140-276	Runoff/leaching from natural deposits;
Total Dissolved Solids (TDS)	ppm	500	NA	NA	Average	205	seawater influence
					Range	ND - 0.76	Turbidity is a measure of the cloudiness of the water,
Turbidity	NTU	5	NA	0.1	Average	0.1	an indicator of the effectiveness of our filtration system
					Range	ND	Runoff/leaching from natural deposits;
Zinc	ppm	5.0	NA	0.05	Average	ND	industrial wastes
OTHER PARAMETERS							
MICROBIOLOGICAL							
HPC	CFU/ml	TT	NA	NA	Range	NA	Naturally present in the environment
					Median	NA	
CHEMICAL							
Alkalinity	ppm	NA	NA	NA	Range	46-104	
					Average	64.43	
Boron (g)	ppm	NA	NA	NA	Range	0.36-0.78	Runoff/leaching from natural deposits;
					Average	0.55	industrial wastes and naturally occurring in seawater
Calcium	ppm	NA	NA	NA	Range	16.68-31.88	
					Average	22.68	
Chlorate	ppb	NL = 800	NA	20	Range	NA	Byproduct of drinking water chlorination;
					Average	NA	industrial processes
Corrosivity (as Aggressiveness Index)	AI	NA	NA	NA	Range	8.52 - 10.88	Elemental balance in water; affected
					Average	10.58	by temperature, other factors
Corrosivity (as Saturation Index)	SI	NA	NA	NA	Range	0.04-0.63	Elemental balance in water; affected
					Average	0.31	by temperature, other factors
Total Hardness	ppm	NA	NA	NA	Range	41.7-79.7	
					Average	56.71	
Magnesium	ppm	NA	NA	NA	Range	0.89-0.98	
					Average	0.93	
pH	pH Units	NA	NA	NA	Range	8.27-8.80	
					Average	8.51	
Potassium 40	pCi/L	NA	NA	NA	Range	0.000-54.467	
					Average	14.729	
Radon	pCi/L	NA	NA	100	Range	NA	
					Average	NA	
Sodium	ppm	NA	NA	NA	Range	45.4-66	
					Average	55.1	
TOC	ppm	TT	NA	0.30	Range	NA	Various natural and man-made sources;
					Highest RAA	NA	TOC as a medium for the formation of disinfection byproducts
Vanadium	ppb	NL = 50	NA	3	Range	NA	Naturally-occurring; industrial waste discharge
					Average	NA	
N-Nitrosodimethylamine (NDMA)	ppt	NL = 10	3	2	Range	NA	Byproduct of drinking water chloramination;
					Average	NA	industrial processes
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 Average	NA NA	Used as gasoline additive
tert-Butyl alcohol (TBA)	ppb	NL = 12	NA	2	Range Average	NA 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

- (a) 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.
- (b) 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.
- (c) 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.
- (d) 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.
- (e) Fluoride samples that were below target ranges were blended with other water supply sources to maintain compliance in water distributed to consumers.
- (f) Not used
- (g) Boron analysis is included as seawater is a natural source for this constituent.