

ATTACHMENT 1

Regulated Contaminants with PRIMARY DRINKING WATER STANDARDS

Contaminant	Unit Measure ment	MCL [MRDL]	PHG (MCLG) [MRDLG]	Typical Source of Contaminant	Health Effects Language
Microbiological Contaminants					
Total Coliform Bacteria	MCL: <i><u>For systems that collect less than 40 samples per month:</u></i> No more than 1 positive monthly sample <i><u>For systems that collect 40 or more samples per month:</u></i> More than 5.0% of monthly samples are positive		(0)	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.
Fecal coliform and <i>E. coli</i>	MCL: a routine sample and a repeat sample are total coliform positive, and one of these is also fecal coliform or <i>E. coli</i> positive		(0)	Human and animal fecal waste	Fecal coliforms and <i>E. coli</i> are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, and people with severely compromised immune systems.
Turbidity		TT	N/A	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.
<i>Giardia lamblia</i> , viruses, heterotrophic plate count bacteria, <i>Legionella</i> , <i>Cryptosporidium</i>		TT	HPC = N/A; Others = (0)	Naturally present in the environment	Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

Contaminant	Unit Measurement	MCL [MRDL]	PHG (MCLG) [MRDLG]	Typical Source of Contaminant	Health Effects Language
Radioactive Contaminants					
Gross Beta Particle Activity	pCi/L	50 ^(a)	(0)	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.
(a) Effective 6/11/2006, the gross beta particle activity MCL is 4 millirems/year annual dose equivalent to the total body or any internal organ. 50 pCi/L is used as a screening level.					
Strontium-90	pCi/L	8	0.35	Decay of natural and man-made deposit	Some people who drink water containing strontium-90 in excess of the MCL over many years may have an increased risk of getting cancer.
Tritium	pCi/L	20,000	400	Decay of natural and man-made deposits	Some people who drink water containing tritium in excess of the MCL over many years may have an increased risk of getting cancer.
Gross Alpha Particle Activity	pCi/L	15	(0)	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.
Combined Radium 226 & 228	pCi/L	5	(0)	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.
9. Uranium	pCi/L	20	0.43	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.
Inorganic Contaminants					
Aluminum	ppm	1	0.6	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.
Antimony	ppb	6	20	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder	Some people who drink water containing antimony in excess of the MCL over many years may experience increases in blood cholesterol and decreases in blood sugar.

Contaminant	Unit Measurement	MCL [MRDL]	PHG (MCLG) [MRDLG]	Typical Source of Contaminant	Health Effects Language
Arsenic	ppb	10 ^(b)	0.004	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes	Some people who drink water containing arsenic in excess of the MCL over many years may experience skin damage or circulatory system problems, and may have an increased risk of getting cancer.
(b) Effective 1/23/2006, the federal arsenic MCL is 0.010 mg/L. The new state MCL has not yet been adopted and remains as 0.5 mg/L (or 50 ppb). If the arsenic concentration is above 5 up to and including 10 ppb, refer to Attachment 5 for the special language to include in the CCR.					
Asbestos	MFL	7	7	Internal corrosion of asbestos cement water mains; erosion of natural deposits	Some people who drink water containing asbestos in excess of the MCL over many years may have an increased risk of developing benign intestinal polyps.
Barium	ppm	1	2	Discharge of oil drilling wastes and from metal refineries; erosion of natural deposits	Some people who drink water containing barium in excess of the MCL over many years may experience an increase in blood pressure.
Beryllium	ppb	4	1	Discharge from metal refineries, coal-burning factories, and electrical, aerospace, and defense industries	Some people who drink water containing beryllium in excess of the MCL over many years may develop intestinal lesions.
Cadmium	ppb	5	0.04	Internal corrosion of galvanized pipes; erosion of natural deposits; discharge from electroplating and industrial chemical factories, and metal refineries; runoff from waste batteries and paints	Some people who drink water containing cadmium in excess of the MCL over many years may experience kidney damage.
Chromium	ppb	50	(100)	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits	Some people who use water containing chromium in excess of the MCL over many years may experience allergic dermatitis.
Copper	ppm	AL=1.3	0.17	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives	Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time may experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years may suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.
Cyanide	ppb	150	150	Discharge from steel/metal, plastic and fertilizer factories	Some people who drink water containing cyanide in excess of the MCL over many years may experience nerve damage or thyroid problems.

Contaminant	Unit Measurement	MCL [MRDL]	PHG (MCLG) [MRDLG]	Typical Source of Contaminant	Health Effects Language
Fluoride	ppm	2.0	1	Erosion of natural deposits; water additive which 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.
Lead	ppb	AL=15	2	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits	Infants and children who drink water containing lead in excess of the action level may experience delays in their physical or mental development. Children may show slight deficits in attention span and learning abilities. Adults who drink this water over many years may develop kidney problems or high blood pressure.
Mercury (inorganic)	ppb	2	1.2	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills and cropland	Some people who drink water containing mercury in excess of the MCL over many years may experience mental disturbances, or impaired physical coordination, speech and hearing.
Nickel	ppb	100	12	Erosion of natural deposits; discharge from metal factories	Some people who drink water containing nickel in excess of the MCL over many years may experience liver and heart effects.
Nitrate (as nitrate, NO ₃)	ppm	45	45	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.
Nitrite (as nitrogen, N)	ppm	1	1	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 nitrite in excess of the MCL may become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blueness of the skin.

Contaminant	Unit Measurement	MCL [MRDL]	PHG (MCLG) [MRDLG]	Typical Source of Contaminant	Health Effects Language
Perchlorate	ppb	6	6	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 affects 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.
Selenium	ppb	50	(50)	Discharge from petroleum, glass, and metal refineries; erosion of natural deposits; discharge from mines and chemical manufacturers; runoff from livestock lots (feed additive)	Selenium is an essential nutrient. However, some people who drink water containing selenium in excess of the MCL over many years may experience hair or fingernail losses, numbness in fingers or toes, or circulation system problems.
Thallium	ppb	2	0.1	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories	Some people who drink water containing thallium in excess of the MCL over many years may experience hair loss, changes in their blood, or kidney, intestinal, or liver problems.
Synthetic Organic Contaminants including Pesticides and Herbicides					
2,4-D	ppb	70	70	Runoff from herbicide used on row crops, range land, lawns, and aquatic weeds	Some people who use water containing the weed killer 2,4-D in excess of the MCL over many years may experience kidney, liver, or adrenal gland problems.
2,4,5-TP (Silvex)	ppb	50	25	Residue of banned herbicide	Some people who drink water containing Silvex in excess of the MCL over many years may experience liver problems.
Acrylamide		TT	(0)	Added to water during sewage/wastewater treatment	Some people who drink water containing high levels of acrylamide over a long period of time may experience nervous system or blood problems, and may have an increased risk of getting cancer.
Alachlor	ppb	2	4	Runoff from herbicide used on row crops	Some people who use water containing alachlor in excess of the MCL over many years may experience eye, liver, kidney, or spleen problems, or experience anemia, and may have an increased risk of getting cancer.

Contaminant	Unit Measurement	MCL [MRDL]	PHG (MCLG) [MRDLG]	Typical Source of Contaminant	Health Effects Language
Atrazine	ppb	1	0.15	Runoff from herbicide used on row crops and along railroad and highway right-of-ways	Some people who use water containing atrazine in excess of the MCL over many years may experience cardiovascular system problems or reproductive difficulties.
Bentazon	ppb	18	200	Runoff/leaching from herbicide used on beans, peppers, corn, peanuts, rice, and ornamental grasses	Some people who drink water containing bentazon in excess of the MCL over many year may experience prostate and gastrointestinal effects.
Benzo(a)pyrene (PAH)	ppt	200	4	Leaching from linings of water storage tanks and distribution lines	Some people who use water containing benzo(a)pyrene in excess of the MCL over many years may experience reproductive difficulties and may have an increased risk of getting cancer.
Carbofuran	ppb	18	1.7	Leaching of soil fumigant used on rice and alfalfa, and grape vineyards	Some people who use water containing carbofuran in excess of the MCL over many years may experience problems with their blood, or nervous or reproductive system problems.
Chlordane	ppt	100	30	Residue of banned insecticide	Some people who use water containing chlordane in excess of the MCL over many years may experience liver or nervous system problems, and may have an increased risk of getting cancer.
Dalapon	ppb	200	790	Runoff from herbicide used on rights-of-ways, and crops and landscape maintenance	Some people who drink water containing dalapon in excess of the MCL over many years may experience minor kidney changes.
Di(2-ethylhexyl) adipate	ppb	400	200	Discharge from chemical factories	Some people who drink water containing di(2-ethylhexyl) adipate in excess of the MCL over many years may experience general weight loss, liver enlargement, or reproductive difficulties.
Di(2-ethylhexyl) phthalate	ppb	4	12	Discharge from rubber and chemical factories; inert ingredient in pesticides	Some people who use water containing di(2-ethylhexyl) phthalate in excess of the MCL over many years may experience liver problems or reproductive difficulties, and may have an increased risk of getting cancer.
Dibromochloropropane (DBCP)	ppt	200	1.7	Banned nematocide that may still be present in soils due to runoff/leaching from former use on soybeans, cotton, vineyards, tomatoes, and tree fruit	Some people who use water containing DBCP in excess of the MCL over many years may experience reproductive difficulties and may have an increased risk of getting cancer.
Dinoseb	ppb	7	14	Runoff from herbicide used on soybeans, vegetables, and fruits	Some people who drink water containing dinoseb in excess of the MCL over many years may experience reproductive difficulties.

Contaminant	Unit Measurement	MCL [MRDL]	PHG (MCLG) [MRDLG]	Typical Source of Contaminant	Health Effects Language
Dioxin (2,3,7,8-TCDD)	ppq (parts per quadrillion)	30	(0)	Emissions from waste incineration and other combustion; discharge from chemical factories	Some people who use water containing dioxin in excess of the MCL over many years may experience reproductive difficulties and may have an increased risk of getting cancer.
Diquat	ppb	20	15	Runoff from herbicide use for terrestrial and aquatic weeds	Some people who drink water containing diquat in excess of the MCL over many years may get cataracts.
Endothall	ppb	100	580	Runoff from herbicide use for terrestrial and aquatic weeds; defoliant	Some people who drink water containing endothall in excess of the MCL over many years may experience stomach or intestinal problems.
Endrin	ppb	2	1.8	Residue of banned insecticide and rodenticide	Some people who drink water containing endrin in excess of the MCL over many years may experience liver problems.
Epichlorohydrin		TT	(0)	Discharge from industrial chemical factories; impurity of some water treatment chemicals	Some people who drink water containing high levels of epichlorohydrin over a long period of time may experience stomach problems, and may have an increased risk of getting cancer.
Ethylene dibromide (EDB)	ppt	50	10	Discharge from petroleum refineries; underground gas tank leaks; banned nematocide that may still be present in soils due to runoff and leaching from grain and fruit crops	Some people who use water containing ethylene dibromide in excess of the MCL over many years may experience liver, stomach, reproductive system, or kidney problems, and may have an increased risk of getting cancer.
Glyphosate	ppb	700	900	Runoff from herbicide use	Some people who drink water containing glyphosate in excess of the MCL over many years may experience kidney problems or reproductive difficulties.
Heptachlor	ppt	10	8	Residue of banned insecticide	Some people who use water containing heptachlor in excess of the MCL over many years may experience liver damage and may have an increased risk of getting cancer.
Heptachlor epoxide	ppt	10	6	Breakdown of heptachlor	Some people who use water containing heptachlor epoxide in excess of the MCL over many years may experience liver damage, and may have an increased risk of getting cancer.
Hexachlorobenzene	ppb	1	0.03	Discharge from metal refineries and agricultural chemical factories; byproduct of chlorination reactions in wastewater	Some people who drink water containing hexachlorobenzene in excess of the MCL over many years may experience liver or kidney problems, or adverse reproductive effects, and may have an increased risk of getting cancer.

Contaminant	Unit Measurement	MCL [MRDL]	PHG (MCLG) [MRDLG]	Typical Source of Contaminant	Health Effects Language
Hexachlorocyclopentadiene	ppb	50	50	Discharge from chemical factories	Some people who use water containing hexachlorocyclopentadiene in excess of the MCL over many years may experience kidney or stomach problems.
Lindane	ppt	200	32	Runoff/leaching from insecticide used on cattle, lumber, gardens	Some people who drink water containing lindane in excess of the MCL over many years may experience kidney or liver problems.
Methoxychlor	ppb	30	30	Runoff/leaching from insecticide used on fruits, vegetables, alfalfa, livestock	Some people who drink water containing methoxychlor in excess of the MCL over many years may experience reproductive difficulties.
Molinate (Ordram)	ppb	20	N/A	Runoff/leaching from herbicide used on rice	Some people who use water containing molinate in excess of the MCL over many years may experience reproductive effects.
Oxamyl (Vydate)	ppb	50	50	Runoff/leaching from insecticide used on field crops, fruits and ornamentals, especially on apples, potatoes, and tomatoes	Some people who drink water containing oxamyl in excess of the MCL over many years may experience slight nervous system effects.
PCBs (Polychlorinated biphenyls)	ppt	500	90	Runoff from landfills; discharge of waste chemicals	Some people who drink water containing PCBs in excess of the MCL over many years may experience changes in their skin, thymus gland problems, immune deficiencies, or reproductive or nervous system difficulties, and may have an increased risk of getting cancer.
Pentachlorophenol	ppb	1	0.4	Discharge from wood preserving factories, cotton and other insecticidal/herbicidal uses	Some people who use water containing pentachlorophenol in excess of the MCL over many years may experience liver or kidney problems, and may have an increased risk of getting cancer
Picloram	ppb	500	500	Herbicide runoff	Some people who drink water containing picloram in excess of the MCL over many years may experience liver problems.
Simazine	ppb	4	4	Herbicide runoff	Some people who use water containing simazine in excess of the MCL over many years may experience blood problems.
Thiobencarb	ppb	70	70	Runoff/leaching from herbicide used on rice	Some people who use water containing thiobencarb in excess of the MCL over many years may experience body weight and blood effects.

Contaminant	Unit Measurement	MCL [MRDL]	PHG (MCLG) [MRDLG]	Typical Source of Contaminant	Health Effects Language
Toxaphene	ppb	3	0.03	Runoff/leaching from insecticide used on cotton and cattle	Some people who use water containing toxaphene in excess of the MCL over many years may experience kidney, liver, or thyroid problems, and may have an increased risk of getting cancer.
Volatile Organic Contaminants					
Benzene	ppb	1	0.15	Discharge from plastics, dyes and nylon factories; leaching from gas storage tanks and landfills	Some people who use water containing benzene in excess of the MCL over many years may experience anemia or a decrease in blood platelets, and may have an increased risk of getting cancer.
Carbon tetrachloride	ppt	500	100	Discharge from chemical plants and other industrial activities	Some people who use water containing carbon tetrachloride in excess of the MCL over many years may experience liver problems and may have an increased risk of getting cancer.
1,2-Dichlorobenzene	ppb	600	600	Discharge from industrial chemical factories	Some people who drink water containing 1,2-dichlorobenzene in excess of the MCL over many years may experience liver, kidney, or circulatory system problems.
1,4-Dichlorobenzene	ppb	5	6	Discharge from industrial chemical factories	Some people who use water containing 1,4-dichlorobenzene in excess of the MCL over many years may experience anemia, liver, kidney, or spleen damage, or changes in their blood.
1,1-Dichloroethane	ppb	5	3	Extraction and degreasing solvent; used in the manufacture of pharmaceuticals, stone, clay, and glass products; fumigant	Some people who use water containing 1,1-dichloroethane in excess of the MCL over many years may experience nervous system or respiratory problems.
1,2-Dichloroethane	ppt	500	400	Discharge from industrial chemical factories	Some people who use water containing 1,2-dichloroethane in excess of the MCL over many years may have an increased risk of getting cancer.
1,1-Dichloroethylene	ppb	6	10	Discharge from industrial chemical factories	Some people who use water containing 1,1-dichloroethylene in excess of the MCL over many years may experience liver problems.
cis-1,2-Dichloroethylene	ppb	6	100	Discharge from industrial chemical factories; major biodegradation byproduct of TCE and PCE groundwater contamination	Some people who use water containing cis-1,2-dichloroethylene in excess of the MCL over many years may experience liver problems.
trans-1,2-Dichloroethylene	ppb	10	60	Discharge from industrial chemical factories; minor biodegradation byproduct of TCE and PCE groundwater contamination	Some people who drink water containing trans-1,2-dichloroethylene in excess of the MCL over many years may experience liver problems.

Contaminant	Unit Measurement	MCL [MRDL]	PHG (MCLG) [MRDLG]	Typical Source of Contaminant	Health Effects Language
Dichloromethane	ppb	5	4	Discharge from pharmaceutical and chemical factories; insecticide	Some people who drink water containing dichloromethane in excess of the MCL over many years may experience liver problems and may have an increased risk of getting cancer.
1,2-Dichloropropane	ppb	5	0.5	Discharge from industrial chemical factories; primary component of some fumigants	Some people who use water containing 1,2-dichloropropane in excess of the MCL over many years may have an increased risk of getting cancer.
1,3-Dichloropropene	ppt	500	200	Runoff/leaching from nematocide used on croplands	Some people who use water containing 1,3-dichloropropene in excess of the MCL over many years may have an increased risk of getting cancer.
Ethylbenzene	ppb	300	300	Discharge from petroleum refineries; industrial chemical factories	Some people who use water containing ethylbenzene in excess of the MCL over many years may experience liver or kidney problems.
Methyl- <i>tert</i> -butyl ether	ppb	13	13	Leaking from underground gasoline storage tanks; discharges from petroleum and chemical factories	Some people who use water containing methyl- <i>tert</i> -butyl ether in excess of the MCL over many years may have an increased risk of getting cancer.
Monochlorobenzene	ppb	70	200	Discharge from industrial and agricultural chemical factories and drycleaning facilities	Some people who use water containing monochlorobenzene in excess of the MCL over many years may experience liver or kidney problems.
Styrene	ppb	100	(100)	Discharge from rubber and plastic factories; leaching from landfills	Some people who drink water containing styrene in excess of the MCL over many years may experience liver, kidney, or circulatory system problems.
1,1,2,2-Tetrachloroethane	ppb	1	0.1	Discharge from industrial and agricultural chemical factories; solvent used in production of TCE, pesticides, varnish and lacquers	Some people who drink water containing 1,1,2,2-tetrachloroethane in excess of the MCL over many years may experience liver or nervous system problems.
Tetrachloroethylene (PCE)	ppb	5	0.06	Discharge from factories, dry cleaners, and auto shops (metal degreaser)	Some people who use water containing tetrachloroethylene in excess of the MCL over many years may experience liver problems, and may have an increased risk of getting cancer.
1,2,4-Trichlorobenzene	ppb	5	5	Discharge from textile-finishing factories	Some people who use water containing 1,2,4-trichlorobenzene in excess of the MCL over many years may experience adrenal gland changes.
1,1,1-Trichloroethane	ppb	200	1000	Discharge from metal degreasing sites and other factories; manufacture of food wrappings	Some people who use water containing 1,1,1-trichloroethane in excess of the MCL over many years may experience liver, nervous system, or circulatory system problems.

Contaminant	Unit Measurement	MCL [MRDL]	PHG (MCLG) [MRDLG]	Typical Source of Contaminant	Health Effects Language
1,1,2-Trichloroethane	ppb	5	0.3	Discharge from industrial chemical factories	Some people who use water containing 1,1,2-trichloroethane in excess of the MCL over many years may experience liver, kidney, or immune system problems.
Trichloroethylene (TCE)	ppb	5	0.8	Discharge from metal degreasing sites and other factories	Some people who use water containing trichloroethylene in excess of the MCL over many years may experience liver problems and may have an increased risk of getting cancer.
Toluene	ppb	150	150	Discharge from petroleum and chemical factories; underground gas tank leaks	Some people who use water containing toluene in excess of the MCL over many years may experience nervous system, kidney, or liver problems.
Trichlorofluoromethane	ppb	150	700	Discharge from industrial factories; degreasing solvent; propellant and refrigerant	Some people who use water containing trichlorofluoromethane in excess of the MCL over many years may experience liver problems.
1,1,2-Trichloro-1,2,2-trifluoroethane	ppm	1.2	4	Discharge from metal degreasing sites and other factories; drycleaning solvent; refrigerant	Some people who use water containing 1,1,2-trichloro-1,2,2-trifluoroethane in excess of the MCL over many years may experience liver problems.
Vinyl chloride	ppt	500	50	Leaching from PVC piping; discharge from plastics factories; biodegradation byproduct of TCE and PCE groundwater contamination	Some people who use water containing vinyl chloride in excess of the MCL over many years may have an increased risk of getting cancer.
Xylenes	ppm	1.75	1.8	Discharge from petroleum and chemical factories; fuel solvent	Some people who use water containing xylenes in excess of the MCL over many years may experience nervous system damage.
Disinfection Byproducts, Disinfectant Residuals, and Disinfection Byproduct Precursors					
TTHMs (Total Trihalomethanes)	ppb	80	N/A	By-product of drinking water chlorination	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.
Haloacetic Acids	ppb	60	N/A	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. ⁹³
Bromate	ppb	10	(0)	Byproduct of drinking water disinfection	Some people who drink water containing bromate in excess of the MCL over many years may have an increased risk of getting cancer.

Contaminant	Unit Measurement	MCL [MRDL]	PHG (MCLG) [MRDLG]	Typical Source of Contaminant	Health Effects Language
Chloramines	ppm	[MRDL = 4.0 (as Cl ₂)]	[MRDLG = 4 (as Cl ₂)]	Drinking water disinfectant added for treatment	Some people who use water containing chloramines well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chloramines well in excess of the MRDL could experience stomach discomfort or anemia.
Chlorine	ppm	[MRDL = 4.0 (as Cl ₂)]	[MRDLG = 4 (as Cl ₂)]	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.
Chlorite	ppm	1.0	(0.8)	Byproduct of drinking water disinfection	Some infants and young children who drink water containing chlorite in excess of the MCL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorite in excess of the MCL. Some people may experience anemia.
Chlorine Dioxide	ppb	[MRDL = 800 (as ClO ₂)]	[MRDLG = 800 (as ClO ₂)]	Drinking water disinfectant added for treatment	Some infants and young children who drink water containing chlorine dioxide in excess of the MRDL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorine dioxide in excess of the MRDL. Some people may experience anemia.
Control of DBP precursors (TOC)		TT	N/A	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.

ATTACHMENT 2

Regulated Contaminants with SECONDARY DRINKING WATER STANDARDS ^(a)

Monitoring Required by Section 64449, Chapter 15, Title 22, California Code of Regulations

Contaminant	Unit Measurement	MCL	Typical Source of Contaminant
Aluminum	ppb	200	Erosion of natural deposits; residual from some surface water treatment processes
Color	Units	15	Naturally-occurring organic materials
Copper	ppm	1.0	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Foaming Agents (MBAS)	ppb	500	Municipal and industrial waste discharges
Iron	ppb	300	Leaching from natural deposits; industrial wastes
Manganese	ppb	50	Leaching from natural deposits
Methyl-tert-butyl ether (MTBE)	ppb	5	Leaking underground storage tanks; discharge from petroleum and chemical factories
Odor--Threshold	Units	3	Naturally-occurring organic materials
Silver	ppb	100	Industrial discharges
Thiobencarb	ppb	1	Runoff/leaching from rice herbicide
Turbidity	Units	5	Soil runoff
Zinc	ppm	5.0	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (TDS)	ppm	1000	Runoff/leaching from natural deposits
Specific Conductance	µS/cm	1600	Substances that form ions when in water; seawater influence
Chloride	ppm	500	Runoff/leaching from natural deposits; seawater influence
Sulfate	ppm	500	Runoff/leaching from natural deposits; industrial wastes

(a) There are no PHGs, MCLGs, or mandatory standard health effects language for constituents with secondary drinking water standards because secondary MCLs are set on the basis of aesthetics.

ATTACHMENT 3

State Regulated Contaminants with No Maximum Contaminant Levels (i.e., Unregulated Chemicals)

Monitoring Formerly Required by
Repealed Section 64450, Chapter 15, Title 22, California Code of Regulations ^(a)

Note: Detected chemical results must be included in the CCR. Inclusion of the notification level and health effects language for levels above the notification level is only recommended, not required.

Chemicals	Notification Level	Health Effects Language (Optional)
Boron	1 ppm	The babies of some pregnant women who drink water containing boron in excess of the notification level may have an increased risk of developmental effects, based on studies in laboratory animals.
Chromium VI (Hexavalent chromium)	n/a	n/a
Dichlorodifluoromethane (Freon 12)	1 ppm	Some people who drink water containing dichlorodifluoromethane far in excess of the notification level may experience neurological and cardiac effects. Long- term exposures to dichlorodifluoromethane resulted in smaller body weight in laboratory animals.
Ethyl-tert-butyl ether (ETBE)	n/a	n/a
tert-Amyl-methyl ether (TAME)	n/a	n/a
tert-Butyl alcohol (TBA)	12 ppb	Some people who use water containing tert-butyl alcohol in excess of the notification level over many years may have an increased risk of getting cancer, based on studies in laboratory animals.
Trichloropropane (1,2,3-TCP).	5 ppt	Some people who use water containing 1,2,3-trichloropropane in excess of the notification level over many years may have an increased risk of getting cancer, based on studies in laboratory animals
Vanadium	50 ppb	The babies of some pregnant women who drink water containing vanadium in excess of the notification level may have an increased risk of developmental effects, based on studies in laboratory animals

(a) Section 64450 was repealed effective October 18, 2007.

ATTACHMENT 4

Federal Regulated Contaminants with No Maximum Contaminants Levels (i.e., Federal UCMR 1)

Background

The 1996 Amendments to the Safe Drinking Water Act required the EPA to establish criteria for a monitoring program for unregulated contaminants and to publish a list of contaminants to be monitored. EPA revised the Unregulated Contaminant Monitoring Rule in 1999, which included requirements for a representative sample of small public water systems to monitor for contaminants on the list for which methods have been promulgated. Small system monitoring was paid for by the EPA, including provisions for sampling equipment and sample shipping, testing and analysis.

A randomly selected sample of 800 small water systems conducted List 1- Assessment Monitoring. A subset of the 800 small water systems selected to conduct List 1 - Assessment Monitoring was also required to participate in a List 2 - Screening Survey. The State Drinking Water Agency or the EPA informed you if your system was selected.

UCMR 1	
List 1 - Assessment Monitoring	List 2 – Screening Survey
2,4-dinitrotoluene	1,2-diphenylhydrazine
2,6-dinitrotoluene	2-methyl-phenol
Acetochlor	2,4-dichlorophenol
DCEP mono-acid degradate	2,4-dinitrophenol
DCEP di-acid degradate	2,4,6-trichlorophenol
4,4' – DDE	<i>Aeromonas</i>
EPTC	Alachlor ESA
Molinate	Diazinon
MTBE	Disulfoton
Nitrobenzene	Diuron
Perchlorate	Fonofos
Terbacil	Linuron
	Nitrobenzene
	Prometon
	RDX
	Terbufos

ATTACHMENT 5

Special Language for Nitrate, Arsenic, Lead, Radon, *Cryptosporidium*, and Surface Water Systems

- (A) **Nitrate:** For systems that detect nitrates (as NO₃) at levels **above 23 mg/L, but below 45 mg/L**, the following language is REQUIRED:

Nitrate in drinking water at levels above 45 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 serious illness; symptoms include shortness of breath and blueness of the skin. Nitrate levels above 45 mg/L may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with specific enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should ask advice from your health care provider.

If a utility cannot demonstrate to the Department with at least five years of the most current monitoring data that its nitrate levels are stable, it must also add the following language to the preceding statement on nitrate: *Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity.*

- (B) **Arsenic:** For systems that detect arsenic at levels **above 5 ppb up to and including 10 ppb**, the following language is REQUIRED:

While your drinking water meets the EPA standard for arsenic, it does contain low levels of arsenic. The arsenic standard balances the current understanding of arsenic's possible health effects against the cost of removing arsenic from drinking water. The U.S. Environmental Protection Agency continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

- (C) **Lead:** For systems that detect lead above the action level (15 ppb) in more than 5% and up to and including 10%, of sites sampled (if your system samples fewer than 20 sites and has even one sample above the AL, include the standard explanation for an AL exceedance) the following language is REQUIRED:

Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the USEPA Safe Drinking Water Hotline (1-800-426-4791).

- (D) **Radon:** Systems that have performed any monitoring for radon that indicates that radon may be present in the finished water must include the results of the monitoring and an explanation of the significance of the results. The following language MAY be used:

We constantly monitor the water supply for various contaminants. We have detected radon in the finished water supply in _____ out of _____ samples tested. There is no federal regulation for

radon levels in drinking water. Exposure over a long period of time to air transmitting radon may cause adverse health effects.

The language below may be included if the level of information is helpful.

Radon is a radioactive gas that you can't 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. Fix 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 aren't too costly. For additional information, call your State radon program or call EPA's Radon Hotline (1-800-SOS-RADON).

- (E) **Cryptosporidium:** Systems that have performed any monitoring for *Cryptosporidium* that indicates that *Cryptosporidium* may be present in the source water or finished water must include the results of the monitoring and an explanation of the significance of the results. The following language MAY be used:

Cryptosporidium is a microbial pathogen found in surface water throughout the U.S. Although filtration removes Cryptosporidium, the most commonly-used filtration methods cannot guarantee 100 percent removal. Our monitoring indicates the presence of these organisms in our source water and/or finished water. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of Cryptosporidium may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people are at greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water.

- (F) **Surface Water Systems:** For surface water systems which do not have adequate filtration or disinfection equipment processes or which had a failure of such equipment processes that constitutes a violation, including failures of the turbidity performance standard; filtration avoidance criteria; *Giardia lamblia*, virus, and *Cryptosporidium* removal and inactivation requirements; and disinfection residual requirements in the distribution system, the following language is REQUIRED:

Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.