

Contaminants	MCLG (mg/L)	MCL (mg/L)	Potential Health Effects From Ingesting Water	Source of Contaminants In Water	Treatment Methods Treatment
Volatile Organics					
Benzene	Zero	0.005	Cancer	Some foods; gas, drugs, pesticides, paint, plastic industries	- Activated Carbon - Aeration
Carbon Tetrachloride	Zero	0.005	Cancer	Solvents and their degradation products	- Activated Carbon - Aeration
p-Dichlorobenzene	0.075	0.075	Cancer	Room and water deodorants, and "mothballs"	- Activated Carbon - Aeration
1,2-Dichloroethane	Zero	0.005	Cancer	Leaded gasoline, fumigants, paints	- Activated Carbon - Aeration
1,1-Dichloroethylene	0.007	0.007	Cancer	Plastics, dyes, perfumes, paints	- Activated Carbon - Aeration
Trichloroethylene	Zero	0.005	Cancer	Textiles, adhesives and metal degreasers	- Activated Carbon - Aeration
1,1,1-Trichloroethane	0.2	0.2	Liver, Nervous system effects	Adhesives, aerosols, textiles, paints, inks, metal degreasers	- Activated Carbon - Aeration
Vinyl Chloride	Zero	0.002	Cancer	May leach from PVC pipe; formed by solvent break down	- Aeration
Turbidity Contaminants					
Giardia Lamblia	Zero	TT	Gastroenteric disease	Human and animal fecal waste	Turbidity reduction to 1 NTU and then: - Chemical Oxidation/Disinfection - chlorination - Ozone - Iodine - Absolute filtration (< 3 microns) - Distillation
Total Coliform*	zero	<5%+	Indicates gastroenteric pathogens	Human and animal fecal waste	Turbidity reduction to 1 NTU and then: - Chemical Oxidation/Disinfection - Chlorination - Ozone - Iodine (e.g. Polyiodide Resins) - submicron (absolute) Filtration (<0.45 micron) - Ultraviolet Radiation - Distillation
Turbidity*	N/A	TT	Interferes with disinfection,	Soil runoff	- Coagulation/Filtration

			filtration		<ul style="list-style-type: none"> - Submicron Filtration - Ultrafiltration - Reverse Osmosis - Cartridge Filtration matched to turbidity particle size - Distillation
Viruses	zero	TT	Gastroenteric disease	Human and animal fecal waste	Turbidity reduction to 1 NTU and then: <ul style="list-style-type: none"> - Chemical Oxidation/Disinfection - Chlorination - Ozone - Iodine - Ultraviolet Radiation - Distillation
Inorganic Contaminants					
Antimony	0.006	0.006	Cancer	Fire retardants, ceramics, electronics, fireworks, solder	Coagulation/Filtration Submicron Filtration Reverse Osmosis Ultrafiltration Distillation
Asbestos (>10m)	7MFL	7MFL	Cancer	Natural deposits; asbestos cement in water systems	Coagulation/Filtration Submicron Filtration Reverse Osmosis Ultrafiltration Distillation
Barium*	2	2	Circulatory system effects	Natural deposits, pigments, epoxy sealants, spent coal	Cation Exchange Reverse Osmosis Distillation Electrodialysis
Beryllium	0.004	0.004	Bone, lung damage	Electrical, aerospace, defense industries	Coagulation/Filtration Submicron Filtration Activated Carbon Activated Alumina Cation Exchange Reverse Osmosis Distillation Electrodialysis Ultrafiltration
Cadmium*	0.005	0.005	Kidney effects	Galvanized pipe corrosion; natural deposits; batteries, paints	Coagulation/Filtration Submicron Filtration Cation Exchange Reverse Osmosis Distillation Electrodialysis
Chlorine	4(P)*	4(P)*	Cancer	Chemical added to disinfect municipal water	Activated Carbon Reverse Osmosis
Chromium* (total)	0.1	0.1	Liver, kidney, circulatory disorders	Natural deposits; mining, electroplating, pigments	Coagulation/Filtration Cation Exchange Reverse Osmosis Distillation Electrodialysis Anion Exchange

					Activated Carbon
Cyanide	0.2	0.2	Thyroid, nervous system damage	Electroplating, steel, plastics, mining, fertilizer	Chemical Oxidation Anion Exchange Reverse Osmosis Distillation Electrodialysis
Mercury* (inorganic)	0.002	0.002	Kidney, nervous system disorders	Crop runoff; natural deposits; batteries, electrical switches	Submicron Filtration/ Activated Carbon Cation Exchange (20% - 90%) Reverse Osmosis Distillation Electrodialysis Anion Exchange
Nitrate*	10	10	Methemoglobinemia	Animal waste, fertilizer, natural deposits, septic tanks, sewage	Anion Exchange Reverse Osmosis (sensitive to pressure) Distillation Electrodialysis
Nitrite	1	1	Methemoglobinemia	Same as nitrate; rapidly converted to nitrate	Chemical Oxidation Anion Exchange Reverse Osmosis Distillation Electrodialysis
Selenium*	0.05	0.05	Liver damage	Natural deposits; mining, smelting, coal/oil combustion	Coagulation/Filtration Submicron Filtration/ Activated Carbon Anion Exchange Activated Alumina Reverse Osmosis Distillation Electrodialysis
Thallium	0.0005	0.002	Kidney, liver, brain, intestinal	Electronics, drugs, alloys, glass	Cation Exchange Activated Alumina Distillation
Organic Contaminants					
Acrylamide	zero	TT	Cancer, nervous system effects	Polymers used in sewage/wastewater treatment	Control of water treatment chemicals and surfaces in contact with water
Adipate, (di (2-ethylhexyl))	0.4	0.4	Decreased body weight	Synthetic rubber, food packaging, cosmetics	- Activated Carbon - Aeration
Alachlor	zero	0.002	Cancer	Runoff from herbicide on corn, soybeans, etc.	- Activated Carbon
Aldicarb	0.007 (P)*	0.007 (P)*	Inhibits Respiratory System	Runoff from pesticide use	- Activated Carbon
Aldicarb Sulfone	0.007 (P)*	0.007 (P)*	Inhibits Respiratory System	Runoff from pesticide use	- Activated Carbon
Aldicarb Sulfoxide	0.007 (P)*	0.007 (P)*	Inhibits Respiratory System	Runoff from pesticide use	- Activated Carbon
Atrazine	0.003	0.003	Mammary gland tumors	Runoff from use as herbicide on corn and non-	- Activated Carbon

				cropland	
Benanthracene	Zero (P)*	0.0001 (P)*	Cancer	Breakdown of Coal Tar	- Activated Carbon
Benzo(b)fluoranthene (PAH)	Zero (P)*	0.0002 (P)*	Cancer	Byproduct of Fossil Fuels	- Activated Carbon
Benzo(k)fluoranthene (PAH)	Zero (P)*	0.0002 (P)*	Cancer	Byproduct of Fossil Fuels	- Activated Carbon
Butyl Benzyl Phthalate (PAE)	Zero (P)*	0.1(P)*	Cancer	Decay of Vinyl Products	- Activated Carbon
Carbofuran	0.04	0.04	Nervous, reproductive system effects	Soil fumigant on corn and cotton; restricted in some areas	-Activated Carbon
Chlordane*	zero	0.002	Cancer	Leaching from soil treatment for termites	- Activated Carbon
Chlorobenzene	0.1	0.1	Nervous system and liver effects	Waste solvent from metal degreasing processes	- Activated Carbon
Dalapon	0.2	0.2	Liver and kidney effects	Herbicide on orchards, beans, coffee, lawns, road/railways	- Activated Carbon
Di[2-ethylhexyl]adipate	0.4	0.4	Cancer and Nervous System effects	Hydraulic fluid, Aircraft lubricants, Decay of PVC plastics	- Activated Carbon
Dibenz(a,h)anthracene (PAH)	Zero (P)*	0.0003 (P)*	Lymphoid and Kidney Effects	Burning Coal Tar and Fossil Fuels	- Activated Carbon
Dibromochloropropane	zero	0.0002	Cancer	Soil fumigant on soybeans, cotton, pineapple, orchards	- Activated Carbon - Aeration
o-Dichlorobenzene	0.6	0.6	Liver, kidney, blood cell damage	Paints, engine cleaning compounds, dyes, chemical wastes	- Activated Carbon - Aeration
m – Dichlorobenzene (meta-)	0.6	0.6	Liver, kidney, blood cell damage	Paints, engine cleaning compounds, dyes, chemical wastes	- Activated Carbon - Aeration
cis-1,2-Dichloroethylene	0.07	0.07	Liver, kidney, nervous, circulatory	Waste industrial extraction solvents	- Activated Carbon - Aeration
trans-1,2-Dichloroethylene	0.1	0.1	Liver, kidney, nervous, circulatory	Waste industrial extraction solvents	- Activated Carbon - Aeration
Dichloromethane	zero	0.005	Cancer	Paint stripper, metal degreaser, propellant, extraction	- Aeration
1,2-Dichloropropane	zero	0.005	Liver, kidney effects; cancer	Soil fumigant; waste industrial solvents	- Activated Carbon - Aeration

Diethylhexyl Phthalate (PAE)	Zero	0.006	Liver Effects	Decay of Plastics	- Activated Carbon
Dinoseb	0.007	0.007	Thyroid, reproductive organ damage	Runoff of herbicide from crop and non-crop applications	- Activated Carbon
Dioxin	zero	0.00000003	Cancer	Chemical production by-product; impurity in herbicides	- Activated Carbon - Reverse Osmosis
Diquat	0.02	0.02	Liver, kidney, eye effects	Runoff of herbicide on land and aquatic weeds	- Activated Carbon
2,4-D*	0.07	0.07	Liver and kidney damage	Runoff from herbicide on wheat, corn, rangelands, lawns	- Activated Carbon
Endothall	0.1	0.1	Liver, kidney, gastrointestinal	Herbicide on crops, land/aquatic weeds; rapidly degraded	- Activated Carbon
Endrin	0.002	0.002	Liver, kidney, heart damage	Pesticide on insects, rodents, birds; restricted since 1980	- Activated Carbon
Epichlorohydrin	zero	TT	Cancer	Water treatment chemicals; waste epoxy resins, coatings	Control of water treatment chemicals and surfaces in contact with water
Ethylbenzene	0.7	0.7	Liver, kidney, nervous system	Gasoline; insecticides; chemical manufacturing wastes	- Activated Carbon - Aeration
Ethylene dibromide	zero	0.00005	Cancer	Leaded gasoline additives; leaching of soil fumigant	- Activated Carbon - Aeration
Glyphosate	0.7	0.7	Liver, kidney damage	Herbicide on grasses, weeds, brush	- Activated Carbon
Heptachlor	zero	0.0004	Cancer	Leaching of insecticide for termites, very few crops	- Activated Carbon
Heptachlor epoxide	zero	0.0002	Cancer	Biodegradation of heptachlor	- Activated Carbon
Hexchlorobenzene	zero	0.001	Cancer	Pesticide production waste by-product	- Activated Carbon
Hexachlorocyclopentadiene	0.05	0.05	Kidney, stomach damage	Pesticide production intermediate	- Activated Carbon - Aeration
Indeno (1,2,3-c,d)pyrene	Zero	0.004	Cancer	Burning Fossil	- Activated Carbon

PAH	(P)*	(P)*		Fuels and Tobacco	
Lindane	0.0002	0.0002	Liver, kidney, nervous, immune, circulatory	Insecticide on cattle, lumber, gardens; restricted in 1983	- Activated Carbon
Methoxychlor	0.04	0.04	Growth, liver, kidney, nerve effects	Insecticide for fruits, vegetables, alfalfa, livestock, pets	- Activated Carbon
Monochlorobenzene	0.1	0.1	Liver and Kidney Effects	Pesticides	- Activated Carbon - Aeration
Oxamyl (Vydate)	0.2	0.2	Kidney damage	Insecticide on apples, potatoes, tomatoes	- Activated Carbon
PAHs (benzo(a)pyrene)	zero	0.0002	Cancer	Coal tar coatings; burning organic matter; volcanoes, fossil fuels	- Activated Carbon
PCBs	zero	0.0005	Cancer	Coolant oils from electrical transformers; plasticizers	- Activated Carbon
Pentachlorophenol	zero	0.001	Liver and kidney effects, and cancer	Wood preservatives, herbicide, cooling tower wastes	- Activated Carbon
Phthalate, (di (2-ethylhexyl))	zero	0.006	Cancer	PVC and other plastics	- Activated Carbon
Picloram	0.5	0.5	Kidney, liver damage	Herbicide on broadleaf and woody plants	- Activated Carbon
Simazine	0.004	0.004	Cancer	Herbicide on grass sod, some crops, aquatic algae	- Activated Carbon
Styrene	0.1	0.1	Liver, nervous system damage	Plastics, rubber, resin, drug industries; leachate from city landfills	- Activated Carbon - Aeration
Tetrachloroethylene	zero	0.005	Cancer	Improper disposal of dry cleaning and other solvents	- Activated Carbon - Aeration
Toluene	1	1	Liver, kidney, nervous, circulatory	Gasoline additive; manufacturing and solvent operations	- Activated Carbon - Aeration
Toxaphene	zero	0.003	Cancer	Insecticide on cattle, cotton, soybeans; canceled in 1982	- Activated Carbon - Aeration
2,4,5-TP	0.05	0.05	Liver and kidney damage	Herbicide on crops, right-of-	- Activated Carbon

				way, golf courses; canceled in 1983	
1,2,4-Trichlorobenzene	0.07	0.07	Liver, kidney damage	Herbicide production, dye carrier	- Activated Carbon - Aeration
Trichloroethane	0.2	0.2	Central nervous System depressent	Industrial Solvents	- Activated Carbon - Aeration
1,1,2-Trichloroethane	0.003	0.005	Kidney, liver, nervous system	Solvent in rubber, other organic products; chemical production wastes	- Activated Carbon - Aeration
Xylenes (total)	10	10	Liver, kidney, nervous system	By-product of gasoline refining; paints, inks, detergents	- Activated Carbon - Aeration
Lead and Copper					
Lead*	zero	TT+	Kidneys, nervous system damage	Natural/industrial deposits; plumbing, solder, brass alloy faucets	Cation Exchange (20% - 90%) Coagulation/Filtration Reverse Osmosis Distillation Electrodialysis
Copper	1.3	TT#	Gastrointestinal irritation	Natural/industrial deposits; wood preservatives, plumbing	Cation Exchange (20% - 90%) Reverse Osmosis Distillation Electrodialysis Corrosion control Polyphosphate/Silicate feed
Other Interim Standards					
Beta/photon emitters	zero	4mrem/y r	Cancer	Decay of radionuclides in natural and man- made deposits	- Ion Exchange (mixed bed) - Reverse Osmosis - Distillation - Electrodialysis
Alpha emitters	zero	15pCi/L	Cancer	Decay of radionuclides in natural deposits	- Ion Exchange (mixed bed) - Reverse Osmosis - Distillation - Electrodialysis
Arsenic*	0.05	0.05	Skin, nervous system toxicity	Natural deposits; smelters, glass, electronics wastes; orchards	Coagulation/Filtration -Submicron Filtration -Anion Exchange -Activated Alumina -Reverse Osmosis -Distillation -Electrodialysis -Iron Based Media -Activated Carbon
Radium 226 & Radium 228	Zero	20 pCi/L (P)*	Cancer	Decay of Radionuclides	- Cation Exchange - Reverse Osmosis - Distillation - Electrodialysis

Radon	Zero (P)*	300 pCi/L (P)*	Cancer	Decay of Radium	- Activated Carbon - Aeration
Total Trihalomethanes	zero	0.10	Cancer	Drinking water chlorination by-products	- Activated Carbon - Aeration - Ultrafiltration (20%-90%) - Reverse Osmosis
Uranium	Zero (P)*	0.02 mg/L(P)*	Cancer	Decay of Radionuclides	- Coagulation/Filtration - Submicron Filtration - Anion Exchange - Activated Alumina - Reverse Osmosis - Distillation - Electrodialysis

(P)* = Proposed Standard

MCLG = Maximum Contaminant Level Global Established at the level at which no known or anticipated adverse effects on the health of persons occur and which allows an adequate margin of safety; expresses in milligrams per liter unless otherwise specified.

MCL = Maximum Contaminant Level established as close to the MCLG as feasible taking into consideration costs a treatment techniques applicable at public water systems; expressed in milligrams per liter unless otherwise specified.