



National Primary Drinking Water Standards

United States
Environmental Protection
Agency

Office of Water
4601
Washington DC 20460

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Contaminants	MCLG (mg/L)	MCL (mg/L)	Potential Health Effects from Ingestion of Water	Sources of Contaminant in Drinking Water
Fluoride	4.0	4.0	Skeletal and dental fluorosis	Natural deposits; fertilizer, aluminum indstrs.; H ₂ O additive
Volatile Organics				
Benzene	zero	0.005	Cancer	Some foods; gas, drugs, pesticide, paint, plastic industries
Carbon Tetrachloride	zero	0.005	Cancer	Solvents and their degradation products
p-Dichlorobenzene	0.075	0.075	Cancer	Room and water deodorants, and "mothballs"
1,2-Dichloroethane	zero	0.005	Cancer	Leaded gas, fumigants, paints
1,1-Dichloroethylene	0.007	0.007	Cancer, liver and kidney effects	Plastics, dyes, perfumes, paints
Trichloroethylene	zero	0.005	Cancer	Textiles, adhesives and metal degreasers
1,1,1-Trichloroethane	0.2	0.2	Liver, nervous system effects	Adhesives, aerosols, textiles, paints, inks, metal degreasers
Vinyl Chloride	zero	0.002	Cancer	May leach from PVC pipe; formed by solvent breakdown
Coliform and Surface Water Treatment				
<i>Giardia lamblia</i>	zero	TT	Gastroenteric disease	Human and animal fecal waste
<i>Legionella</i>	zero	TT	Legionnaire's disease	Natural waters; can grow in water heating systems
Standard Plate Count	N/A	TT	Indicates water quality, effectiveness of treatment	
Total Coliform*	zero	<5%+	Indicates gastroenteric pathogens	Human and animal fecal waste
Turbidity*	N/A	TT	Interferes w/ disinfection/filtration	Soil runoff
Viruses	zero	TT	Gastroenteric disease	Human and animal fecal waste
Phase II - Inorganics				
Asbestos (>10um)	7MFL	7MFL	Cancer	Natural deposits; asbestos cement in water systems
Barium*	2	2	Circulatory system effects	Natural deposits; pigments, epoxy sealants, spent coal
Cadmium*	0.005	0.005	Kidney effects	Galvanized pipe corrosion; natural deposits; batteries, paints
Chromium* (total)	0.1	0.1	Liver, kidney, circulatory disorders	Natural deposits; mining, electroplating, pigments
Mercury* (inorganic)	0.002	0.002	Kidney, nervous system disorders	Crop runoff; natural deposits; batteries, electrical switches
Nitrate*	10	10	Methemoglobinemia	Animal waste, fertilizer, natural deposits, septic tanks, sewage
Nitrite	1	1	Methemoglobinemia	Same as nitrate; rapidly converted to nitrate
Selenium*	0.05	0.05	Liver damage	Natural deposits; mining, smelting, coal/oil combustion
Phase II - Organics				
Acrylamide	zero	TT	Cancer, nervous system effects	Polymers used in sewage/wastewater treatment
Alachlor	zero	0.002	Cancer	Runoff from herbicide on corn, soybeans, other crops
Aldicarb*	0.001	0.003	Nervous system effects	Insecticide on cotton, potatoes, others; widely restricted
Aldicarb sulfone*	0.001	0.002	Nervous system effects	Biodegradation of aldicarb
Aldicarb sulfoxide*	0.001	0.004	Nervous system effects	Biodegradation of aldicarb
Atrazine	0.003	0.003	Mammary gland tumors	Runoff from use as herbicide on corn and non-cropland
Carbofuran	0.04	0.04	Nervous, reproductive system	Soil fumigant on corn and cotton; restricted in some areas
Chlordane*	zero	0.002	Cancer	Leaching from soil treatment for termites
Chlorobenzene	0.1	0.1	Nervous system and liver	Waste solvent from metal degreasing processes
2,4-D*	0.07	0.07	Liver and kidney damage	Runoff from herbicide on wheat, corn, rangelands, lawns
o-Dichlorobenzene	0.6	0.6	Liver, kidney, blood cell damage	Paints, engine cleaning compounds, dyes, chemical wastes
cis-1,2-Dichloroethylene	0.07	0.07	Liver, kidney, nervous, circulatory	Waste industrial extraction solvents
trans-1,2-Dichloroethylene	0.1	0.1	Liver, kidney, nervous, circulatory	Waste industrial extraction solvents
Dibromochloropropane	zero	0.0002	Cancer	Soil fumigant on soybeans, cotton, pineapple, orchards
1,2-Dichloropropane	zero	0.005	Liver, kidney effects; cancer	Soil fumigant; waste industrial solvents
Epichlorohydrin	zero	TT	Cancer	Water treatment chemicals; waste epoxy resins, coatings
Ethylbenzene	0.7	0.7	Liver, kidney, nervous system	Gasoline; insecticides; chemical manufacturing wastes
Ethylene dibromide	zero	0.00005	Cancer	Leaded gas additives; leaching of soil fumigant
Heptachlor	zero	0.0004	Cancer	Leaching of insecticide for termites, very few crops
Heptachlor epoxide	zero	0.0002	Cancer	Biodegradation of heptachlor

NOTES: * Indicates original contaminants with interim standards which have been revised.

TT=Treatment Technique requirement

MFL=Million Fibers per Liter

Contaminants	MCLG (mg/L)	MCL (mg/L)	Potential Health Effects from Ingestion of Water	Sources of Contaminant in Drinking Water
Phase II -Organics (continued)				
Lindane	0.0002	0.0002	Liver, kidney, nerve, immune, circu.	Insecticide on cattle, lumber, gardens; restricted 1983
Methoxychlor	0.04	0.04	Growth, liver, kidney, nerve	Insecticide for fruits, vegetables, alfalfa, livestock, pets
Pentachlorophenol	zero	0.001	Cancer; liver and kidney effects	Wood preservatives, herbicide, cooling tower wastes
PCBs	zero	0.0005	Cancer	Coolant oils from electrical transformers; plasticizers
Styrene	0.1	0.1	Liver, nervous system damage	Plastics, rubber, resin, drug industries; leachate from city landfills
Tetrachloroethylene	zero	0.005	Cancer	Improper disposal of dry cleaning and other solvents
Toluene	1	1	Liver, kidney, nervous, circulatory	Gasoline additive; manufacturing and solvent operations
Toxaphene	zero	0.003	Cancer	Insecticide on cattle, cotton, soybeans; cancelled 1982
2,4,5-TP	0.05	0.05	Liver and kidney damage	Herbicide on crops, right-of-way, golf courses; cancelled 1983
Xylenes (total)	10	10	Liver, kidney; nervous system	By-product of gasoline refining; paints, inks, detergents
Lead and Copper				
Lead*	zero	TT†	Kidney, nervous system damage	Natural/industrial deposits; plumbing, solder, brass alloy faucets
Copper	1.3	TT‡	Gastrointestinal irritation	Natural/industrial deposits; wood preservatives, plumbing
Phase V - Inorganics				
Antimony	0.006	0.006	Cancer	Fire retardants, ceramics, electronics, fireworks, solder
Beryllium	0.004	0.004	Bone, lung damage	Electrical, aerospace, defense industries
Cyanide	0.2	0.2	Thyroid, nervous system damage	Electroplating, steel, plastics, mining, fertilizer
Nickel	0.1	0.1	Heart, liver damage	Metal alloys, electroplating, batteries, chemical production
Thallium	0.0005	0.002	Kidney, liver, brain, intestinal	Electronics, drugs, alloys, glass
Organics				
Adipate, (di(2-ethylhexyl))	0.4	0.4	Decreased body weight; liver and testes damage	Synthetic rubber, food packaging, cosmetics
Dalapon	0.2	0.2	Liver, kidney	Herbicide on orchards, beans, coffee, lawns, road/railways
Dichloromethane	zero	0.005	Cancer	Paint stripper, metal degreaser, propellant, extraction
Dinoseb	0.007	0.007	Thyroid, reproductive organ damage	Runoff of herbicide from crop and non-crop applications
Diquat	0.02	0.02	Liver, kidney, eye effects	Runoff of herbicide on land & aquatic weeds
Dioxin	zero	0.00000003	Cancer	Chemical production by-product; impurity in herbicides
Endothall	0.1	0.1	Liver, kidney, gastrointestinal	Herbicide on crops, land/aquatic weeds; rapidly degraded
Endrin	0.002	0.002	Liver, kidney, heart damage	Pesticide on insects, rodents, birds; restricted since 1980
Glyphosate	0.7	0.7	Liver, kidney damage	Herbicide on grasses, weeds, brush
Hexachlorobenzene	zero	0.001	Cancer	Pesticide production waste by-product
Hexachlorocyclopentadiene	0.05	0.05	Kidney, stomach damage	Pesticide production intermediate
Oxamyl (Vydate)	0.2	0.2	Kidney damage	Insecticide on apples, potatoes, tomatoes
PAHs (benzo(a)pyrene)	zero	0.0002	Cancer	Coal tar coatings; burning organic matter; volcanoes, fossil fuels
Phthalate, (di(2-ethylhexyl))	zero	0.006	Cancer	PVC and other plastics
Picloram	0.5	0.5	Kidney, liver damage	Herbicide on broadleaf and woody plants
Simazine	0.004	0.004	Cancer	Herbicide on grass sod, some crops, aquatic algae
1,2,4-Trichlorobenzene	0.07	0.07	Liver, kidney damage	Herbicide production; dye carrier
1,1,2-Trichloroethane	0.003	0.005	Kidney, liver, nervous system	Solvent in rubber, other organic products; chemical production wastes
Other Proposed (P) and Interim (I) Standards				
Beta/photon emitters (I) and (P)	zero	4 mrem/yr	Cancer	Decay of radionuclides in natural and man-made deposits
Alpha emitters (I) and (P)	zero	15 pCi/L	Cancer	Decay of radionuclides in natural deposits
Combined Radium 226/228 (I)	zero	5 pCi/L	Bone cancer	Natural deposits
Radium 226*(P)	zero	20 pCi/L	Bone cancer	Natural deposits
Radium 228*(P)	zero	20 pCi/L	Bone cancer	Natural deposits
Radon (P)	zero	300 pCi/L	Cancer	Decay of radionuclides in natural deposits
Uranium (P)	zero	0.02	Cancer	Natural deposits
Sulfate (P)	400/500	400/500	Diarrhea	Natural deposits
Arsenic*(I)	0.05	0.05	Skin, nervous system toxicity	Natural deposits; smelters, glass, electronics wastes; orchards
Total Trihalomethanes (I)	zero	0.10	Cancer	Drinking water chlorination by-products

NOTES: * Indicates original contaminants with interim standards which have been revised.
† Action Level = 0.015 mg/L ‡ Action Level = 1.3mg/L

TT=Treatment Technique requirement
pCi = picocurie - a measure of radioactivity

MFL=Million Fibers per Liter
mrem = millirems - a measure of radiation absorbed by the body