

**PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION  
DIVISION OF DRINKING WATER MANAGEMENT  
MAXIMUM CONTAMINANT LEVELS (MCLs)  
MAXIMUM RESIDUAL DISINFECTANT LEVELS (MRDLs)**

**PRIMARY CONTAMINANTS****Volatile Organic Chemicals (VOCs):**

BENZENE .....	0.005	mg/L	MONOCHLOROBENZENE .....	0.1	mg/L
CARBON TETRACHLORIDE .....	0.005	mg/L	STYRENE .....	0.1	mg/L
o-DICHLOROBENZENE .....	0.6	mg/L	TETRACHLOROETHYLENE .....	0.005	mg/L
para-DICHLOROBENZENE .....	0.075	mg/L	TOLUENE .....	1	mg/L
1,2-DICHLOROETHANE .....	0.005	mg/L	1,2,4-TRICHLOROBENZENE .....	0.07	mg/L
1,1-DICHLOROETHYLENE .....	0.007	mg/L	1,1,1-TRICHLOROETHANE .....	0.2	mg/L
cis-1,2-DICHLOROETHYLENE .....	0.07	mg/L	1,1,2-TRICHLOROETHANE .....	0.005	mg/L
trans-1,2-DICHLOROETHYLENE .....	0.1	mg/L	TRICHLOROETHYLENE .....	0.005	mg/L
DICHLOROMETHANE .....	0.005	mg/L	VINYL CHLORIDE .....	0.002	mg/L
1,2-DICHLOROPROPANE .....	0.005	mg/L	XYLENES (Total) .....	10	mg/L
ETHYLBENZENE .....	0.7	mg/L			

**Synthetic Organic Chemicals (SOCs):**

ALACHLOR .....	0.002	mg/L	GLYPHOSATE .....	0.7	mg/L
ATRAZINE .....	0.003	mg/L	HEPTACHLOR .....	0.0004	mg/L
BENZO(a)PYRENE .....	0.0002	mg/L	HEPTACHLOR EPOXIDE .....	0.0002	mg/L
CARBOFURAN .....	0.04	mg/L	HEXACHLOROBENZENE .....	0.001	mg/L
CHLORDANE .....	0.002	mg/L	HEXACHLOROCYCLOPENTADIENE .....	0.05	mg/L
2,4-D .....	0.07	mg/L	LINDANE .....	0.0002	mg/L
DALAPON .....	0.2	mg/L	METHOXYCHLOR .....	0.04	mg/L
DIBROMOCHLOROPROPANE (DBCP) .....	0.0002	mg/L	OXAMYL (Vydate) .....	0.2	mg/L
DI(2-ETHYLHEXYL) ADIPATE .....	0.4	mg/L	PCBs .....	0.0005	mg/L
DI(2-ETHYLHEXYL) PHTHALATE .....	0.006	mg/L	PENTACHLOROPHENOL .....	0.001	mg/L
DINOSEB .....	0.007	mg/L	PICLORAM .....	0.5	mg/L
DIQUAT .....	0.02	mg/L	SIMAZINE .....	0.004	mg/L
ENDOTHALL .....	0.1	mg/L	2,3,7,8-TCDD (Dioxin) .....	3 x 10 <sup>-8</sup>	mg/L
ENDRIN .....	0.002	mg/L	TOXAPHENE .....	0.003	mg/L
ETHYLENE DIBROMIDE (EDB) .....	0.00005	mg/L	2,4,5-TP (Silvex) .....	0.05	mg/L

**Disinfection Byproducts:**

TOTAL TRIHALOMETHANES (TTHMs) .....	0.080	mg/L
(Chloroform, Chlorodibromomethane, Bromoform & Bromodichloromethane)		
HALOACETIC ACIDS (HAA5) .....	0.060	mg/L
(Monochloroacetic Acid, Dichloroacetic Acid, Trichloroacetic Acid, Monobromoacetic Acid, & Dibromoacetic Acid)		
BROMATE .....	0.010	mg/L
CHLORITE .....	1.0	mg/L

**Disinfectants (MRDLs):** *Note 2*

CHLORINE (as Cl <sub>2</sub> ) .....	4.0	mg/L
CHLORAMINES (as Cl <sub>2</sub> ) .....	4.0	mg/L
CHLORINE DIOXIDE (as ClO <sub>2</sub> ) .....	0.8	mg/L

MRDL = Maximum Residual Disinfectant Level

**Radionuclides:**

GROSS ALPHA .....	15	pCi/L
COMBINED RADIUM (226 + 228) .....	5	pCi/L
BETA PARTICLE & PHOTON ACTIVITY .....	4	mrem/yr
Gross Alpha MCL excludes Radon and Uranium particle activity. Beta Particle & Photon Activity MCL is for man-made radionuclides.		
URANIUM .....	30	µg/L

**Inorganic Chemicals (IOCs):**

ANTIMONY .....	0.006	mg/L	FLUORIDE .....	2	mg/L
ARSENIC .....	0.010	mg/L	LEAD ** .....	0.005	mg/L
ASBESTOS (Fibers longer than 10µm) .....	7	million fibers/L	MERCURY .....	0.002	mg/L
BARIUM .....	2	mg/L	NITRATE (as Nitrogen) .....	10	mg/L
BERYLLIUM .....	0.004	mg/L	NITRITE (as Nitrogen) .....	1	mg/L
CADMIUM .....	0.005	mg/L	NITRATE + NITRITE (as Nitrogen) .....	10	mg/L
CHROMIUM .....	0.1	mg/L	SELENIUM .....	0.05	mg/L
COPPER ** .....	1.0	mg/L	THALLIUM .....	0.002	mg/L
CYANIDE (free CN) .....	0.2	mg/L			

\*\* The lead and copper primary MCLs are applicable only to bottled, vended, retail and bulk water hauling systems

**Microbiological Contaminants:** PRESENCE OR ABSENCE OF TOTAL COLIFORMS BASED ON NUMBER OR PERCENTAGE OF TOTAL COLIFORM POSITIVE SAMPLES/MONTH **OR** FECAL COLIFORM OR E.COLI POSITIVE ROUTINE OR CHECK SAMPLES

**Turbidity** ..... 1 NTU (applicable only to unfiltered surface water sources)

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**SECONDARY CONTAMINANTS**

ALUMINUM .....	0.2	mg/L	MANGANESE .....	0.05	mg/L
CHLORIDE .....	250	mg/L	ODOR .....	3 T.O.N	
COLOR .....	15	color units	pH * .....	6.5 - 8.5	
CORROSIVITY .....		non-corrosive	SILVER .....	0.1	mg/L
FOAMING AGENTS .....	0.5	Mg/L	SULFATE .....	250	mg/L
IRON .....	0.3	Mg/L	TOTAL DISSOLVED SOLIDS .....	500	mg/L
			ZINC .....	5	mg/L

\*The pH MCL represents a "reasonable goal for drinking water quality."

**Notes:**

mg/L = milligrams per liter = parts per million; µg /L = micrograms per liter = parts per billion;  
pCi/L = picocuries per liter (particle activity); mrem/yr = millirems/yr (annual dose equivalent)  
µm = micrometers; T.O.N. = threshold odor number

Chapter 109, Safe Drinking Water Regulations, defines MCL and MRDL as follows:

MCL (Maximum Contaminant Level) – the maximum permissible level of a contaminant in water which is delivered to a user of a public water system, and includes the primary and secondary MCLs established under the Federal Safe Drinking Water Act, and MCLs adopted under the act. For MCLs incorporated into this chapter by reference, the term refers to the numerical value and the means of determining compliance with that value and does not refer to the EPA applications to specific types of public water systems or sources.

MRDL (Maximum Residual Disinfectant Level) – the maximum permissible level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap without an unacceptable possibility of adverse health effects. The consumer's tap means the entry point for bottled water and vended water systems, retail water facilities and bulk water hauling systems.