

Drinking Water Standards, Sources of Contamination, and Health Hazards

| <u>Contaminant</u> | <u>MCLG</u> | <u>MCL or TT</u> | <u>Potential Health Effects from Ingestion</u> | <u>Sources of Contaminant in Drinking Water</u> |
|----------------------------------|--------------------|-------------------------|---------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| Benzene | zero | 0.005 | Anemia; decrease in blood platelets; increased risk of cancer | Discharge from factories; leaching from gas storage tanks and landfills |
| Benzo(a)pyrene (PAHs) | zero | 0.0002 | Reproductive difficulties; increased risk of cancer | Leaching from linings of water storage tanks and distribution lines |
| Carbon tetrachloride | zero | 0.005 | Liver problems; increased risk of cancer | Discharge from chemical plants and other industrial activities |
| Ethylbenzene | 0.7 | 0.7 | Liver or kidneys problems | Discharge from petroleum refineries |
| Ethylene dibromide | zero | 0.00005 | Problems with liver, stomach, reproductive system, or kidneys; increased risk of cancer | Discharge from petroleum refineries |
| Polychlorinated biphenyls (PCBs) | zero | 0.0005 | Skin changes; thymus gland problems; immune deficiencies; reproductive or nervous system difficulties; increased risk of cancer | Runoff from landfills; discharge of waste chemicals |
| Toluene | 1 | 1 | Nervous system, kidney, or liver problems | Discharge from petroleum factories |
| Xylenes | 10 | 10 | Nervous system damage | Discharge from petroleum factories; discharge from chemical factories |

Definitions:

Maximum Contaminant Level Goal (MCLG) - The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety and are non-enforceable public health goals.

Maximum Contaminant Level (MCL) - The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to MCLGs as feasible using the best available treatment technology and taking cost into consideration. MCLs are enforceable standards.

Maximum Residual Disinfectant Level Goal (MRDLG) - The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Treatment Technique - A required process intended to reduce the level of a contaminant in drinking water.

Maximum Residual Disinfectant Level (MRDL) - The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants. Units are in milligrams per liter (mg/L) unless otherwise noted. Milligrams per liter are equivalent to parts per million.

List of National Secondary Drinking Water Regulations

| Contaminant | Secondary Standard |
|------------------------|---------------------------|
| Aluminum | 0.05 to 0.2 mg/L |
| Chloride | 250 mg/L |
| Color | 15 (color units) |
| Copper | 1.0 mg/L |
| Corrosivity | noncorrosive |
| Fluoride | 2.0 mg/L |
| Foaming Agents | 0.5 mg/L |
| Iron | 0.3 mg/L |
| Manganese | 0.05 mg/L |
| Odor | 3 threshold odor number |
| pH | 6.5-8.5 |
| Silver | 0.10 mg/L |
| Zinc | 5 mg/L |
| Total Dissolved Solids | 500 mg/L |

Source: Environmental Protection Agency (EPA)

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