Contaminants in Drinking Water

Consumer Tips for Certified Water Treatment Products
1. Look for the certification logo
2. Look for the online product listing
3. Continue monitoring and maintenance

More About the Water Quality Association
The Water Quality Association advocates for the water treatment industry and its technologies. WQA members make and sell products such as treatment systems at the faucet, whole-house improvement devices, water softeners, and more.

WQA Gold Seal Certification Program is dedicated to providing public health and safety services throughout the USA and globally, and maintaining expert service, superior reputation, and fair pricing.

The Water Quality Association provides these facts sheets and resource guides as a services to its members, policymakers, and the general public. They are designed to promote discussion on key issues through facts and data.

Learn more
- Water Quality Association
  www.wqa.org
- WQA Gold Seal
  www.wqa.org/goldseal
- WQA Modular Education Program
  www.wqa.org/MEP

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A not-for-profit organization

Find Certified Products
Find Water Treatment Providers
Find Certified Professionals

LEAD

Courtesy of The Water Quality Association
a not-for-profit organization
# Quick Facts About Lead

**Source of Contamination**

Studies indicate nearly all the lead in users' tap water does not come from the primary water source or from the municipal treatment plant, but is a result of corrosion resulting from materials containing lead coming into contact with water after it leaves the treatment plant. Lead can enter a home's drinking water by leaching from lead service connections, from lead solder used in copper piping, and from brass fixtures.

**Regulated Action Level (for public water systems)**

| Maximum Contaminant Level (MCL): 0.015 mg/L | World Health Organization (WHO) Guideline: 0.01 mg/L |

## Potential Health Effects

Lead poisoning often shows no symptoms; however, signs such as irritability, weight loss, vomiting, constipation, or stomach pain could occur. Young children and pregnant women are at the greatest risk, even from short-term exposure. Reduced cognitive development and neurobehavioral deficits are associated with blood levels less than 10 micrograms of lead per deciliter of blood (ug/dL) in children. Thus, it is determined there is no safe blood lead level in children. Individuals will adsorb more lead if they have poor nutrition than those with better diets. To learn more, read the information on the Centers for Disease Control’s (CDC) website: [http://www.cdc.gov/nceh/lead/acclpp/blood_lead_levels.htm](http://www.cdc.gov/nceh/lead/acclpp/blood_lead_levels.htm)

## Water Treatment Methods:

**Reverse Osmosis**

Removal of lead by reverse osmosis is effective because the membrane removes not only the soluble lead impurities by ninety to ninety-five percent typically, but it also acts as a barrier to the particulate lead.

**Filters**

Data verifies certified filters for lead reduction, often using a mixture of activated carbon and a lead adsorbent, can remove particulate lead by particulate filtration and adsorption, and dissolved lead by adsorption. Filters must be designed to certain standards to guarantee lead contaminants will be filtered.

**Water Softener**

Cation exchange water softening is a well-established technology for removing dissolved forms of contaminants in the water. It’s important to note cation exchange water softeners will not remove particulate forms of lead, however it can remove dissolved lead.

**Distillation**

Although data is sparse, properly designed and operated distillation units are capable of reducing both particulate and dissolved forms of lead.

A water analysis should be conducted prior to selecting a removal technology. Treatment methods currently on the market may differ widely in their effectiveness in treating specific contaminants and performance may vary from application to application. Therefore, selection of a particular device or system for health contaminant reduction should be made only after careful investigation of its performance capabilities based on results from competent equipment validation testing for the specific contaminant to be reduced. They should be monitored periodically and the application of the water treatment equipment must be controlled diligently to verify continued performance.

**How to find a water treatment professional:**

To contact a water professional in your area visit WQA.org.

WQA member companies must abide by our Code of Ethics, which sets standards of conduct in dealing with their customers, related industries, and the public at large. Many of our members complete our education program, which is another way to find a high quality professional. Certified water treatment professionals are individuals who have completed a voluntary credentialing process through WQA. To become certified, the candidate must pass a comprehensive examination.