

## **Aluminum in Drinking Water**

Information for homeowners and other members of the public

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Aluminum is a naturally occurring metal that is found in the earth's crust. In its pure form, it is a soft, gray, shiny metal that is mined. Metallic aluminum is used as a structural material in the construction, automotive and aircraft industries, as well as in cookware, soft drink cans and aluminum foil. Aluminum salts are used as coagulants to purify municipal water that is drawn from lakes or reservoirs. Aluminum compounds are also found in some antacids, food additives, and antiperspirants.

### **How do I know if I have aluminum in my water?**

Aluminum-contaminated water has no taste or odor. However, very high aluminum levels can sometimes cause water to have a bluish color. The only way to know if your drinking water has elevated levels of aluminum is to have it tested by a state-certified water testing laboratory. You can find a certified laboratory by searching the telephone directory under "Laboratories- Testing" or by searching the lab lists on the Department of Natural Resources website:  
<http://dnr.wi.gov/org/es/science/lc/PW/Lablists.htm>

To help you understand the results, you can contact your local health department (<http://dhs.wisconsin.gov/localhealth>) or call the Wisconsin Department of Health Services (DHS) at (608) 266-1120.

### **How much aluminum is safe in drinking water?**

The World Health Organization has recommended that aluminum levels in community water supplies should not exceed 0.2 mg/L. This is the same level allowed in bottled water which is regulated by the U.S. Food and Drug Administration. In January 2011, Wisconsin adopted a standard of 0.2 mg/L for aluminum levels in groundwater. Water that contains more than 0.2 mg aluminum per liter should not be used for drinking water or to prepare beverages or infant formula. It is safe to use this water for other purposes such as bathing, showering, food preparation, and household chores.

### **How can I be exposed to aluminum?**

Most meats, fish, fruits, and vegetables naturally contain traces of aluminum. Cooking foods in aluminum pots and pans or in aluminum foil can increase their aluminum content. Aluminum-containing antacids, food additives, and antiperspirants are additional sources of exposure. Drinking water is not usually a significant source of aluminum exposure. However, high levels of aluminum have recently been found in groundwater in northwestern and central Wisconsin.

### **How can aluminum affect my health?**

While there is no evidence to suggest that ingestion of foods or beverages that naturally contain traces of aluminum is harmful, several investigators have recently reported cases in which short-term exposures to high aluminum levels in drinking water or dialysis fluid resulted in clinical diagnoses of dementia. In addition to these reports, researchers in France and Canada have reported slightly higher rates of Alzheimer's Disease among residents of communities that had elevated aluminum levels in their water supplies. Because Alzheimer's Disease has a strong genetic component, the effect of

aluminum on its development is controversial and needs further study. Infants and older people who suffer from diseases that affect kidney or liver function may be especially sensitive to the effects of ingested aluminum.

### **Is aluminum a concern for infants and young children?**

We are unaware of any studies that have evaluated aluminum exposure in infants or young children.

### **Are there federal standards for aluminum in drinking water?**

The U.S. Food and Drug Administration limits aluminum levels in bottled water to 0.2 mg/L.

### **How can I decrease my exposure to aluminum in drinking water?**

If you drink water from a privately-owned well and live in northern or western Wisconsin, you should consider having your water tested for aluminum. If the level exceeds 0.2 mg/L, we recommend that you treat your drinking water with a device known to reduce aluminum levels or purchase bottled water for drinking and beverage preparation. Contact the Department of Commerce (608) 267-1401 before buying a system to treat your water.

Public locations with individual wells (non-community wells), such as taverns, schools, and restaurants, must obtain approval from the Wisconsin Department of Natural Resources' Bureau of Drinking Water and Groundwater (608)-266-0821 before installing a water treatment system.

### **Where can I get more information?**

Contact the Wisconsin Division of Public Health at the address and phone number below, or your local health department, for more information regarding aluminum in well water.

- Wisconsin Division of Public Health, Bureau of Environmental and Occupational Health, PO Box 2659, Madison, WI 53701 (608) 266-1120
- Visit the department's website: <http://dhs.wisconsin.gov/eh>
- Wisconsin Local and Tribal Health Department Listing: <http://dhs.wisconsin.gov/localhealth>

For information about treatment options:

- Wisconsin Department of Commerce (608) 267-1401



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