

The Public Works Commission (PWC) and Concord Public Works (CPW) provides assurance that the upward adjustment of fluoride in Concord’s public water supply is performed by certified treatment operators licensed through the Massachusetts Division of Professional Licensures in accordance with appropriate regulatory guidance and standards.

COMMUNITY WATER FLUORIDATION – CONCORD

HISTORY OF WATER FLUORIDATION IN CONCORD, MA

A Town Meeting vote taken in 1969 (Article 67) authorized the Board of Health *to order the upward adjustment of the fluoride content of the water supply available for domestic use in the Town of Concord*. Water fluoridation began on March 2, 1970 using sodium fluoride with a target dose of 1.0 part per million (ppm) as recommended by the Massachusetts Department of Public Health (MassDPH).

FREQUENTLY ASKED QUESTIONS

What is Fluoride?

Fluoride is the negative ion of the element fluorine. Any compound, either organic or inorganic, that contains the fluoride ion is also known as a fluoride.

Where does fluoride come from?

Concord Public Works’ Water Division (CPW) adjusts the fluoride in the drinking water with sodium fluoride, which is a mineral. Most sodium fluoride is mined and processed in Asia from the same rock/mineral formation as phosphate ore; it is then packaged and distributed by European or American companies. Each year, Concord purchases dry sodium fluoride through a consortium of water suppliers to reduce bulk delivery costs and assure the product meets National Sanitation Foundation (NSF) & American National Standards Institute (ANSI) Standard 60 requirements.

Why does Concord “upwardly” adjust fluoride in our drinking water?

The naturally occurring level of fluoride identified in Concord’s drinking water is low; ranging from 0.04-0.10 parts per million (ppm). CPW upwardly adjusts the fluoride level to meet an optimal level of 1.0 part per million (ppm), or also referred to as 1.0 milligram per liter (mg/L). This level is recommended by the United States Centers for Disease Prevention and Control (CDC), Massachusetts Department of Public Health (MassDPH), American Dental Association (ADA), and World Health Organization (WHO).

In 2011, the US Department of Health and Human Services (HHS) proposed reducing the recommended level of fluoride to 0.7 ppm. This recommendation was made in consideration of the availability of fluoride from additional sources, such as toothpaste, and food and beverages made with fluoridated water. The Department of Health and Human Services is expected to publish the



final recommended fluoride level for drinking water in 2015. CPW will follow the Massachusetts Department of Public Health's recommendation as a directive from the Concord Board of Health.

How is fluoride added to Concord's drinking water?

CPW uses course crystalline sodium fluoride that meets the American Water Works Association B701-11 and NSF/ANSI-60 standard requirements for drinking water chemicals. The crystalline product is dissolved in a 50 gallon tank via an up-flow liquid saturator. Small quantities of this fluoride solution then injected into the main production site, which further dilutes it, before it is introduced into the water distribution system.

How does Concord track the amount of fluoride added to the drinking water?

All water supplies and treatment systems are continuously monitored using automated Supervisory Control and Data Acquisition technology (SCADA). Any upset in the operation or treatment systems will provide an immediate alarm and automated response, depending on the condition present. In addition to this automation, daily inspections of fluoride feed systems are made by licensed treatment system operators. This inspection includes the collection and analysis of one process control sample to ensure target treatment is achieved. Once a month, this sample is split with a state approved drinking water laboratory as an extra check to confirm accuracy of in-house testing.

What regulatory agencies oversee the fluoridation of Concord's Water?

Reports on the amount of fluoride added to the water each day are sent to Massachusetts Department of Public Health (MassDPH) & Massachusetts Department of Environmental Protection (MassDEP) by the 10th of each month outlining the amount of water treated, sodium fluoride added and daily fluoride readings.

CPW has received awards from the CDC for Fluoridation Excellence (2007, 2009, 2010, 2011, 2012 & 2013).

How would I know if there was too much fluoride in the water?

As with many water quality parameters regulated under the Safe Drinking Water Act, a Maximum Contaminant Limit (MCL) has been established for sodium fluoride of 4.0 ppm. Should this limit ever be exceeded, CPW would be required to notify customers and regulatory authorities of this situation with appropriate water use instructions.

How do you know that the fluoride Concord is adding to the water is safe?

Sodium fluoride and all other drinking water treatment chemicals are required to be tested and certified in accordance with the National Sanitation Foundation and American National Standards Institute (NSF/ANSI) Standard 60 for Drinking Water Treatment Chemicals, as well as American Water Works Association (AWWA) standards. These standards establish criteria for the evaluation of drinking water treatment chemicals to ensure that they, and any potential contaminants, do not cause adverse health effects when added to drinking water at the maximum use level. The standards address: 1. Material handling; 2. Safety concerns; and 3. Purity



and contaminants. The safety along with the purity and contaminants of all products is verified and validated annually by independent certification entities. To read more about this standard, see http://www.nsf.org/newsroom_pdf/NSF_Fact_Sheet_on_Fluoridation.pdf

How much does it cost to add fluoride to the water?

In Concord, it costs about \$1.00 per person per year to add fluoride to the water, including the cost for sodium fluoride, and routine operations and maintenance activities. The U.S. Centers for Disease Control and Prevention (CDC) estimates that for most cities, every \$1 invested in water fluoridation saves \$38 in dental treatment costs. www.cdc.gov/fluoridation/factsheets/cost.htm

Can I remove fluoride from my water?

Yes. There are a number of ways that individual customers can remove fluoride and other minerals from their drinking water using a special point-of-use filter. Concord does not recommend using a home water filter, but if you choose to do so, please be sure to choose a filter that is NSF certified. NSF tests individual filters to ensure that the filter does in fact remove what the manufacturer claims it removes. As a word of caution, if you decide to use a filter or other home water treatment system, be sure to maintain it according to the manufacturer's recommendation. Once the filter's removal capacity/age has been reached, you may risk releasing compounds back into the water. www.nsf.org

Is Concord unique when it comes to drinking water fluoridation?

No. As of the summer of 2014, Concord is one of 140 communities in Massachusetts that fluoridate their drinking water, including the Massachusetts Water Resources Authority that serves the greater Boston area. It is estimated that 370 million people in 27 countries consume water from a community water supply enriched with fluoride. See the other Massachusetts cities and towns that fluoridate (<http://www.mass.gov/eohhs/docs/dph/com-health/fluoride-census.pdf>).

What is the international take on fluoridated drinking water?

While many European and Asian countries do not increase the level of fluoride in the public water supply, it is inappropriate to assume that they are anti-fluoride. Several countries add fluoride to their table salt (much like you can buy iodized salt in the United States), and some even add fluoride to milk. Generally speaking, based on a variety of geopolitical issues, all water systems may or may not lend themselves to having fluoridated water supplies. Ultimately, each country must choose the delivery system they determine provides the greatest public benefit.

