



Fluoride in Drinking Water
Discussion Points and Position Statement
City of Reading
Environmental Advisory Council

The City of Reading's Environmental Advisory Council (EAC) has researched the fluoride addition into potable water supplies, namely the Reading Area Water Authority (RAWA)'s addition and monitoring of fluoride levels in the distribution system. Fluoride addition is a public health concern since its importance is relative to the reduction of dental caries in children. In Pennsylvania the public drinking water systems, and fluoride addition, are regulated by the Pennsylvania Department of Environmental Protection (PA DEP). For this reason, the EAC has been requested to provide a position statement.

For fluoride, the United States Environmental Protection Agency (US EPA) sets a maximum level of fluoride desirable in potable water which is used as a maximum goal for those locales where the removal of naturally-occurring fluoride is required. In Pennsylvania, where fluoride does not occur naturally, PA DEP sets a desired level of fluoride for water suppliers that add fluoride to public water supplies. Currently, that is set much lower than the US EPA maximum level in order to be more protective of the public health. The US EPA and PA DEP set their respective limits based upon dental and health recommendations. This is not the focus of the City's EAC but is more applicable to the City's Board of Health but the EAC did review the RAWA's compliance. The RAWA provided multi-year daily fluoride analytical data showing the levels entering the distribution system were consistently in compliance with the PA DEP guidelines. Any type of concern beyond their regulatory compliance with the fluoride goals is beyond the EAC's scope.

A review of recent news articles relative to fluoride in general found a few incidents related to fluoride that occurred in Pennsylvania.

- In September 1996, a bulk storage tank failure resulted in a spill of 23% hydrofluorosilicic acid to a drain that emptied into the Allegheny River. While reports differ widely in the volume released from the 8,000 gallon tank, one worker was treated for inhalation and the US Coast Guard issued a 'chemical spill advisory' halting boating and river traffic for about 12 hours while the chemical was transferred to another tank and the fumes from the release dissipated. Articles located did not mention any environmental damage resulting from the spill, and the acidity of the water remained normal.
- In December 2005, a public water company exceeded the fluoride levels in the water entering the distribution system due to what was determined to be intentional by an operator who propped a valve in the open position. This resulted in approximately 300 gallons of hydrofluorosilicic acid and a 'Do Not Consume' notice to roughly 30,000 consumers in both York and Cumberland Counties who were not able to use the water until the excessive fluoride levels were out of the system. In addition, the PA DEP and the Public Utilities Commission (PUC) made changes to improve the public notification process and its effectiveness for all unscheduled water service interruptions.

- A March 2009 incident involved a tanker overturning while trying to avoid a herd of deer resulting in a leak and spill of hydrogen fluoride or hydrofluoric acid. There was no impact on drinking water. This particular fluoride-containing chemical is used in a variety of industries but is not what is used to fluoridate drinking water which is the focus of the review of the EAC. This transportation incident brought heightened awareness to chemical spills during transit, especially in this rural area.

The EAC's prime focus relative to fluoride is to examine its potential impact on the environment. This could be from a number of sources from the liquid forms that are most common. A literature review of various documents yielded the most likely environmental sources to be:

- 1) naturally occurring fluoride in waters at higher than desired levels for drinking water or aquatic life,
- 2) fluoride from various potential sources passing through stormwater systems or spills occurring at water treatment facilities entering a water body, and
- 3) spills or releases occurring during manufacture, loading, shipping, or unloading. These potential sources of environmental impact are regulated by various state and federal government agencies in order to protect both the environment and the public health.

Due to the extent of other regulatory agencies establishing their criteria and determinations upon the most current credible available research, the City of Reading EAC will defer to the expertise of those agencies that have deemed the fluoridation of drinking water at determined levels to be safe and responsible.