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“Value – Integrity – Service”

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1,4-Dioxane and Drinking Water Concerns Fact Sheet

The District's Commitment to Water Quality

South Farmingdale Water District (SFWD) has been maintaining and delivering an uninterrupted supply of the highest quality water to customers since 1931. To that end, we ensure public health and safety, actively promote the conservation of our most precious resource, cooperate with all local, county, state and federal authorities, and pledge to fulfill this mission in an efficient, economical and environmentally sound manner.

The District's commitment to providing our community with high-quality water is unwavering. We take an immense amount of pride and dedication in providing consumers throughout our District with water that meets or surpasses all federal, state and local standards. Whenever there is a need for treatment, we invest what is necessary to ensure the safety and quality of our water.

What is 1,4-Dioxane?

1,4-Dioxane is a synthetic chemical historically used as a stabilizer for industrial solvents, predominantly 1,1,1-trichloroethane (TCA). Apart from its widespread use as a solvent stabilizer from the 1950s through 1990s, it is used in small concentrations in a variety of applications, such as inks, adhesives, and pharmaceuticals. It is also present in trace amounts in certain consumer products such as detergents, shampoos, and cosmetics as a byproduct of the manufacturing process.

How Does 1,4-Dioxane Get Into Drinking Water?

Just like other water suppliers on Long Island, South Farmingdale Water District relies on groundwater for its drinking water supply. 1,4-Dioxane has reached that groundwater primarily because of industrial manufacturing operations on Long Island that used TCA stabilized by 1,4-Dioxane from the 1950s to 1990s. Once Dioxane reached the ground from routine spills or disposal straight to the soil, it could migrate to the groundwater and persist for many years. Additionally, trace amounts of 1,4-Dioxane present in the household products (such as shampoo) gets washed down the drain and seeps into the ground, eventually entering Long Island's aquifer.

Is 1,4-Dioxane Regulated?

There is currently no chemical-specific Federal or New York State drinking water standard for 1,4-Dioxane. The U.S. Environmental Protection Agency (EPA) has listed 1,4-Dioxane as a probable human carcinogen, but at present the EPA has no plans for establishing water quality standards for the compound.

The New York State Department of Health (NYSDOH) currently regulates 1,4-Dioxane as an Unspecified Organic Contaminant (UOC). UOCs have a blanket Maximum Contaminant Level (MCL) of 50 parts per billion (ppb). No Long Island water supplier exceeds that level, including South Farmingdale Water District.

Is 1,4-Dioxane Regulated? (continued)

In December 2018, the New York State Drinking Water Quality Council proposed a recommended drinking water quality MCL of 1.0 part per billion (ppb). NYSDOH is presently reviewing this recommendation and preparing draft standards for the regulation of 1,4-Dioxane. The Commissioner of Health may consider a higher or lower MCL based on additional review of health impact data. A draft regulation is planned to be issued sometime in 2019, followed by a 60-day comment period. Implementation of a standard could occur as early as 2020.

What Actions Are Being Taken by SFWD to Address 1,4-Dioxane?

While waiting for the State to finalize its process of establishing an MCL, SFWD has taken every precaution necessary to test, monitor and assess all water sampling for 1,4-Dioxane. The District has also put in place operational measures to reduce any potential exposure, and aggressive water sampling is conducted regularly. This advanced planning has placed the District in a very favorable position to implement wellhead treatment as quickly as possible once an MCL is set.

Based upon recent tests and water sampling, SFWD only has one well over the proposed MCL of 1.0 part per billion (ppb) for 1,4-Dioxane. SFWD does not plan on using Well 3-1 and this will not affect water quality and water flow for our consumers.

The District is planning significant investments in wellhead treatment through grants and bonding, and that is why the District is also seeking to hold companies that caused the contamination accountable for the additional treatment costs.

What Sort of Treatment Is Required?

Pilot studies undertaken by Long Island water providers have demonstrated that Advanced Oxidation Process (AOP) effectively removes 1,4-Dioxane from drinking water. Comprehensive testing and quality control are required for 1,4-Dioxane removal because of the by-products generated by the advanced oxidation process. SFWD is taking proactive action to implement effective wellhead treatment as soon as possible.

When Will Treatment Be Implemented?

Rest assured that SFWD is undertaking proactive action to position the District to implement effective wellhead treatment as soon as possible. 1,4-Dioxane is not the first threat to Long Island's drinking water source. By working with leading water authorities, local elected officials and legal professionals, we are actively addressing this issue. All Long Island water providers, including South Farmingdale Water District, are taking proactive steps to monitor, and as necessary, remove this compound from our water supplies to ensure that drinking water meets all applicable local, state and federal quality standards.

Are There Any Health Risks Associated with 1,4-Dioxane?

The EPA has estimated the concentration of 1,4-Dioxane in water corresponding to an increased lifetime cancer risk of one-in-a-million, assuming consumption of 2 liters of water per day every day for a lifetime 70 years, which is 0.35 ppb. This health-protective criterion is often used as a non-regulatory benchmark for minimal risk.

The Federal Consumer Product Safety Commission (FCPSC) continues to monitor for 1,4-Dioxane in consumer products, and legislation has been proposed to regulate and restrict chemicals such as 1,4-Dioxane. Many personal care product companies are beginning to voluntarily remove this chemical from their products.

What About Home Water Treatment Devices And Bottled Water?

Regulations for 1,4-Dioxane in bottled water (which are enforced by the FDA) have not been developed. Bottled water manufacturers may have specific information on 1,4-Dioxane levels for their products. At present there are no NSF or UL certified home water treatment devices available for the removal of 1,4-Dioxane.

Where Can I Find More Information About 1,4-Dioxane?

- US EPA Technical Fact Sheet 1,4-Dioxane. https://www.epa.gov/sites/production/files/2014-03/documents/ffrro_factsheet_contaminant_14-dioxane_january2014_final.pdf
- US EPA Integrated Risk Information System (IRIS). <http://www.epa.gov/iris/subst/0326.htm>
- US EPA TSCA Work Plan Chemical Problem Formulation and Initial Assessment. 2015. https://www.epa.gov/sites/production/files/2017-06/documents/14_dioxane_problem_formulation_and_intial_assessment.pdf
- Agency for Toxic Substances and Disease Registry (ATSDR) Tox FAQs fact sheets. <https://www.atsdr.cdc.gov/toxfaqs/tfacts187.pdf>
- Water Research Foundation. 2014. "1,4-Dioxane White Paper." <http://www.waterrf.org/resources/StateOfTheScienceReports/1,4-Dioxane.pdf>
- National Institute for Occupational Safety and Health (NIOSH). "Dioxane - NIOSH Pocket Guide to Chemical Hazards". <https://www.cdc.gov/niosh/npg/npgd0237.html>

Where Can I Find Information About SFWD's Water Quality?

Our tap water continues to be of the highest quality possible and passes and exceeds all local, state and federal testing standards. The District ensures all consumers that your tap water is safe to drink. Consumers can access each our annual drinking water quality report from our website on our Water Quality web page: <http://sfwater.com/news/water-quality-reports/>

For additional information, please visit UPSEPA's website at www.epa.gov, or contact South Farmingdale Water District at 40 Langdon Road, Farmingdale, NY 11735. Phone: (516) 249-3330 • Email: info@sfwater.com • Web: www.sfwater.com