



# PLAINVIEW WATER DISTRICT

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Stephen M. Moriarty, P.E.

## **Plainview Water District 1,4-dioxane and Drinking Water Concerns Fact Sheet**

### **The District's commitment to water quality**

The Plainview Water District's commitment to providing the community with high-quality water is unwavering. We take an immense amount of pride in providing residents throughout the Plainview-Old Bethpage area with water that meets or surpasses all federal, state and local standards. Our foremost priority is the health and safety of the communities we serve, and we will go to any length necessary to ensure our mission is satisfied.

### **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). Although use of TCA was phased out under the 1995 Montreal Protocol and using 1,4-dioxane as a solvent stabilizer has since stopped, 1,4-dioxane is long-lasting in the environment and is present in groundwater as a legacy of industrial manufacturing. Apart from its use as a solvent stabilizer, it is used in small concentrations in a variety of applications, such as inks and adhesives. It is also found in trace amounts in products such as cosmetics, detergents, and shampoos.

### **How does 1,4-dioxane get into drinking water?**

Plainview Water District, like the other public water providers on Long Island, relies on groundwater for its drinking water supply. 1,4-dioxane has reached the 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 everyday household products—like shampoo, for example—also get washed down the drain and seeps into the ground and, eventually, Long Island's aquifer.

### **Is 1,4-dioxane regulated?**

There is currently no chemical-specific Federal 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.

In December of 2018, the New York State Drinking Water Quality Council (DWQC) proposed a recommended drinking water quality MCL of 1.0 part per billion (ppb). On July 8, 2019, Governor Cuomo and the New York State Department of Health Commissioner, Dr. Howard Zucker, announced that the

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recommendations by the DWQC were accepted, and the 60-day public comment period began on July 24, 2019. The public comment period ended on September 22, 2019, and implementation of a standard or MCL was slated to occur sometime in 2020.

Ahead of new regulations for emerging contaminants that are expected to take another step closer to implementation on Friday, July 30, 2020, the Plainview Water District has taken numerous proactive steps to address the issue and improve water quality throughout our community. As part of Plainview's commitment to provide residents with the highest-quality water possible, the District has taken the initiative in constructing state-of-the-art treatment systems known as the Advanced Oxidation Process (AOP).

Governor Cuomo recently stated: "We're proposing the most protective levels in the nation for three emerging contaminants to ensure we are regularly testing and fixing water systems before they ever rise to a public health risk in any part of the state. New York State will continue to lead in the absence of federal action by ensuring all residents have access to clean drinking water and by investing in critical projects to assist municipalities in treating these emerging contaminants".

The NYSDOH, which has proposed a 1 part per billion (ppb) standard for 1,4-dioxane in drinking water defines the unit of measurement as follows: "One ppb means that there is one part of a substance for every billion parts of substance and the medium containing it. One ppb is about one drop of dye in 18,000 gallons of water or about 1 second in 32 years."

Details of the regulation of an MCL of 1 ppb for 1,4-Dioxane are expected to be published in the State register sometime this year and all water providers will be required to sample regularly.

The Plainview Water District has implemented an action plan to treat for 1,4-Dioxane ahead of these regulatory limits.

### **What actions are being undertaken by the Water District to address 1,4-Dioxane?**

#### **Locally:**

In addition to sampling for 1,4-dioxane in PWD's wells, PWD's commissioners have authorized additional proactive actions by the District, including:

- Pilot studies have been completed and results have been submitted to the Nassau County and New York State Department of Health proven to remove 1,4-Dioxane.
- Treatment equipment has been procured, delivered and installed over the past several months at our affected well sites.
- We are in the final phases of completion for the projects that have added AOP treatment as well as Granular Activated Carbon – the treatment duo needed to remove 1,4-Dioxane – to four of the Districts well sites. However, these advanced treatment systems can only be operated after approval from the Nassau County and New York State Health Departments.
- Production of educational materials including consumer fact sheets, newsletters and website resources to provide information in order to keep residents updated on the District's aggressive action to comply with impending regulation.

- As part of Governor Cuomo’s Water Infrastructure Improvement Act, Plainview Water District was awarded nearly \$9 million in grants over the last three years.
- In addition, the District has utilized its dedicated capital improvement reserve funds as well as secured bond funding from the Town of Oyster Bay to finance the remaining costs of the projects.
- The water district nor the community’s residents are responsible for this contamination. Pursuing litigation—along with 23 other Long Island water providers—to hold the manufacturers of 1,4-dioxane accountable because the District firmly believe residents should not be held liable for the expense of cleaning up the mess left behind by polluters.
- Pursuing any and all potential funding sources to keep costs of needed treatment upgrades as low as possible for our residents.

The District has already received some funding to pursue the various 1,4-dioxane pilot programs, including the recent award of a design and planning grant to construct additional 1,4-dioxane treatment. In addition, we are actively in touch with agencies that are likely to offer grants in the future. In total, PWD has been awarded nearly nine (9) million dollars in grant funding for water treatment projects, which includes treatment pilots for the removal of 1,4-dioxane and construction of treatment facilities but does not include money for ongoing operations, maintenance, testing and upgrades.

These advanced piloting and planning operations will place the District in a very favorable position to implement wellhead treatment as quickly as possible.

**Regionally:**

The PWD is partnering with organizations, such as the Long Island Water Conference and various environmental and community organizations, to improve public education and gather support for initiatives to stop the inclusion of the chemical in consumer products. As noted, the PWD is also one of many Long Island water districts pursuing legal action against polluters and manufacturers to better protect our ratepayers.

**How do water suppliers treat for 1,4-Dioxane?**

The most effective method of treatment available for the removal of 1,4-dioxane from our groundwater is a process known as Advanced Oxidation Process or AOP. An additive such as hydrogen peroxide is introduced into the raw well water and pumped through an ultraviolet (UV) reactor where the UV lights react with the additive to destroy the 1,4-dioxane molecule. Granular Activated Carbon (GAC) vessels are needed at the end of the treatment sequence to remove any hydrogen peroxide in the water before it enters the distribution system.

**When will treatment be implemented?**

Comprehensive testing and quality control measures are being conducted today for the removal of 1,4-Dioxane that will permit the PWD to meet the water demands of our community. We expect to bring these systems online before the regulation’s anticipated compliance deadline of early Fall 2020. However, these advanced treatment systems can only be operated after approval from the Nassau County and New York State Health Departments.

Needless to say, the Plainview Water District believes strongly that our water should be of the highest quality and free from all possible harmful contaminants.

### **What about home water treatment devices and bottled water?**

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

### **Where can I find more information about 1,4-dioxane?**

- Governor Cuomo's press release July 8, 2019  
<https://www.governor.ny.gov/news/governor-cuomo-announces-availability-350-million-water-system-upgrades-statewide-and-directs>
- 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](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>
- Agency for Toxic Substances and Disease Registry (ATSDR) ToxFAQs fact sheets.  
<http://www.atsdr.cdc.gov/toxfaqs/tfacts187.pdf>
- Water Research Foundation. "1,4-Dioxane White Paper."  
<https://www.savmn.com/DocumentCenter/View/290/14-Dioxane-White-Paper-from-the-Water-Research-Foundation-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 Plainview Water District's water quality?**

Our tap water continues to be of the highest quality possible and conforms to all current regulations. Residents can access each annual water quality report from the District's website, [www.plainviewwater.org](http://www.plainviewwater.org). For additional information, please visit the UPSEPA's website at [www.epa.gov](http://www.epa.gov), or contact the Plainview Water District at (516) 931-6469 or email us at [info@plainviewwater.org](mailto:info@plainviewwater.org).