NEW JERSEY
AMERICAN WATER

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ABOUT 1,4 DIOXANE

WHAT IS 1,4-DIOXANE?

1,4-dioxane is a manmade compound that is used as a solvent or solvent stabilizer in manufacturing and industrial processes. It is also a by-product of the formulation of detergents, personal care products and cosmetics. Many manufacturers are beginning to voluntarily remove 1,4-dioxane from consumer products.

HOW DOES 1,4-DIOXANE GET INTO DRINKING WATER?

1,4-dioxane enters the environment in contaminated soils, and in wastewater discharges to storm drains, sewers, and pipes that flow to streams and rivers, or to basins where the compound may seep into underground aquifers.

Because 1,4-dioxane mixes into surface waters like streams and rivers, as well as groundwater in aquifers, it can remain present for a long period of time. 1,4-dioxane does not break down quickly once it is mixed with these waters.

Drinking water utilities that utilize surface water and/or groundwater can bring raw water containing 1,4-dioxane into their treatment systems.

CAN 1,4-DIOXANE BE REMOVED FROM DRINKING WATER?

Yes, most commonly through Advanced Oxidation Processes (AOP). Instead of filtering the compound from the water, this treatment process essentially breaks 1,4-dioxane into non-hazardous and common compounds.

IS 1,4-DIOXANE REGULATED?

No Federal or New Jersey drinking water standard has been established for 1,4-Dioxane. Under its Unregulated Contaminant Monitoring Rule (UCMR) testing, the United States Environmental Protection Agency (USEPA) cited a reference concentration of 0.35 parts per billion (ppb). EPA does not require any specific action if UCMR monitoring results exceed a reference level. Occurrence data is used to determine if regulation is needed. In February 2020, USEPA decided not to proceed with a preliminary regulatory determination. However, individual states may pass state-specific regulations. For example, New York has adopted a Maximum Contaminant Level (MCL) of 1 ppb. New Jersey is expected to begin the process of setting state regulations for 1,4-dioxane in drinking water in 2021 at approximately 0.33 parts per billion.

WHAT IS NEW JERSEY AMERICAN WATER DOING ABOUT 1,4-DIOXANE?

Many New Jersey American Water systems were tested for 1,4-dioxane during the USEPA's UCMR testing in 2013 through 2015. While detections were not widespread, some groundwater sources had detectable amounts of 1,4-dioxane. For many of these sources, treatment was installed or the well was taken offline.

New Jersey American Water continues to test surface water systems on a routine basis to be prepared for any changes or increases in 1,4-dioxane that could be entering its water treatment facilities.

Water quality experts at the company's Delaware River Regional Water Treatment Plant (DRRWTP) have been sampling its surface water supply weekly throughout 2020 after detectable levels were found in the Delaware River in February. New Jersey American Water continues to partner with the New Jersey Department of Environmental Protection, the Delaware River Basin Commission and others to track watershed levels and identify potential sources of 1,4-dioxane.

In addition, the DRRWTP utilizes ozone treatment as part of the normal water treatment process. Ozone is one component of AOP and through the advanced treatment processes at the DRRWTP most of the compound is eliminated from the treated water. The DRRWTP is in the process of adding additional treatment to reduce the levels of 1,4-dioxane to meet the proposed MCL by the end of 2021, in advance of when the anticipated DEP regulation would become effective.

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