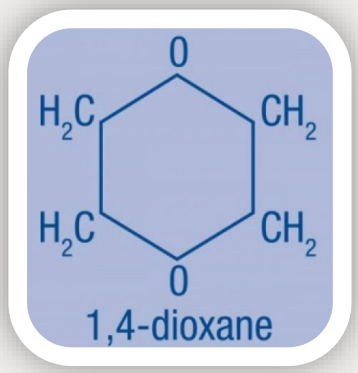
1,4-dioxane

What is 1,4-dioxane?

1,4-dioxane is a colorless, flammable liquid often used as a solvent or solvent stabilizer in the manufacture and processing of certain plastics, cotton, textile products, automotive coolant, cosmetics, shampoos and other products.



How does 1,4-dioxane Enter Waterways?

1,4-dioxane can enter lakes, rivers, or groundwater as part of some industrial releases or wastewater treatment plant discharges.

Is 1,4-dioxane Regulated?

1,4-dioxane is not currently regulated. However, EPA has established a health advisory of 35 parts per billion (ppb). Health advisories are not regulatory limits, they provide technical guidance to state agencies and public health officials.

Is 1,4-dioxane Found in the Town of Cary Drinking Water?

	Average	Range (ppb)
1,4-dioxane	<0.07	<0.07—0.15

In 2023, we tested for 1,4-dioxane 13 times. Results ranged from <0.07 to 0.15 ppb, with an average of <0.07 ppb. All results were below the US EPA's health advisory of 35 ppb.

The Cary/Apex Water Treatment Process and 1,4-Dioxane

Cary operates an advanced water treatment facility with multiple-barrier processes such as ozonation and powdered activated carbon treatment in addition to the conventional water treatment processes of sedimentation and filtration. The ozonation process is effective at reducing 1,4-dioxane levels.

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CARY

Because we Often Get Asked...

- Our reservoir, Jordan Lake, contains 70 billion gallons of water. Its size and magnitude helps protect it from influences including the Haw River which is more than 6 miles downstream of our intake.
- According to the EPA, a person who drinks 2 liters of water with 1,4-dioxane concentrations above 0.35 ppb every day for seventy years could have a 1 in a million risk of getting cancer.
- Our test results, to date, do not exceed the health advisory, Installing a home filtration system is a personal choice and may or may not further reduce 1,4-dioxane found in Cary's water. If considering home treatment, please note:
    - Dr. Knappe from NC State University stated that under-sink RO systems have been shown to be effective for 1,4-dioxane reduction.
    - There are no NSF/ANSI standards that currently cover reducing 1,4-dioxane. They therefore do not have any recommendations for certified treatment systems.

If a home treatment is used, it is important to follow the manufacturer's guidelines for maintenance and operation.

- Bottled water quality varies. We recommend that you contact the bottled water manufacturer for information about contaminant levels.

For more information

- EPA Technical Fact Sheet – 1,4-Dioxane November 2017
- American Waterworks Association - What is Dioxane?
- Water Research Foundation - 1,4-Dioxane White Paper
- 1,4-Dioxane in Drinking-water - Background document for development of WHO Guidelines for Drinking-water Quality
- NC DWQ—Managing Emerging Compounds in Water

Questions?

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