

# FAQs: Disinfection by-products/THMs



June 14, 2017

## What are trihalomethanes (THMs)?

Trihalomethanes, or THMs, are by-products of the process used to disinfect water during the treatment process. They are formed when natural organic material, such as the decaying vegetation commonly found in lakes and reservoirs, reacts with chlorine used to treat the water.

## Are there THMs in my drinking water? Why?

Yes. THMs are formed when chlorine reacts with naturally-occurring organic matter in water. Current levels in EBMUD water are higher than they have been previously; however THM concentrations do not exceed state and federal public health requirements. EBMUD is taking corrective action to address elevated levels of disinfection by-products.

Chlorine is necessary for disinfection and required by regulations to protect public water supplies. It has been used to disinfect water for almost a century due to its effectiveness at killing bacteria and viruses in water, reducing the incidence of intestinal illness and other health problems caused by waterborne germs.

## Is EBMUD water safe to drink?

Yes, the water is safe to drink. EBMUD drinking water quality continues to meet or surpass every state and federal public health requirement. The EPA has set regulatory limits on THM concentrations to be protective of public health for all potential health risks. EBMUD drinking water is below the regulatory limits.

If you have a specific medical condition that you are concerned about, please consult your doctor for recommendations.

## What are the steps EBMUD is taking to reduce the levels of disinfection by-products like THM?

### *NOW:*

To address this challenge, the District has increased water quality sampling, implemented operational changes and a new flushing program. EBMUD is testing THM removal technologies through a pilot aeration system at the Lafayette Water Treatment Plant. In addition, infrastructure upgrades designed to lower THMs are already underway.

The District is currently flushing pipes in areas most affected by these conditions. Flushing removes sediment and mineral deposits, and helps maintain a chlorine residual within

the distribution system to ensure the delivery of high quality water to customers. Customers in Orinda and Berkeley have been notified via Nextdoor about flushing in their neighborhoods.

### *SHORT TERM:*

This past November, EBMUD configured a pilot water treatment facility to test new treatment processes, doses and configurations. EBMUD is using this testing facility to evaluate different coagulants and filter configurations to address these water quality challenges.

EBMUD is also considering accelerating plans that are already underway, including pretreatment and disinfection modifications at our in-line water treatment plants. Our five-year capital improvement plans include reliability and improvement projects at several inline water treatment plants, which will reduce disinfection by-products significantly.

### *LONG TERM:*

Ultimately, major changes to treatment processes may be required to deal with changes due to reduced water consumption, higher temperatures and higher concentrations of natural organic carbon in raw water. These changes are significant, and would require a major investment by EBMUD.

## BACKGROUND QUESTIONS

### Why are the levels of THMs increasing?

California's historic drought, followed by record-setting rainfall, continues to have impacts on drinking water systems throughout the San Francisco Bay Area. The East Bay Municipal Utility District is experiencing water quality and treatment challenges due to reduced water consumption, higher temperatures, and higher concentrations of natural organic carbon in our untreated 'raw' water from Pardee Reservoir in the Sierra foothills.

Reduced water consumption – a tremendous benefit for EBMUD's water supplies and future water needs – has reduced flows and water use in our distribution systems. Reduced use can result in increased water age – the amount of time water remains in our pipes and storage tanks.

Water age, along with water chemistry changes, can affect the residual disinfection used to protect the distribution system – the treatment that removes water borne pathogens from our drinking water. Flushing moves water through the distribution system, removes sediment and mineral deposits that can accumulate in water pipes, and helps maintain our high water quality throughout the drinking water system.

### How does EBMUD monitor THMs in the water?

EBMUD tests for THMs as part of routine testing to monitor treated water. We have observed that levels have increased over the past two years. System average is currently at 58 parts per billion, exceeding our own internal goal of 40 ppb, but continues to be under the state and federal limit of 80 ppb. We regularly report these levels to the State Water Resources Control Board Division of Drinking Water, as well as report quarterly on water quality to our Board of Directors. We publish results in our Annual Water Quality Report (AWQR) available to the public at [www.ebmud.com/wqr](http://www.ebmud.com/wqr) and notify our customers (via postcard and bill insert) when the AWQR is published.

### What are the health risks of THMs?

Studies show that some people with long-term exposure to drinking water containing THMs in excess of state and federal limits may have an increased risk of getting cancer. This is not the case with EBMUD drinking water, which continues to meet all state and federal guidelines.

### If I am pregnant, should I stop drinking tap water?

You should talk to your physician for advice. There is no recommendation to stop drinking tap water.

### Can I shower, bathe, or wash dishes, with EBMUD water?

Yes, it is safe to shower, bathe, and wash dishes.

## ADDITIONAL RESOURCES

### Questions on tap water quality:

- California Environmental Protection Agency State Water Resources Control Board, Division of Drinking Water 916-449-5577 or [www.waterboards.ca.gov/drinking\\_water/](http://www.waterboards.ca.gov/drinking_water/)
- Environmental Protection Agency's Safe Drinking Water Hotline, 800-426-4791 or [www.epa.gov/safewater](http://www.epa.gov/safewater)



EBMUD has a proud history of providing high-quality drinking water for 1.4 million customers in Alameda and Contra Costa counties. The District's award-winning wastewater treatment protects San Francisco Bay and serves 685,000 customers.

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