

Taste and Odor in Drinking Water



San Francisco
Water Power Sewer
Services of the San Francisco Public Utilities Commission

General Overview

The San Francisco Public Utilities Commission (SFPUC) manages a complex water supply system. It runs from the Sierra Nevada to San Francisco and includes reservoirs, tunnels, pipelines, and treatment systems. Depending on the time of year, the SFPUC may change water sources from one reservoir to another. We may also use different treatment facilities to manage water supplies, adjust for water demand, and accommodate for annual maintenance. These water supply changes can occasionally cause a noticeable change in the taste and odor of tap water. Taste and odor issues are not considered to be a concern for human health. However, they are used to assess the aesthetic quality of drinking water. The drinking water that the SFPUC delivers meets or exceeds all federal and state water quality standards.

Sources of Taste and Odor

Unusual or objectionable taste and odors may be due to the following:

- **EARTHY/MUSTY:** The most common reason for taste and odor issues in San Francisco water is algae blooms in local reservoirs. This is a seasonal issue that normally occurs when source water, or the water used for drinking water, begins to warm due to consistently warm weather. Warmer water provides ideal conditions for algae to grow. An increase in naturally occurring algae in the source water can cause a fishy or earthy/musty odor in the drinking water. Although the odor may be unpleasant, the quality of the water is not compromised. The water is safe to drink.
- **BLEACH-LIKE/MEDICINAL:** If you experience a bleach-like or medicinal taste and/or odor, this is due to planned adjustments to the drinking water supply. These adjustments include the addition of chlorine-based disinfectant to the water or temporary feed system. Water disinfection is necessary to maintain the water quality and prevent illness. Adjustments in water disinfection are a standard water utility practice. The United States Environmental Protection Agency (U.S. EPA) approves the amounts of disinfectants that we use. The amounts also meet the regulatory limits.

Summary

Sometimes drinking water may have a noticeable change in taste and odor. Taste and odor issues are not considered to be a concern for human health. However, the SFPUC does measure taste and odor to make sure we deliver the most appealing water possible.

The drinking water we deliver is safe to drink. It meets all federal and state water quality standards. If you're concerned about taste and odor, you can try:

- Using activated carbon in household water filters.
- Boil your drinking water to prepare a hot drink or meal.
- Add an orange or lemon to cold water.

Here are some common causes of taste and odor issues:

- **Earthy/musty water:** Algae blooms in local reservoirs can cause this taste and odor issue. Algae blooms happen when the weather is warm. It can cause an earthy or musty odor in the drinking water. Even though the odor may be unpleasant, the water is safe to drink.
- **Bleach-like/medicinal:** Planned changes to the drinking water supply can cause this taste and odor issue. These changes include adding chlorine-based disinfectant to the water. This disinfectant prevents illness and is standard industry practice.
- **General taste and odor issues:** When the SFPUC changes sources of drinking water, some people may notice a small change in their water's taste and odor.

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- **GENERAL CHANGE IN T&O:** Sensitive individuals sometimes notice a subtle change in the taste and odor. This can happen when the SFPUC uses different sources of water. The SFPUC's sources of water include Hetch Hetchy Reservoir in Yosemite National Park, local reservoirs in the East and West Bay, and groundwater. Local reservoirs may have a higher hardness and total dissolved solids than the water from Hetch Hetchy Reservoir. This means sensitive individuals may be able to detect when local reservoirs are supplying the SFPUC's drinking water system.

How can I remove taste and odor from my tap water?

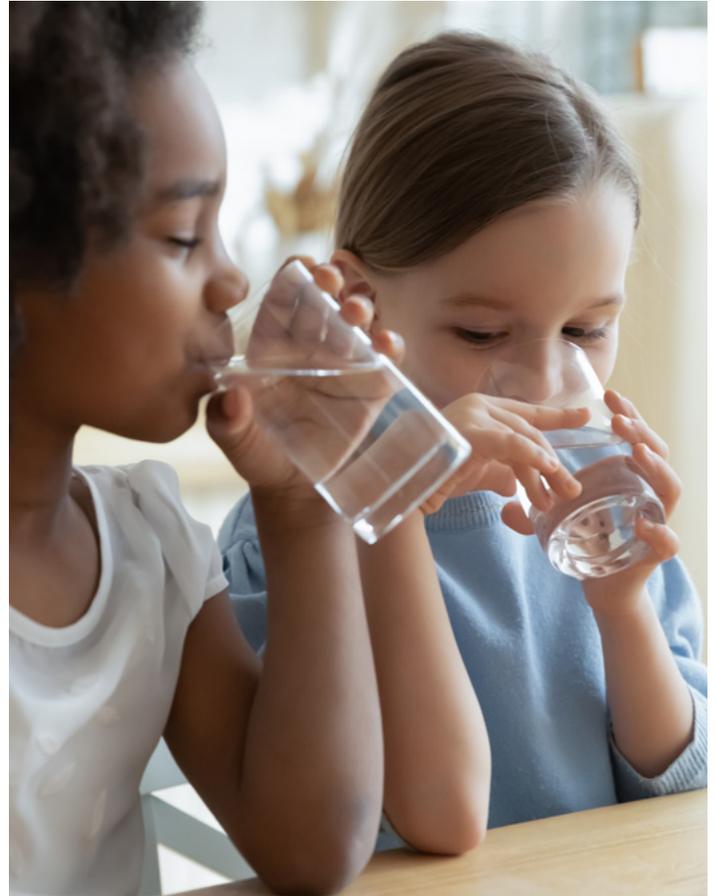
You can use activated carbon in household water filters to adsorb taste and odor compounds. Also, you can boil the water to prepare a hot drink or meal. You can add an orange or lemon to cold water to decrease the taste or odor.

How does the SFPUC monitor taste and odor in drinking water supplies?

To monitor taste and odor in drinking water, the SFPUC measures algae that causes fishy or earthy/musty flavor, even when present in very small amounts. Additionally, the SFPUC monitors secondary maximum contaminant levels (MCLs), or the highest level of a contaminant allowed in drinking water, that can cause taste and odor concerns. For example, we monitor threshold odor number and total dissolved solids. Threshold odor number is a measurement of how diluted water needs to be before the odor is not detectable. We have also taken laboratory measurements of flavor profile analysis, or a sensory evaluation method, to assess the flavor of drinking water.

How does the SFPUC treat for taste and odor?

The SFPUC's treatment methods to remove taste and odor include the use of oxidants, chlorine, powdered activated carbon, and ozone. The SFPUC is currently investing \$326 million to add an ozone facility at the Sunol Valley Water Treatment Plant. Ozone facilities effectively control taste and odor. In the water distribution system, the SFPUC maintains a stable chloramine concentration. Chloramine has a lower taste and odor than other forms of chlorine. It removes bleach-like/medicinal flavors.



Health Considerations

Taste and odor issues are not considered to be a concern for human health. However, they are used to judge the aesthetic quality of drinking water. Public water systems use secondary maximum contaminant levels, or the highest level of a contaminant allowed in a drinking water, to maintain the aesthetic quality of drinking water such as odor, taste, and appearance. To learn more about specific information regarding secondary drinking water standards, please refer to the U.S. EPA website: <https://www.epa.gov/sdwa/secondary-drinking-water-standards-guidance-nuisance-chemicals>



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References:

US EPA: “Secondary Maximum Contaminant Levels”

<http://water.epa.gov/drink/contaminants/secondarystandards.cfm>

State Water Resources Control Board: “Secondary Maximum Contaminant Levels”

https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/ddw_secondary_standards.pdf

SFPUC: “Annual Report”

<https://www.sfpuc.org/accounts-services/water-quality/annual-water-quality-reports>

We’re Committed to Quality

Our highly trained chemists, microbiologists, technicians and inspectors consistently monitor the water we serve—throughout our system, every day of the year. For additional information and materials, please visit [sfpuc.gov/waterquality](https://www.sfpuc.org/waterquality).

For questions about YOUR water, please call 311. You can also visit [sf311.org](https://www.sf311.org).

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