

# fact sheet

## Water Tastes and Odors

### Does your drinking water taste or smell funny?

Drinking water imported from the Sacramento-San Joaquin Delta or captured as rainfall in local reservoirs can occasionally have taste and odor problems by the time it reaches your tap, depending on the time of year or the source of the water coming into our treatment plants. The predominant tastes and odors are "chlorinous," caused by the disinfection process, or musty or earthy, which is caused by algae, or a "rotten-egg" smell caused by a lack of oxygen.

In Santa Clara County, musty or earthy tastes and odors are more likely to occur in late summer and fall from algal blooms caused by warmer temperatures and increased sunlight. Although the Santa Clara Valley Water District's modern treatment plants are able to remove the algae, some of the taste- and odor-causing compounds may be left behind. Despite temporary taste and odor problems in water supplies, your drinking water is safe.

### Chlorinous

During the treatment process, chlorine is added to water as a disinfectant. Before the water leaves the treatment plant, ammonia is added to form chloramines to keep the water disinfected while it is distributed to homes and businesses.

Chloramines may impart a chlorinous, or medicinal, taste or odor to your drinking water. Chloramines, rather than chlorine, are used to maintain a disinfectant residual because they are more stable, form fewer disinfection by-products, and tend to produce less offensive tastes and odors.

### Musty or earthy

An earthy or musty smell, particularly in hot water, may be the result of an algal bloom in the untreated water supply. Algae thrive at different times of the year in reservoirs. Taste- and odor-producing algae typically bloom in the late summer or fall. Although algae are removed during the treatment process, some of their metabolites may be left behind. The two most common metabolites are geosmin and 2-methylisoborneol (MIB). Even though these compounds are harmless, the human senses of taste and smell are extremely sensitive to them and can detect them in the water at concentrations as low as 5 parts per trillion.

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## Rotten egg

A rotten-egg smell typically occurs from a lack of oxygen in the natural or man-made reservoir storing water before it is treated. It is caused by bacterial decomposition of algae and organisms, which, when no oxygen is present, produces hydrogen sulfide. Hydrogen sulfide emits a rotten-egg smell. The district's treatment process reoxygenates the water and removes the rotten egg odor. Although unlikely, some residual odor may remain.

## Other

Other common odors you may occasionally notice in your tap water are fishy, grassy or marshy odors. These are also caused by compounds produced by different types of algae. Although these compounds may impart an odor, they do not adversely affect the safety of your drinking water.



## Monitoring and treatment

In addition to laboratory analyses which measure the concentrations of taste- and odor-causing compounds, the district also conducts "flavor profile" analyses on a regular basis. Flavor profile analysis uses a group of trained panelists to identify flavors and/or aromas in raw and treated waters. Current methods for treating taste and odor problems include using powdered activated carbon or potassium permanganate, neither of which leaves the treatment plant in the treated water. Two of the district's water treatment plants have undergone significant upgrades, including the installation of new ozone systems, which is significantly improving the tap water produced at these plants.

## What We Do

The Santa Clara Valley Water District manages wholesale drinking water resources and provides stewardship for the county's five watersheds, including 10 reservoirs, hundreds of miles of streams and groundwater basins. The Water District also provides flood protection throughout Santa Clara County.

## Contact Us

For more information about water quality, contact Water Quality Unit Manager Bruce Cabral at (408) 265-2607, ext. 2796, or by e-mail [bcabral@valleywater.org](mailto:bcabral@valleywater.org).

