
HYDROGEN SULFIDE (SULFUR) IN DRINKING WATER

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HEALTH EFFECTS

There are no known adverse health effects associated with hydrogen sulfide in drinking water. The major effect of hydrogen sulfide is an obnoxious odor, best described as musty and swampy, and at stronger concentration, as rotten eggs.

Water containing hydrogen sulfide is corrosive and can sometimes tarnish silver and chrome.

SOURCES

Hydrogen sulfide is a gas formed when organic matter, such as leaves, decays under the ground. When a well penetrates the layer where decay is occurring, the resulting ground water will contain hydrogen sulfide.

Sometimes, particularly in hot water, a sulfur odor is caused by bacteria that give off hydrogen sulfide gas. Although these bacteria are not a health risk, their presence results in objectionable tastes and odors. To kill the bacteria you must add chlorine to your well or spring and pump it throughout your entire plumbing system. If the situation persists, continuous chlorination may be necessary.

“Sulfur water,” as it is commonly called, can occur in wells over a large area. Many wells on the shores of Lake Champlain contain sulfur water due to a common geologic condition. Wells drilled in other areas of the state may also contain sulfur water.

TREATMENT

There are several methods commonly used to remove hydrogen sulfide from drinking water. For information on specific brands and manufacturers, look under “Water Treatment” in the yellow pages of your telephone book.

Small amounts of hydrogen sulfide can usually be removed by one of these methods:

Activated carbon filter—The filter must be replaced periodically by the homeowner.

Aeration and filtration—Aeration exposes dissolved hydrogen sulfide to air by atomizing the water through a spray nozzle or aerator, or by injecting air into the water under pressure. The water is then filtered to remove any sulfur particles.

For more serious sulfur gas concerns, you may want to look into the following treatment options:

Manganese greensand—This filtering system needs periodic backwashing to remove the collected sulfur.

Chlorination and filtration—A chlorinator injects chlorine into the water. The chlorine oxidizes the sulfide which may then be removed by filtration.

Anion exchange—The sulfide is exchanged for chloride within a resin tank or canister.

December 1993

