

Hg⁰ Mercury is a silvery liquid called Hydrargyrum or water silver by ancient Greeks, and quicksilver today. It is a naturally occurring element, #80, that is liquid from -39° C to 357° C (-38°F to 674°F). A bucket of mercury weighs as much as 13 and a half buckets of water. It's density is 13.5. It was produced here by heating cinnabar to over 1,100°F, then cooling the mercury vapor gas to less than 675°F.

Uses:

Mercury is used to extract gold and silver from rock, in barometers, thermometers, blood pressure gages, switches, and mirrors.

Toxicology:

Liquid mercury is not very dangerous, but breathing the vapors can cause drooling, dullness, diarrhea, tooth loss, and heart problems.



HgCH₃⁺² Methylmercury is an ionic organic compound that can connect to proteins in animals. Natural methylmercury is made by bacteria living in stagnant waters with very low oxygen. The small amounts can be concentrated by algae, prey fish and mammals like dolphins and whales. Bass in Almaden and Guadalupe reservoirs have much more methylmercury than algae-eating fish. Man-made methylmercury was first seen as an industrial waste product from the production of vinyl acetate.

Uses:

Grain shippers used a pink solution of methylmercury to prevent early germination of seeds.

Toxicology:

Only human-made methylmercury has been linked to death. No detectable methylmercury was found in long-term residents of New Almaden.

Famous Compounds of mercury NOT found in New Almaden

“Mad Hatters” Poison

Hg(NO₃)₂ Mercury Nitrate was used in making hats. It was absorbed through the skin causing drooling, shaking, and tipsy walking.



HgS Cinnabar is the ore mineral mined in New Almaden to produce mercury. Cinnabar crystals are brilliant red, but the powder is red-orange, vermillion. Cinnabar is softer than a fingernail, and 8 times as dense as water. The chemical name is mercury sulfide. When heated to over 1,000°F, it changes to mercury vapor, and sulfur gas.

Uses:

Cinnabar is used to make mercury. When combined paint, laquerware, and jewelry.



HgO Mercury Oxide is a rare ionic compound. It can be made in the air when mercury vapor is combined with oxygen using the sun's energy. Some mercury oxide was also produced in the furnaces in New Almaden. It is found in the burnt ore (calcines) that are buried in the park.

Uses:

Mercury oxide is rare in nature, but is produced by humans to make a red-orange powder. The powder was used to discourage barnacles on boats. It is also used in batteries. When paint or batteries are dumped in water, they can contribute to the production of methyl mercury.

Hg₂Cl₂ Calomel was used as a toothpaste, a purgative, a diuretic, a skin lightener, and as a cure for syphilis. It is toxic, and causes a burning, itching rash.



Hg(ONC)₂

Mercury Fulminate is highly explosive. It is used to make fuses for bullets, and bombs.



Not bioreactive

Bioreactive

Compounds not found in New Almaden