

Vanadium is naturally occurring in Hawaii's drinking water and not considered to be harmful at the levels present

Hawaii residents will soon receive their Consumer Confidence Report from the Honolulu Board of Water Supply (BWS) and other public water systems and may have questions on the findings of vanadium in drinking water. Recent testing showed that several wells on various islands had vanadium levels higher than an Environmental Protection Agency (EPA) health guideline (www.hbws.org).

Vanadium is a naturally occurring element found in drinking water and has been present since the Hawaii islands have formed. The Department of Health does not consider the levels of vanadium found in Hawaii's drinking water to be harmful. The following discusses the nature and health impact of vanadium in Hawaii's drinking water.

Why was Testing Done?

Vanadium is currently an unregulated contaminant that does not yet have a drinking water standard set by the EPA or Hawaii Department of Health. As part of its Third Unregulated Contaminant Monitoring Rule testing, the EPA required water suppliers to test for vanadium and several other unregulated chemicals. The information is being used by EPA to determine the concentrations and prevalence of these chemicals in the U.S. water supply.

What is Vanadium?

Vanadium is a naturally occurring element and is widely distributed in the earth's crust. It has been known for over 50 years that naturally occurring vanadium concentrations in Hawaii's rocks and soil are higher than many places on the U.S. mainland. Hawaii volcanoes primarily erupt a type of rock known as basalt which has been shown to have higher levels of vanadium. Vanadium is naturally released into water and soil as a result of weathering of rock and soil erosion. The general population is exposed to vanadium in food, drinking water, and vitamins. Higher levels of vanadium can be found in seafood such as oysters, wild mushrooms and some nutritional food supplements. It is also found in coal and crude oil and in lower amounts in some types of fertilizers.

What are the Human Health Effects of Vanadium in Drinking Water

According to the Agency for Toxic Substances and Disease Registry (ATSDR), "exposure to the levels of vanadium naturally present in food and water are not considered to be harmful." Studies in humans who have been exposed to large amounts of vanadium reported minor complaints such as stomach cramps. The levels of vanadium in Hawaii's drinking water are orders of magnitude lower than those shown to cause health effects in humans and therefore are not considered to be harmful.

For more information please see ATSDR's public health statement at:
www.atsdr.cdc.gov/PHS/PHS.asp?id=274&tid=50.