Is My Drinking Water Really Safe?

Yes, we take our responsibility to provide safe drinking water very seriously. Like you, we drink the same water and share the same concerns about its quality. Islandwide, the Board of Water Supply (BWS) operates over 94 water sources that are located among nine different water regions. Your tap water generally comes from those sources located within your area and not from all 94. The report shows the name of the source(s) serving your area and the region it is located in.

Each year, these sources and systems are tested for more than 80 different types of contaminants by the BWS. The sources serving your area did not contain any of the listed contaminants except for the ones shown on the report. In all cases, the amounts found are fully compliant with the standards for safe drinking water.

Drinking Water Standards and Testing

In order to ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health. A contaminant is any substance that may pose a potential health concern if present in very large quantities.

The regulations require testing tap water for many different categories of contaminants. One category is the regulated or primary contaminants. Each has a maximum contaminant goal and maximum contaminant level. The Maximum Contaminant Level Goal (MCLG) is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety. The Maximum Contaminant Level (MCL) is the highest level of a contaminant that is allowed in drinking water. This limit is set for all drinking water and is set by federal and/or state health agencies. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

The regulations also have testing requirements for certain unregulated contaminants. Health agencies generally do not specify MCLs or MCLGs for unregulated contaminants. However, they may establish an action level which is the concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

The rules also require testing the water in the distribution system (for trihalomethanes and coliform bacteria) and at the consumer’s tap (for trihalomethanes and coliform bacteria) and at the consumer’s tap.

What Kinds of Contaminants are a Concern to Drinking Water?

Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants.

The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA’s Safe Drinking Water Hotline at 1-800-426-4791 or the DOH at (808) 586-4258.

What Kinds of Contaminants Have Been Found in Oahu’s Water?

Below is a list of substances that have been found in Oahu’s water and their possible sources. See the water quality report for the substances found in your water. In all cases, the amounts present are fully compliant with the standards.

- Alpha and beta activity occur naturally in groundwater from the erosion of natural deposits and made of natural and man-made radionuclides.
- Arsenic may be present in the erosion of natural deposits; runoff from orchards, runoff from glass, and electronics production wastes.
- Barium may occur in runoff from herbicide used on row crops.
- Chromium, hexavalent is a chemical form that may occur naturally in rocks, plants, soil, and in volcanic dust and gases. Water sources can be affected by hexavalent chromium naturally, or through contamination plumes from industrial, mining, and improper discharge of industrial processing streams. EPA has not yet determined if low levels of hexavalent chromium are a health concern.
- Copper may occur in tap water from new or the corrosion of household copper plumbing systems, erosion of natural deposits, or leaching from wood preservatives.
- Di (2-ethylhexyl) phthalate is found in discharge from rubber and chemical factories.
- Dibromochloropropane (DBCP) is an organic chemical formerly used in Hawaii as a soil fumigant in pineapple cultivation and a petroleum additive. It has been found in several groundwater wells in Central Oahu.
- Ethylene dibromide (EDB) is an organic chemical formerly used in Hawaii as a soil fumigant in pineapple cultivation and petroleum additive. It has been found in some groundwater wells in Central Oahu.
- Fecal coliform bacteria and E. Coli can be found in human and animal fecal waste and may also be found in soil.
- Fluoride occurs naturally in groundwater. According to EPA, it may also come from the erosion of natural deposits or discharged from fertilizer and aluminum factories. It can be a water additive that promotes stronger teeth. BWS does not add fluoride.
- Hexavalent chromium (as Cr(VI)) is an organic chemical that may occur in drinking water from discharge from chemical plants and other industrial activities.
- Chlorate is a byproduct of the drinking water disinfection process that forms when using sodium hypochlorite. According to EPA, chlorate levels are often less than 0.1 parts per billion, which is a health concern.
- Chlorine is a residue of a banned termiteicide. Chloride is a common element in the environment that occurs widely in soils, plants, water, and foods. It is most commonly found in nature as a salt of sodium called sodium chloride better known as table salt.
- Carbon tetrachloride is an organic chemical that may occur in drinking water from discharge from chemical plants and other industrial activities.
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Dibromoacetic Acid, Dibromochloroacetic Acid, Monobromochloroacetic Acid, and Tribromoochloroacetic Acid. HAA8 is currently being tested and reported under the Fourth Unregulated Contaminant Monitoring Rule (UCMR4). The purpose of UCMR4 is to collect data on contaminants that may be present in drinking water. The United States Environmental Protection Agency then uses this information to decide if changes to the regulations are needed.

HAA9 are disinfection byproducts that are formed when chlorine or chloramine is added to disinfect drinking water react with naturally occurring organic and inorganic matter present in water. The nine haloacetic acids (HAA9) are Bromochloroacetic Acid, Bromodichloroacetic Acid, Chlorodibromomethane, Dibromochloromethane, Monobromochloroacetic Acid, Monochloroacetic Acid, Monobromoacetic Acid, Tribromoacetic Acid, and Trichloroacetic Acid. HAA9 is currently being tested and reported under the Fourth Unregulated Contaminant Monitoring Rule (UCMR4). The purpose of UCMR4 is to collect data on contaminants that may be present in drinking water. The United States Environmental Protection Agency then uses this information to decide if changes to the regulations are needed.

Haloacetic Acids (HAA) and Total Trihalomethanes (TTTHMs)[such as bromoform, bromodichloromethane, and dibromochloromethane] are by-products of drinking water chlorination.

Heptachlor epoxide is an organic chemical formed by the chemical and biological transformation of heptachlor in the environment. Heptachlor was once used as a non-agricultural insecticide. Heptachlor and its epoxide adsorbs strongly to soil.

Lead—if present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. BWS is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water is sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may choose to have your water tested by contacting private laboratories that are certified by the State for doing drinking water analyses. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead.

Manganese is a naturally-occurring element that can be found ubiquitously in the air, soil, and water. It is also used in the manufacturing of steel alloys, ceramics, glass, and as a food additive. The United States Environmental Protection Agency has set a maximum contaminant limit (MCL) of 0.10 mg/L for manganese in drinking water to protect against health effects such as kidney damage.

Nitrates may come from runoff from fertilizer use or leaching from septic tanks, sewage, or erosion of natural deposits. Nitrates in drinking water at levels above 10 parts per million (ppm) is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrates may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from your health care provider if the nitrate level is between 5 to 10 ppm.

Nitrites (as nitrogen) occurs naturally in groundwater. According to EPA, nitrites may come from runoff from fertilizer use or leaching from septic tanks, sewage, or erosion of natural deposits. Nitrite levels in drinking water in excess of the MCL could cause serious illness or be fatal to infants below the age of six months.

Radon occurs naturally in groundwater from the erosion of natural deposits.

Selenium is found in discharge from petroleum and metal refineries, erosion of natural deposits, and drainage from mines.

Simazine may occur from herbicide runoff.

Sodium is a common element in the environment that occurs widely in soils, plants, water, and foods. It is also found in personal care products, foods, nutritional supplements, and medications.

Strontium is an alkaline earth metal that occurs naturally in the environment. Air, dust, soil, foods, and drinking water all contain small amounts of strontium. Ingestion of small amounts of strontium is not harmful. According to EPA, strontium levels more than 400 parts per billion per day may lead to negative health effects. There is no federal drinking water standard for vanadium at this time.

Vanadium is a metal that naturally occurs in many different minerals and in fossil fuel deposits. Exposure to vanadium is very common, as it is a naturally occurring element that is found in many parts of the environment including at low levels in many foods. According to EPA, levels more than 21 parts per billion per day may lead to negative health effects. There is no federal drinking water standard for vanadium at this time.

Total coliform bacteria are naturally present in the environment.

Trichloroethylene (TCE) is an organic chemical that may come from metal degreasing sites and other factories.

1,2,3-Trichloropropane (TCP) is an organic chemical formerly used as a soil fumigant in agriculture and as a gasoline additive. It has been found in a number of wells in Central Oahu.

Uranium occurs from the erosion of natural deposits.

Where Can I Get More Information?

Visit our website at boardofwatersupply.com or call Erwin Kawata at (808) 748-5041 or Gwen Narikawa at (808) 748-5851. You can also reach us by e-mail at contactus@bwss.org.

For information about the following topics, call:

Environmental Protection Agency
Federal drinking water regulations, health effects
Safe Drinking Water Hotline 1-800-426-4791
Board of Water Supply
Communications Office (808) 748-5041
Water testing program (chemicals) (808) 748-5840
Microbiology testing/chlorine taste (808) 748-5850
Copies of your Water Quality Report (808) 748-5041
State Department of Health
State and Federal drinking water standards, Hawaii drinking water monitoring/compliance, health effects
Safe Drinking Water Branch (808) 586-4258

How Can I Get Involved?
The Board meets at 2:00 p.m. on the fourth Monday of each month at the Board of Water Supply, 630 South Beretania Street, Honolulu, Hawaii. You are invited to participate in these meetings. For copies of Board meeting schedules and minutes, call (808) 748-5061 or visit www.boardofwatersupply.com.