Bottled water that was collected from an underground formation that flows naturally to the surface, through a spring or a borehole tapping the formation of the spring; a labeling regulated by the U.S. Food and Drug Administration.

In the United States, drinking water is regulated by the U.S. Environmental Protection Agency (EPA). The EPA sets two standards for drinking water in public water supplies: primary and secondary. Primary standards are legally enforceable and established to protect human health. They place concentration limits on specific pollutants within drinking water, known as maximum contaminant levels (MCLs). Secondary standards are not enforceable and are established to guide the aesthetic quality of water.

Water from a public water supply must be tested to ensure that it meets the primary drinking water standards. Water suppliers must notify the public if the water is not safe to drink and will provide directions, such as boiling water, to make it safe. Water suppliers must also produce an annual report on the results of water testing and make the report available to the public. To help ensure public safety, within the United States, water suppliers also treat drinking water with chlorine prior to its leaving the water treatment facility. This residual chlorine is meant to kill any pathogens that may enter the water stream on its way to an individual tap.

Some consumers dislike the taste or smell of residual chlorine in water. Chlorine can also react with other constituents in water to cause disinfection by-products. For these reasons, some consumers prefer to drink bottled water, which is not required to have residual chlorine.

Bottled water is regulated by the Food and Drug Administration (FDA) but is required to meet primary drinking water standards. Bottled water suppliers are not required to make their water-quality testing results available to the public.

There are numerous types of bottled water, such as artesian, well, spring, purified, and mineral. The FDA's Standard of Identity establishes the requirements each type of water must meet; these standards are based on the water source and the methods used to treat the water. It may be difficult for the average consumer to understand the differences between types of bottled water without educating themselves. The types are as follows:

- **Artesian water**: Aquifers are underground bodies of water. Confined aquifers have a layer material...
with extremely low permeability over the top of them, which may cause the water to be under pressure. When a well is drilled through the confining layer into this aquifer, the water level in the well may be higher than the elevation of the top of the aquifer. When this occurs, the water can be labeled as artesian.

- **Fluoridated**: To be labeled as fluoridated, water must have fluoride added, as limited by the FDA. This type includes water labeled “for infants” or “nursery.”

- **Groundwater**: This type of water comes from an aquifer where the water source is either equal to or greater than atmospheric pressure. Artesian water is a type of groundwater.

- **Mineral water**: This water is also a type of groundwater that is isolated and contains at least 250 parts per million of total dissolved solids. All minerals must be naturally occurring in this type of water.

- **Purified water**: Also called “demineralized water,” this type of water receives treatment prior to bottling, such as distillation or reverse osmosis. Purified water must meet a definition provided in the United States Pharmacopeia.

- **Sparkling water**: Sparkling contains carbon dioxide, but only in the amount present when taken from its source.

- **Spring water**: Spring water comes from the ground and flows naturally to the surface without any pumping.

- **Sterile water**: To be classified as sterile, water must pass tests required by the United States Pharmacopeia.

- **Well water**: This water comes from a hole, or well, in the ground.

Although bottled water is often marketed as pure and safe, this is not necessarily true. In 2008, the Environmental Working Group (EWG) tested 10 popular brands of water in the United States, discovering an average of eight contaminants in each brand, and four brands contaminated with bacteria. Because bottled water producers are not required to make testing results available to the public, consumers have no way of knowing if their brand of bottled water is safe or not. Additionally, according to the EWG, bottled water costs 1,900 times the cost of tap water.

Despite these concerns, bottled water remains an essential life-sustaining supply in areas of water scarcity or for use after natural disasters, when public water supplies may be destroyed or contaminated. In addition, severely ill individuals, such as AIDS patients, may be particularly sensitive to chemicals in tap water that healthy individuals can process, and choose to consume water purified through reverse osmosis.

**See Also:**
Chlorination By-Products, Environmental Protection Agency (U.S.), Groundwater, Reverse Osmosis, Supplying Water, Water Scarcity, Water-Borne Diseases

**Further Readings**

- Clarke, Tony. Inside the Bottle: An Exposé of the Bottled Water Industry. Ottawa, Canada: Canadian

Jarvie, Michelle Edith

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