

Healthy Drinking Waters

for

M A S S A C H U S E T T S

Safe and healthy lives in safe and healthy communities

Frequently Asked Questions About Bottled Water

Each year, consumers spend about \$4 billion on bottled water. People buy bottled water for a variety of reasons, including convenience, fashion, and taste. Some people buy bottled water because they think it is safer than tap water. Some, who have a contamination problem with their tap water, use bottled water as an alternative source of drinking water. There are about 700 brands of bottled water sold throughout the United States.

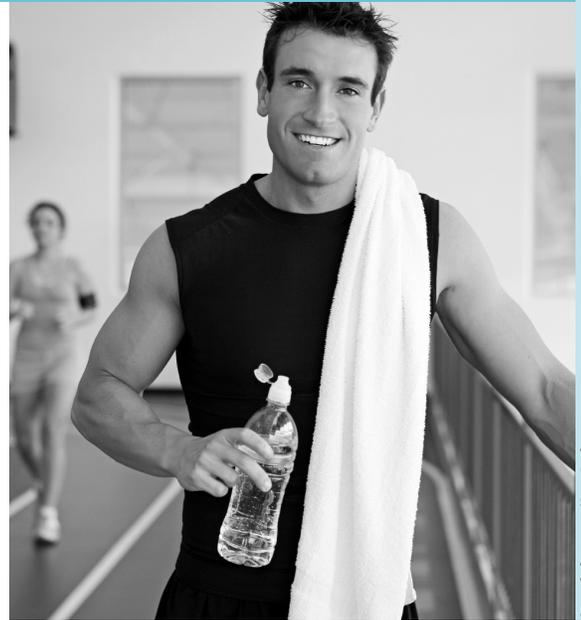
What is bottled water?

According to the U.S. Food and Drug Administration (FDA), bottled water is defined as water that is intended for human drinking, sealed in bottles or other containers, with no added ingredients

Bottled drinking water is consumed as an alternative to tap water, and is also used for cooking or making coffee or tea. Mineral waters are most often carbonated and are generally used as an alternative to soft drinks or cocktails.

How is bottled water regulated?

The quality and safety of municipal water supplies are regulated by the U.S. Environmental Protection Agency (EPA) under the Safe Drinking Water Act (SDWA). The EPA sets standards, or Maximum Contaminant Levels for more than 80 contaminants that may be



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found in drinking water.

Bottled water is regulated as a food by the FDA under the Federal Food, Drug, and Cosmetic Act if it is bottled in one state and sold in another. The FDA has standards that regulate microbiological, physical, radiological, and chemical characteristics of bottled water. The FDA also inspects bottled water plants and collects and analyzes samples of bottled water. Bottled water must generally conform to the same drinking water standards established for public water supplies.

The Massachusetts Department of Public Health (DPH) is responsible for promulgating regulations for the sanitary operation of bottled water and carbonated non-alcoholic beverage facilities located in the Commonwealth. DPH has statutory authority to issue permits to out-of-state and foreign manufacturers of these products for sale in the Com-



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monwealth. The Massachusetts Department of Environmental Protection (MassDEP) has the authority to inspect, sample, and approve water sources used to supply a bottling plant in and out of state. Although local boards of health are authorized to inspect these facilities, most prefer to leave this responsibility to the DPH Food Protection Program because of the complexity of the operations and the testing requirements. DPH inspects bottling facilities on a regular basis and requires the bottled water industry to adhere to additional guidelines, such as Quality Standards, Labeling Regulations, and Good Manufacturing Practices.

- Quality Standards ensure the safety of bottled water from production to packaging and consumption.
- Labeling Regulations establish standard definitions for certain labels used for bottled water, including the definitions of artesian, mineral, purified, sparkling and spring waters.
- Good Manufacturing Practices govern the maintenance of the bottling plant, including buildings and fixtures, sanitary facilities operations, equipment design and construction, production and process controls, and record keeping.

Some bottlers are members of a trade association representing the bottled water industry, known as the International Bottled Water Association (IBWA), and must pass an annual inspection of their products as well as their bottling facilities by the National Sanitation Foundation (NSF) International, which has stricter requirements than FDA.

Types of bottled water

There are several types of bottled water available, depending on the source of the water and the methods used to treat it. The FDA has



established standards that apply to all bottled water produced or sold in this country, regardless of where the water is purchased.

Bottled water – is water that is intended for human consumption and is sealed in bottles or other containers with no added ingredients except that it may optionally contain safe and suitable antimicrobial agents. Fluoride may be added.

Artesian water – is water from a well tapping a confined aquifer in which the water level stands at some height above the top of the aquifer. Artesian water may be collected with the assistance of external force to enhance the natural underground pressure.

Ground water – is water from a subsurface saturated zone that is under a pressure equal to



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or greater than atmospheric pressure. Ground water must not be under the direct influence of surface water.

Mineral water – is water containing not less than 250 parts per million (ppm) total dissolved solids (TDS), coming from a source tapped at one or more bore holes or springs, originating from a geologically and physically protected underground water source. Mineral water is distinguished from other types of water by its constant level and relative proportions of minerals and trace elements at the point of emergence from the source. No minerals may be added to this water.

Purified water – is water that has been produced by distillation, deionization, reverse osmosis, or other suitable processes and that meets the definition of “Purified water” in the United States Pharmacopeia, 30th edition November 2006. Alternately, the water may be called “deionized water” if the water has been processed by deionization, “distilled water” if it is produced by distillation, “reverse osmosis water” if the water has been processed by reverse osmosis. For example, the label would read “purified drinking water” or “deionized drinking water”.

Sparkling bottled water – is water that, after treatment and possible replacement of carbon dioxide, contains the same amount of carbon dioxide from the source that it had at emergence from the source.

Spring water – is water derived from an underground formation from which water flows naturally to the surface of the earth. Spring water shall be collected only at the spring or through a borehole tapping the underground formation feeding the spring. There shall be a natural force causing the water to flow to the

surface through a natural orifice. Spring water collected with the use of an external force shall be from the same underground stratum as the spring, as shown by a measurable hydraulic connection using a hydrogeologically valid method between the bore hole and the natural spring, and shall have all the physical properties, before treatment, and be of the same composition and quality as the water that flows naturally to the surface of the earth. If spring water is collected with the use of an external force, water must continue to flow naturally to the surface of the earth through the spring’s natural orifice.

Well water – is water from a hole bored, drilled or otherwise constructed in the ground, which taps the water of an aquifer.

Is bottled water safer than tap water?

An estimated 25 percent or more of bottled water is from municipal water systems. As long as both the public water system and the bottled water are in full compliance with their respective regulations, then either source of water will be suitable for drinking.

When is bottled water recommended?

Bottled water can be used as an alternative drinking water source when contaminants in the local water supply or a private well exceed the health-based drinking water standards, as during a flood or natural disaster; when a problem such as corrosion of household plumbing causes lead and/or copper to enter the drinking water; and when a safe supply is not available, as during a camping trip.

When people have a health condition that requires their intake of a substance, such as sodium, be reduced, bottled water that is lower in the substance of concern may be the best choice. It is important to consult your physician for advice on whether bottled water is



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appropriate for you.

Where does bottled water come from?

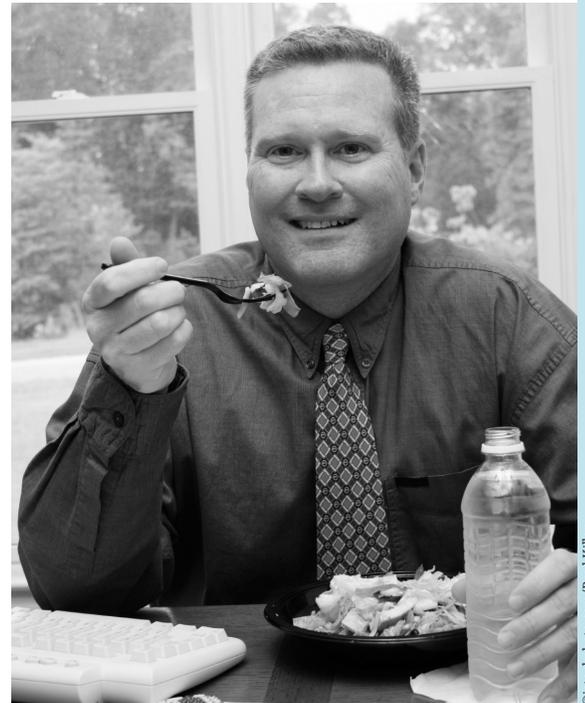
The best way for the consumer to find out where bottled water comes from is by reading the label. The source is listed 98% of the time. Other sources of bottled water include springs, wells, and surface waters. Massachusetts maintains a list of the sources of bottled water. The Department of Public Health verifies the label information as part of their licensing procedures and will also be able to provide information about the source of the bottled water. The bottled water rules require that the source be listed unless the water has been treated with reverse osmosis.

How long does bottled water last?

The FDA considers bottled water to have an indefinite shelf life if it's produced in accordance with regulations and remains unopened. Therefore, expiration dates on bottles are voluntary, and may reflect concerns for taste and odor rather than safety. Bottled water should be stored in a cool location away from direct sunlight.

What other things should I know about bottled water?

- The mineral content of bottled water varies. Many brands from Europe are high in calcium and magnesium.
- The fluoride content of most brands is very low.
- Some brands have high sodium content. Read the mineral content before purchasing to determine the sodium levels. If you rely solely on bottled water for drinking, the EPA recommends that sodium levels in water not exceed 20 milligrams per liter (mg/L) for individuals on salt-restricted diets. Also, if small children are relying solely on bottled water, determine the



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fluoride level. A range of 0.7 to 1.2 milligrams fluoride per liter in drinking water is optimal for protecting children's teeth from decay. Refer to the fact sheet *Fluoride in Drinking Water* for more information, including adverse health effects from too much fluoride. Refer to the fact sheet *Sodium Chloride in Drinking Water* for more information.

Resources

UMass Extension

This fact sheet is one in a series on drinking water wells, testing, protection, common contaminants, and home water treatment methods available on-line at the University of Massachusetts website:

http://www.umass.edu/nrec/watershed_water_quality/watershed_online_docs.html

and Cape Cod Cooperative Extension:
508-375-6699

<http://www.capecodextension.org>

MA Department of Public Health

Information on bottled water publications, regulations, guidelines, licenses and permits

<http://www.mass.gov/?pageID=eohhs2subtopic&L=5&L0=Home&L1=Provider&L2=Guidance+for+Businesses&L3=Food+Safety&L4=Bottled+Water&sid=Eeohhs2>

MA Department of Environmental Protection, Division of Environmental Analysis

Offers assistance, information on testing and state certified laboratories: 617-292-5770

For a listing of MassDEP certified private laboratories in Massachusetts:

<http://www.mass.gov/dep/service/compliance/wespub02.htm>

U.S. Environmental Protection Agency, New England Office

Information and education on where drinking water comes from; drinking water

testing and national laws; and how to prevent contamination:

<http://www.epa.gov/ne/eco/drinkwater>

US Environmental Protection Agency

For a complete list of primary and secondary drinking water standards:

<http://www.epa.gov/safewater>

MA Department of Conservation and Recreation, Division of Water Supply Protection

Maintains listing of registered well drillers, information on well location and construction: 617-626-1409

<http://www.mass.gov/dcr/waterSupply/welldril/index.htm>

NSF International

The NSF International has tested and certified treatment systems since 1965. For information on water treatment systems:

800-NSF-MARK (800-673-6275)

<http://www.nsf.org/consumer/>

Water Quality Association

The Water Quality Association is a not-for-profit international trade association representing the household, commercial, industrial, and small community water treatment industry. For information on water quality contaminants and treatment systems:

<http://www.wqa.org>



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