

**Consumer Decision Making Contest  
2001-2002 Study Guide  
Bottled Water**

It's everywhere. At work. At home. In backpacks. At conferences and athletic events. Once considered a yuppie refreshment, bottled water has become a liquid asset for today's active consumer. Americans drank 3.4 billion gallons of it last year. One out of six people are drinking more than eight gallons annually of bottled water-five times more than a decade ago. According to the International Bottled Water Association (IBWA), 60 percent of those who drink bottled water do so for taste.

Should you stick with tap water for a fraction of a penny a gallon or spend an average of 94 cents a gallon for the bottled water delivered to your home or office, or sold in supermarkets? That depends on your taste buds as well as the substances in your city's water. In many regions, aging water pipes are rusting and cracking, enabling lead and other harmful chemicals and bacteria to leak in public water. Buying bottled water makes the most sense when there is a local contamination warning. Otherwise, it's your choice to make.

### **What is Bottled Water**

Water is classified as "bottled water" or "drinking water" if it meets all applicable federal and state standards, is sealed in a sanitary container and is sold for human consumption. Bottled water cannot contain sweeteners or chemical additives (other than flavors, extracts or essences) and must be calorie-free and sugar-free. Flavors, extracts and essences derived from spice or fruit can be added to bottled water, but these additions must comprise less than one percent by flavor limit. Otherwise, they are classified as soft drinks, not bottled water. In addition, bottled water may be sodium-free or contain "very low" amounts of sodium. Some bottled waters contain natural or added carbonation.

### **Types of Bottled Water**

There are several different varieties of bottled water. The product may be labeled as bottled water, drinking water or any of the following terms. The Food and Drug Administration's (FDA) product definitions for bottled water are:

**Artesian Water** - Bottled water that comes from a well tapping confined aquifer, in which the water level stands at some height above the top of the aquifer. It may also be known as "artesian well water."

**Drinking Water** - Drinking water is another name for bottled water. Accordingly, drinking water

is water that is sold for human consumption in sanitary containers and contains no added sweeteners or chemical additives (other than flavors, extracts or essences) and it must be calorie-free and sugar-free. Flavors, extracts or essences may be added to drinking water, but they must comprise less than one-percent-by-weight of the final product or the product will be considered a soft drink. Drinking water may be sodium-free or contain very low amounts of sodium.

**Mineral Water** - Bottled water containing not less than 250 parts per million total dissolved solids may be labeled as mineral water. Mineral water is distinguished from other types of bottled 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** - Water that has been produced by distillation, deionization, reverse osmosis, or other suitable processes approved by United States Pharmacopeia may be labeled as purified bottled water. Other suitable product names for bottled water treated by one of the above processes may include “distilled water,” if produced by distillation; “deionized water,” if produced by deionization, or “reverse osmosis water,” if the process used is reverse osmosis. In addition, terms such as purified drinking water, distilled drinking water and others may be used.

**Sparkling Water** - Water that maintains its level of carbon dioxide after being treated is called sparkling water. However, other similar products such as soda water, seltzer water and tonic water are not considered bottled waters. They are regulated separately, may contain sugar and calories, and are considered soft drinks.

**Spring Water** - Water derived from an underground formation from which water flows naturally to the surface of the earth is commonly called spring water. This type of water must be collected only at the spring or through a bore hole tapping the underground formation finding the spring. To be labeled as spring water, it must be collected with the use of an external force from the same underground stratum as the spring. In addition, it must have all the same physical properties, composition and quality before it is treated as water that flows naturally flows to the surface of the earth.

**Well Water** - Water coming from a hole bored, drilled, or otherwise constructed in the ground tapping into an underground water source is called well water.

**Drinking Water** - Tap water that has been filtered and disinfected is referred to as drinking water.

### **Bottled Water Regulation**

Consumers can trust that bottled water is safe for many reasons. First of all, bottled water is strictly regulated on the federal level by the Food and Drug Administration (FDA) and on the state level by state officials. These agencies attempt to ensure that all bottled water sold in the United States meets these stringent standards. In addition, members of the International Bottled Water Association (IBWA), who produce about 85% of the bottled water sold in the United States, must meet strict industry standards established by the association. These standards, contained in the IBWA “Model Code,” exceed the FDA regulations currently in place for bottled water.

According to the U.S. Centers for Disease Control and Prevention(CDC), bottled water has never been responsible for an outbreak of waterborne illness.

## **Federal Regulations**

Bottled water is regulated as a food product by the FDA. Bottled water companies must adhere to the FDA's Quality Standards, Standards of Identity (Labeling Regulations) and Food Manufacturing Practices.

**Quality Standards:** All bottled water products must comply with the FDA's Quality Standard in Section 165.110(b) of Title 21 of the Code of Federal Regulations (CFR). These standards, along with the FDA's Good Manufacturing Practices, ensure the safety of all bottled water products from production to packaging to consumption.

**Standard of Identity (Labeling Regulations):** FDA's labeling rules for bottled water establish standards of identity and standardized definitions for terms found on bottled water such as "artesian," "distilled," "drinking," "minerals," "purified," "sparkling" and "spring." If a bottler calls his water "glacial" water, it does have to come from a glacier. "Artesian" water has to flow above the water table and "naturally sparkling," has to come from a natural carbonated spring.

Seltzer, soda water and tonic water are considered soft drinks, therefore, they are excluded from these regulations.

## **Good Manufacturing Practices**

Bottled water is subject to both general food Good Manufacturing Practices (GMPs) and GMPs specific to bottled water processing and bottling. General food GMPs govern such areas as plant and ground maintenance, sanitary maintenance of buildings and fixtures, and sanitary facilities, including water supply, plumbing, and sewage disposal. Bottled water GMPs provide detailed regulations governing plant construction and design, sanitary facilities and operations, equipment design and construction, production and process control specific to the production and processing of bottled drinking water, and record keeping.

## **State Standards**

In addition to FDA's extensive regulatory requirements, the bottled water industry is subject to state regulatory requirements as well.

**Inspections:** A significant responsibility of the states is inspecting, sampling, analyzing and approving sources of water. Under the federal GMPs, only approved sources of water can be used to supply a bottling plant.

**Laboratory Certifications:** Another area in which some states have important responsibilities that complement federal regulation is the certification of testing laboratories. As with any food establishment, the states perform unannounced plant inspections and some states perform annual inspections.

## **International Bottled Water Association (IBWA)**

By participating in the IBWA, bottlers must submit to an annual, unannounced plant inspection administered by an independent, internationally recognized third-party inspection organization. This inspection audits quality and testing records; reviews all areas of plant operation from source through finished product; and checks compliance with FDA Quality Standards, Good Manufacturing Practices and any state regulations.

IBWA has established a quality assurance program, a strict set of standards called the Model Code. The Model Code establishes tougher requirements than federal and state authorities.

### **Regulation for Imports**

All European imports must meet the federal and state standards as applicable. They must also meet strict standards set by the European Union. In addition, international bottler members of IBWA that sell products in the U.S. must submit a certificate of inspection to IBWA.

### **The Difference between Tap Water and Bottled Water**

Consistent quality and taste are two of the principle differences between bottled water and tap water.

Using bottled water tends to ensure greater quality because it is consistent from bottle to bottle, and it is inspected and monitored by governmental and private laboratories. Unfortunately, tap water can be inconsistent -- sometimes it might be okay while other times it is not. While bottled water originates from protected sources (75% from underground aquifers and springs), tap water comes mostly from river and lakes. The U. S. Environmental Protection Agency has reported that hundreds of tap water sources have failed to meet minimum standards. Another factor to consider is the distance tap water has to travel and what it goes through before it reaches the tap.

Taste is the other major reason people prefer bottled water versus tap water. Chlorine is most often used to disinfect tap water and it can leave an aftertaste or lead to other problems. Some bottlers use ozone, a form of supercharged oxygen, and /or ultraviolet light as the final disinfecting agents, both of which leave no taste or chemical trace.

Which type of water to choose depends on personal preference. Except for distilled water, no type is necessarily healthier or purer than another. The distillation process kills cyptosporidium and other microbes, and makes it especially safe for rinsing contact lenses.

Bottled water is regulated by FDA as a food product and must meet all applicable food packaging regulations. Tap water is regulated by the U.S. Environmental Protection Agency and regarded as a utility.

### **Purity of Bottled Water**

Most water contains tiny amounts of harmless substances including algae, fungi, and bacteria. In fact, bottled water actually may be more vulnerable to bacteria once it's open than tap water. Bottled water usually doesn't contain any chlorine, which is added to municipal water systems to stop the growth of bacteria. The longer an opened container of non-chlorinated water sits out, the more likely it will develop bacterial growth. However, it is unlikely to be a health risk because these bacteria generally are not disease-causing. It is recommended that you refrigerate gallon-size or larger containers of water after opening them to reduce the potential for bacterial growth.

### **Is Bottle Water Healthier?**

Not according to FDA, which has not approved any health claims on bottled water. In addition, most bottled water doesn't contain fluoride, which has been shown to prevent cavities. If you or your family drink only bottled water, you may want to talk with your dentist about the use of fluoride drops or a fluoride mouthwash to be sure you are all getting a sufficient amount of fluoride.

### **How to Store Bottled Water**

Proper storage includes keeping sealed water bottles out of direct sunlight in a cool, dry environment away from chemicals such as household cleaning products and solvents such as gasoline, paint thinners and other toxic materials. And, you want to remember to refrigerate any containers of bottled water after they have been opened.

With proper handling, bottled water can be stored indefinitely.

### **References**

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