

UNDERSTANDING WATER QUALITY

You may think water is just water, but chances are, your experience in foodservice has taught you this is not the case. Water quality ranges widely from tap to tap and bottle to bottle. This reference guide should help you understand the various kinds of water available to you and your customers.



Tap Water Information

If someone were to ask; is tap water safe? The answer would most often be yes. But safe doesn't always mean enjoyable to drink. In most cases our tap water can be greatly improved.

Water can be from the municipality or from a private well, and can also be from underground or surface sources. The chart below can help:

Municipal Water – Tap water supplied by your local government and treated before it gets to you. Around 80% of people in the US.

Private Water – Just as it sounds, water that is from a non-public source and likely not treated before consumption

Underground – Or well water. From an underground source

Surface – Water from a lake, stream, river, etc.

The first step in acquiring premium water is to understand how tap water can be improved. There are a variety of contaminants that can end up in your water. Some are put there by the municipality to disinfect the water, some can be from the pipes in your building.

Chlorine – Often added by municipality to disinfect water. Can result in a swimming pool taste and smell.

Turbidity – Just think particles in water. Some you can see, some you can't. They are often present in water and can affect taste.

Cysts – Hard shelled organism that can cause sickness, especially in the elderly and young children.

Other colors and odors – Often iron and other metals, algae mold and bacteria are present in water and affect taste and quality.



Bottled Water Information

Bottled waters are very different than one another. Those that cross state lines are regulated by the FDA. Here is how they define them:

Artesian Water - Water from a well tapping a confined aquifer in which the water level stands at some height above the top of the aquifer. Common Brands : Fiji®, Voss®

Americans throw away 2.5 million plastic bottles every hour

Mineral Water - Water with dissolved solids (or minerals). Nothing may be added to the water. Common Brands: Evian®, Acqua Panna®, Volvic®

Purified Water - Water that is produced by

distillation, deionization, reverse osmosis or other suitable processes. As appropriate, also may be called "demineralized water," "deionized water,"

In 2006, nearly 25 billion bottles were not recycled

"distilled water," and "reverse osmosis water." Common Brands: Dasani®, Aquafina®

Sparkling Bottled Water - Water that, after treatment and possible replacement of carbon dioxide, contains the same amount of carbon dioxide that it had at emergence from the source. Common Brands: Perrier®, San Pellegrino®

Bottling water created more than 2.5 million tons of CO2 in 2006

Spring Water - Water derived from an underground aquifer from which water flows naturally to the surface of the earth at an identified location. Spring water may be collected at the spring or from a well. Common Brands: Poland Spring®, Ice Mountain®

Note: Be careful with waters that claim "pure" or "natural", as the FDA has no regulation for these terms.



Filtration Information

There are many different methods to improve the quality of water and many of these are used by prepackaged water companies to make their own water. Although there are many technologies, no single technology that can solve all water problems.

Activated Carbon - By far the most common form of filtration. Activated carbon (AC) has enormous surface area and is highly porous: one pound of AC has the surface area of more than 100 acres. The AC surface attracts and holds tiny particles and molecules such as those that cause poor taste and odors.

Filtration - Filters do a good job of removing

turbidity and particulate matter. Microfiltration can remove bacteria and cysts but without carbon generally do not remove taste and odor.



Distillation - These systems work by heating, vaporizing and condensing water, ridding water of most chemicals, bacteria and viruses. Works well but consumes a lot of energy and is expensive.

Reverse Osmosis - These systems use pressure to force water molecules through a membrane, causing contaminants to be left behind and separated from the water. They are excellent for the removal of heavy metals, nitrate, fluoride and pesticides.

Softening - These systems exchange sodium for calcium and magnesium to "soften" water. They boost water's cleaning ability, and reduce minerals that cause appliance breakdown. Effective for removing some metals, such as iron manganese, lead and radium.

Ultraviolet Disinfection - These systems use UV light to kill bacteria and viruses. They can alter the harmful effect of some organic chemicals but require very clear water to work efficiently.

