Title:
Do You Know What Bottled Water Has In It?

Word Count:
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Summary:
Bottled drinking water is pure, right? Not necessarily. Bottled water can be less pure than municipal tap water in some parts of the United States. In fact, bottled water can actually be municipal tap water. Two examples are Coca Cola’s Dasani brand and Pepsi Cola’s Aquafina brand.

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What is bottled water?

“Description. Bottled water is water that is intended for human consumption and that 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 optionally added within the limitations established.” The United States FDA

Who regulates what bottled water has in it?

The Federal Food and Drug Administration (FDA) regulates bottled drinking water, which is classified as a “food”. The Environmental Protection Agency (EPA) regulates tap water. Amazingly, the EPA guidelines for municipal water are stricter than the FDA restrictions for bottled drinking water! You might buy

bottled drinking water that is acceptable to the FDA but is not acceptable for use as ordinary bathroom tap water.

The FDA's specific regulations for bottled water are found in Title 21 of the Code of Federal Regulations (21 CFR).

What are FDA standards?

Under the standard of quality (21 CFR, 165.110[b]), FDA allows certain levels of contaminants in bottled water.

Contaminants bottled water has in it.

1. Coliform. Coliform are rod-shaped bacteria, such as E. coli, that are normally present in the human intestine. The FDA says that bottled water may have up to 9.2 coliform organisms per 100 milliliters. See 21 CFR 165.110[b].

2. Arsenic. Arsenic is a poison. The FDA says that bottled water may have up to 0.05 milligrams per liter of arsenic. See 21 CFR 165.110[b].

3. Chloride. Chloride is a compound of chlorine, a substance used to disinfect tap water. The FDA allows up to 250.0 milligrams per liter of chloride in bottled water. See 21 CFR 165.110[b].

4. Iron. Iron is a metallic element. Your body needs some iron, but not too much. The FDA permits bottled water to contain up to 0.3 milligrams per liter of iron. See 21 CFR 165.110[b].

5. Manganese. Manganese resembles iron and is used in fertilizers. Bottled water may contain up to 0.05 milligrams per liter of manganese. See 21 CFR 165.110[b].

6. Phenols. Phenols are corrosive, poisonous acidic compounds. Your bottled water may contain up to 0.001 milligrams per liter of phenols. See 21 CFR 165.110[b].

7. Dissolved solids. "Dissolved solids" is a catch-all phrase. The FDA allows bottled water to contain up to 500 milligrams per liter of dissolved solids, of whatever type. See 21 CFR 165.110[b].

8. Zinc. Zinc is a metallic element. Your body needs some zinc, but not too much. The FDA permits bottled water to contain up to 5.0 milligrams per liter of zinc. See 21 CFR 165.110[b].

9. Fluoride. Fluoride is purposely added to some bottled water. If so, the label

should say so. In addition, bottled water that is not labeled as containing fluoride may contain up to 2.4 milligrams per liter of fluoride. See 21 CFR 165.110[b].

Chemical contaminants bottled water has in it.

The FDA allows set levels of the following chemical contaminants in all bottled water. Amounts vary, but some are shocking, such as Barium. FDA regulations permit up to 2.0 milligrams per liter of barium. That is nearly the same as natural fluorides, even though barium is a toxic metallic element. Cyanide, another poison, is permitted in bottled water. See 21 CFR 165.110[b].

Here is a sampling of chemical contaminants bottled water has in it, along with the permitted milligrams per liter.

* Barium..... 2.0
* Chromium..... 0.1
* Copper..... 1.0
* Cyanide..... 0.2
* Nickel..... 0.1
* Ethylbenzene (100-41-4)..... 0.7
* Monochlorobenzene (108-90-7)..... 0.1
* Styrene (100-42-5)..... 0.1
* Toluene (108-88-3)..... 1.0
* Xylenes (1330-20-7)..... 10.0

Pesticides bottled water has in it.

The FDA allows set levels of pesticides in bottled water. There are set limits for each of 29 different pesticides. People who purchase bottled water believe, normally, that they are avoiding pesticides by doing so. For a listing of these pesticides, see 21 CFR 165.110[b].

Disinfectants bottled water has in it.

The FDA allows bottled water to contain set levels of residual disinfectants and disinfection byproducts. Examples from 21 CFR 165.110[b]:

* Disinfection byproducts .....
Bromate..... 0.010
Chlorite..... 1.0
Haloacetic acids (five) (HAA5)..... 0.060
Total Trihalomethanes (TTHM)..... 0.080

* Residual disinfectants .....
Chloramine..... 4.0 (as Cl2)
Chlorine..... 4.0 (as Cl2)
Chlorine dioxide..... 0.8 (as ClO2)

Radioactive materials bottled water has in it.

The FDA allows bottled water to contain set levels of radioactive material. See 21 CFR 165.110[b]. Three examples:

* “The bottled water shall not contain a combined radium-226 and radium-228 activity in excess of 5 picocuries per liter of water.”

* “The bottled water shall not contain a gross alpha particle activity in excess of 15 picocuries per liter of water.”

* “The bottled water shall not contain uranium in excess of 30 micrograms per liter of water.”

Bottled water has in it more than regulations allow.

When bottled water does not meet the standards set out by the FDA, it might still be sold. By law, it should bear a suitable label.

Examples:

1. “Contains Excessive Bacteria”

2. “Contains Excessive Arsenic”

3. “Excessively Radioactive”

What You Can Do

* Take time to know what bottled water has in it.
* Look for bottlers’ web sites and compare information.
* Write to bottlers with specific questions.
* Remember that bottled water does not mean absolute purity.
* Be sure yours is healthy drinking water.