



Environmental Studies Program

Issues Update: CLEAN DRINKING WATER

JARED MAKRANCY

Keywords

Treatment, Contaminants, Filter, Chlorine, Bacteria, Toxins

Overview

Drinking water

- **Study done by USGS revealed low levels of certain man-made chemicals remain in drinking water supplies even after the treatment process.**
 - o **Sampled 9 sites in Colorado, Georgia, Indiana, Maryland, Massachusetts, Nevada, North Carolina, Oregon and Texas**
 - o **Tested for 260 commonly used chemicals**
- **River water was tested before treatment process and 130 different chemicals were found**
 - o **Pesticides, gasoline hydrocarbons, household products and solvents**
- **A common misconception is that water treatment facilities have the capabilities of removing these contaminants. Not True.**
 - o **Too expensive**
 - o **Not enough information/ not enough technology**

Technology Responses

There is not much treatment facilities can do. A lot of these chemicals are also found in bottled water unless it is from an unpolluted spring source so bottle water is not an option. If you must have pure drinking water, reverse osmosis and distilled water filters are your best bet, but they are very expensive.

Lifestyle changes are the best option for protecting water quality. Using all natural soaps, shampoos, detergents and other environmentally friendly agents is the best way to limit the amount of chemicals in our water sources. Properly disposing of old pharmaceuticals or other household agents is important to practice to insure they do not leach into your watershed.

WHAT'S NEW...

Some may think that by using a Brita Water Filter you are cleaning your water more than when it comes out of the tap. Brita's are only charcoal filters and remove chlorine and chlorine compounds from water. They apparently make the water taste better as well. There have been tests that show Brita's removes some, but not all, of copper and lead present in household drinking water. Copper and lead are usually found in older houses where copper piping and lead based solder was used for plumbing and are usually present in water below the standard for safe consumption. Brita water filters can also be a breeding ground for bacteria if not regularly changed or cleaned.

So...

Are they worth the money? Some people love their Britas but are they really changing the quality of water you are consuming. If you want to save some cash but remove the chlorine taste that some of our water may have, fill up a pitcher of water, put it in the fridge overnight and all the chlorine will evaporate out. Personally I feel this water taste just as good as water poured from a Brita and I do not have to worry about buying new filters.

Continued....

- **The study performed by USGS found 2 out of every 3 of the 130 chemicals remained in the water post-treatment.**
 - o **Detected at levels that would not harm humans.**
- **Water treatment facilities are only regulated to treat for bacteria such as E. coli and removal of heavy materials such as sediment. Bacteria are only treated with chlorine and sediment is removed through naturally letting it settle out and then removing the rest with the help of polymers that bind the sediment particles together.**
- **Most of these chemicals are unregulated in drinking water and not required to be monitored or removed.**

WHY?

It is incredibly expensive to treat for individual contaminants.

There is not enough research done to say if any of these contaminants have health effects on humans.

We do not know how to treat for a lot of these toxins because of a lack of knowledge.

- **Drinking bottled water is also not an option unless you know exactly the source or if they treat it differently than standard practices.**
 - o **A lot of bottled water is just tap water.**
 - o **They only treat for bacteria and clarity.**
 - o **Plastic bottles can leach chemicals into the water.**
- **So, make some lifestyle changes and be conscious of where you are dumping your chemicals.**

Resources

- Chow, R. (2009). Many Man-Made Chemicals Detected in Drinking Water Supplies. Natural News. January 26, 2009. <http://naturalnews.com/025413.html>
- Murphy, Bill. (2005). Dry-Cleaning Chemicals Spurs Worries about Wells. Houston Chronicle. July 27th. <http://www.enn.com/water.html?id=214>

References

- Brita, (2009). Official Brita Webpage. Frequently asked questions. http://www.brita.net/uk/faqs_household.html?&=1#7
- Roxana Johnson. Watershed Coordinator, Lab Director for the City of Ithaca Water Treatment Plant. Ithaca, NY.