Keeping drinking water safe has been a top priority in the U.S. for decades; however, a recent Associated Press (AP) *investigation exposed dangerous chemicals and other biological contaminants in the water supplies of more than 46 million Americans. While these contaminants do not necessarily put people at risk, some researchers have called them a cause for concern and say that many contemporary wastewater treatment plant systems were not intended or designed to accommodate these materials.*

New water treatment system keeps residential drinking water free of EDCs

Contaminated Drinking Water: A National Health Issue

By Kipp Bodnar

Some water contains endocrine disrupting compounds (EDCs), which have been linked to adverse effects on living organisms, such as reproductive problems or cancer. Polychlorinated biphenyls (PCBs) and dichloro-diphenyl-trichloroethanes (DDT) are two of the most commonly known examples of EDCs, but this class of compounds also includes pharmaceuticals, pesticides, cleaning solvents, refrigerants, herbicides and metals such as arsenic and mercury.

Eradicating EDCs

Dennis L. Mast, Ph.D., general manager of Clean Water Scientific, Inc. (CWSI), was well aware of EDCs and contaminated drinking water before the *AP* investigation began and has used his industry experience to affect change in the way people view their drinking water.

Mast's concern for the problems as well as his understanding of water quality led him to develop a water purification system specifically designed to disinfect water by eradicating pharmaceutical drugs as well as removing EDCs from water. CWSI's AquaClens at Home system is designed to meet the needs of individuals concerned with potentially damaging chemicals entering their household water supplies.

"Though waters in the U.S. from coast to coast are contaminated with prescription drugs, there is no national strategy to deal with them and no effective mandates to test, treat, limit or even advise the public," Mast said.

These pharmaceuticals and chemicals have entered water supplies as unmetabolized waste excreted from humans as well as through the discarding practices of hospitals and medical facilities, which often dispose of large amounts of pharmaceuticals by flushing them, thus introducing them into the wastewater system.

Municipal treatment facilities do not remove these pharmaceuticals from drinking water; therefore, trace amounts of hormones, painkillers, antibiotics, antidepressants and various other pharmaceutical compounds can be found in the water supply entering our homes.

Even bottled water is largely unregulated by the government and could contain dangerous EDCs, which have scientists concerned about the long-term health risks of cumulative exposure to the compounds.

Doctors say that more research is needed to fully understand the long-term effects of low-level exposure to EDCs on humans; however, many studies have been conducted focusing on the damaging effects of EDCs on wildlife.

Technology Treatment

The AquaClens system may help improve the health of its users by eliminating harmful EDCs and pharmaceutical drugs from a home's main water supply, ensuring clean, safe and healthy water.

The patented technology of the system is designed to eliminate waterborne hormones and other dangerous compounds. This system combines an add-o-mizer technology along with the sanitizing properties of ozone and ultraviolet (UV) light to eliminate harmful chemicals, drugs and EDCs from a home or business' drinking water supply.

The process of diffusing ozone into water occurs much like diffusing oxygen into water. The add-o-mizer is a cylindrical unit in which liquid and gas are mixed and piped into the unit under high pressure. Inside the unit, liquid and gas are mixed until the gas dissolves into the liquid. After it is released from the unit, the gas appears in a small bubble formation within the liquid and forces both organic and inorganic dissolved solids to float to the water's top.

The unit can be installed in homes or used commercially—the simple installation process involves hooking up the system to the main water line of the home or business and requires minor plumbing work. Once installed, the unit requires little maintenance, such as replacing the UV light and ozone chip every one to two years.

During recent clinical testing, the system has been proven to purify water, reducing certain chemical compounds in water by up to 100%. The tests were conducted at a water flow rate equivalent to normal household water usage. The purification system was not used with any additional filters in the testing process.

The chemicals that were reduced by 93% to 100% by the system during testing include codeine, naproxen, acetaminophen, albuterol, warfarin, sulfamethoxazole and cimetidine. Subsequent testing will be conducted on additional compounds to determine the efficacy of using the system to eradicate a broader spectrum of pharmaceuticals. *wqp*

WEB RESOURCES

Related search terms from www.waterinfolink.com: POE, contaminant removal

For more information related to this article, visit www.wqpmag.com/lm.cfm/wq010905

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