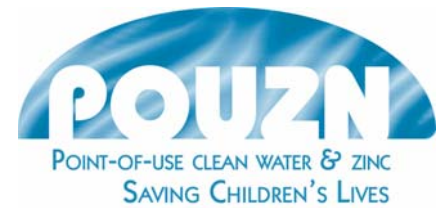




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POINT-OF-USE WATER TREATMENT PRODUCTS

More than one billion people still lack access to safe water, despite billions of dollars spent on water infrastructure in the developing world. Waterborne bacterial infections may account for as many as one-half of diarrhea episodes, which cause the deaths of 2.2 million people annually, mostly poor children. Contaminated surface water sources and poorly functioning municipal water distribution systems contribute to the transmission of waterborne bacterial diseases.

To address this critical problem, a number of innovative, practical and cost-effective point-of-use (POU) household water treatment interventions have been developed that provide easy access to safe, potable water. Three POU products are currently being marketed through PSI social marketing platforms. SWS (a chlorine-based safe water solution (SWS) enables households to purify their drinking water for less than 2 cents/day. PuR, combines a chlorine-based disinfectant with a flocculant, that settles out particles turning turbid water clear. Aquatabs, is a rapidly-dissolving tablet that is easily transportable to rural areas. The great advantage of these products is the immediacy of the health impact. Whereas improvements in water infrastructure are typically costly and take years to implement, these “Point-of-Use” products can be provided inexpensively to households using existing private-sector retail outlets. These products are all marketed by Population Services International, who, along with Abt Associates, is working with Ministries of Health to develop and expand point-of-use water treatment programs in the developing world.

Numerous studies conducted by the U.S. Centers for Disease Control and Prevention (CDC) have proven the efficacy of POU products in making water from various sources safe to drink and in reducing the incidence of diarrhea in children and other vulnerable populations. A recent new CDC study showed that use of PuR or SWS is associated with a reduction in all-cause mortality, making it the first study to prove that household water treatment not only reduces the incidence of diarrhea but directly saves lives.

The safe water solution (SWS) treatment was developed by the CDC and the Pan American Health Organization/World Health Organization (PAHO/WHO) to disinfect water at the household level. It consists of a bottle of dilute chlorine solution and a measuring cap, used in conjunction with local storage containers (usually plastic jerry cans). SWS purifies water by inactivating microbial pathogens that cause diarrhea. After treatment with SWS, water is safe to drink after 30 minutes. Use of this simple solution reduces diarrhea episodes by a remarkable 30-50%. A bottle of SWS provides safe drinking water to a typical family for less than 2 U.S. cents per day.

PuR, Purifier of Water, developed by Proctor and Gamble, treats water through a combined process of disinfection with calcium hypochlorite and flocculation with iron sulfate. PuR's four-gram powder sachets use the same technology utilized by municipal water treatment facilities. The efficacy of PuR as a point-of-use water treatment system has been proven through a series of CDC laboratory and clinical studies in Guatemala, Kenya, Pakistan and Bangladesh. While more expensive than SWS, PuR is especially effective in treating surface water, which is typically very turbid. After 5 minutes of stirring, PuR remarkably settles out all particles, rendering once muddy water crystal clear.

AquaTabs are effervescent tablets that rapidly dissolve in water to kill microorganisms that cause diarrhea. Aquatabs effervescent tablets utilize the active ingredient sodium dichloroisocyanurate (NaDCC). This formulation conform to internationally published specifications and have been tested in a variety of settings worldwide. Aquatabs are an important new addition to the POU product line because they can be easily transported to rural areas.

While originally developed to address the issue of diarrhea disease morbidity and mortality in children, POU products are also important for those with weakened immune systems for whom a diarrhea disease episode can be life-threatening. SWS has been shown to result in a 37% reduction in risk of diarrhea for people living with HIV/AIDS.

