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Triclosan: Anti-bacterial with harmful side effects

Antimicrobials prevent the growth of bacteria and are similar to antibiotics but are used outside the body to decrease bacterial levels on surfaces or in products that humans touch. Two chlorinated chemicals known as triclosan and triclocarban are the most commonly used antimicrobials. Triclosan is found in numerous consumer products such as antibacterial soaps, deodorants, toothpastes, and cosmetics as well as furniture, toys, kitchenware, and clothing. Triclosan is also marketed under the names Microban[®] (when used on plastics and clothing) and Biofresh[®] (when used in acrylic fibers).



What are the health concerns?

Studies have increasingly linked triclosan to numerous adverse health effects, ranging from skin irritation to hormone disruption, interference with muscle function, and contribution to antibacterial resistance. Newer research shows that long-term exposure to triclosan promotes the growth of liver tumors in mice, raising concerns about its safety for humans.

Triclosan is lipophilic, meaning it can accumulate in fatty tissues of the body, and is absorbed across the skin. In animal testing, triclosan has been found to alter hormone regulation, lowering needed thyroid levels that are essential for normal brain development and for metabolism.

Widespread nature of triclosan

In the U.S., triclosan has been found in 97 percent of breast milk samples from lactating women and in the urine of nearly 75 percent of people tested. Triclosan is also listed as one of the seven most frequently detected compounds in stream water across the U.S. Research

suggests a correlation between urine and blood concentrations of triclosan and triclocarban and the use of personal care products.

Triclosan was first added to commercial liquid hand soap in 1987, and by 2001 about 76% of commercial liquid hand soaps contained it. About 96% of triclosan from consumer products is washed down the drain, leading to large amounts of the chemical entering wastewater treatment plants. Triclosan is incompletely removed during the wastewater treatment process, and when treated wastewater is released to the environment, sunlight converts some of the triclosan (and related compounds) into dioxins.

Dioxins are highly toxic and can cause serious harm: reproductive and developmental problems, damage to the immune system, interference with hormones, and cancer. They are persistent environmental pollutants that, when found in the environment, accumulate in the food chain, mainly in the fatty tissue of animals.



Ways to limit triclosan exposure

1. Skip antibacterial soap and hand sanitizer. If you cannot wash your hands with plain soap and water, use alcohol-based hand sanitizer.
2. Avoid antibacterial products. Triclosan can be found in products such as toothbrushes, towels and cutting boards labeled “antibacterial” or “odor-fighting.”
3. Read your labels. Watch for triclosan and triclocarban in personal care products

Policy actions

In 2011, PSR petitioned the EPA to ban triclosan. EPA regulates the use of triclosan as a pesticide and is in the process of updating its assessment of the effects of triclosan when used in pesticides.

The Food and Drug Administration (FDA) focuses on the effects of triclosan when used in consumer products such as hand soaps, body washes and toothpaste.



FDA issued a proposed rule in December 2013 that would require manufacturers to provide more data to demonstrate the safety and effectiveness of antibacterial soaps that are used with water. PSR and other public health and environmental advocates have urged FDA to expand their review of triclosan and triclocarban and other antibacterial ingredients to encompass not only antibacterial soaps but all personal care products that contain triclosan and triclocarban. Regulations will likely be finalized in 2016.

Certain manufacturers of personal care products have announced a phase-out of triclosan from their products. Kaiser Permanente announced in 2010 that its chain of 37 hospitals has gone triclosan-free because of health and environmental concerns.



Selected References

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This factsheet was adapted from PSR Oregon's triclosan factsheet: <http://bit.ly/1yXGIKL>

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