



# The United Sludge-Free Alliance Recommended Reading

***From Beyond Pesticides Daily News Blog***

## **[New Report Finds High Concentrations of Toxic Contaminants in Sewage Sludge](#)**

(*Beyond Pesticides*, January 28, 2009) The U.S. Environmental Protection Agency's (EPA) national sewage sludge survey identifies high concentrations of toxic contaminants with heavy metals, steroids and pharmaceuticals, including the antibacterials, triclocarban and triclosan. Despite the prevalence of these toxic chemicals in the environment and their potential adverse impacts to human health and the environment, EPA maintains that it is not appropriate to speculate on the significance of the results at this time.

Under the Clean Water Act (CWA), Section 405(d) stipulates that EPA must identify and regulate toxic pollutants that may be present in biosolids (sewage sludge) at levels of concern for public health and the environment. The survey, "[Targeted National Sewage Sludge Survey](#)" (TNSSS), sampled 74 selected waste water treatment plants in 35 states during 2006 to 2007. The survey, like its three predecessors, is conducted to determine which chemicals are present in sewage sludge and develop national estimates of their concentrations in order to assess whether exposures may be occurring and whether concentrations found may be of concern. The agency conducted analysis of sewage sludge samples for 145 compounds, including four anions (nitrite/nitrate, fluoride, water-extractable phosphorus), 28 metals, four polycyclic aromatic hydrocarbons, two semi-volatiles, 11 flame retardants, 72 pharmaceuticals, and 25 steroids and hormones.

The antimicrobial triclocarban is detected in all 84 samples collected, while its cousin triclosan is found in 79 out of 84 collected samples. Along with being the most detected pharmaceutical, triclocarban is also detected at the highest concentrations with a recorded maximum concentration of  $4.41 \times 10^{-5}$  ug/kg. This value is the highest ever detected in sewage sludge. Triclosan came in with the second highest concentrations in the category with a maximum of  $1.33 \times 10^{-5}$  ug/kg. The antibiotic, ofloxacin, had the third highest concentration with a maximum of  $5.81 \times 10^{-4}$  ug/kg.

The TNSSS data confirms a host of [independent scientific research](#) which has found that these widely used antimicrobial chemicals are finding their way into the environment, [contaminating surface and drinking waters](#), as well as potentially impacting human and environmental health. These findings also correlate with U.S. Geological Survey (USGS) studies that have found that triclosan is one of the most detected pharmaceutical chemicals detected in U.S. surface waters.

The implications of these sewage sludge findings are significant. Municipal waste water treatment plants generate tons of sewage sludge annually. Sewage sludge is widely recycled on agricultural lands and nonagricultural landscapes as fertilizer, and for land reclaiming and filling. The application of sewage sludge on terrestrial systems means that these antimicrobial compounds, as well as the host of other heavy metals, pharmaceuticals, hormones, organics and PBDEs found in this report may be absorbed by crops, earthworms and other soil organisms, and find their way up the food chain and into human diets. Many of these chemicals, such as triclosan, are persistent and do not break down easily. Their effects on soil microorganisms are still not

understood. Major questions remain, such as whether these compounds harm soil microbes, or aquatic life if leached into streams.

Triclocarban and its cousin triclosan are used in a wide variety of consumer products ranging from antibacterial handsoap, cosmetics, clothing and toys. Both are used in products that are washed down the drain and subsequently reach surface waters and waste water treatment plants. They are both linked to [hormonal disruption](#), especially in amphibians. Triclosan has also been found in urine, umbilical cord blood and [breast milk](#). During the recent reregistration process for triclosan, which is also associated with numerous health impacts and antibacterial resistance, the EPA concluded that these are not of concern. Triclocarban is not a registered chemical with EPA, but falls under the jurisdiction of the Food and Drug Administration (FDA).

Beyond Pesticides is actively working with other environmental and community groups to ban the non-medical uses of triclosan. [In July](#) and again in [December 2008](#), Beyond Pesticides, Food and Water Watch, Greenpeace US, Natural Resources Defense Council, Sierra Club and dozens of public health and environmental groups from the U.S. and Canada, urged the agency to use its authority to cancel the non-medical uses of the antibacterial chemical triclosan in order to protect human health and the environment. For more information, visit our Antibacterial [Program page](#).

Source: [EPA Targeted National Sewage Sludge Survey Report](#), [Science News](#)

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