

July 17, 2006

Mr. Stephen L. Johnson, Administrator
United States Environmental
Protection Agency
1200 Pennsylvania Avenue, N.W.
Mail Code 1101A
Washington, DC 20460

Dear Mr. Johnson:

Subject: Environmental Fate and Effects of Antibacterial Agents

In a recent issue of *Environmental Science and Technology* (Volume 40, Number 11, June 1, 2006), a scientific journal published by the American Chemical Society, an environmental news article and an accompanying research article authored by Heidler et al. (attached) raise concerns about the continued use of triclocarban (TCC) and triclosan (TCS), antimicrobial agents used in personal care products. More than a million pounds of TCC are produced annually and both TCC and TCS are used in an array of consumer products including soaps, toothpastes, deodorants, acne creams, lotions, cutting boards, athletic clothing, and toys. Yet currently, there is no documented evidence that the use of soaps containing these compounds provides any increased protection from infection than the use of soaps not containing them. Despite this, 75 percent of liquid soaps and 30 percent of bar soaps sold in the United States contain these antimicrobial compounds.

These compounds are being released by consumer households to wastewater treatment plants where the compounds are accumulating in biosolids. The Metropolitan Water Reclamation District of Greater Chicago (District), in collaboration with Professor Rolf Halden of Johns Hopkins University, has been monitoring the occurrence of TCC and TCS in wastewater influent and effluent samples from its seven water reclamation plants and also the concentrations of TCC and TCS in the biosolids that are land applied. The concentrations of these chemicals in the seven District water reclamation plant influent, effluent, and biosolids are summarized in Table 1 (attached). These data demonstrate that both TCC and TCS are entering the seven water reclamation plants operated by the District which treat approximately 1.5 billion gallons of wastewater daily, and that they are accumulating in the biosolids. Since the District land applies nearly all of the biosolids it produces, a high proportion (over 90 percent) of the TCC and TCS entering the District's water reclamation plants is released to the soil environment through incorporation of biosolids.

The reports of Halden and Paull (2005) (attached) and Heidler et al. (2006) confirm that widespread use of TCC and TCS result in co-occurrence of these compounds in wastewater in the United States and that the bulk of TCC is concentrated into biosolids. Not only are some uses of these compounds, particularly in conventional hand soaps intended for use with water, not proven to be beneficial to public health; but there is emerging scientific evidence that the proliferation of use of these compounds combined with their release to the environment may be deleterious to public health. This position has been supported by the American

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Medical Association (Dr. Myron Genel, Chair of the American Medical Association Council on Scientific Affairs). Many leading scientific experts, including Dr. Stuart Levy (Professor of Molecular Biology, Tufts University School of Medicine) agree that among the emerging concerns is that the use of these chemicals may result in an increase in bacteria that are resistant to antibiotics and antibacterial soaps both in the home and in the environment. Halden and Paull (2005) discuss the information emerging in peer-reviewed investigations regarding environmental fate and effects of TCC including concerns that the toxicity of the compound may increase as it biodegrades in the environment.

The District works very hard to promote a sustainable beneficial biosolids use program. To this end the District has expended considerable resources and efforts to produce an exceptional quality biosolids as defined by 40 CFR Part 503 to ensure protection of public health and the environment and to promote public confidence and acceptance of its land application program. The District houses a large industrial waste control division with 135 employees that have rigorously enforced the local industrial waste control ordinance which has resulted in the generation of biosolids that meet the most stringent pollutant concentration limits as defined in 40 CFR Part 503. The District undertook a nearly eight-year long study that demonstrated that its biosolids processing trains consistently produce biosolids that meet the Class A pathogen reduction criteria in 40 CFR Part 503 which culminated in the acquisition of a site-specific certification of equivalency of these process trains to Processes that Further Reduce Pathogens by the United States Environmental Protection Agency. Over the past three decades, the District has conducted or sponsored numerous research projects, field scale demonstration projects and demonstration field days to promote public acceptance of biosolids land application. The emerging concern over the presence of TSC and TCC in wastewater, biosolids, and the environment presents a significant obstacle to the sustainability of the District's land application program which manages approximately 200,000 dry tons of biosolids annually. The District has invested millions of dollars in developing its land application program and in promoting public acceptance and confidence in the practice. This investment can be multiplied many fold for publicly owned treatment works (POTWs) across the country.

Continued widespread unrestricted use of these compounds can result in an undermining of public confidence in the practice of land application of biosolids which will be extremely costly to the nation's POTWs and may ultimately be demonstrated to have serious impacts on environmental quality and public health. In light of the uncertainty of the benefits that TCC and TCS provide to public health by their inclusion in personal care products, especially in soaps, and the emerging concerns over risks of environmental exposure to these compounds, the District urges the United States Environmental Protection Agency to explore prudent limitations to the manufacture and use of these compounds.

If you have any questions regarding this matter, please contact Mr. Richard Lanyon, General Superintendent, at (312) 751-7900.

Very truly yours,

Terrence J. O'Brien, President

TJO'B:TCG:dm/js
Attachments

cc: B. Mathur, USEPA/D. Scott, IEPA
K. Kirk, NACWA/R. Lanyon

Table 1. Concentration of TCC and TCS at the Metropolitan Water Reclamation District of Greater Chicago's Water Reclamation Plants in Winter 2005

Plant	Influent TCC Concentration (ug/L)	Effluent TCC Concentration (ug/L)	Solids TCC Concentration (ug/kg)	Influent TSC Concentration (ug/L)	Effluent TSC Concentration (ug/L)	Solids TSC Concentration (ug/kg)
Egan	6.7	0.16	17,400	4.1	0.07	29,900
Kirie	2.9	0.05	19,200	3.4	<0.01	25,000
North Side	3.6	0.20	24,400	2.3	0.08	5,900
Hanover	6.4	0.17	33,300	3.1	0.09	11,500
Lemont	3.9	0.28	27,000	11.3	0.04	2,800
Calumet	1.5	0.30	35,700	5.2	0.09	5,900
Stickney	3.52	0.09	30,700	3.7	0.08	12,600