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August 17, 2011

Jed Costanza, Antimicrobials Division
Office of Pesticide Programs (OPP)
U.S. Environmental Protection Agency (U.S. EPA)
Regulatory Public Docket (7510P)
1200 Pennsylvania Ave., NW.
Washington, DC 20460–0001

RE: Policies Concerning Products Containing Nanoscale Materials
(Docket ID number EPA–HQ–OPP–2010–0197)

Dear Mr. Costanza:

Thank you for giving the public an opportunity to comment on the EPA's strategy for gathering information on nanoscale materials from producers of pesticide products. This policy can be a key element in ensuring that government policy encourages nanomaterial manufacturers to be good environmental stewards of their products.

Tri-TAC is a technical advisory committee representing the League of California Cities, California Association of Sanitary Agencies, and California Water Environment Association. We seek to improve the effectiveness and accountability of environmental programs that affect publicly owned treatment works in California by working with regulatory agencies and interest groups on treatment plant-related issues.

Tri-TAC members are very concerned about the water quality impacts from the discharge of nanomaterials and particles into our municipal wastewater systems. Scientific evidence has shown that some nanoparticles have the potential to harm aquatic life and interfere with POTW operations. Nanoparticles also add to metals loading, leading to potential noncompliance in wastewater effluent and biosolids. These concerns have been expressed in our previous letters to U.S. EPA¹ and in letters from our colleagues at the Bay Area Clean Water Agencies (BACWA) and the National Association of Clean Water Agencies (NACWA). U.S. EPA needs to ensure that it completes timely evaluations of the impacts of wastewater discharges for applicable products.

The quantity of nanoparticles entering the nation's environment relates direct to the environmental risks. Traces of nanoparticles in past products have far lower

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¹ Please refer to Tri-TAC letters to EPA, February 14, 2007, re: Request to Require Registration of Copper Biocide-Containing Fabric Products; and September 22, 2009 re: Silver and Compounds Registration Review (Docket Number EPA–HQ–OPP–2009–0334)

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environmental risks than products that are composed primarily of nanoparticles. The explosion in the sales volume of nanoparticle-containing products creates new and potentially significant risks. For example, until nanosilver products entered the market, silver was a relatively uncommon preservative. While nanosilver may achieve a preservative function with less silver than past silver preservatives, the total use of silver as a preservative appears to be increasing substantially because of its availability in the nanoparticle form.

Ignoring these risks could be extremely costly for the wastewater community due to potential operational interferences and incidents of non-compliance. Please refer to our previous letters regarding the impacts of nanosilver and bifenthrin² for a description of how wastewater treatment facilities can be impacted by pollutants whose sources they are not permitted to control. For example, if the presence of nanoparticles prevented beneficial reuse of biosolids, municipal wastewater treatment plants would need to spend at least an additional \$100 million annually to dispose of biosolids. This disposal cost would have serious economic repercussions.

Tri-TAC supports the use of the “Data Call-In” Approach

U.S. EPA can prevent water pollution from nanoscale materials in pesticides if it identifies which pesticides contain nanoscale materials and, for those products that may be washed into the sanitary sewer system, requires the generation of data characterizing the fate during wastewater treatment and toxicity of these nanoscale material products. Among the policy options under consideration, the only policy option that provides U.S. EPA with the ability to require that new data be generated and submitted is the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Section 3(c)(2)(B) (“Data Call-In”) approach.

Although the FIFRA Section 3(c)(2)(B) approach initially creates a greater administrative burden, its national benefits—avoiding nationwide Clean Water Act compliance challenges and millions of dollars in compliance costs for municipalities—far outweigh the cost of the additional paperwork required of EPA and product testing required of pesticide manufacturers. This approach is also advantageous because it would be consistent with necessary requirements to provide particle size information and environmental fate and toxicity data for nanoscale pesticides when new products are registered.

We cannot support the alternative involving revision of U.S. EPA's regulations for pesticide data requirements (40 CFR Parts 158 and 161). Although this approach

² Please refer to Tri-TAC letter to EPA, August 23, 2010 re: Docket No. EPA-HQ-OPP-2010-0384 – Bifenthrin Registration Review

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would also provide U.S. EPA with clear authority to require that new data be generated, we agree with U.S. EPA that this approach would not generate necessary information and risk mitigation in a timely manner. For example, we are still awaiting finalization of revisions of the data requirements for antimicrobials, which were initially proposed in 2008. Without the ability to require timely data generation, U.S. EPA will be unable to assess the environmental risks of nanoscale materials and will be unable to prevent impacts on water quality and Clean Water Act compliance. Given the exploding marketplace for nanoscale materials, time is of the essence.

It is imperative that Nanoscale materials be investigated with the understanding that they have different properties than their macro forms

Scientific evidence supports the EPA's presumption that nanoscale versions of pesticides may have different environmental risks than macro versions of the same pesticide. It is appropriate for EPA to assume that nanoscale products are inherently different and require special characterization of environmental risks unless proven otherwise by the manufacturer.

As with all pesticides, it is necessary to take the form of the pesticide into consideration

When reviewing nanoparticle products, it is important for EPA to evaluate the environmental risks associated with the final product that is sold to the consumer (i.e., treated wood, treated clothing). Nanoscale pesticides are used in products like treated wood and fabrics that are not ordinarily labeled as pesticides. In some of these products, the nanoscale material is created during the treatment of the material. The product and carriers in which a pesticide is included will impact its likelihood of entering the wastewater stream, as well as its environmental fate.

Moving forward with implementation

Tri-TAC recommends a phased implementation to best use EPA resources to target nanoscale products most likely to cause toxicity to aquatic organisms or process impacts in wastewater facilities. We recommend prioritizing products likely to contain types of nanoparticles that have been linked to potential harm of aquatic life and/or interference with POTW operations, such as nanosilver, nanocopper, and carbon nanotubes.

Moving forward, we would prefer U.S. EPA to obtain all data necessary for complete evaluations of environmental risks prior to product registration. If U.S. EPA decides to use its conditional registration authority while awaiting data necessary to evaluate nanoparticle environmental risks, it should establish limitations, such as maximum quantities sold, for products that are washed into the sanitary sewer system.

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Summary

In summary, we urge U.S. EPA to establish a policy that involves use of its existing authority under FIFRA Section 3(c)(2)(B) to require generation of data characterizing the nanoscale material content of pesticide products. For nanoscale materials that may enter the sanitary sewer system, U.S. EPA should require environmental fate and toxicity data, conduct environmental risk assessment, and implement mitigation as necessary to prevent water pollution and treatment process disruptions. The costs to obtain these data and to complete environmental risk assessments are small compared to the costs incurred when pesticide-related water pollution occurs.

Thank you for your consideration of our comments on the policy concerning products containing nanoscale materials. If you have any questions, please contact Lorien Fono, Tri-TAC Water Committee Co-chair at (510) 684-2993.

Sincerely,



Ben Horenstein
Chair

cc: Steven Bradbury, U.S. EPA Office of Pesticide Programs
Joan Harrigan-Farrelly, U.S. EPA Office of Pesticide Programs, Antimicrobials Division
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Jack Housenger, U.S. EPA Office of Pesticide Programs, Biological and Economic Analysis
Lois Rossi, U.S. EPA Office of Pesticide Programs, Registration Division
Nader Elkassabany, U.S. EPA Office of Pesticide Programs, Antimicrobials Division
Ephraim King, U.S. EPA Office of Water, Office of Science and Technology
James A. Hanlon, U.S. EPA Office of Water, Office of Wastewater Management
Alexis Strauss, U.S. EPA Region 9, Water Division
Debra Denton, U.S. EPA Region 9
Patti TenBrook, U.S. EPA Region 9
Syed Ali, California State Water Resources Control Board
Tom Mumley, California Regional Water Quality Control Board, San Francisco Bay Region
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Chris Hornback, Senior Director, Regulatory Affairs, National Association of Clean Water Agencies