



Chuck Weir  
*Tri-TAC Chair*  
East Bay Dischargers Authority  
2651 Grant Avenue  
San Lorenzo, CA 94580  
(510) 278-5910  
[cweir@ebda.org](mailto:cweir@ebda.org)

January 23, 2006

Public Information and Records Integrity Branch (PIRIB) (7502C)  
Office of Pesticide Programs (OPP)  
U.S. Environmental Protection Agency  
1200 Pennsylvania Ave., N.W.  
Washington, DC 20460-0001  
Attn: Docket ID Number OPP-2005-0284

### **Docket No. OPP-2005-0284- Resmethrin Risk Assessments**

The purpose of this letter is to comment on EPA's risk assessments for resmethrin, which were made available for public comment on November 23, 2005 (70 FR 70829). Resmethrin is a first generation synthetic pyrethroid insecticide used in commercial and residential areas for treatment of many species of insects. Resmethrin is used alone and in combination with synergists such as piperonyl butoxide. Tri-TAC is concerned that the risk assessments do not evaluate the potential adverse water quality impacts associated with sewer discharges of resmethrin, particularly resmethrin used in indoor space, crack, and crevice treatments and pet products. In addition, the ecological risk assessments should be revised to present an accurate assessment of resmethrin impacts on aquatic organisms. Tri-TAC also requests an opportunity to comment on the revised risk assessments and the proposed mitigation measures prior to reregistration. As background, Tri-TAC is a technical advisory group for Publicly Owned Treatment Works (POTWs) in California. It is jointly sponsored by the California Association of Sanitation Agencies, the California Water Environment Association, and the League of California Cities. The constituency base for Tri-TAC collects, treats, and reclaims more than two billion gallons of wastewater each day and serves most of the sewered population of California.

### **Indoor Uses**

While the EPA risk assessments for resmethrin consider potential adverse water quality impacts arising from mosquito abatement uses, they do not consider such impacts from indoor uses. There are many ways that resmethrin can enter a sewer system.

**Vice Chair**  
**Jim Colston**  
Orange County  
Sanitation District  
P.O. Box 9127  
Fountain Valley, CA 92728  
(714) 593-7458  
[jcolston@ocsd.com](mailto:jcolston@ocsd.com)

**Water Committee**  
**Co-Chairs**  
**Ben Horenstein**  
East Bay Municipal  
Utility District  
375 11th St. MS702  
Oakland, CA 94623  
(510) 287-1846  
[bhorenst@ebmud.com](mailto:bhorenst@ebmud.com)

**Terrie Mitchell**  
Sacramento Regional  
County Sanitation Dist.  
10545 Armstrong Ave.,  
Suite 101  
Mather, CA 95655  
(916) 876-6092  
[mitchellt@saccounty.net](mailto:mitchellt@saccounty.net)

**Air Committee Chair**  
**Jackie Kepke**  
CH2M Hill  
155 Grand Ave., Suite 1000  
Oakland, CA 94612  
(510) 251-2426  
[jkepke@ch2m.com](mailto:jkepke@ch2m.com)

**Land Committee**  
**Co-Chairs**  
**Layne Baroldi**  
Orange County  
Sanitation District  
P.O. Box 9127  
Fountain Valley, CA 92728  
(714) 593-7456  
[lbaroldi@ocsd.com](mailto:lbaroldi@ocsd.com)

**Maura Bonnarens**  
East Bay Municipal  
Utility District  
375 11<sup>th</sup> St., MS702  
Oakland, CA 94623  
(510) 287-1141  
[mbonnare@ebmud.com](mailto:mbonnare@ebmud.com)

**CalFOG Workgroup Chair**  
**Trish Maguire**  
East Bay Municipal  
Utility District  
375 11<sup>th</sup> St., MS702  
Oakland, CA 94623  
(510) 287-1727  
[pmaquire@ebmud.com](mailto:pmaquire@ebmud.com)

Discharges can occur when a resmethrin treated surface, created by using the pesticide directly on the surface or by deposition and dispersion of aerosols, foggers, and sprays onto the surface, is cleaned. Wastewater containing the pesticide can be produced by cleaning these surfaces with sponges, cloths, and mops that are later washed with water or washed in a washing machine, and by using a bucket of water for cleaning that is later emptied into a drain. The pesticide can also enter the sewer when a resmethrin-containing solution is directly disposed of down a drain and when a resmethrin-containing product is applied directly in a toilet or drain. The normal use of pesticide-containing pet shampoos and sprays also include a direct pathway to sewers, from rinsing of the shampoos and sprays after application. Even when pets are rinsed outdoors, the rinse water can enter storm drains or flow directly to creeks and rivers.

Once washed into a sewer system, the pesticide will typically flow to POTWs. Although POTWs break down pesticides to a varying degree, they are not designed to remove pesticides.<sup>1</sup> Pesticides can potentially interfere with treatment plant operation, ability to recycle reclaimed water and biosolids, and compliance with National Pollutant Discharge Elimination System (NPDES) permits. Protecting POTWs from pass through of pesticide discharges was a key reason for EPA's development of categorical pretreatment requirements for the pesticide formulating, packaging, and repackaging industry as well as the pesticide manufacturing industry.<sup>2</sup>

### **Ecological Risk Assessments**

In the Preliminary Environmental Fate and Effects Risk Assessment Chapter for the Registration Eligibility Decision (RED) Document for: Resmethrin (Risk Assessment) EPA states, "Results of this risk assessment show that there is acute risk to non-target fish, aquatic invertebrates, benthic organisms (both freshwater and estuarine/marine for all aquatic taxonomic groups)...and chronic risk to freshwater fish." Therefore, it is possible that the levels of concern will also be exceeded from the indoor use of consumer products containing resmethrin. Tri-TAC requests that EPA conduct an Aquatic Exposure, "Down the Drain Assessment", similar to the analysis conducted for permethrin<sup>3</sup>, to evaluate the potential impacts to aquatic organisms from the indoor uses of resmethrin. If the Aquatic Exposure, "Down-the-Drain" Assessment shows that

---

<sup>1</sup> The U.S. EPA Office of Water maintains an extensive database of wastewater treatment plant removal efficiencies for various pollutants, including pesticides (the National Risk Management Research Laboratory Treatability Database). This data set is one of many resources that can be used to estimate environmental concentrations of pesticides discharged to the sewer system.

<sup>2</sup> 40 *Code of Federal Regulations* Part 455

<sup>3</sup> EPA, EFED Revised Risk Assessment for the Reregistration Eligibility Decision on Permethrin After Error Corrections Comments from the Registrant, Phase I, July 12, 2005

acute and/or chronic levels of concern for aquatic organisms are exceeded from the indoor uses of resmethrin, Tri-TAC requests that EPA propose mitigation measures for resmethrin during reregistration.

Tri-TAC has provided comments to EPA about the method used to translate wastewater treatment plant discharge concentrations from the Exposure and Fate Assessment Screening Tool into acute and chronic surface water concentrations and the use of a daily per capita mass discharge rate to calculate acute surface water concentrations used in the Aquatic Exposure, "Down-the-Drain" Assessment for permethrin. Even with the conservative assumptions used by EPA, the model results show that acute and chronic levels of concern for aquatic organisms were exceeded as a result of "down-the-drain" uses of permethrin. This result is significant because POTWs do not have the ability to regulate discharges of pesticides from domestic sources; however, POTWs are required to meet effluent aquatic toxicity standards in NPDES permits.

EPA indicates that the most important environmental route of dissipation for resmethrin is photolysis, which is a chemical process by which molecules are broken down by the adsorption of light. Typical treatment facilities at an activated sludge POTW producing tertiary water are: headworks (bar screens, comminutors, etc.), primary sedimentation tanks, aeration tanks, secondary sedimentation tanks, gravity filters, and chlorine contact tanks. POTWs in urban areas usually cover the headworks and primary sedimentation tanks to control odors. Aeration tanks have a high turbidity due to the biological activity and mixing, thereby impeding light penetration. Secondary sedimentation tanks and gravity filters are typically uncovered, and some photolysis may occur. However, since these tanks are relatively deep, about 10 feet, light penetration would be limited to the wastewater near the surface of the tanks. Chlorine contact tanks are often covered to contain the disinfectant. Tri-TAC expects a minimal amount of resmethrin to be removed during wastewater treatment by photolysis. EPA states that "other routes of dissipation appear to present a persistent chemical" and "resmethrin is highly bioaccumulative" in fish. Tri-TAC is concerned about resmethrin bioaccumulation in aquatic organisms causing effluent aquatic toxicity problems and requests that EPA evaluate the potential bioaccumulation of resmethrin in aquatic organisms in the revised risk assessments.

Tri-TAC also requests that EPA revise the resmethrin risk assessments to present an accurate assessment of the impact of the pesticide to aquatic species. Since "resmethrin formulations often include a synergist that is expected to enhance the toxicity of the active ingredient and may be toxic to aquatic organisms on its own," it is important that EPA collect data for both the TGAI (Technical Grade Active Ingredient) and formulations. EPA states in the Risk Assessment that "the freshwater fish study with formulated resmethrin, as well as most of the acute studies for other taxonomic groups, were based on nominal concentrations; therefore, there is uncertainty regarding

the results of these studies due to possible underestimation of toxicity.” EPA provides a similar disclaimer on the freshwater and estuarine/marine fish and invertebrates acute risk results in Table 1a of the Risk Assessment stating that there is uncertainty associated with the data set for the organisms exposed to formulated resmethrin because exposure concentrations were not verified; therefore, toxicity and risk to these organisms could be greatly underestimated. In addition: “Since acceptable chronic studies are not currently available for aquatic invertebrates, chronic effects to these organisms could not be characterized in this assessment.... No acute or chronic toxicity studies regarding the effects of resmethrin in freshwater or estuarine/marine benthic organisms were available. Since resmethrin TGAI tends to partition into the sediment compartment, toxicity data for the sediment dwelling organisms is needed.” Tri-TAC is not clear on the technical basis for using incomplete acute and chronic data for the resmethrin aquatic exposure risk assessments. We are interested in the freshwater and estuarine/marine fish acute and chronic toxicity test results for resmethrin since POTWs discharge to both types of receiving waters and are required to meet effluent aquatic toxicity standards. Tri-TAC requests that EPA require acceptable acute and chronic toxicity test results for the TGAI and formulations from the registrants, and include the results in revised risk assessments, prior to the reregistration of resmethrin.

### **Public Participation Process**

Tri-TAC requests that EPA provide another opportunity for public participation to review the revised risk assessments and proposed mitigation measures prior to the reregistration eligibility decision. A full six-phase public participation process is warranted for this pesticide. We request that the next public comment period be at least 60 calendar days to ensure that POTWs can review the relevant documents, coordinate with other agencies and scientific experts, obtain scientific information, and prepare meaningful comments.

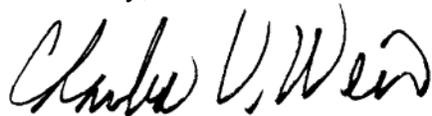
In conclusion, sewerage agencies need EPA’s assistance to protect surface waters from contamination from resmethrin. As previously discussed, POTWs are required by NPDES permits to meet aquatic toxicity standards but do not have the authority to regulate domestic sources of pesticides. Tri-TAC requests EPA conduct an Aquatic Exposure, “Down-the-Drain” Assessment, similar to the analysis performed for permethrin, to evaluate potential aquatic toxicity impacts from the use resmethrin in consumer products with pathways to the sewer. If the model shows that acute and/or chronic levels of concern for aquatic organisms are exceeded from the indoor uses of resmethrin, Tri-TAC requests that EPA propose mitigation measures for resmethrin during reregistration.

Public Information and Records Integrity Branch (PIRIB) (7502C)  
January 23, 2005  
Page 5

### Contact Information

Tri-TAC appreciates this opportunity to comment on the risk assessments for resmethrin. If you have any questions about this letter or require additional information, please contact Ms. Preeti Ghuman by phone at (562) 699-7411, extension 2904, or by e-mail at [pghuman@lacsdsd.org](mailto:pghuman@lacsdsd.org).

Sincerely,



Charles V. Weir  
Chair, Tri-TAC

c: Susan Hazen, EPA Office of Prevention, Pesticides and Toxic Substances  
Jim Jones, EPA Office of Pesticide Programs  
Steven Bradbury, EPA Environmental Fate and Effects Division  
James Hanlon, EPA Office of Wastewater Management  
Benjamin H. Grumbles, EPA Office of Water  
Wayne Nastri, U.S. EPA Region IX  
Raymond Chavira, U.S. EPA Region IX  
Syed Ali, State Water Resources Control Board  
Bill Johnson, State Water Resources Control Board  
William Diamond, EPA Field and External Affairs Division