



# California Regional Water Quality Control Board

## San Francisco Bay Region



Linda S. Adams  
Secretary for  
Environmental Protection

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Arnold Schwarzenegger  
Governor

April 21, 2008

Office of Pesticide Programs (OPP)  
Regulatory Public Docket (7502P)  
Environmental Protection Agency  
1200 Pennsylvania Ave., NW.  
Washington, DC 20460-0001

Monica Wait  
Special Review and Reregistration Division (7508P)  
Office of Pesticide Programs  
Environmental Protection Agency  
1200 Pennsylvania Avenue, NW.  
Washington, DC 20460-0001

Dear Ms. Wait:

**Subject: Tetramethrin Risk Assessments and Risk Reduction Options  
(Docket No. OPP—2008-0014)**

The San Francisco Bay Regional Water Quality Control Board (Water Board) is responsible for protecting water quality in the San Francisco Bay Region. Our responsibilities include both fresh and marine/estuarine surface waters and ground water. Our region contains diverse water bodies (“waters”), including creeks, rivers, wetlands, estuaries, reservoirs, ground water basins, and the portion of the Pacific Ocean that borders our region. Waters in our region have many values, which we identify as “beneficial uses”—these include habitats, water supplies, fisheries, navigation, and recreation.

### Overview of Comments

Below we provide comments on the preliminary environmental risk assessment and risk reduction options for tetramethrin. We object to reregistration of this 40-year old insecticide in the absence of legally required aquatic toxicity data. We are concerned that sparse aquatic toxicity data sets preclude an evaluation of risks that may have implications for Clean Water Act compliance. Given that tetramethrin is commonly used in manners that involve discharges to municipal wastewater treatment plants, we request quantitative analysis of the potential impacts of wastewater discharges prior to reregistration. We recommend that U.S. EPA implement risk management measures to ensure that future tetramethrin use does not interfere with Clean Water Act compliance.

*Preserving, enhancing, and restoring the San Francisco Bay Area's waters for over 50 years*

## Background

Numerous scientific studies have demonstrated that use of some registered pesticides in accordance with Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) requirements can adversely affect aquatic species, which can, in turn, cause violations of water quality standards. As a result of discharges containing pesticides registered for use by the U.S. EPA, many waters within our jurisdiction have been designated as “impaired” in accordance with Federal Clean Water Act §303(d). This finding means that the waters do not meet water quality standards. The Federal Clean Water Act requires us to prepare resource-intensive total maximum daily loads (TMDLs) for these waters. TMDLs must examine the water quality problem, identify sources of pollutants, and specify actions that create solutions to the problem. We then must mandate expensive programs to implement the TMDLs to restore the designated uses of impaired waters. Through this process, we have recognized the need for U.S. EPA to minimize the potential for registered pesticides to impair surface water quality.<sup>1</sup> We are particularly concerned about pyrethroid insecticides, because this class of insecticides is causing widespread toxicity to sediment-dwelling organisms that reside in California urban surface water sediments.<sup>2</sup>

## Environmental Risk Assessment for Tetramethrin

Although tetramethrin has a relatively short half-life in sunlight and in high-pH water, its use patterns—particularly indoor uses—do not necessarily involve exposure to these conditions. Available information provides no guarantee that use of tetramethrin will not harm aquatic life. The most important gaps in the tetramethrin environmental risk assessment are the lack of required aquatic toxicity data and the omission of wastewater discharge modeling.

### Required Aquatic Toxicity Data Should Be Provided to U.S. EPA Prior to Reregistration.

U.S. EPA has not received aquatic toxicity data that is required by law to be submitted prior to a pesticide’s reregistration. Missing data include all acute toxicity data for estuarine and marine organisms, all chronic toxicity data, all data for aquatic plants, and all data for sediment-dwelling organisms. These data have been included on the minimum list of required environmental data for good reason. Without aquatic toxicity data, it is impossible for U.S. EPA to assess risks to aquatic organisms.

Wastewater Discharge Modeling Should Be Conducted. Although tetramethrin has many uses that would involve sewer discharges, U.S. EPA did not complete a wastewater discharge assessment (“down-the-drain” assessment”) for tetramethrin. Tetramethrin has a relatively short hydrolysis

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<sup>1</sup> By “surface water quality,” we refer to the quality of the nation’s surface waters, which serve as habitats as well as potential drinking water sources. Our comments refer to habitat-related surface water uses (including sediment) and to all waters (salt water, estuaries, and fresh water), in addition to fresh water drinking water sources.

<sup>2</sup> Amweg, E. L., D. P. Weston, et al. (2006). "Pyrethroid Insecticides and Sediment Toxicity in Urban Creeks from California and Tennessee." *Environ. Sci. Technol.* **40**(5) 1700-1706. Weston, D. P., R. W. Holmes, et al. (2005). “Aquatic Toxicity Due to Residential Use of Pyrethroid Insecticides,” *Environ. Sci. Technol.* **39**(24): 9778-9784.

half-life; however, this half-life is longer than the typical time for processing wastewater at a sewage treatment plant. Even when a pesticide has a relatively short half-life, if it is discharged in sufficient quantities, it may have the potential to appear in quantities sufficient to cause aquatic toxicity—particularly if it is very highly toxic to aquatic life (like most pyrethroids).

### **Risk Reduction Measures for Tetramethrin**

Our analysis of use patterns and environmental fate of tetramethrin suggests that outdoor uses are unlikely—at present—to contribute significantly to pyrethroid-related toxicity to sediment-dwelling organisms because current outdoor use of tetramethrin generally involve spot applications with aerosols.<sup>3,4</sup> We are, however, concerned that tetramethrin product types and use patterns could be indirectly modified in response to U.S. EPA actions on other insecticides—and that such changes could cause tetramethrin to be applied in quantities or at times (i.e., when rain is imminent) that could potentially cause incidents of aquatic toxicity. We request that U.S. EPA limit allowable product uses to prevent such market transitions. We provide recommended language to address outdoor tetramethrin uses below.

We have based our recommendations on language included in the recent revised Cypermethrin Reregistration Eligibility Decision.<sup>5</sup> We believe these recommendations are reasonable, feasible, and would not interfere with pest control in urban areas because a plethora of feasible alternatives exist and have been demonstrated for urban pest control.<sup>6</sup>

(1) *Allow Only Localized, Spot, and Crack-and-Crevice Outdoor Treatments.* Limiting outdoor applications of tetramethrin would significantly reduce the potential for future insecticide market changes to increase sales of tetramethrin. We suggest that this limitation be worded as follows:

“Outdoor applications are limited to spot or crack-and-crevice treatments only.”

If a general limitation is not feasible, an alternative approach would involve limitations on applications to impervious surfaces. This approach was selected by U.S. EPA for

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<sup>3</sup> TDC Environmental (2003). *Insecticide Market Trends and Potential Water Quality Implications*, Prepared for the San Francisco Estuary Project with funding from the California Water Resources Control Board, San Francisco Bay Region, April.

<sup>4</sup> Note that the widespread toxicity occurs has been documented in waters that receive urban and agricultural runoff. A linkage to discharges from municipal wastewater treatment plants has not been established to date.

<sup>5</sup> U.S. EPA OPP (2008). *Reregistration Eligibility Decision for Cypermethrin* (revised 01/14/08). EPA OPP-2005-0293.

<sup>6</sup> We have previously called your attention to our preference that U.S. EPA promote use of less toxic alternatives, such as those assembled by the Our Water-Our World education program (<http://www.ourwaterourworld.org/>), methods for structural pest control applicators that form the basis of the EcoWise Certified program (<http://www.ecowisecertified.org>), and those used in leading municipal integrated pest management programs, like San Francisco's (<http://www.sfenvironment.com/aboutus/innovative/ipm/>).

cypermethrin, where the following label language was required for all urban, outdoor use products (both professional and non-professional products):

“All outdoor applications must be limited to spot or crack-and-crevice treatments only, except for the following permitted uses:

- Treatments to soil or vegetation around structures;
- Applications to lawns, turf, and other vegetation;
- Applications to building foundations up to a maximum height of 3 feet
- Broadcast application to building foundations

All outdoor applications to impervious surfaces such as sidewalks, driveways, patios, porches and structural surfaces (such as windows, doors, and eaves) are limited to spot treatments or crack-and-crevice applications, only.”

(2) *Add Product Stewardship Language.* All pesticide products should have product stewardship language on their labels. We recommend that the product stewardship language required for all urban, outdoor use cypermethrin products (both professional and non-professional products) also be required for tetramethrin products:

“Do not apply directly to or near water, storm drains, gutters, sewers, or drainage ditches. Do not apply when windy. Do not water the treated area(s) to the point of run-off or apply when raining or when rain is expected that day. Rinse application equipment over treated area only.”

Mitigation measures should also be implemented, if necessary, to prevent incidents of toxicity from indoor tetramethrin uses that entail discharges to municipal wastewater treatment plants. We request that U.S. EPA use the wastewater discharge model to identify and evaluate mitigation measures that would prevent any problems that are identified during modeling.

### **Cooperation Between Offices**

U.S. EPA has taken important steps toward protecting water quality throughout its various reregistration processes. However, U.S. EPA needs continued significant efforts to better integrate surface water quality protection into its pesticide registration and regulatory review programs. Coordination between U.S. EPA offices in reviewing pesticide ingredients is essential to Clean Water Act implementation; it also provides an appropriate method of meeting the Federal Insecticide, Fungicide, and Rodenticide Act’s goal of preventing unreasonable adverse impacts from pesticide use.

Thank you for this opportunity to offer our input regarding the risk assessments and risk reduction options for tetramethrin. If you have any questions, please contact me at 510-622-2395 or via e-mail at [tmumley@waterboards.ca.gov](mailto:tmumley@waterboards.ca.gov).

Sincerely,

/s/

Thomas Mumley  
Assistant Executive Officer

- c. James B. Gulliford, Assistant Administrator, Office of Prevention, Pesticides and Toxic Substances
- Debbie Edwards, Director, U.S. EPA Office of Pesticide Programs
- William Diamond, Director, Field and External Affairs Div.
- Donald Brady, Director, Environmental Fate and Effects Division
- Rick Keigwin, Director, Biological and Economic Analysis Division
- Steven Bradbury, Director, Special Review and Reregistration Division
- James Hanlon, Director, Office of Wastewater Management
- Claire Gesalman, Branch Chief, Communication Services Branch, Field and External Affairs Div.
- Jennifer McLain, Branch Chief, Policy and Regulatory Services Br., Field and External Affairs Div.
- Benjamin H. Grumbles, Assistant Administrator, Office of Water
- Ephraim King, Director, Office of Science and Technology
- Craig Hooks, Director, Office of Wetlands, Oceans, & Watersheds
- Wayne Nastri, Administrator, U.S. EPA Region IX
- Kathleen Goforth, U.S. EPA Region IX
- Patti TenBrook, U.S. EPA Region IX
- Debra Denton, U.S. EPA Region IX
- Nan Singhasemanon, California Department of Pesticide Regulation
- James Giannopoulos, State Water Resources Control Board
- Syed Ali, Division of Water Quality, State Water Resources Control Board
- Preeti Ghuman, Tri-TAC
- Dave Tamayo, CASQA