



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

MEMORANDUM

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SUBJECT: Verification Memorandum for Permethrin for SF Bay Species

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AND
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THRU: Jill Bloom, ^{Acting} Team Leader
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TO: Mah Shamim, Branch Chief
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This memorandum serves to provide additional information on the use pattern of permethrin not captured in the LUIS process. The Registration Division (RD) and the Pesticide Re-evaluation Division's (PRD) role in the verification process are to fill information gaps and provide division appropriate expertise as outlined in the LUIS Verification SOP for RD and PRD.

PRD provides information and status regarding changes to the chemical use (such as application parameters, cancellations, or label language) that occurred as a result of the reregistration process. RD provides information regarding changes to the chemical use that may have occurred after the date of the LUIS label extraction. In the case a "Data Doer Only"¹ report was conducted, the CRM and PM will ensure that all highest application rates are reflected on the EFED Spreadsheet. The CRM and PM have drafted the "Registration and Reregistration Verification" section of this memo to clarify knowledge gaps a risk assessor may encounter while using the data contained in the LUIS report.

¹ This type of LUIS report is conducted when the AI of interest has more than 50 products. This report will contain: 1. Products actively registered to the data doer; 2. All technical registrations regardless of registrant; 3. All active California special local needs (SLN) registrations.

PRD previously provided a permethrin verification memo to EFED in May 2008 for use in the Red-legged Frog (RLF) Endangered Species Assessment. The 2008 verification memo captured risk mitigation required in the 2007 Amended RED, as well as updated usage data for use in the "down the drain" assessment. In May 2009, PRD amended the permethrin RED again. The 2009 Amended RED incorporates additional label requirements to address ecological concerns. This verification memo captures the mitigation required since the May 2008 RLF verification memo.

If further clarification is needed, please contact Jacqueline Guerry (215-814-2184) and Richard Gebken (703-305-6701).

Registration and Reregistration Verification

Date and Scope of the RED

- Permethrin is a type I pyrethroid class of pesticides, first registered in 1979
- The Permethrin Reregistration Eligibility Decision (RED) was completed on April 6, 2006.
- The Permethrin RED was amended in December 2007 to incorporate public comments, as well as post-RED activities such as development of label language for canine spot-on products and preconstruction termiticide application, and revised spray drift language for agricultural products.
- The RED was amended again in May 2009 to incorporate new toxicology data submitted to the Agency that reduced the dermal absorption factor used in the residential and occupational risk assessment from 15% to 5.7%, and to incorporate a revised methodology for refining indoor cancer risk assessments. The label table was revised to reflect the amended risk mitigation, as well as additional post-RED labeling initiatives.

Required Through the RED Process

The following mitigation measures were required to mitigate ecological risks per the 2009 Permethrin Amended RED.

- Require pyrethroid specific spray drift labeling, including a 25 foot buffer zone for ground applications, 150-foot for aerial application, and 450 foot for ULV applications.
- Amend agricultural labels to include new use pattern (rate reductions, seasonal maximum reductions, and minimum retreatment interval) identified for the selected crop uses specified in 2009 Amended RED Label Table.
- Include the following statement in the environmental hazard section of the end use products:
 - This pesticide is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are actively visiting the treatment area.

- For all wide area mosquito abatement products:
 - Reduce daily maximum application rate to 0.007 lb ai/A, and a maximum yearly application rate of 0.18 lb ai/A;
 - Remove 100 foot buffer zone restriction;
 - For aerial applications made at ≤ 200 feet above ground elevation - Spray equipment must be adjusted so that the volume median diameter product is less than 60 microns ($D_v 0.5 < 60 \mu m$) and that 90% of the spray is contained in droplets smaller than 100 microns ($D_v 0.9 < 100 \text{ microns}$); and
 - For aerial applications made at > 200 feet above ground elevation - Spray equipment must be adjusted so that the volume median diameter product is less than 70 microns ($D_v 0.5 < 70 \mu m$) and that 90% of the spray is contained in droplets smaller than 145 microns ($D_v 0.9 < 145 \text{ microns}$), and
 - Specify a droplet size < 30 microns for ground applications.
- Incorporate labeling per Pesticide Registration Notice 2008-1, "Environmental Hazard General Labeling Statements on Outdoor Residential Use Products."
- Include the following label language in the directions for use section of all products registered for outdoor use:

Products labeled for use on and around buildings and other structures:

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

- (1) Treatment to soil or vegetation around structures;
- (2) Applications to lawns, turf, and other vegetation;
- (3) Applications to building foundations, up to a maximum height of 3 feet.

Other than applications 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 and crack-and-crevice applications, only."

Products labeled for preconstruction termiticide applications:

"Covering the treatment site prior to a rain event can prevent run-off of the pesticide into non-target areas.

The applicator must either cover the soil him/herself or notify the contractor on the site that: 1) if the concrete slab cannot be poured over the treated soil within 24 hours of application the treated soil should be covered with a waterproof covering (such as polyethylene sheeting), and 2) that the contractor should cover the treated soil if precipitation occurs before the concrete slab is poured.

Do not treat soil that is water-saturated or frozen.

Do not treat when raining.

Do not allow treatment to runoff from the target area.

Do not apply within 25 feet of aquatic habitats (such as, but not limited to, lakes; reservoirs; rivers; permanent streams; marshes or natural ponds; estuaries; and commercial fish farm ponds).

Do not make on-grade applications when sustained wind speeds are above 10 mph (at application site) at nozzle end height."

Requirements for Granular Formulations labeled or intended for outdoor residential uses:

"Apply this product directly to the lawn or garden area. Water treated area as directed on this label. Do not water to the point of run-off."

Requirements for Liquid, Dust, and Ready to Use Formulations products labeled or intended for outdoor residential uses:

"Do not water the treated area to the point of run-off."

Products labeled for use around or near floor drains or sewers must contain the following statement:

"Prohibit application directly into sewers or drains, or to any area like a gutter where drainage to sewers, storm drains, water bodies, or aquatic habitat can occur. Do not allow the product to enter any drain during or after application."

Products labeled for use in drains or sewers must contain the following statement:

"Except when applying to sewers or drains as instructed on this label, do not apply directly to sewers or drains, or to any area like a gutter where drainage to sewers, storm drains, water bodies, or aquatic habitat can occur."

Label Extraction Analysis

- At the time of the completion of this verification memo, the LUIS label extraction had not been completed for use in the SF Bay Lawsuit endangered species assessment. However, based on the most recent label extraction performed for permethrin (4/1/2008), application rates vary depending on the use pattern. For most agriculture uses, maximum seasonal rates range from 0.1 to 0.4 pounds active ingredient per acre (lb ai/A), and depending on the crop, the maximum number of permethrin applications per season can range from 1 to 8. The maximum application rate for the public health use of permethrin is 0.007lb ai/A, with a maximum yearly application rate of 0.18 lb ai/A. Application rates vary for residential use products depending on indoor or outdoor use, and consumer or professional or commercial operator use. The maximum residential application rate is use on turf, 0.87 lb ai/A per application.

Product Reregistration

- The product specific data call-in was issued for permethrin in June 2009. The label review process is still taking place, and is not anticipated to be complete until 2011.

Registration Division Review

- No recent new actions have been accepted by the Agency. There are pending actions; however, it is unlikely these will be accepted due to the pending human health cumulative risk assessment for the pyrethroid class of chemicals.

