

Appendix D. Verification Memo for Thiobencarb for Red Legged Frog Assessment



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

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

MEMORANDUM

PC Code: 108401

DATE: April 29, 2009

SUBJECT: Verification Memorandum for Thiobencarb for Red Legged Frog Assessment

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AND
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THRU: Thomas Moriarty, Team Leader
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TO: Rafael Prieto
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This memorandum serves to provide additional information on the use pattern of thiobencarb not captured in the LUIS process. RD and SRRD's 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 SRRD.

SRRD 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.

Finally, if further clarification is needed, please contact Kelly Ballard and Phil Errico.

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.

Registration and Reregistration Verification

Date and Scope of the RED

- The RED for thiobencarb was signed in September 1997.
- The human health and ecological risk assessments in the RED only assessed thiobencarb *per se*.
- Thiobencarb's RED only covered thiobencarb (PC 108401, CAS 28249-77-6).
- Thiobencarb's tolerance reassessment that was conducted in conjunction with the RED included four metabolites: 4-chlorobenzylmethylsulfone, 4-chlorobenzoic acid, N-(4-chlorobenzoyl)glycine, and 4-chlorobenzylthio conjugates.

Required Through the RED Process

- The RED determined all uses of thiobencarb were eligible for reregistration.

Required label language

- The following language was required through the RED process:
 - "Do not apply this product to rice fields with catfish/crayfish farming."
"Do not apply this product on rice fields adjacent to catfish or crayfish ponds."
 - "When applying to rice fields, do not release permanent flood water within 14 days of application of this product (where weather permits)."
 - "Avoid application of this product within 24 hours of rainfall, or when heavy rain is expected to occur within 24 hours."
 - "Do not mix/load or otherwise handle this product within 100 feet of aquatic habitat."

- Spray Drift Labeling - The following language must be placed on each product label that can be applied aerially:

"Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment-and-weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions."

"The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses or to applications using dry formulations."

"1. The distance of the outer most nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor."

“2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.”

“Where states have more stringent regulations, they should be observed.”

“It is recommended that the applicator should be familiar with and take into account the information covered in the Aerial Drift Reduction Advisory Information.”

“The following aerial drift reduction advisory information must be contained in the product labeling:”
[This section is advisory in nature and does not supersede the mandatory label requirements.]

“INFORMATION ON DROPLET SIZE: The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see Wind, Temperature and Humidity, and Temperature Inversions).”

“CONTROLLING DROPLET SIZE:

- Volume - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- Pressure - Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- Number of nozzles - Use the minimum number of nozzles that provide uniform coverage.
- Nozzle Orientation - Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.
- Nozzle Type - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.
- Maintenance of Nozzles - periodic inspection and subsequent replacement of nozzles to ensure proper chemical application is recommended.”

“BOOM LENGTH: For some use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.”

“APPLICATION HEIGHT: Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.”

“SWATH ADJUSTMENT: When applications are made with a crosswind, the swath will be displaced downward. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.).”

“WIND: Drift potential is lowest between wind speeds of 2-10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. NOTE: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.”

“TEMPERATURE AND HUMIDITY: When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.”

“TEMPERATURE INVERSIONS: Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.”

“SENSITIVE AREAS: The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas).”

Product Reregistration

- Product reregistration for all thiobencarb products was completed 4/10/06. Therefore, all measures required by the RED should be reflected on current product labels.

Status of BEAD’s LUIS Report

- The thiobencarb LUIS report is not a “Data Doer Only” report and includes all active Section 3 registrations and all California 24 (c) registrations.

Registration Division Review

- The only use pending is a request for a tolerance on wild rice. The petition number is 7E7213, and the thiobencarb products that would apply for this tolerance request are Registration Numbers 63588-4 and 63588-6. Registration Number 59639-79 may be included later. The PRIA due date for this request is October 31, 2009.