Appendix B. Verification Memo for Chlorothalonil

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

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

MEMORANDUM

PC Code: 081901

DATE: April 17, 2012

SUBJECT: Verification Memorandum for Chlorothalonil for SF Bay Species

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AND

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AND

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This memorandum serves to provide additional information on the use pattern of chlorothalonil not captured in the LUIS process. RD and PRD'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 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.

Finally, if further clarification is needed, please contact Jose Gayoso and Tony Kish.

Registration and Reregistration Verification

Date and Scope of the RED

- Chlorothalonil RED April 1999
- The RED included degradate SDS-3701and formulation impurity hexachlorobenzene.

Required Through the RED Process

- Home lawn use is restricted on labels with lawn or ornamental use.
- Labels have been updated according to the RED requirements for max application rates and total seasonal application rates for a number of sites.
- Most agricultural chlorothalonil labels have implemented buffers required by the RED: 150 feet for aerial and air blast applications, and 25 feet for ground applications. However, PRD has found one registered label that does not currently have the buffer zone language, 55146-81.
- Chlorothalonil labels with aerial applications have been updated with RED required Spray Drift Management language. However, PRD has found one registered label that does not currently have the Spray Drift Management language, 55146-81.
- The required spray drift language is as follows:
    - Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment-and-weather-related factors determine the

[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.

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.

The applicator should be familiar with and take into account the information covered in the Aerial Drift Reduction Advisory Information.

Aerial Drift Reduction Advisory Information. [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 conditions (see Wind, Temperature).

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 potential.

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.

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."

- Conventional use chlorothalonil labels have been updated with RED required environmental hazards statement for ground and surface water. However, PRD has found one registered label that does not currently have the entire environmental hazard language required by the RED, 55146-81.

- The Antimicrobials Division has identified that the following labels do not include all or parts of the RED environmental hazards and groundwater statements as required based on the product's use patterns

- 73884-1 and 1529-47 do not include environmental hazard statements
- 1022-581 does not currently have "For guidance contact your State Water Board or Regional Office of the EPA."
- 67071-17, 67071-39, 74075 and 67071-39 do not currently have "This pesticide is toxic to fish and wildlife."

- Information on the registered antimicrobial uses of chlorothalonil is available in the "Summary of Registered Antimicrobial Uses of Chlorothalonil in Support of the Registration Review Summary Document (Case 0097, PC Code 081901)" dated March 12, 2012 available at regulations.gov in docket EPA-HQ-OPP-2011-0840.

- The required environmental hazard statements are as follows:
  - This pesticide is toxic to aquatic invertebrates and wildlife. Do not apply directly to water or to areas where surface water is present or to intertidal areas below the mean high-water mark. Drift and runoff may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwater or rinsate.

    This chemical is known to leach through soil into groundwater under certain conditions as a result of label use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

    This chemical can contaminate surface water through spray drift. Under some conditions, it may also have a high potential for runoff into surface water for several days to weeks after application. These include poorly draining or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, areas overlaying extremely shallow ground water, areas with infield canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas over-laying tile drainage systems that drain to surface water.

Product Reregistration

- Product reregistration for chlorothalonil was completed March 11, 2009.

Registration Division Review

- There are no new actions since the date of the BEAD report. However, as a result of a recent BiOp for chlorothalonil, the registrants agreed to clarify their conifer use products to restrict use in forests. Several labels have been accepted with this change. Others are expected to be submitted in the near future.

- BEAD data accurately reflect chlorothalonil use rates for conventional products. Please note that the BEAD data does not include antimicrobial registrations.