



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

**OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES**

MEMORANDUM

PC Code: 056801

DATE: February 16, 2010

SUBJECT: Verification Memorandum for Carbaryl for SF Bay Species

FROM: Jacqueline Guerry, Chemical Review Manager
Risk Management & Implementation Branch RMIB3
Pesticide Re-evaluation Division (7508P)
AND
Joanne Edwards, Product Manager
Insecticide Branch, Registration Division (7505P)

A handwritten signature in blue ink, reading "Jacqueline B. Guerry", is written over the typed name of Jacqueline Guerry.

THRU: Neil Anderson, Team Leader
Risk Management & Implementation Branch RMIB3
Pesticide Re-evaluation Division (7508P)

TO: Rafael Prieto
Usage and Label Use Team
Biological Economic and Analysis Division (7503P)

This memorandum serves to provide additional information on the use pattern of carbaryl 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" 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.

* 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.

If further clarification is needed, please contact Jacqueline Guerry (215-814-2184) and Joanne Edwards (703-305-6736).

Registration and Reregistration Verification

Date and Scope of the RED

- The Carbaryl Interim Reregistration Eligibility Decision (IRED) was completed in 2003, and amended in 2004.
- Carbaryl is a member of the N-methyl carbamate (NMC) class of chemicals, which were subject to a cumulative human health risk assessment. The Carbaryl Reregistration Eligibility Decision (RED), which included a revised aggregate assessment and the tolerance reassessment, and the NMC Cumulative Risk Assessment were completed in September 2007.
- The Carbaryl RED was amended in August 2008 to incorporate a revised occupational risk assessment based on new toxicity data (used for both the RED and the cumulative) and other new exposure data.
- During the carbaryl reregistration process, the Agency considered the toxicity of carbaryl degradates found in the environment, as well as the metabolites of carbaryl found in plants and animals. The major degradate of carbaryl is 1-naphthol, which EPA has determined not to be toxicologically significant relative to the most sensitive endpoint for carbaryl, cholinesterase inhibition. Both carbaryl and its degradate 1-naphthol are fairly mobile and slightly persistent in the environment, but are not likely to persist or accumulate in the environment; however, open literature information suggests that 1-naphthol is less persistent and less mobile than parent carbaryl.

Required Through the RED Process

- The following uses of carbaryl were voluntarily canceled:
 - Wheat use;
 - All pet uses (dusts and liquids) except collars;
 - Aerosol products for various uses;
 - Belly grinder applications of granular and bait products for lawns;
 - Hand applications of granular and bait products for ornamentals and gardens;
 - Broadcast applications of liquid carbaryl products on residential lawns; and,
 - Aerial applications are prohibited for wettable powder formulations, granular, and bait formulations, except for aerial application of carbaryl bait products used in the United States Department of Agriculture Rangeland Grasshopper and Mormon Cricket Suppression Program.
- The Agency prohibited all indoor use, except for the carbaryl pet collars, which were subsequently voluntarily canceled by the registrant.

- Use rates for the following formulations or use sites were reduced:
 - Home garden/ornamental dust products must be packaged in ready-to-use shaker can containers, with no more than 0.05 lbs. active ingredient per container; and,
 - Citrus (including California citrus and Florida 24(c) registrations), asparagus (including both pre-harvest and post-harvest applications), field corn, and stone fruit.
- The Agency also required all labels for carbaryl granular turf products be modified to require irrigation, or watering-in after product application to turf.
- Subsequent to the completion of the carbaryl RED addendum in 2008, EPA completed a revised master label table for carbaryl and list of maximum use patterns for carbaryl uses eligible for reregistration (Appendix A). These materials, which summarized the changes necessary to implement the carbaryl RED and addendum, were sent to all carbaryl end-use registrants on March 25, 2009. All carbaryl end-use registrants were required to submit revised labels to EPA by April 30, 2009.

Label Extraction Analysis

- A “Data Doer Only” LUIS report was conducted for this chemical on December 15, 2009. The chemical review manager has compared the Ecological Fate and Effects Spreadsheet with the maximum use rates eligible for reregistration included in Appendix A of the RED document.
- The highest registered use rates for carbaryl Section 3 registrations is 9 lb ai/A (4 applications per year and a maximum yearly application rate of 36 lb ai/A) for liquid (spot applications only) and granular formulations (broadcast and spot applications) applied to turf, including golf courses, sports fields, sod farms, domestic and commercial lawns, cemeteries, parks, camp grounds, and recreational areas.
- The EFED spreadsheet also includes carbaryl special local need (SLN) registrations in California, which allows a use rate as high as 12 lb ai/A for WP and liquid formulations applied to citrus crops (group 10). The Agency limited the use to 1 application per year.

Product Reregistration

- EPA completed its review of all carbaryl amended labels in December 2009, and approximately 65 carbaryl products are now reregistered.

Registration Division Review

- The Carbaryl Master Label Table (3/25/2006) contained a rate restriction of 1 lb ai/A (all formulations) for turf applications to kill ticks. The Agency recently determined this restriction was not based on any risk mitigation, and therefore, was not necessary. The restriction has been eliminated, and the rate for all turf application is 9 lb ai/A for all pests. The registrants have been notified of this change, and are not required to submit amended labels, but may do so if they chose.

- Two products, which are not captured on the LUIS EFED spreadsheet, are registered for use in the United States Department of Agriculture Rangeland Grasshopper and Mormon Cricket Suppression Program – registrations 2935-366 and 72159-13. The maximum application rate for this use is 0.2 lb ai/A, and the products can be applied both by ground and aerial application.
- Wellmark International submitted a request to voluntarily cancel its pet collars (2724-272 and 2724-273) effective September 30, 2010. The carbaryl pet collars are the only carbaryl pet products registered with the Agency. The Cancellation Notice was published in the Federal Register on December 16, 2009.
- The Carbaryl RED mitigation required all dust end-use products to be packaged in containers containing no more than 0.05 lb ai per container. In August 2009, Bayer CropScience submitted an application to amend its 5% dust product (432-1209) to allow for a larger package size up to 0.25 lb ai per container. RD requested that HED review the application and revise the handler assessment based on a use rate of 0.25 lb ai per container for carbaryl dust products (DP#419253) by January 17, 2010. The PRIA date for this decision is May 17, 2010. For more information, contact Joanne Edwards, Registration Division.