

**Appendix C. Verification Memorandum for Diazinon for SF Bay Species, Dated  
01/30/2012 and Amended on 03/14/2012**



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

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

**MEMORANDUM**

PC Code: 057801

**DATE:** March 14, 2012

**SUBJECT:** Amended Verification Memorandum for Diazinon for San Francisco Bay Assessment

**FROM:** Khue Nguyen, Chemical Review Manager  
Risk Management and Implementation Branch 1  
Pesticide Reevaluation Division (7508P)

Mark Suarez, Product Manager  
Insecticide Branch, Registration Division (7505P)

**THRU:** Neil Anderson, Chief  
Risk Management and Implementation Branch 1  
Pesticide Reevaluation Division (7508P)

**TO:** Katrina White, Biologist  
Thomas Steeger, Senior Scientist  
Marietta Echeverria, Chief  
Environmental Risk Branch 4  
Environmental Fate and Effects Division (7507P)

A number of discrepancies were noted between the Diazinon Verification Memorandum (VM) for the San Francisco Bay Endangered Species Assessment and current labels. This memorandum provides updates and clarification on the status of diazinon labels and therefore amends the January 30, 2012 Verification Memorandum for diazinon. Unless otherwise stated in this amendment, all other elements of the Agency's January 30, 2012 Verification Memo remain unchanged.

## **Updates and corrections on the RED mitigation for diazinon**

### Use of Diazinon on Watercress:

Use on watercress was deleted by the July 2006 RED. Watercress use remained on certain diazinon labels until recently. Currently, all diazinon labels have been amended to remove this use.

### Aerial Application to Vegetable Crops:

The January verification memo notes that aerial application to all vegetable crops was removed. However, in a May 13, 2004 letter from Dr. Debra Edwards, the Agency noted that based upon information provided by the lettuce growers, risks to mixers/loaders and applicators from aerial applications are considered acceptable with maximum PPE. Therefore, the Agency has retained aerial application of diazinon on lettuce.

### Foliar Application to Melons:

The January verification memo notes that foliar application of diazinon on all vegetable crops was deleted by the RED, with the exception of use on honeydew melons in California for treatment of leafhoppers. However, in the May 13, 2004 letter from Dr. Debra Edwards, the Agency indicated that foliar treatment of honeydew melons was to remain on the label after 2008 (not restricted to leafhoppers, and for use not only in California, but throughout the country). Since 2008, several products retained foliar treatment not only on honeydew melons, but other types of melons including cantaloupes, casabas, crenshaws, mushmelons, persians and their hybrids, and watermelons. Revised diazinon labels have recently been submitted to the Agency and approved to now only allow foliar application of diazinon on honeydew melons.



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

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

**MEMORANDUM**

PC Code: 057801

**DATE:** January 30, 2012

**SUBJECT:** Verification Memorandum for Diazinon for San Francisco Bay Assessment

**FROM:** Khue Nguyen, Chemical Review Manager *Khue* 1/30/12  
Risk Management and Implementation Branch 1  
Pesticide Reevaluation Division (7508P)

Mark Suarez, Product Manager *Mark*  
Insecticide Branch, Registration Division (7505P) 30 Jan 2012

**THRU:** Neil Anderson, Chief *Neil* 1/30/2012  
Risk Management and Implementation Branch 1  
Pesticide Reevaluation Division (7508P)

**TO:** Katrina White, Biologist  
Thomas Steeger, Senior Scientist  
Marietta Echeverria, Chief  
Environmental Risk Branch 4  
Environmental Fate and Effects Division (7507P)

This memorandum serves to provide additional information on the use pattern of diazinon 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"<sup>1</sup> 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

<sup>1</sup> 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.

while using the data contained in the LUIS report. A verification memo has been previously completed for diazinon (dated 6/18/07) during the red-legged frog ESA assessment in 2007.

### **Registration and Reregistration Verification**

#### **Date and Scope of the RED**

- The Diazinon RED was completed in July 2006.
- The RED did not identify any degradates of toxicological concern.

#### **Label Uses / Rates and Mitigation**

- The diazinon LUIS report is not a "Data Doer Only" report and includes all active Section 3 registrations and all California Section 24(c) registrations for diazinon.
- Uses and application methods cancelled as part of the reregistration process:

All granular registrations were cancelled. All seed treatment uses were cancelled, including use on snap beans, lima beans, field corn, sweet corn, and green peas. All residential uses were cancelled. A number of other uses were also cancelled including Section 3 uses (Chinese broccoli, Chinese cabbage, Chinese mustard, Chinese radish, corn, grapes, hops, mushrooms, sugar beets, walnuts, and watercress) and Section 24(c) uses (including drenching around residential fruit trees for control of Mediterranean fruit fly in California).

Aerial application for all uses was deleted. Foliar application of diazinon on all vegetable crops was deleted, with the exception of use on honeydew melons in California for treatment of leafhoppers.

- Rate changes that occurred as part of the reregistration process:

The maximum application rate for ornamentals (except cut flowers) was reduced from 2 lb ai/acre to 1 lb ai/acre.

- Mitigation affecting ecological concerns required through the reregistration process:

A reduction in the number of applications of diazinon per growing season was also required by the RED. For most uses, only one application per growing season is allowed. Crops with dormant season and in season uses (e.g., stone fruits) are allowed one application per season for a total of two applications per year.

For all orchard crops (nuts, stone fruits, pome fruits, etc) with dormant season uses, label language was added suggesting that applications should be made every other year unless pest pressures are such that consecutive, annual treatments were necessary.

The following "Environmental Hazard" statement warning the user about possible adverse effects to non-target organisms due to effluent was required for diazinon manufacturing-use product labels (RED pg. 58).

"This pesticide is highly toxic to birds, fish and aquatic organism, and wildlife. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and, the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA." All current manufacturing use product labels contain this statement.

Various label statements were required for diazinon end-use products. A complete list of required label language is on pgs. 51-67 of the July 2006 Diazinon RED. Statements thought to be of ecological importance are listed below:

For liquid and wettable powder products: "This product is highly toxic to birds, fish and other wildlife. Birds, especially waterfowl, feeding or drinking on treated areas may be killed. Do not exceed maximum permitted label rates. Rates above those recommended significantly increase potential hazards to birds, especially waterfowl. Keep out of lakes, streams, ponds, tidal marshes and estuaries. Do not apply directly to water, 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. Shrimp and crab may be killed at application rates recommended on this label. Do not apply where fish, shrimp, crab, and other aquatic life are important resources. Do not contaminate water by cleaning of equipment or disposal of equipment wash water. This pesticide is highly toxic to bees exposed to direct treatment or to residues on blooming crops or weeds. Do not apply this pesticide or allow it to drift to blooming crops or weeds if bees are visiting the treatment area." All current end-use product labels contain these statements.

### **Status of Product Reregistration**

- All product reregistrations were completed for diazinon on 07/16/07.
- In OPPIN, there are currently 15 active Section 3 diazinon products (see Table 1). One product (11556-148) was registered after the 2006 RED and thus, was not subject to product reregistration, but contains all the requirements specified in the RED.
- There are 2 Section 24(c) special local needs labels for the state of California. Registration number CA030014 has two use sites on bell and chili peppers; registration number CA050002 has numerous use sites, including many nuts, fruits, vegetables, and

ornamentals (almonds, apples, apricots, beans, corn, tomatoes, squash, ornamental nursery stock, etc...).

### Registration Division Review

- Per RD, no new actions have occurred since the PRD Date on the BEAD LUIS report (11.1.11) that impact the use or application of diazinon (including new uses, deletion of uses, changes to application parameters, etc.).
- At the time of reregistration, all diazinon products were amended to include the RED mitigation; subsequent registrations include the mitigation language.

**Table 1. Active Registrations for Diazinon  
(only CA SLNs included, other state's SLNs excluded)**

Registration #	Registration Name	Form	% Active Ingredient	Restricted Use
5905-248	Diazinon Ag500 Insecticide	Emulsifiable concentrate	48	Yes
11556-123	Co-ral Plus Insecticide Cattle Ear Tag	Impregnated materials	20	No
11556-148	Carathon	Impregnated materials	35	No
11678-61	Diazol Diazinon Technical Stabilized Ag	Technical chemical	92	No
11678-63	Diazol (Diazinon) Stabilized Oil Concentrate Ag	Formulation intermediate	87	No
19713-91	Drexel Diazinon Insecticide	Emulsifiable concentrate	48.2	Yes
19713-492	Diazinon 50WP Insecticide	Wettable powder	50	Yes
19713-523	Drexel Diazinon Technical Ag	Technical chemical	87	No
39039-3	Optimizer Insecticide Ear Tag	Impregnated materials	21	No
39039-6	Warrior Insecticide Cattle Ear Tag	Impregnated materials	30	No
61483-78	Terminator Insecticide Cattle Ear Tag	Impregnated materials	20	No
61483-80	Patriot Insecticide Cattle Ear Tag	Impregnated materials	40	No
66222-9	Diazinon Ag 500	Emulsifiable concentrate	48	Yes
66222-10	Diazinon 50W	Wettable powder	50	Yes
66222-103	Diazinon Ag600	Emulsifiable concentrate	56	Yes
CA030014	Diasol Ag 500	Emulsifiable concentrate	48	Yes
CA050002	Diazinon Ag 500	Emulsifiable concentrate	48	Yes