



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

OFFICE OF
PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

July 18, 2007

Dear Registrant:

SUBJECT: AMENDMENT TO DODINE RED

The Reregistration Eligibility Decision (RED) document for dodine was signed on September 30, 2005. A public comment period for the Dodine RED was conducted from November 30, 2005 to January 30, 2006. The risk assessments and public comments can be found on the federal docket system, available at www.Regulations.gov (docket # EPA-HQ-OPP-2005-0266). The Agency has reviewed the public comments submitted and has responded to those that relate specifically to the Dodine RED. The Agency's responses are available for viewing under the same docket number on the Regulations.gov system. As a result of its review of the public comments the Agency is revising the Dodine RED and label requirements as described in this memorandum. A revised label table and Appendix A are attached to this document and replace the original requirements in the Dodine RED.

Responses to the comments received can be found in the following documents in the federal docket system:

- Review of the Comments on the Reregistration Eligibility Decision (RED) for Dodine. M. Echeverria, and C. Salice. D310537, June 15, 2007.
- Review of the 60-day Public Comments on the Level 1 Screening Ecological Risk Assessment for the Reregistration of Dodine. M. Echeverria. D310547, February 10, 2006.

As a result of these comments and responses the following changes amend the dodine decision.

Pears

The California Pear Advisory Board requested an increase in the number of applications allowed for pears from two (2) per year to three (3) per year at the rescue rate of 1.9 lbs a.i./acre/application rate, without increasing the maximum yearly rate of 9.1 lbs a.i./acre/year.

The request will not result in an increase in the yearly load of dodine into the environment, is not expected to increase potential chronic exposures to non-target species, and is supported by current tolerances and residue data. Therefore, the request from the California Pear Advisory Board to increase the number of rescue rate applications from 2 to 3 is granted. The maximum seasonal rate will remain at 9.1 lbs a.i./acre/year, and the number of yearly applications to pears will remain at 6.

Droplet Size for Orchard Air Blast Application

The North Central Integrated Pest Management Center requested a change in the droplet size requirements for the spray drift labeling in order to allow cherry growers to continue using an air curtain type sprayer that produces smaller droplet sizes than were specified in the Dodine RED labeling.

It is possible that certain spray equipment can reduce spray drift. The Agency, however, is unaware of data quantifying the spray drift potential for these types of air curtain type sprayers that are common practice for the cherry growers. However, in the ecological risk assessment for dodine the potential risk difference between a Fine and Medium size droplet size for airblast applications only do not change substantially. Other parameters, like release height and wind speed have a greater effect on drift from airblast applications for dodine. Also, although there are no data available to quantify the drift from orchard applications using an airblast curtain type sprayer, the Agency does not want to discourage the use of innovative and potentially drift reducing technologies.

Therefore, the label statement specifying Medium size droplets will be amended for orchard airblast applications only. The new label language will state, “For orchard airblast applications, apply at the largest droplet size that will provide sufficient coverage and control.” All other application methods will still require the use of Medium or coarser droplet size.

Double Notification

One other comment was submitted by the North Central Integrated Pest Management Center expressing the difficulty growers have with following the requirements for double notification, specifically with the posting portion.

Since dodine is severely toxic (Category I) to both the eye and irritating to the skin, the double notification requirement is necessary. Workers must be notified by an oral warning and by posting warning signs at entrances to treated areas. The requirement for double notification will not change.

An updated label table and Appendix A (Uses of Dodine Eligible for Reregistration) are included in this Amendment, and reflects the changes explained here.

If you have questions on the Dodine RED or any of the revisions listed above, please contact the Chemical Review Manager, Cathryn O'Connell at (703) 308-0136. For questions about product reregistration and/or the Product Data Call-In that accompanies this document, please contact Veronica Dutch at (703) 308-8585.

Sincerely,



Peter Caulkins
Acting Director
Special Review and Reregistration Division

Enclosures:

- Updated Labeling Changes Summary Table (July 2007). 7 Pages.
- Updated Appendix A: Uses of Dodine Eligible for Reregistration (July 2007). 1 Page.

Updated Labeling Changes Summary Table (July 2007)

In order to be eligible for reregistration, all product labels must be amended to incorporate the risk mitigation measures outlined in Section IV of the Dodine RED. Two changes have been incorporated into this table as a result of comments during the RED comment period. The changes are:

- 1) On page 5-The pear application restrictions were changed to allow 3 applications per year at the 1.95 lbs ai/A/application rate, and 3 applications per year at the 1.3 lbs ai/A/application rate.
- 2) On page 6-Under the “Droplet Size” heading in the spray drift section, the statement: “Apply as a Medium or coarser spray” was updated to include the exception: “except when making orchard airblast applications.” The following statement was added: “For orchard airblast applications, apply at the largest droplet size that provides sufficient coverage and control.”

The following table was updated in July of 2007 and describes how language on the labels should be amended.

Table 25: Summary of Labeling Changes for Dodine – Updated 7/2007		
Description	Dodine Amended Labeling Language for Manufacturing Use Products	Placement on Label
For all Manufacturing Use Products	<p>“Only for formulation into a fungicide for the following use(s) [fill blank only with those uses that are being supported by MP registrant].”</p> <p>“Wettable powder end use product formulations must be packaged in water soluble packaging.”</p>	Directions for Use
One of these statements may be added to a label to allow reformulation of the product for a specific use or all additional uses supported by a formulator or user group	<p>“This product may be used to formulate products for specific use(s) not listed on the MP label if the formulator, user group, or grower has complied with U.S. EPA submission requirements regarding support of such use(s).”</p> <p>“This product may be used to formulate products for any additional use(s) not listed on the MP label if the formulator, user group, or grower has complied with U.S. EPA submission requirements regarding support of such use(s).”</p>	Directions for Use
Environmental Hazards Statements Required by the RED and Agency Label Policies	<p>"This product is toxic to aquatic invertebrates. 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 Pollution 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."</p>	Precautionary Statements

Labeling for Dodine End Use Products Intended for Occupational Use (WPS and Non-WPS Uses)

<p>PPE Requirements Established by the RED¹ for Liquid and Wettable Powder Formulations in Water Soluble Packaging</p>	<p>“Personal Protective Equipment (PPE)” “Some materials that are chemical-resistant to this product are” (<i>registrant inserts correct chemical-resistant material</i>). “If you want more options, follow the instructions for category” [<i>registrant inserts A,B,C,D,E,F,G,or H</i>] “on an EPA chemical-resistance category selection chart.”</p> <p>“All mixers, loaders, applicators, and other handlers must wear: - long sleeved shirt and long pants, - socks plus shoes.</p> <p>In addition, mixers and loaders must wear: - chemical-resistant apron, and - chemical-resistant gloves.</p> <p>See engineering controls for additional requirements.”</p>	<p>Immediately following/below Precautionary Statements: Hazards to Humans and Domestic Animals</p>
<p>User Safety Requirements</p>	<p>“Follow manufacturer’s instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.”</p>	<p>Precautionary Statements: Hazards to Humans and Domestic Animals immediately following the PPE requirements</p>
<p>Engineering Controls for Wettable Powder Formulations</p>	<p>“Engineering Controls</p> <p>Water-soluble packaging when used correctly qualify as a closed mixing/loading system under the Worker Protection Standard for Agricultural Pesticides [40 CFR 170.240(d)(4)]. Mixers and loaders using water soluble packets must: - wear the personal protective equipment on this labeling for mixers/loaders, - be provided and have immediately available for use in an emergency, such as a broken package, spill, or equipment breakdown: chemical-resistant footwear.”</p>	<p>Precautionary Statements: Hazards to Humans and Domestic Animals (Immediately following PPE and User Safety Requirements.)</p>
<p>Engineering Controls for Enclosed Cockpits</p>	<p>Enclosed Cockpits</p> <p>“Engineering Controls:</p> <p>Pilots must use an enclosed cockpit that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(6)]. “</p>	<p>Precautionary Statements: Hazards to Humans and Domestic Animals (Immediately following PPE and User Safety Requirements.)</p>
<p>User Safety Recommendations</p>	<p>“User Safety Recommendations</p>	<p>Precautionary Statements under: Hazards to Humans</p>

Labeling for Dodine End Use Products Intended for Occupational Use (WPS and Non-WPS Uses)

	<p>Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.</p> <p>Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.</p> <p>Users should remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.”</p>	<p>and Domestic Animals immediately following Engineering Controls</p> <p>(Must be placed in a box.)</p>
Environmental Hazards	<p>“This pesticide is toxic to aquatic invertebrates. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas.”</p> <p>Surface Water and Erosion Control Statement: “A level, well maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential for contamination of water from rainfall-runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours. Sound erosion control practices will reduce this product’s contribution to surface water contamination.”</p>	<p>Precautionary Statements immediately following the User Safety Recommendations</p>
Restricted-Entry Interval	<p>“Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 48 hours for all crops.”</p>	<p>Directions for Use, Under Agricultural Use Requirements Box</p>
Early Entry Personal Protective Equipment established by the RED.	<p>“PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:</p> <ul style="list-style-type: none"> - coveralls worn over long-sleeve shirt and long pants, - chemical-resistant gloves made of any waterproof material, - chemical-resistant footwear plus socks, - protective eyewear, and - chemical-resistant headgear (if overhead exposure).” 	<p>Direction for Use Agricultural Use Requirements box</p>
Double Notification Requirement	<p>“Notify workers of the application by warning them orally and by posting warning signs at entrances to treated areas.”</p>	<p>Directions for Use, Agricultural Use Requirements Box</p>
General Application Restrictions	<p>“Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.”</p>	<p>Place in the Direction for Use directly above the Agricultural Use Box.</p>

Labeling for Dodine End Use Products Intended for Occupational Use (WPS and Non-WPS Uses)

Application Restrictions	<p>“Do not apply this product through any type of irrigation system.”</p> <p>“Do not apply in greenhouses.”</p>	Directions for Use
<p>Use-Specific Application Restrictions</p> <p>(Note: the maximum allowable application rate and maximum allowable rate per year must be listed as pounds or gallons of formulated products per acres, not just as pounds active ingredient per acre.)</p>	<p>Apples</p> <p>“Do not apply more than 9.1 lbs ai/acre/year.”</p> <p>“Do not apply more than 2 applications per year at a rate of 1.95 lbs ai/acre/application.”</p> <p>“Do not apply more than 4 applications per year at a rate of 1.3 lbs ai/acre/application.”</p> <p>“Do not apply less than 7 days from the last application.”</p> <p>“Do not apply within 7 days of harvest.”</p> <p>Cherries (sour and sweet)</p> <p>“Do not apply more than 5.2 ai/acre/year.”</p> <p>“Do not apply more than 2 applications per year at a rate of 1.3 lbs ai/acre/application.”</p> <p>“Do not apply more than 4 applications per year at a rate of 0.65 lbs ai/acre/application.”</p> <p>“Do not apply less than 7 days from the last application.”</p> <p>“Do not apply within 7 days of harvest.”</p> <p>Crab apples (SLN in Oregon)</p> <p>“Do not apply more than 0.35 lbs ai/acre/application.”</p> <p>“Do not apply more than 6 times per year.”</p> <p>“Do not apply less than 7 days from the last application.”</p> <p>Ornamental Shade Trees (SLN in Oregon)</p> <p>“Do not apply more than 0.85 lbs ai/acre/application.”</p> <p>“Do not apply more than 6 times per year.”</p> <p>“Do not apply less than 10 days from the last application.”</p> <p>Peaches</p> <p>“Do not apply more than 7.8 lbs ai/acre/year.”</p> <p>“Do not apply more than 2 applications per year at a rate of 1.95 lbs ai/acre/application.”</p> <p>“Do not apply more than 3 applications per year at a rate of 1.3 lbs ai/acre/application.”</p> <p>“Do not apply less than 7 days from the last application.”</p> <p>“Do not apply within 15 days of harvest.”</p>	Directions for Use

Labeling for Dodine End Use Products Intended for Occupational Use (WPS and Non-WPS Uses)

Pears

- “Do not apply more than 9.1 lbs ai/acre/year.”
- “Do not apply more than 3 applications per year at a rate of 1.95 lbs ai/acre/application.”
- “Do not apply more than 3 applications per year at a rate of 1.3 lbs ai/acre/application.”
- “Do not apply less than 7 days from the last application.”
- “Do not apply within 7 days of harvest.”

Pecans

- “Do not apply more than 7.8 lbs ai/acre/year.”
- “Do not apply more than 2 applications per year at a rate of 1.95 lbs ai/acre/application.”
- “Do not apply more than 4 applications per year at a rate of 1.3 lbs ai/acre/application.”
- “Do not apply less than 10 days from the last application.”
- “Do not apply after shucks have started to open.”

Strawberries

- “Do not apply more than 1.3 lbs ai/acre/application.”
- “Do not apply more than 5 times per year.”
- “Do not apply less than 7 days from the last application.”
- “Do not apply within 14 days of harvest.”
- “Do not apply aerially to strawberries.”

Walnuts

- “Do not apply more than 7.8 lbs ai/acre/year.”
- “Do not apply more than 2 applications per year at a rate of 1.95 lbs ai/acre/application.”
- “Do not apply more than 3 applications per year at a rate of 1.3 lbs ai/acre/application.”
- “Do not apply less than 10 days from the last application.”
- “Do not apply within 7 days of harvest.”

Labeling for Dodine End Use Products Intended for Occupational Use (WPS and Non-WPS Uses)

<p>Spray Drift Label Language for ALL Products Applied as a Spray</p>	<p>“SPRAY DRIFT MANAGEMENT:” “A variety of factors including weather conditions (e.g., wind direction, wind speed, temperature, relative humidity) and method of application (e.g., ground, aerial, airblast) can influence pesticide drift. The applicator and grower must evaluate all factors and make appropriate adjustments when applying this product.”</p> <p>“WIND SPEED:” “Do not apply at wind speeds greater than 10 mph at the application site.”</p> <p>“DROPLET SIZE:” “Apply as a Medium or coarser spray (ASAE standard 572), except when making orchard airblast applications.” “For orchard airblast applications, apply at the largest droplet size that provides sufficient coverage and control.”</p>	<p>Directions for Use under General Precautions and Restrictions</p>
<p>Spray Drift Label Language for Products Applied as a Spray through ground equipment</p>	<p>“RELEASE HEIGHT:” “Apply using a nozzle height of no more than 4 feet above the ground or crop canopy.”</p> <p>“AIRBLAST:” “Sprays must be directed into the crop canopy.” “Outward pointing nozzles should be turned off at row ends and when spraying outer rows.”</p>	<p>Directions for Use under General Precautions and Restrictions</p>
<p>Spray Drift Label Language for Products Applied as an Aerial Spray</p>	<p>“RELEASE HEIGHT:” “Do not release spray at a height greater than 10 feet above the ground or crop canopy.”</p> <p>“BOOM LENGTH:” “The boom length must not exceed 75% of the wingspan or 90% of the rotor blade diameter.”</p> <p>“SWATH ADJUSTMENT:” “When applications are made with a cross-wind, the swath will be displaced downwind. The applicator must compensate for this displacement at the downwind edge of the application area by adjusting the path of the aircraft upwind. Leave at least one swath unsprayed at the downwind edge of the treated field.”</p>	<p>Directions for Use under General Precautions and Restrictions</p>

¹ PPE that is established on the basis of Acute Toxicity of the end-use product must be compared to the active ingredient PPE in this document. The more protective PPE must be placed in the product labeling. For guidance on which PPE is considered more protective, see PR Notice 93-7.

Updated Appendix A. Uses of Dodine Eligible for Reregistration (July 2007)

Crop	Typical Application Rate (lbs a.i./acre)	Maximum/Rescue Application Rate(lbs a.i./acre)	Maximum Total Pounds A.I. Applied Per Acre Per Year	Maximum Number of Applications	Minimum Retreatment Interval	Application Method	REI	Pre Harvest Interval (PHI)
Apples	1.3	1.95 (max 2 apps. per year)	9.1	6 per year	7 days	aerial & ground	48 hours	7 days
Cherries (sour and sweet)	0.65	1.3 (max 2 apps. per year)	5.2	6 per year	7 days	aerial & ground	48 hours	7 days
Crab Apples(SLN OR)	0.17	0.35	1.4	6 per year	7 days	aerial & ground	48 hours	Not applicable
Ornamental Shade Trees (SLN OR)	0.85	0.85	5.1	6 per year	10 days	aerial & ground	48 hours	Not applicable
Peaches	1.3	1.95 (max 2 apps. per year)	7.8	5 per year	7 days	aerial & ground	48 hours	15 days
Pears	1.3	1.95 (max 3 apps. per year)	9.1	6 per year	7 days	aerial & ground	48 hours	7 days
Pecans	1.3	1.95 (max 2 apps. per year)	9.1	6 per year	10 days	aerial & ground	48 hours	Do not apply after shucks have opened.
Strawberries	0.975	1.3	6.5	5 per year	7 days	ground only	48 hours	14 days
Walnuts	1.3	1.95 (max 2 apps. per year)	7.8	5 per year	10 days	aerial & ground	48 hours	7 days