

Appendix B. PRD Verification Memorandum



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

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

MEMORANDUM

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SUBJECT: Verification Memorandum for Phosmet for SF Bay Species

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THRU: Tom Myers, 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 phosmet 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, or will occur, 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. The CRM and PM have drafted this memo to clarify knowledge gaps a risk assessor may encounter while using the data contained in the LUIS report. If further clarification is needed, please contact Katie Weyrauch in PRD or Clayton Myers in RD.

Label changes were required for certain phosmet uses in a January 2007, decision document. In addition, a number of phosmet product labels do not currently reflect all of the mitigation from the October 2001 IRED and July 2006 RED.

Revised product labels that will reflect mitigation from the IRED/RED and the January 2007 decision document are expected to be approved by RD in the first quarter of 2010.

At that time, some of the uses and application rates listed in the November 2009 LUIS report will no longer be accurate.

This memo summarizes the current registrations for phosmet, as well as currently labeled uses and application rates, and how those uses and application rates will change when new labels are approved in 2010.

1. Current registrations

There are a total of twenty-two products containing phosmet. These include two technical products (10163-172, dated 11/7/2007, and 10163-304, dated 4/29/2009). These products are used only to formulate phosmet end use products; they are listed in Table 1, but is not reviewed further. Of the twenty end-products, thirteen are SLNs; however, there is only one SLN registration for use in California. The other twelve SLNs are not reviewed further.

Table 1 provides a listing of the technical products, seven end-use products, and one SLN that are registered for use in California. The table includes the formulation, EPA registration number, date of stamped label, % active ingredient, methods of application, and any relevant use restrictions.

Table 2 provides detailed information for each use site on the end-use and SLN labels.

2. Scope of the 2001 phosmet IRED and 2006 RED, and required mitigation

In addition to the parent compound, the IRED/RED identifies phosmet oxon as the only degradate of toxicological concern.

As stated above, the mitigation from the IRED/RED is not currently reflected on all product labels. The products that do not reflect the IRED/RED are identified in Table 1. Any IRED/RED mitigation that is not reflected on all current product labels and that relates to use sites, application rates, or application intervals, is identified in Table 2.

3. Uses

All registered uses are listed in Table 2.

Citrus is only registered as a use through California, Florida, and Texas SLNs (CA06000200, dated 3/29/2006, FL010006, dated 4/26/2005, and TX90001, dated 5/20/2009).

Clover is listed as a use site in the IRED, but is only registered through an Idaho SLN (ID990024, clover grown for seed, dated 10/4/1999).

Cotton is listed as a use site in the IRED and on several current labels (see Table 2). Cotton was cancelled as a use site in an FR Notice dated November 4, 2005, and is not listed as a use site on either of the phosmet technical labels. It will be removed from all product labels in the first quarter of 2010.

Kiwi fruit is listed as a use site in the IRED and has a phosmet tolerance of 25 ppm in the 40 CFR 180.261, but it is not listed as a use site on any section 3 or SLN label.

Sweet cherries are listed as a use site in the IRED, but are only registered through an Oregon SLN (OR940049, dated 10/19/94).

4. Maximum application rates

The maximum application rates for each use site are listed in Table 2. In some cases, product labels list maximum application rates or retreatment intervals that do not reflect the mitigation required in the 2001 IRED. These cases are identified in Tables 1 and 2. New phosmet product labels that will reflect the 2001 IRED and other subsequent changes to mitigation and labeling are expected to be approved by RD in the first quarter of 2010.

5. Pending PRIA actions

There are two pending PRIA actions for phosmet. The first is a request to shorten the post-harvest interval on almonds, almond hulls, and pistachios. The PRIA date for this action is May, 2010, but it is likely that this date will be extended by 4-6 months. The second is an application to register a new product with a new formulation: 60% water dispersible granule. The PRIA deadline for this application is March, 2010. The RD contact for both actions is Clayton Myers.

Table 1. Current phosmet product registrations (Section 3 or CA SLNs, only).

Formulation	Reg. no. (date of stamped label)	% ai	Methods of application	Use restrictions	Does the stamped label reflect the 2001 IRED mitigation?	Label changes effective in first quarter of 2010
Imidan Technical	10163-172 (11/7/2007)	94%	---	For formulation of phosmet insecticide products only.	Yes	N/A
Imidan Technical	10163-304 (4/29/2009)	97.8%	---	For formulation of phosmet insecticide products only.	Yes	N/A
Imidan 5 Dust	10163-168 (3/9/2009)	5%	Dusting equipment	For use only on sweet potatoes (post-harvest storage)	Yes	N/A
Imidan 70-W (wetable powder in water soluble bags)	10163-169 (5/31/2006)	70%	Chemigation, Groundboom, Airblast, Aerial	Environmental hazard statements: toxic to fish and aquatic invertebrates; highly toxic to bees. Restrictions on wind speed (10 mph), release height above crop canopy (2 feet for ground, 10 feet for aerial), and droplet size (coarse or coarser) to reduce offsite drift.	No	See Table 2 for crop-specific restrictions that will change in the first quarter of 2010.
	SLN CA06000200 (3/29/2006)	70%	Groundboom, Airblast, Aerial	For foliar application to citrus. Chemigation is prohibited. Other restrictions on parent label (10163-169) apply.	Yes	The citrus tolerance was proposed for revocation in the 2001 PIRE. However, after the IRED was completed in 2001, EPA agreed not to revoke the citrus tolerance but instead to require new residue data to support the use. It does not appear that these data have been submitted (but there are three 24C registrations for

Formulation	Reg. no. (date of stamped label)	% ai	Methods of application	Use restrictions	Does the stamped label reflect the 2001 IRED mitigation?	Label changes effective in first quarter of 2010
						citrus, one in CA, one in FL, and one in TX).
Imidan 1-E Insecticide (emulsifiable concentrate)	10163-171 (1/15/1991)	11.7% (1 lb ai/gal)	Hydraulic sprayer, Mist blower	Environmental hazard statements: extremely toxic to fish; highly toxic to bees.	No	2010 label will say: toxic to fish and invertebrates; highly toxic to bees. 2010 label will add restrictions on wind speed (10 mph), and will include instructions to direct spray into the crop canopy and to turn off outward pointing nozzles at row ends and when spraying the outer two rows, to reduce offsite drift. See Table 2 for crop-specific restrictions that will change in the first quarter of 2010.
Fireban Fire Ant Insecticide (soluble concentrate/ liquid)	10163-174 (2/18/2009)	12.4%	Direct application (water in with garden hose), Mound drench application (sprinkler can or bucket)	Restricted Use Pesticide. Environmental hazard statements: toxic to fish and aquatic invertebrates; highly toxic to bees.	Yes	N/A
Imidan 50-WSB (wetttable powder in water soluble bags)	10163-175 (11/2/1998)	50%	Chemigation, Groundboom, Airblast, Aerial	Environmental hazard statements: extremely toxic to fish; highly toxic to bees.	No	2010 label will delete use on cotton (still on current label). 2010 label will say: toxic to

Formulation	Reg. no. (date of stamped label)	% ai	Methods of application	Use restrictions	Does the stamped label reflect the 2001 IRED mitigation?	Label changes effective in first quarter of 2010
						<p>fish and invertebrates; highly toxic to bees.</p> <p>2010 label will add restrictions on wind speed (10 mph), release height above crop canopy (2 feet for ground, 10 feet for aerial), and droplet size (coarse or coarser) to reduce offsite drift.</p> <p>See Table 2 for crop-specific restrictions that will change in the first quarter of 2010.</p>
Imidan 2.5 EC (emulsifiable concentrate)	10163-215 (2/20/2001)	27.5% (2.5 lbs/gal)	Chemigation, Groundboom, Airblast, Aerial	Environmental hazard statements: extremely toxic to fish; highly toxic to bees.	No	<p>2010 label will delete use on cotton (still on current label).</p> <p>2010 label will say: toxic to fish and invertebrates; highly toxic to bees.</p> <p>2010 label will add restrictions on wind speed (10 mph), release height above crop canopy (2 feet for ground, 10 feet for aerial), and droplet size (coarse or coarser) to reduce offsite drift.</p> <p>See Table 2 for crop-specific restrictions that will change in</p>

Formulation	Reg. no. (date of stamped label)	% ai	Methods of application	Use restrictions	Does the stamped label reflect the 2001 IRED mitigation?	Label changes effective in first quarter of 2010
						the first quarter of 2010.
Prolate/Lintox- HD Insecticidal Spray and Backrubber for Livestock (emulsifiable concentrate)	2724-262 (3-3-2009)	11.75%	Handwand, Backrubber	The registrant for this product is Wellmark (Gowan is the registrant for all other products). For use on beef cattle, dairy cattle, and swine. Environmental hazard statements: toxic to fish and aquatic invertebrates; highly toxic to bees.	Yes	N/A

Table 2. Phosmet Use Information.

Use site	Product	Maximum application rate (lbs ai/A)	Minimum retreatment interval (days)	Maximum no. of applications	Maximum application rate/year (lbs ai/A)	Label changes effective in first quarter of 2010
Alfalfa (AZ, CA, NV only)	Imidan 70-W (10163-169)	0.7	N/A	1 per cutting	---	N/A
	Imidan 50-WSB (10163-175)	0.75				
Alfalfa (NV only)	Imidan 2.5 EC (10163-215)	0.8	N/A	1 per cutting	---	N/A
Alfalfa (except AZ, CA, NV)	Imidan 70-W (10163-169)	0.9	N/A	1 per cutting	---	N/A
	Imidan 50-WSB (10163-175)	1.0				
	Imidan 2.5 EC (10163-215)					
Almonds (growing season only)	Imidan 70-W (10163-169)	3.2	N/A	1	---	Note: the IRED limits the rate to 3 lbs ai/A. The 3.7 lb ai/A rate is an error on current labels, and will be reduced in 2010.
	Imidan 50-WSB (10163-175)	3.0				
Almonds (CA only, growing season and dormant)	Imidan 70-W (10163-169)	3.7	---	2	---	
Apples	Imidan 70-W (10163-169)	3.7	---	---	21	In 2010, the maximum seasonal application rate will be reduced to 15.5 lbs ai/A on all product labels.
	Imidan 50-WSB (10163-175)	4.0		Repeat as necessary		
Apricots	Imidan 70-W (10163-169)	3.0	---	---	9.1	In 2010, the 50-WSB label will be revised to limit the maximum annual application rate to 9.1 lbs
	Imidan 50-WSB			Repeat as	---	

Use site	Product	Maximum application rate (lbs ai/A)	Minimum retreatment interval (days)	Maximum no. of applications	Maximum application rate/year (lbs ai/A)	Label changes effective in first quarter of 2010
	(10163-175)			necessary		ai/A.
Blueberries (Northeast only)	Imidan 50-WSB (10163-175)	1.0	---	2	---	2010 label will remove the geographic restriction, and change application rates as follows: Highbush: 1 lb ai/A, 5 applications/year, 5 lbs ai/A per year. Lowbush: 1 lb ai/A, 5 applications/year, 3.6 lbs ai/A per year.
Blueberries, high bush	Imidan 70-W (10163-169)	0.9	---	5	5.0	N/A
Blueberries, low bush	Imidan 70-W (10163-169)	0.9	---	5	3.6	N/A
Cherries, sweet	Oregon SLN, only.					
Cherries, tart	Imidan 70-W (10163-169)	1.75	---	Repeat as necessary	5.25	Note: the IRED limits the rate to 1.5 lbs ai/A. The 1.75 lbs ai/A rate is an error on current labels, and will be reduced in 2010. In 2010, the 50-WSB label will be revised to limit the maximum annual application rate to 5.25 lbs ai/A.
	Imidan 50-WSB (10163-175)				---	
Citrus (CA SLN)	SLN CA06000200 [Sec. 3: Imidan 70-W (10163-169)]	2.1	---	2	---	Residue data are needed to support this use, and it does not appear that such data have been submitted.

Use site	Product	Maximum application rate (lbs ai/A)	Minimum retreatment interval (days)	Maximum no. of applications	Maximum application rate/year (lbs ai/A)	Label changes effective in first quarter of 2010
Clover	Idaho SLN, only.					
Cotton (except San Joaquin Valley, CA)	Imidan 50-WSB (10163-175)	1.0 Do not apply within one mile of coastal or estuarine waters, or 100 feet of aquatic habitats	3-7	---	10	In 2010, cotton will be deleted as a use site from all product labels.
	Imidan 2.5 EC (10163-215)	1.0 Do not apply within one mile of coastal or estuarine waters, or 100 feet of aquatic habitats	3-5		10	
Crabapples (CA only)	Imidan 70-W (10163-169)	3.7	---	---	21	In 2010, the maximum seasonal application rate will be reduced to 15.5 lbs ai/A on all product labels.
Cranberries (except CA)	Imidan 70-W (10163-169)	2.8	10	---	10.9	N/A
Grapes (east of the Rockies)	Imidan 70-W (10163-169)	1.5	---	Repeat as necessary	4.55	In 2010, the 50-WSB label will be revised to limit the annual application rate to 4.55 lbs ai/A.
	Imidan 50-WSB (10163-175)				---	
Grapes (west of the Rockies)	Imidan 70-W (10163-169)	1.5	---	Repeat as necessary	4.55	
	Imidan 50-WSB (10163-175)	1			---	
Kiwi fruit	The IRED lists kiwi fruit as a use site (with a maximum application rate of 1 lb ai/A), and there is a 25 ppm tolerance for kiwi in the 40 CFR, but kiwi is not listed as a use site on section 3 or SLN label.					
Nectarines	Imidan 70-W (10163-169)	3.0	---	Repeat as necessary	9.1	In 2010, the 50-WSB label will be revised to limit the annual

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	Imidan 50-WSB (10163-175)				---	application rate to 9.1 lbs ai/A.
Peaches	Imidan 70-W (10163-169)	3.0	---	Repeat as necessary	11.9	In 2010, the 50-WSB label will be revised to limit the annual application rate to 11.9 lbs ai/A.
	Imidan 50-WSB (10163-175)				12	
Pears	Imidan 70-W (10163-169)	5.0	---	Repeat as necessary	11.2	<p>The maximum application rate for pears is listed incorrectly on current labels as 5 lbs ai/A. In 2010, it will be corrected to 4 lbs ai/A on all product labels.</p> <p>In 2010, the 50-WSB label will be revised to limit the annual application rate to 11.2 lbs ai/A.</p>
	Imidan 50-WSB (10163-175)				---	
Peas, fresh and dry (Pacific Northwest only)	Imidan 70-W (10163-169)	0.9	---	---	2.8	N/A
	Imidan 50-WSB (10163-175)	1.0			3.0	
Pecans	Imidan 70-W (10163-169)	2.2	---	Repeat as necessary	7.0	<p>In 2010, the 50-WSB label will be revised to limit the annual application rate to 7 lbs ai/A.</p> <p>Note: According to the IRED, the maximum rate per application is 3 lbs ai/A. However, the highest rate on any stamped label is 2.25 lbs ai/A.</p>
	Imidan 50-WSB (10163-175)	2.25			---	
Pistachios (CA only)	Imidan 70-W (10163-169)	<p>Growing season: 4.0</p> <p>Dormant season: 3.0</p>	---	---	<p>Total seasonal max.: 12</p> <p>Seasonal max. as foliar</p>	Note: the IRED limits the application rate to 3 lbs ai/A. The 4 lbs ai/A rate is an error on current labels and will be reduced in 2010.

Use site	Product	Maximum application rate (lbs ai/A)	Minimum retreatment interval (days)	Maximum no. of applications	Maximum application rate/year (lbs ai/A)	Label changes effective in first quarter of 2010
					spray: 4.0	
Plums, prunes	Imidan 70-W (10163-169)	3.0	---	Repeat as necessary	9.1	In 2010, the 50-WSB label will be revised to limit the annual application rate to 9.1 lbs ai/A.
	Imidan 50-WSB (10163-175)				---	
Potatoes	Imidan 70-W (10163-169)	0.9	10	---	4.7	N/A
	Imidan 50-WSB (10163-175) Not recommended for use on potatoes in California	1.0			5.0	
	Imidan 2.5 EC (10163-215)					
Sweet potatoes	Imidan 70-W (10163-169)	0.9	10	5	4.7	N/A
Sweet potatoes (post-harvest storage)	Imidan 5 dust (10163-168)	2-4 oz./50 lb bushel	N/A	1	2-4 oz./50 lb bushel	N/A
Walnuts, filberts, and other nuts (including Beech nut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Hickory nut, Macadamia nut, and all hybrids and cultivars of these)	Imidan 70-W (10163-169)	5.95	---	5	12	N/A

Use site	Product	Maximum application rate (lbs ai/A)	Minimum retreatment interval (days)	Maximum no. of applications	Maximum application rate/year (lbs ai/A)	Label changes effective in first quarter of 2010
Beef and non-lactating dairy cattle	Prolate/Lintox-HD Insecticidal Spray and Backrubber for Livestock (2724-262)	Spray: 1 lb ai/100 gal water Backrubber: 1 lb ai/50 gal fuel oil	7-10	Repeat as necessary	---	Note: The IRED limits the application rate to 0.02 lbs ai/A (meaning unclear for application to cattle).
Swine	Prolate/Lintox-HD Insecticidal Spray and Backrubber for Livestock (2724-262)	Spray: Spray: 1 lb ai/100 gal water	14	2	---	Note: The IRED limits the application rate to 0.02 lbs ai/A (meaning unclear for application to swine).
Conifer seedlings: white, slash, and loblolly (as a top dip)	Imidan 70-W (10163-169)	4% top dip solution	---	---	---	Note: The IRED limits the application rate to 0.35 lbs ai/A (meaning unclear for dip application method).
	Imidan 50-WSB (10163-175)	1.75 lbs ai to make 5 gals of solution; 5 gals treats 10,000 seedlings				
	Imidan 2.5 EC (10163-215)	4% top dip solution 1.7 lbs ai to make 5 gals of solution; 5 gals treats 10,000 seedlings				
Conifer tree seed orchards	Imidan 70-W (10163-169)	1.1	---	Current stamped labels are internally contradictory: they say both 3 and 7.	---	In 2010, labels will be revised to correct this contradiction (all other tree uses are limited to 3 applications per year).
Conifer trees growing in Christmas tree nurseries and	Imidan 70-W (10163-169)	1.1 Individual trees: 0.9	---	3	---	In 2010, the 50-WSB and 2.5 EC labels will be revised to limit the maximum number of applications

Use site	Product	Maximum application rate (lbs ai/A)	Minimum retreatment interval (days)	Maximum no. of applications	Maximum application rate/year (lbs ai/A)	Label changes effective in first quarter of 2010
plantations		lbs ai/100 gal				per year to 3.
	Imidan 50-WSB (10163-175)	1.0		---		
	Imidan 2.5 EC (10163-215)					
Deciduous trees	Imidan 70-W (10163-169)	0.7 lbs ai/100 gal	---	3	---	In 2010, the 50-WSB and 2.5 EC labels will be revised to limit the maximum number of applications per year to 3. This use will be limited to nursery and commercial tree growing areas, only.
	Imidan 2.5 EC (10163-215)			Repeat as necessary		
	Imidan 50-WSB (10163-175)	0.75 lbs ai/100 gal		Repeat as necessary		
Deciduous shade trees: Ash, Beech, Birch, Elm, Hickory, Maple, Oak, Willow, Locust	Imidan 1-E Insecticide (10163-171)	Hydraulic sprayer: 0.75 lbs ai/100 gal Mist blower: 0.75 lbs ai/50 gal	---	Repeat as necessary	---	In 2010, the 1-E label will be revised to limit the maximum number of applications per year to 3.
Field margins: margins of cultivated fields and forage crop sites listed on this label	Imidan 70-W (10163-169)	1.9	---	---	---	N/A
	Imidan 50-WSB (10163-175)	2.0				
	Imidan 2.5 EC (10163-215)					
Flowering trees and shrubs: Crape Myrtle, Jasmine, Dogwood, Lilac, Euonymus, Magnolia, Forsythia,	Imidan 1-E Insecticide (10163-171)	Hydraulic sprayer: 0.75 lbs ai/100 gal Mist blower: 0.75 lbs ai/50 gal	---	Repeat as necessary	---	In 2010, the 1-E product label will be revised to limit the maximum number of applications per year to 3.

Use site	Product	Maximum application rate (lbs ai/A)	Minimum retreatment interval (days)	Maximum no. of applications	Maximum application rate/year (lbs ai/A)	Label changes effective in first quarter of 2010
Privet, Hawthorne (do not use on Washington Hawthorne)						
Ornamental plants and nonbearing fruit and nut trees and vines (growing in nurseries, and established ornamental landscape plantings)	Imidan 70-W (10163-169)	0.7 lbs ai/100 gal	---	3	---	N/A
Pine trees (Pacific NW only)	Imidan 50-WSB (10163-175)	1.1 Individual trees: 0.9 lbs ai/100 gal	2 weeks	Repeat throughout flight period of moths	---	In 2010, the 50-WSB and 2.5 EC product labels will be revised to limit the maximum number of applications per year to 3. This use will be limited to nursery and commercial tree growing areas, only.
	Imidan 2.5 EC (10163-215)	1.0 Individual trees: 1.0 lbs ai/100 gal				
Roses	Imidan 1-E Insecticide (10163-171)	Hydraulic sprayer: 0.75 lbs ai/100 gal Mist blower: 0.75 lbs ai/50 gal	---	Repeat as necessary	---	In 2010, the 1-E product label will be revised to limit the maximum number of applications per year to 3.
Woody evergreens	Imidan 70-W (10163-169)	0.7 lbs ai/100 gal	---	3	---	In 2010, the 50-WSB and 2.5 EC product labels will be revised to limit the maximum number of applications per year to 3. This use will be limited to nursery and commercial tree growing areas, only.
	Imidan 2.5 EC (10163-215)			Repeat as necessary		
	Imidan 50-WSB (10163-175)	0.75 lbs ai/100 gal		---		

Use site	Product	Maximum application rate (lbs ai/A)	Minimum retreatment interval (days)	Maximum no. of applications	Maximum application rate/year (lbs ai/A)	Label changes effective in first quarter of 2010
Evergreens: Arborvitae, Azalea, Boxwood, Cotoneaster, Fir, Hemlock, Holly, Juniper, Mountain Laurel, Pine, Pyracantha, Rhododendron, Spruce, Yew	Imidan I-E Insecticide (10163-171)	Hydraulic sprayer: 0.75 lbs ai/100 gal Mist blower: 0.75 lbs ai/50 gal	---	Repeat as necessary	---	In 2010, the I-E product label will be revised to limit the maximum number of applications per year to 3.
Fireants and fireant mounds	Fireban Fire Ant Insecticide (10163-174)	Direct application with garden hose: One 1.125 oz packet (0.0087 lbs ai) per sq. ft. of mound Mound drench application with 2 gal. sprinkler can or bucket: One 1.125 oz packet (0.0087 lbs ai) per sq. ft. of mound (and 2 gal. of water). Drench mound and the surrounding 3-foot area.	---	---	---	N/A