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SHAUGHNESSY NO

21
REVIEW NO.

EEB REVIEW

DATE IN: 1-3-92 OUT: MAY 4 1992
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CASE # :048342 REREG CASE #: _____
SUB. # :S408533 LIST A, B, C, D
ID # :707-215

DATE OF SUBMISSION 11-29-91

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SRRD/RD REQUESTED COMPLETION DATE 2-24-92

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SRRD/RD **ACTION** CODE/TYPE OF REVIEW 320 AMENDMENT

MRID #(S) 123-2 Selenastrum capricornutum
41984801

DP TYPE 001

PRODUCT MANAGER, NO. SUSAN LEWIS 21 JULIE FAIRFAX

PRODUCT NAME(S) MYCLOBUTANIL

TYPE PRODUCT FUNGICIDE

COMPANY NAME ROHM AND HAAS

SUBMISSION PURPOSE REVIEW AMENDMENT TO REMOVE AERIAL APPLICATION RESTRICTION FROM LABEL TO USE MYCLOBUTANIL ON POME FRUITS

COMMON CHEMICAL NAME _____

REVIEWER: MIKE DAVY

D167828
DPBARCODE (RECORD)
128857
SHAUGHNESSY NO

REVIEW NO.

EEB REVIEW

DATE IN: 8-26-91 OUT: MAY 4 1992

CASE # : 48342
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SRRD/RD ACTION CODE/TYPE OF REVIEW 316 RESUBMISSION

MRID #(S) 419848-01

DP TYPE 001 SUBMISSION RELATED DATA PACKAGE

PRODUCT MANAGER, NO. SUSAN LEWIS 21

PRODUCT NAME(S) MYCLOBUTANIL

TYPE PRODUCT FUNGICIDE

COMPANY NAME 707 ROHM AND HAAS COMPANY

SUBMISSION PURPOSE REVIEW ALGAE STUDY TO SUPPORT USE ON POME FRUIT, STUDY REQUESTED IN PREVIOUS EEB REVIEW

COMMON CHEMICAL NAME MYCLOBUTANIL

EEB REVIEW

Chemical: Myclobutanil (Rally, Nova)

100 Submission and Purpose and Label Information

100.1 Submission Purpose and Pesticide Use

The registrant (Rohm and Haas Company) proposes to amend the labels for Rally 40W and Nova 40W and "submits additional data in support of petition for permanent tolerances for myclobutanil on the pome fruit crop group". Data on Selenastrum capricornutum aquatic plant study (123-2) was submitted with this request. This request for registration was submitted under D167828 and D167832. Grapes is on the label under this submission. Therefore grapes will also be reviewed. An amendment to remove aerial application restriction from label was submitted under D172373 and D172358.

100.2 Formulation Information

For Nova and Rally
Active Ingredient:
Myclobutanil.....40%
Inert Ingredients.....60%

100.3 Application Methods, Directions, Rates

The registration request states that registrant "submits additional data in support of petition for permanent tolerances for myclobutanil on the pome fruit crop group". The pome fruit group consists of fruits such as apples, crabapple, loquat, mayhaw, pear and quince.

Apples, Crabapples, Loquat, Pear, & Quince

1. Scab Control: Rate of application ranges from 5 oz./A to 8 oz./A (0.125 to 0.200 lb ai/A), to be applied at 7 to 10 day intervals beginning at green tip, bloom, postbloom, and post infection for scab. The rate of application of 8 oz/A is used for 20 ft. or taller trees. Maximum amount to be applied per season is 5 lb or 80 oz (2.0 lb ai/A).

2. Rust Control: Rate of application ranges from 5 oz./A to 8 oz./A (0.125 to 0.200 lb ai/A), to be applied at 7 to 10 day intervals beginning at pink stage and continue through the second cover spray. The rate of application of 8 oz/A is used for 20 ft. or taller trees. Maximum amount to be applied per season is 5 lb or 80 oz (2.0 lb ai/A).

3. Powdery Mildew Control: Rate of application ranges from 5 oz./A to 10 oz./A (0.125 to 0.250 lb ai/A), to be applied at 7 to 10 day intervals beginning at tight cluster and continue through the second cover spray. Additional sprays may be needed for heavy disease pressures or susceptible varieties. The rate of application of 10 oz/A is used for 20 ft. or taller trees. Maximum amount to be applied per season is 5 lb or 80 oz (2.0 lb ai/A).

Mayhaws

1. Powdery Mildew Control: Rate of application ranges from 5 oz./A to 8 oz./A (0.125 to 0.200 lb ai/A), beginning when flower buds become visible and continue at 10 to 14 day intervals until conditions are no longer favorable for disease development. The rate of application of 8 oz/A is used for 20 ft. or taller trees. Maximum amount to be applied per season is 5 lb or 80 oz (2.0 lb ai/A).

2. Rust Control: Rate of application ranges from 5 oz./A to 10 oz./A (0.125 to 0.250 lb ai/A), to be applied at 7 to 10 day intervals beginning when flower buds become visible. The rate of application of 10 oz/A is used for 20 ft. or taller trees. Maximum amount to be applied per season is 5 lb or 80 oz (2.0 lb ai/A).

Grapes

The rate of application for grapes ranges from 3 oz/A to 5 oz/A (0.075 to 0.125 lb ai/A) to be applied at 10 to 14 day interval for black rot and 14 to 21 day interval for powdery mildew. Maximum amount to be applied per season is 1.5 lb or 24 oz (0.6 lb ai/A).

Application is by ground and aerial equipment for pome fruits and grapes.

100.4 **Target Organisms**

Target organisms include scab, powdery mildew and rusts for apples, quince and crabapple; scab for loquat; powdery mildew and scab for pear; powdery mildew and rusts for mayhaws; and black rot and powdery mildew for grapes.

100.5 **Precautionary Labeling**

Environmental Hazards

Pome Fruits

Do not apply directly to water or to areas where surface water is present, or to intertidal areas below the mean water mark. Do not contaminate water when disposing of equipment washwaters. Do not apply when weather conditions favor drift or runoff from areas treated.

Grapes

Do not apply directly to water or wetlands. Do not contaminate water when disposing of equipment washwaters. Do not apply when weather conditions favor drift or runoff from areas treated.

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101 Hazard Assessment

101.1 Discussion

The proposed label amendment would allow application of myclobutanil (Nova, Rally) to apples, crabapple, loquat, mayhaw, pear, quince and grapes. Label indicates that application would be by ground and aerial equipment.

Data from EFGWB review of 8/30/91 indicate that myclobutanil is stable for hydrolysis in pH values of 5, 7 and 9 and stable for photolysis in water. Photolysis in soil indicate an extrapolated half-life of 143 days and aerobic soil metabolism exhibit a half-life of 61-71 days. Anaerobic soil metabolism shows no detectable degradation after 60 days. Myclobutanil is moderately mobile and its degradates are highly mobile during leaching tests. This fungicide is very persistent and we are not sure what the half-life on plant surface would be due to unavailable data. Therefore, for purpose of hazard assessment, we will assume that there is minimal degradation. Fate data have also indicated that this chemical is not expected to bio-accumulate in fish.

Terrestrial Organisms

Data from avian single-dose oral and dietary studies indicate that myclobutanil is slightly toxic to practically nontoxic to birds (bobwhite LD_{50}= 510 mg/kg; bobwhite and mallard dietary LC_{50}'s >5000 ppm). Avian reproduction tests showed no adverse effects at 60 ppm (highest level tested) for bobwhite and mallard.

Data from 2/12/92 tox* one-liners show that an acute oral rat study has LD_{50} of 980 mg/kg for male rats. The systemic and reproductive NOEL for rats was 50 and 200 ppm, respectively, in a two-generation reproduction test. The reproduction study resulted in an increased number of stillborns and a decreased weight gain in pups during lactation.

Aquatic Organisms

Data from acute LC_{50} fish studies indicate that myclobutanil is moderately toxic to fish (rainbow trout LC_{50}= 4.2 ppm; bluegill LC_{50}= 2.4 ppm). Acute aquatic invertebrate study indicates that this chemical is slightly toxic to aquatic invertebrates (daphnid LC_{50}= 11 ppm). A fish early life cycle stage study with fathead minnow provided an MATC > 2.2 ppm < 4.0 ppm for development and survival.

An aquatic half-life is not available for myclobutanil, but fate data from EFGWB 8/30/91 review show that in water, it is stable to photolysis and hydrolysis for 30 days.

* Toxicology Branch

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101.2 **Likelihood of Adverse Effects to Nontarget Organisms**

Terrestrial Organisms Exposure

1. Pome Fruits

Below are the maximum expected residues (ppm) on vegetation immediately after one application of 0.250 lb ai/A for pome fruits. (Hoerger and Kenaga, 1972.)

range grass	long grass	leaves & leafy crop	forage crop & sm insects	pods w/ seeds & insects	grain	fruit
58	28	31	15	3	2.5	1.8

Below are the average accumulated expected residues (ppm) on vegetation by multiple applications at rate of 0.250 ai lb/A and for 90 day period (Hoerger and Kenaga, 1972.).

range grass	grass	leaves & leafy crop	forage crop & sm insects	pods w/ seeds & insects	grain	fruit
236	114	126	61	12	10	7

The above results are from an assumption of 0.250 lb ai/A (maximum use rate) applied at intervals of 7 days between applications. A half-life of 61 days was used from the aerobic soil half-life of 61-71 days. Other half-lifes could be used but for the above results, the shortest half-life available was used. We have no data on plant surface half-life but soil photolysis is 143 days. No more than 8 applications were used in this scenario and the total application of myclobutanil was 2.0 lb ai/A the maximum label rate.

The average multiple expected residues for pome fruits do not exceed the avian acute LC_{50} (>5000 ppm). However, these residues **do exceed** the mammalian reproductive NOEL (200 ppm) and avian reproductive NOEL (>60 ppm). Based on the use rates on the label for pome fruits, myclobutanil may exceed the avian reproductive NOEL on leafy crops, tall and short grass, small insects and forage crops and mammalian reproductive NOEL on short/range grass. It appears that short-grass eating mammals may experience adverse chronic hazards from myclobutanil at the maximum labeled rate. Although we have incomplete data from an avian reproduction study, we can not yet rule out the possibility birds may experience adverse chronic hazards from myclobutanil at the maximum labeled rate.

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2. Grapes

Below are the maximum expected residues (ppm) on vegetation immediately after one application of 0.120 lb ai/A for grapes. (Hoerger and Kenaga, 1972.)

range grass	long grass	leaves & leafy crop	forage crop & sm insects	pods w/ seeds & insects	grain	fruit
29	13	15	7	1.4	1.2	0.8

Below are the average accumulated expected residues (ppm) on vegetation by multiple applications at rate of 0.120 ai lb/A and for 90 day period (Hoerger and Kenaga, 1972.).

range grass	long grass	leaves & leafy crop	forage crop & sm insects	pods w/ seeds & insects	grain	fruit
77	35	40	19	3.7	3.2	2.1

The above results are from an assumption of 0.120 lb ai/A (maximum use rate) applied at intervals of 10 days between applications. A half-life of 61 days was used from the aerobic soil half-life of 61-71 days. Other half-lifes could be used but for the above results, the shortest half-life available was used. We have no data on plant surface half-life but soil photolysis is 143 days. No more than 5 applications were used in this scenario and the total application of myclobutanil was 0.6 lb ai/A the maximum label rate per season.

The expected residues for grapes do not exceed the avian acute LC_{50} (>5000 ppm) or the mammalian reproductive NOEL (200). However, these residues do exceed the avian reproductive NOEL (>60 ppm) in short/range grass. Although we have incomplete data from an avian reproduction study, we can not yet rule out the possiblity birds may experience adverse chronic hazards from myclobutanil at the maximum labeled rate.

Aquatic Organisms

1. Pome Fruits

Since a maximum of 0.250 lb ai/A can be used in 7 day interval (up to 2.0 lb ai/A/season to a 10 acre orchard which drains into a 1-acre pond, the following concentrations (ppm) are expected:

one-day ground application in 6 feet=.... 0.008 ppm
one-day ground application in 6 inches=.. 0.092 ppm
one-day aerial application in 6 feet=.... 0.005 ppm
one-day aerial application in 6 inches=.. 0.064 ppm

The average concentration found during a multiple spray program in accordance to the label in 6 inches of standing water is 0.271 ppm (ground application) and 0.190 ppm (aerial application). The peak concentration found during the 90 days in 6 inches of standing water is **0.446 ppm** (ground application) and **0.312 ppm** (aerial application). The concentrations found for the multiple application used 30 days as the half-life of myclobutanil in water. At this time, we do not have a hydrolysis half-life and EFGWB supplemental study found myclobutanil to be stable at the end of 30 days with no degradation. Therefore, it appears reasonable to accept the maximum peak concentration as the concentration we could expect for aquatic exposure **in 6 inches of standing water.**

The above EEC values are less than the fish and the aquatic invertebrate LC_{50}'s (2.4 ppm, fish; 11 ppm, Daphnia magna) and the NOEL of the fish early life stage test (2.2 ppm). Minimal adverse acute or chronic effects are expected to aquatic organisms due to the proposed use of myclobutanil on pome fruits.

2. Grapes

The aquatic EEC for 0.125 lb ai/A can be used in 10 day interval (up to 0.6 lb ai/A/season to a 10 acre orchard which drains into a 1-acre pond, the following concentrations (ppm) are expected:

one-day ground application in 6 feet=.... 0.004 ppm
one-day ground application in 6 inches=.. 0.046 ppm
one-day aerial application in 6 feet=.... 0.003 ppm
one-day aerial application in 6 inches=.. 0.032 ppm

The average concentration found during a multiple spray program in accordance to the label in 6 inches of standing water is 0.084 ppm (ground application) and 0.051 ppm (aerial application). The peak concentration found during the 90 days in 6 inches of standing water is **0.146 ppm** (ground application) and **0.088 ppm** (aerial application). The concentrations found for the multiple application used 30 days as the half-life of myclobutanil in water. At this time, we do not have a hydrolysis half-life and EFGWB supplemental study found myclobutanil to be stable at the end of 30 days with no degradation. Therefore, it appears reasonable to accept the maximum peak concentration as the concentration we could expect for aquatic exposure **in 6 inches of standing water.**

The above EEC values are less than the fish and the aquatic invertebrate LC_{50}'s (2.4 ppm, fish; 11 ppm, Daphnia magna) and the NOEL of the fish early life stage test (2.2 ppm). Minimal adverse acute or chronic effects are expected to aquatic organisms due to the proposed use of myclobutanil on grapes.

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Honey Bees

Application to blooming pome fruits or grapes will result in exposure of bees to myclobutanil. No hazard is expected, however, since this pesticide tested practically nontoxic to honey bees in an acute study.

Plants

The Ecological Effects Branch has reviewed the S. capricornutum nontarget aquatic plant (123-2) study submitted by Rohm and Haas Company. The following is a brief summary of the submitted study:

> Hoberg, J. R. and M. C. R. Bayne. 1991. RH-3866 Technical-Toxicity to the Freshwater Green Alga, S. capricornutum. Springborn Laboratories, Inc. Study No. 86.0990.6118.430. SLI Report # 91-2-3641. Rohm and Haas Report # 90RC-0195. Sponsor Study # 90R-195. Performed by Environmental Science Division, Springborn Laboratories, Inc., Wareham, Massachusetts. Submitted by Rohm and Haas Company, Springhouse, Pa. EPA MRID No. 419848-01.
>
> The study is found to be scientifically sound and meets the requirements for a Tier II study of growth and reproduction of an aquatic plant, S. capricornutum. Based on the number of cells, the 120-hour EC_{50} value of RH-3866 for S. capricornutum was 0.83 ppm (95 percent confidence level of 0.56 to 1.1). The 120-hour NOEC was 0.56 ppm (mean measured concentration).

The EC_{50} and NOEC value for the S. capricornutum aquatic plant is above the aquatic EEC scenario described above. From the above aquatic EEC scenario, it could be assumed that myclobutanil would have minimal adverse impact on plants from ground or aerial application for pome fruits or grapes.

101.3 Endangered Species Considerations

The endangered species triggers are as follows:

Birds:	500 ppm	(LC_{50} 5000/10)
Mammals:.....	980 ppm	(LC_{50} 9800/10)
Mammals:*.(vole).....	161 ppm	(LC_{50} 1606 ppm/10)
Fish:	0.12 ppm	(LC_{50} 2.4 ppm/20)
Aquatic Invertebrates:	0.55 ppm	(LC_{50} 11 ppm/20)
Plants:	0.83 ppm	(EC_{50} 0.83 ppm)

* Based on the LD_{50} of 980 mg/kg/61% (extrapolated to a 1-day LC_{50} for the meadow vole which eats 61% of its weight per day. The LC_{50} for other mammals would be higher since they eat less per body weight than this grazing herbivore. (Davis & Golly,1963)

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Plants

The aquatic EEC in water adjacent to treated areas does not exceed the EC_{50} for S. capricornutum. Therefore, minimal adverse effects are anticipated for endangered/threatened plants.

Use on Pome Fruits

The estimated residues on terrestrial food items exceed 1/10th the meadow vole LC_{50} on short/range grass (236 ppm) for pome fruits. Endangered voles **may be at risk** since the average accumulated expected residues for short/range grass (236 ppm) exceed the acute trigger of 161 ppm for endangered species. The estimated residues on terrestrial food items do **exceed** the reproductive NOEL for rats of 200 ppm, in short/range grass (236 ppm).

The chronic NOEL for birds (60 ppm) has been **exceeded** for short/range grass (236 ppm) long grass (114 ppm) and leafy crops (126 ppm). Avian reproduction testing for bobwhite and mallard will be redone since 60 ppm was the highest level tested. The registrant was notified of this required study in previous EEB reviews.

The aquatic EEC for ground and aerial applications (0.446 ppm and 0.312 ppm, respectively) in **lentic** water adjacent to treated areas **exceeds** the "endangered species concern level" for endangered fish in pome fruit production.

Use on Grapes

These residues do **exceed** the avian reproductive NOEL (>60 ppm) in short/range grass (77 ppm). It appears that birds may experience chronic hazards from myclobutanil at the maximum labeled rate.

The aquatic EEC for ground applications (0.146 ppm) **in lentic waters** adjacent to treated areas **exceeds** the "endangered species concern level" for endangered fish in grape production.

Endangered Species in Apple & Pear Production Areas

Based on previous USFWS Biological Opinions, the following species were considered in jeopardy by pesticides used at **apple or pear** production sites:

Common Name	County and State Located
June Sucker *Chasmistes liorus*	Utah,UT
Ozark Cavefish *Amblyopsis rosae*	Benton,AR; Barry,MO

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Florida Everglades Kite Rostrhamus sociabilis plumbeus [1]
Aleutian Canada Goose Branta canadensis leucoparria [2]
Colorado River Squawfish Ptychocheilus lucius [3]
Humpback Chub Gila cypha [3]
Bonytail Chub Gila elegans [3]
Maryland Darter Etheostoma sellare [3]
Slender Chub Erimystax cahni [3]
Gila Trout Oncorhynchus gilae [3]
Woundfin Plagopterus argentissimus [3]
Pecos Gambusia Gambusia nobilis [3]
Leopard Darter P. pantherina [3]
Slackwater Darter Etheostoma boschungi [3]
Yellowfin Madtom Noturus flavipinnis [3]
Unarmoured Threespined Stickleback
Gasterosteus aculeatus williamsoni [3]

Endangered Species in Grape Production Areas

Based on previous USFWS Biological Opinions, the following species may be affected by the use of this chemical for grape production:

Common Name	County and State Located
Ozark Cavefish Amblyopsis rosae	Benton,AR; Barry,MO
Humpback Chub Gila cypha [3]	
Colorado Squawfish Ptychocheilus lucius [3]	
Unarmoured Threespine Stickleback Gasterosteus aculeatus williamsoni [3]	

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[1] Florida Everglades Kite may have minimal effects since this kite eats the apple snail. There is minimal bioaccumulation with this chemical and the kite takes the food from inside the shell of the snail thereby having minimal exposure.

[2] This goose overwinters in small grain fields and turf but not in orchards. Also, myclobutanil is applied in the spring and summer, not in the winter during their overwintering period. Therefore, it appears that the chemical will not affect this goose.

[3] This fish probably will not be affected since it inhabits rivers or streams that have moderate or swift currents.

In addition to the above species, the following endangered/threatened species that may be at risk are listed in counties where grapes are commercially produced:

Common Name	County and State Located
Gila Topminnow *Poeciliopsis occidentalis*	Cochise, Maricopa, Santa Cruz, Yuma,AZ
Desert Pupfish *Cyprinodon macularius*	Cochise, Maricopa, Santa Cruz,AZ; Riverside,CA
Amargosa Vole *Microtus californicus scirpensis*	San Bernardino,CA

101.4 Adequacy of Data

An aquatic plant study (123-2) on *S. capricornutum* was submitted by Rohm and Haas for review under the current EPA guidelines. The MRID number is 419848-01 and the category of the study is "core".

For registration under section 3 for pome fruits, 71-4 Avian Reproduction study (2 species) is required due to multiple applications and persistence to assess chronic hazards to nontarget birds. The previous studies did not test at high enough levels to determine NOEC.

101.5 Adequacy of Labeling

Labeling is not adequate at this time. The label must be clear as to how many pouches to use per acre as well as the amount. The weight of the pouches should therefore be stated on the label.

Environmental Hazards

The label for grapes has "Do not apply directly to water or wetlands. Do not contaminate water when disposing of equipment washwaters. Do not apply when weather conditions favor drift or runoff from areas treated."

The label for both grapes and pomefruits **must** be changed to read "Do not apply directly to water or to areas where surface water is present, or to intertidal areas below the mean water mark. Do not contaminate water when disposing of equipment washwaters."

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Endangered Species Restrictions:

"The use of any pesticide in a manner that may kill or otherwise harm an endangered or threatened species or adversely modify their habitat is a violation of Federal laws."

"The use of this product is controlled to prevent death or harm to endangered species. Do not use Rally or Nova in the following counties."

State	County
Utah	Utah
Arkansas	Benton
Missouri	Barry
Arizona	Cochise, Maricopa, Santa Cruz, Yuma
California	San Bernardino, Riverside

103 **Conclusion**

Pome Fruits

EEB has reviewed the proposed registration of myclobutanil (Nova/Rally 40W) for use on pome fruits. Based on available data and use information, EEB concludes minimal acute hazard to non-target and non-endangered mammals, fresh water organisms, birds and plants. It appear that the use of myclobutanil on pome fruits is a potential threat to mammals and possibly birds on a chronic level depending on needed avian reproduction data. The endangered species triggers have been **exceeded** for voles and fish (lentic only) on an acute level.

Grapes

EEB has reviewed the proposed registration of myclobutanil (Nova/Rally 40W) for use on grapes. Based on available data and use information, EEB concludes minimal acute hazard to non-target and non-endangered mammals, fresh water organisms, birds and plants. It appear that the use of myclobutanil on **grapes** is a potential threat to possibly birds on a chronic level depending on needed avian reproduction data. The endangered species triggers have been **exceeded** for fish (lentic only) on an acute level.

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Formal consultation with USFWS may be initiated regarding the use of this pesticide and the possible detrimental effects to federally listed endangered or threatened species of fish and mammals. The **formal consultation with USFWS** should be considered before section 3 registration of myclobutanil is granted as indicated in previous EEB reviews **unless** the label indicates that Rally or Nova products are not to be used in the following counties:

State	County
Utah	Utah
Arkansas	Benton
Missouri	Barry
Arizona	Cochise, Maricopa, Santa Cruz, Yuma
California	San Bernardino, Riverside

Adequacy of Data

Avian Reproduction Studies 71-4 are required.

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Aquatic EEC calculations

Pome Fruit

solubility=142 ppm

one day ground application in 6' water = 0.250 lb ai/A x 10A x 5% x 61= 8 ppb (0.008 ppm)

one day ground application in 6" water = 0.250 lb ai/A x 10A x 5% x 734= 92 ppb (0.092 ppm)

one day aerial application =
A. Runoff = 0.25 lb ai/A x 60% efficiency x 5% runoff x 10A= 0.075 lb ai
B. Drift = 0.25 x 5% = 0.0125 lb ai
C. Total Loading = 0.075 + 0.0125= 0.0875 lb ai
D. EEC in 6' water = 0.0875 x 61ppb = 5 ppb = 0.005 ppm
E. EEC in 6" water = 0.0875 x 734ppb = 64 ppb = 0.064 ppm

Grape

one day ground application in 6' water = 0.125 lb ai/A x 10A x 5% x 61= 4 ppb (0.004 ppm)

one day ground application in 6" water = 0.125 lb ai/A x 10A x 5% x 734= 46 ppb (0.046 ppm)

one day aerial application =
A. Runoff = 0.125 lb ai/A x 60% efficiency x 5% runoff x 10A= 0.0375 lb ai
B. Drift = 0.125 x 5% = 0.00625 lb ai
C. Total Loading = 0.0375 + 0.00625= 0.04375 lb ai
D. EEC in 6' water = 0.04375 x 61ppb = 3 ppb = 0.003 ppm
E. EEC in 6" water = 0.04375 x 734ppb = 32 ppb = 0.032 ppm