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PRODUCT MANAGER NO. R. Taylor (25)

PRODUCT NAME(S) Escort

COMPANY NAME Dupont

SUBMISSION PURPOSE Registrant response to previous EEB review

SHAUGHNESSY NO.	CHEMICAL & FORMULATION	% A.I.
122010	Metsulfuron methyl	60

EEB REVIEW

Chemical: Escort® RP Herbicide

100 Submission Purpose and Label Information

100.1 Submission Purpose and Pesticide Use

Submission of data in response to a previous EEB review. Escort® RP Herbicide is to be used for selective weed control in rangeland and pastures.

100.2 Formulation Information

ACTIVE INGREDIENTS:

Methyl 2-[[[[(4-methoxy-6-methyl-1,3,5-triazin-2-yl)amino]-carbonyl]-amino]sulfonyl]bezoate . . 60.00%

INERT INGREDIENTS: 40.00%

100.3 Application Methods, Directions, Rates

Escort® RP Herbicide is to be applied by ground equipment once a season. Rates vary from 0.12 to 0.45 oz ai/a depending on weed species.

See attached label for complete methods, directions, and rates.

100.4 Target Organisms

Broom snakeweed (*Gutierrezia sarothrae*), bahiagrass in established bermudagrass, broadleaf weeds, and brush.

100.5 Precautionary Labeling

Evironmental Hazards Section of Label

"Keep out of any body of water. Do not contaminate water by cleaning of equipment or disposal of waste".

Other Sections of the Label

"Do not apply "Escort" RP Herbicide (except as recommended), or drain or flush equipment on or near desirable trees or other plants, or on areas where their roots may extend or in locations where the chemical may be washed or moved into contact with their roots. Do not apply to any body of water, including streams, irrigation water or wells. Do not apply where runoff water may flow onto agricultural land, as injury to crops may result. Do not apply "Escort" during periods of intense rainfall or to water-saturated soils, or to frozen ground as off-target movement may occur".

"Do not allow spray drift onto adjacent crops or other desirable plants or trees as injury may occur".

"In areas where sensitive crops are grown, make applications to soils whose surface has been settled by rain. Do not treat powdery dry soil or light sandy soils, when there is little likelihood of rainfall soon after treatment, as wind may cause off-target movement".

101.0 Hazard Assessment

101.1 Discussion

Escort® RP Herbicide contains 60% metsulfuron methyl and is intended for use on rangeland and pasture for selective weed control. Clarification of previously submitted data has been provided along with additional use information.

Dupont Ally Herbicide (EPA Reg. No.352-435), a 60% metsulfuron methyl product, is currently registered for use on barley, wheat, sorghum, corn, and sunflowers.

Dupont Escort Herbicide (EPA Reg. No.352-439), 60% metsulfuron methyl, is registered for use on loblolly pine plantations, ornamental turf, noncrop areas, airports, roadsides, rights-of-way, industrial sites, storage yards, tank farms, and fencerows (nonagricultural).

Dupont Finesse Herbicide (EPA Reg. No.352-445) a mixture of 62.5% chlorsulfuron and 12.5% metsulfuron methyl, is registered for winter barley and winter wheat.

SLN's for Ally (NM-87004), information on use is not available, Ally (TX-870002) use on rangeland, and Finesse (OR-860011) for use on clover and ryegrass are also registered.

The above registration information was obtained from NPIRS on October 16, 1989.

101.2 Likelihood of Adverse Effects on Nontarget Organisms

Terrestrial Organisms

Metsulfuron methyl has been characterized as practically nontoxic on an acute and subacute basis to birds (mallard duck LD_{50} >2510 mg/kg, LC_{50} >5620 ppm; bobwhite quail LC_{50} >5620 ppm).

Data for the rat indicate an LD_{50} of >5000 mg/kg (male and female). The dermal LD_{50} for the rabbit was reported to be >2000 mg/kg. A 90-day dietary test with the rat showed a NOEL of 1000 ppm.

For the honey bee, the acute contact LD_{50} was estimated to be >25 ug/bee and may be characterized as practically nontoxic.

Assuming a maximum application of 0.45 oz ai/a, the following residues could be expected immediately after application:

Substrate	Residue(ppm)
Short rangegrass	6.72
Long grass	3.08
Leaves and leafy crops	3.50
Forage (alfalfa, clover)	1.62
Pod containing seeds	0.34
Fruit	0.20

These values are all significantly below the LC_{50}'s for the mallard duck and bobwhite quail. Based on the data currently available and the proposed single application per season of Escort® RP Herbicide, the hazard to birds, mammals, and insects is considered minimal.

Aquatic Organisms

Data indicate that metsulfuron methyl is practically nontoxic to rainbow trout, bluegill sunfish, and *Daphnia magna* (LC_{50} values are all >150 ppm).

Using the maximum application rate of 0.45 oz ai/a, residues occuring in water 6 inches deep following an inadvertent direct overspray would be 20.55 ppb. This concentration is significantly below the LC_{50} values for aquatic organisms. Based on data currently available, the hazard of Escort® RP Herbicide resulting from use for weed control in pastures and rangeland is considered minimal.

Plants

Nontarget plant damage can occur from drift, volatility, or runoff. Since the herbicide is not characterized as

volatile (vapor pressure 2.5 x 10^{-12} mm Hg @ 25°C) and the product is applied only by ground rigs, EEB's primary concern is from runoff.

Runoff - Aquatic

Assuming a worst case scenario of 5% runoff (water solubility >100 ppm) from a 10 acre pasture into a 1 acre pond 6 feet deep, following application at the maximum label rate of 0.45 oz ai/A, 0.225 oz ai would enter the pond resulting in a water concentration of 0.86 ppb.

Data for Selenastrum capricornutum indicate the 120-hour EC_{50} is 285.6 ppb. Consequently, freshwater green algae are not expected to be adversely effected from runoff.

No data are available for aquatic macrophytes. EEB has attempted to estimate the hazard by utilizing EC_{50} values obtained from preemergence terrestrial plant testing.

The most sensitive species tested was morninglory. The calculated EC_{50} value for this species was 0.00086 oz ai/a. Since 0.225 oz ai could be expected to runoff of a 10 acre pasture, it is possible that aquatic macrophytes would be adversely effected.

Based on this estimation, Tier III aquatic plant growth testing is required. However, submission of a Tier II study on Lemna gibba may provide data that will indicate minimal hazard to aquatic macrophytes, thereby eliminating the need for Tier III testing.

Runoff - Terrestrial

Using the 5% runoff scenario from a 1 acre site* that has received an application of 0.45 oz ai, 0.0225 oz ai would runoff from the treated area. This value exceeds the preemergence EC_{25} values for soybean, cocklebur, cotton, morningglory, wild buckwheat, and sugar beet (0.0066, 0.0077, 0.0059, 0.0001, 0.0056, and 0.0007 ozs/a, respectively).

Based on available data, the growth of nontarget terrestrial plants would be adversely effected following a runoff event. Tier III terrestrial nontarget plant testing is required.

*The assumption is that runoff from more than 1 acre will channelize and have a minimum effect on terrestrial species more than 100 yds from the site of application.

101.3 Endangered Species Considerations

Relying on the data currently available, exposure to Escort® RP Herbicide is expected to be hazardous only to endangered or threatened plants. Application by ground equipment will reduce this hazard, however any movement of the herbicide in runoff water is expected to cause phtotoxicity problems in the imediate area.

101.4 Adequacy of Toxicity Data

Information requested to support previously submitted data has been provided by the registrant and is attached. Tier I and II terrestrial data requirements have been satisfied and have triggered both Tier III terrestrial plant testing and Tier III aquatic plant growth testing. A Tier II aquatic macrophyte test using Lemna gibba may eliminate the need for Tier III aquatic plant testing.

101.5 Adequacy of Labeling

The following statement should be added to the "Environmental Hazard" section of the label:

"This herbicide is phytotoxic at extremely low concentrations. Nontarget plants will be adversely effected from drift and runoff".

EPA is developing a program to reduce or eliminate exposure to endangered species to a point where use does not result in jeopardy. The Agency will issue notice of any necessary labeling revisions when the program is developed.

102.0 Classification

Not currently classified.

103 Conclusions

EEB has completed a review of the proposed registration of metsulfuron methyl, Escort® RP Herbicide, for selective weed control in pastures and rangeland.

Data currently available indicate that the hazard to avian, aquatic, and mammalian species will be minimal. However, the hazard to nontarget plants including endangered or threatened species is expected to be increased from the use of this herbicide.

Tier II terrestrial plant data have triggered Tier III terrestrial plant testing. Based on an extrapolation of terrestrial data, a Tier III aquatic plant test is also required. Submission of data for an aquatic macrophyte, preferably Lemna gibba, may eliminate the need for aquatic plant growth testing at the Tier III level.

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METSULFURON-METHYL

Page_____ is not included in this copy.

Pages 8 through 13 are not included.

The material not included contains the following type of information:

____ Identity of product inert ingredients.

____ Identity of product impurities.

____ Description of the product manufacturing process.

____ Description of quality control procedures.

____ Identity of the source of product ingredients.

____ Sales or other commercial/financial information.

X A draft product label.

____ The product confidential statement of formula.

____ Information about a pending registration action.

____ FIFRA registration data.

____ The document is a duplicate of page(s) _____.

____ The document is not responsive to the request.

The information not included is generally considered confidential by product registrants. If you have any questions, please contact the individual who prepared the response to your request.