029001 SHAUGHNESSEY NUMBER

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TYPE PRODUCT(S): I, D, H, F, N, R, S Fumigant

DATA ACCESSION NO(S). 261121

PRODUCT MANAGER NO. H. Jacoby (21)

PRODUCT NAME(S) TELONE II

COMPANY NAME Dow Chemical U.S.A.

SUBMISSION PURPOSE Proposed EUP for use on almonds, citrus, cherries, grapes, peaches, and walnuts when applied as a post plant irrigation water treatment.

SHAUGHNESSY NO.	CHEMICAL & FORMULATION	% A.I.
029001	1,3-Dichloropropene	94%

EEB BRANCH REVIEW

1,3-Dichloropropene

100. Submission Purpose and Label Information

100.1 Submission Purpose and Pesticide Use

Proposed EUP to evaluate the use of TELONE II soil fumigant as postplant irrigation treatment of soil that is planted to almonds, citrus, cherrries, grapes, peaches, and walnuts to control plant parasitic nematodes and certain other soil inhabiting pests.

100.2 Formulation Information

1,3-Dichloropropene.....94.0%
Inerts..... 6.0
100.0%

100.3 Application Methods, Directions, Rates
(As indicated in EPA Accession # 261121)

When to Treat: Apply TELONE II after the fruit is harvested and before new bloom appears in the spring. Treatment before root flushes occur is preferred. Soil tempertures should be between 60° to 80°F or 50°F and warming.
Rate and Use Recommendations: Use TELONE II in the irrigation water at the rate of 5 to 15 gallons per irrigated acre to treat soil planted to the above listed crops. Apply in a minimum of 4 inches of irrigation water per acre. The total rate of TELONE II can be split and applied in 2 or more applications but the total rate applied is to exceed 15 gallons per acre per year. Apply TELONE II by introducing it into the intake side of a centrifugal pump having an output of not less than 4 percent of the total gallons of water of the irrigation system. TELONE II should be metered directly into the pump from its original container through a gravity flow applicator.
Restrictions: Do not apply more than 15 gallons per acre per year. Any irrigation water treated with TELONE II must be held on the treated area until it is absorbed into the soil. Do not permit treated water to be turned into the tail water or fed back into the irrigation system. The irrigation system must be euipped with safety valves or other devices to prevent backsiphoning of TELONE II into the water source. Do not graze or feed orchard cover crops. Unless wearing heavy synthetic rubber foot gear, do not enter treated areas without heavy synthetic rubber foot gear until 3 days post treatment.
Attention: All applicable directions, restrictions and precautions on the EPA registered label for TELONE II soil fumigant are to be followed.

100.4 Target Organisms

Plant parasitic nematodes [root-knot, meadow (lesion), citrus, cyst formers (golden sugar beet, soybean), burrowing, ring, spiral, sting, pin, stubby root, stylet, dagger], wireworms, and garden centipedes (symphylans).

100.5 Precautionary Labeling

The federally registered TELONE II label bears the following environmental hazards statements: "This product is toxic to fish and wildlife. Do not apply directly to water. Do not contaminate water by cleaning of equipment or disposal of wastes."

101 Hazard Assessment

101.1 Discussion
(As indicated in EPA Accession # 261121)

Dichloropropene is presently registered as pre-planting soil fumigant for nematode, insect, disease, and weed control. It is recommended on a variety of crops such as vegetables, field crops, citrus, deciduous fruits and nuts, brush and vines, and nursery crops (Farm Chemicals Handbook, 1981).
This program is proposed to permit the evaluation of TELONE II for the control of certain plant parasitic nematodes and other soil inhabiting pests infesting land planted to almonds, citrus, grapes, peaches, and walnuts. Applications will be made to the crops after the fruit is harvested and before new blooms appear in the spring.
The objective of the experimental program is to evaluate TELONE II soil fumigant under commercial conditions as post plant furrow or flood irrigation water application to control certain soil pests. Data will be collected on pest control as well as yield and growth response of the treated crops. Residue samples will also be gathered from certain sites. The experimental program (proposed to last for 3 years) is expected to generate sufficient data to support registration of this use. The applications will made each of the first two years of the program. The third year is necessary to allow the collection of data on yield and growth response resulting from these applications. The product will be added to the irrigation water by introducing it into the intake side of a centrifugal pump. The fumigant wll be metered directly into the pump from its original container through a gravity flow applicator. The rate applied will range from 5 to 15 gallons per irrigated acre. All irrigation water treated with TELONE II will be held on the irrigation site until it is absorbed by the soil. Appropriate safety valves will be installed on the equipment to prevent backsiphoning of the pesticide into the water source. Treatement areas (plots) will vary in size depending on the specific sites of each cooperator. Wherever possible plots will be replicated.

The following states, crops, maximum acreage, and maximum product quantity (gallons) will be utilized in the experimental program:

State	Crop	Acreage	TELONE II
California	Almonds	50	750
	Walnuts	50	750
	Peaches	50	750
	Citrus	50	750
	Grapes	50	750

Arizona	Citrus	500	7500
Texas	Citrus	100	1500
	Total	850	12,750

Justification for the quantity (25,500 gallons) of TELONE II soil fumigant requested is based strictly on the need to have sufficient material to carry out the proposed experimental program. In making this determination, consideration was given to the maximum acreage to be treated (850 acres), the maximum number of appications to be made (two-one per year) and the maximum amount of chemical that may applied per acre (15 gallons).
Any unused material remaining at the conclusion of this experimental program will be disposed of according to label directions, or used according to the federally registered label.

101.2 Likelihood of Adverse Effects to Non-Target Organisms

The Dichlorpropene Registration Standard EEB memorandum dated August 30, 1985 references acceptable studies for use in making non-target avian and aquatic hazard assessments. The available toxicological data indicated that dichloropropene is of low toxicity to birds and moderate toxicity to fish. The method of application (irrigation) and the retention of treated water within the site until absorption by the soil minimizes the potential for adverse exposure to non-target organisms. Although the permit application lacked specific information concerning the source of irrigation water and/or nearby aquatic environments, EEB has conducted a worst case senario for estimating the impact of the pesticide in an adjacent one acre x 6 ft. depth pond system. The pesticide ppm level to be attained under the normal irrigation treatment practice is estimated to be 338.2 ppm which exceeds the acute toxicity LC_{50} of 3.94 to 7.09 ppm for fish (MRID 00039692; from Dichloropropene Registration Standard EEB memorandum dated August 30, 1985). If a direct application of the pesticide was made to a one acre x 6 ft. depth pond, the pesticide level would be an estimated 9.24 ppm which would still exceed the LC_{50} ppm level established for freshwater fish. If the standing treatment water within the orchards were to be accidently released by equipment backsiphoning or dike-leakage into adjacent aquatic environments, the pesticide ppm levels would be expected to be lower because of dilution/runoff factors (i.e., using the same one acre x 6 ft. depth pond senario as an example: 100% drainage = 9.1 ppm; 50% drainage = 4.6 ppm; 10% drainage = 0.9 ppm). A lesser concern is the migration of the pesticide into adjacent aquatic environments through soil erosion. It is estimated that 3.03 lb./a.i. would be present in the top cm of the treated soil after the irrigation treatment. Using the same one acre x 6 ft. depth pond system senario, it is estimated that if 5% of the top cm of soil eroded into the pond system, the pesticide levels would read 0.092 ppm. The experimental program participants must ensure proper equipment and treatment water impoundment functioning to mitigate any loss of treatment water or eroded treatment soil into the surrounding untreated environment. Such precautions would minimize the potential for adverse ecological effects.

101.3 Endangered Species Considerations

Because of the low toxicity of dichloropropene, the method of application and limited test acreage, no adverse impact on endangered species is expected.

101.4 Adequacy of Toxicity Data

No data was submitted with this EUP application. Section C of the EUP application, assigned under EPA Accession # 261121, provides a summary of previously submitted toxicity data in support of TELONE II. The pending Dichloropropene Registration Standard, as indicated in EEB's memorandum dated August 30, 1985 will not require additional data.

101.5 Adequacy of Labeling

The EUP labeling is supplemental to the federally registered TELONE II label. It bears the current appropriate environmental hazards language, including the statement prescribed by the Dichloropropene Registration Standard EEB memorandum dated August 30, 1985, "Do not contaminate water by cleaning of equipment of disposal of wastes". The memorandum indicates that fish and avian toxicity statements will not be required. Therefore, the TELONE II fish and wildlife toxicity statements may be deleted by the registrant after the issuance of the Dichloropropene Registration Standard in order to bring labeling into proper compliance.

102 Classification

Based upon current evaluations of non-target avian and aquatic toxicity data, there are no present reasons to reclassify or restrict the use of TELONE II.

103 Conclusions

The Ecological Effects Branch has determined that this proposed EUP will not pose any significant adverse problems to non-target organisms. Therefore, EEB concurs with this EUP action.

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