EEE BRANCH REVIEW

DATE: IN 12/2/76 OUT 3/3/77 IN _____ OUT _____ IN _____ OUT _____

FISH & WILDLIFE ENVIRONMENTAL CHEMISTRY EFFICACY

FILE OR REG. NO. 9538-A

PETITION OR EXP. PERMIT NO. _____

DATE DIV. RECEIVED _____

DATE OF SUBMISSION _____

DATE SUBMISSION ACCEPTED _____

TYPE PRODUCT(S): I, D, H, F, N, R, S Sucker Tobacco Control Agent

PRODUCT MGR. NO. (25) Taylor

PRODUCT NAME(S) Flo-Mo^{R} 10

COMPANY NAME Sellers Chemical Corporation

SUBMISSION PURPOSE Registration

CHEMICAL & FORMULATION n-Decanol (Fatty Alcohol C_{10})---------- 79%
inert ingredients ---------- 21%
product contain 5.69 lbs a.i./gallon

(1)

100.0 Pesticidal Use:

Flo-Mo$_R$ 10 is a Tobacco Sucker Control agent.

100.1 Application Methods:

METHOD OF APPLICATION: Add about one fourth of the required amount of water to the spray tank. Then add the required amount of SELLERS FLO-MO 10 TOBACCO SUCKER CONTROL AGENT to the spray tank, using either mechanical or by-pass agitation. Add the rest of the water while continuing to mix.

Use 3 nozzels per row (TG-3 full cone tips or equivalent is satisfactory). Replacing the center TG-3 full cone nozzle with a TG-5 full cone nozzel to provide more spray solution down the stalk is also recommended. The center nozzel should be directed over the row and the side nozzles should be 9 inches on either side, directed at or slightly above the top of the stalk. The diluted FLO-MO 10 TOBACCO SUCKER CONTROL AGENT should be applied to the top of the tobacco plant. It is recommended that boom pressure be kept at 20 lbs. and should not exceed 25 lbs. At 20 lbs pressure with the recommended spray tips and a tractor speed of 2 1/2 - 3 miles per hour approximately 50 gallons of diluted emulsion will be applied per acre.

TIME OF APPLICATION: FLO-MO 10 TOBACCO SUCKER CONTROL AGENT may be applied from early button until early flower stage. Best results are usually obtained by applying FLO-MO 10 in the early button stage, then topping within 5 days, removing any suckers that were missed. If tobacco is topped first (early button to early flower stage), remove any suckers that have grown over one inch. Spray within two days after topping. The emulsion must contact the suckers, and any leaning plants should be straightened so the emulsion can flow evenly down the stalk.

Application can be made anytime during the day until the leaves begin to close in the evening. Best results are obtained when plants are sprayed in the morning after the dew has dried or in the afternoon when plants have recovered from wilt. Some injury to tender leaves at the top of the plant may result from an application under bright sunlight at temperatures above 90^{o}F. Do not apply if winds are high enough to turn top leaves, as injury may result to undersides of tobacco leaves. Do not apply during rains or when plants are wet.

NUMBER OF APPLICATIONS: Usually good sucker control results from a single application of FLO-MO 10 TOBACCO SUCKER CONTROL AGENT followed in 7 to 10 days by an application of one of the maleic hydrazide products listed under DIRECTIONS FOR USE.

If substantial secondary sucker growth occurs following the first application of FLO-MO 10 TOBACCO SUCKER CONTROL AGENT, apply a second application of FLO-MO 10 within 3 to 5 days. Apply maleic hydrazide 7 to 10 days after last "contact" application.

100.2 APPLICATION RATES:

RATE OF APPLICATION: Flue-Cured tobacco only. Apply 1.5 to 2.0 gallons of FLO-MO 10 TOBACCO SUCKER CONTROL AGENT in 50 gallons of water per acre using power sprayer. Do not use over 1.5 gallons per acre for an early button stage application. A second application of FLO-MO 10 (at 1.5 gallons per acre) may be applied if needed, within 3 to 5 days after first treatment.

FLO-MO$_R$ 10 is 79% A.I. and the formulated product contains 5.69 lbs A.I./gallon. Based on this the maximum residue expected would be determined from 11.38 lbs A.I. per acre. The residue expected on leafy crops would be 1423 ppm for a single application.

100.3 PRECAUTIONARY LABEL:

The Environmental Hazards Section of the label is adequate.

101.0 CHEMICAL AND PHYSICAL PROPERTIES:

n-Decanol (Fatty Alcohol C_{10}) 79.0%.

102.0 BEHAVIOR IN THE ENVIRONMENT:

Environmental Chemistry Data not available.

103.1 ACUTE TOXICITY

103.1.1 MAMMAL

In addition to the following studies see review by Norm Cook (5-25-76).

Test: Acute Oral Mammal

Species: Rat

Results: LD_{50} = 18,240 (14,250-23,340) mg/Kg

Chemical: Alfol 8 Alcohol

Title: Acute Oral Toxicity (LD_{50}) Study in Rats

Accession No. 226887

Study Date: 4-29-1965

Researcher: Scientific Associates, Inc.

Submission: Continental Oil Company

Test: Acute Oral Mammal

Species: Rat

Results: LD_{50} = >26,410 mg/Kg

Chemical: Alfol 10 Alcohol - Technical ingredient of Flo-Mo 10

Title: Acute Oral Toxicity (LD_{50}) Study in Rats

Accession No. 226887

Study Date: 4-29-1965

Researcher: Scientific Associates Inc.

Submission: Continental Oil Company

103.1.2 BIRD

Test: Avian Acute Oral

Species: Mallard Duck (Anas platyrhynchos)

Results: LD_{50} >4640 mg/kg

Chemical: Flo-Mo 10 Concentrate

Title: "Report to Sellers Chemical Corporation Acute Toxicity Studies with Flo-Mo 810 Concentrate"

Accession No.: 226887

Study Date: 10/17/75

Researcher: Industrial Bio-Test Laboratories Inc.

Submission: Sellers Chemical Corp.

Additional Test Data:

Test Acceptability: This study meets the requirements for a Avian acute oral for one species of water fowl.

103.1.3 FISH

Test: 96 hour static bioassay

Species: Rainbow Trout (salmo gairdneri)

Results: 96 hr. LC_{50} = 7.6 ppm (no effect level = 0.05 ppm) (2.2-26.6 ppm) 95% C.L.

Chemical: Flo-Mo- 10 Concentrate

Title: 96 hour LC_{50} with Bluegill sunfish and rainbow trout

Accession No. 226887

Study Date: 10/7/75

Researcher: Marine Research Institute

Submission: Sellers Chemical Corp.

Additional Test Data:

Test Acceptability: This test meets the requirements for a 96 hr. acute bioassay for a cold water species.

Test: 96 hour Static Bioassay

Species: Blue Gill sunfish (Lepomis macrochirus)

Results: LC_{50} = 6.8 ppm (No effect level = 0.05 ppm)
(2.83-16.32) 95% C.L.

Chemical: Flo-Mo 10 concentrate

Title: 96 hour LC_{50} with Bluegill sunfish and Rainbow Trout

Accession No.: 226887

Study Date: 10/7/75

Researcher: Marine Research Institute

Submission: Sellers Chemical Corp.

Additional Test Data:

Test Acceptability: This test meets the requirements for a 96 hr. acute bioassay for a warm water species.

103.1.4 AQUATIC INVERTEBRATE

Test: 48 hour Static Bioassay

Species: Daphnia (Daphnia magna)

Results: 48 hr. LC_{50} = 8.24 (5.52-12.3) mg a.i./ℓ 95% C.L.
No discernible effect level = 1.80 mg/ℓ

Chemical: Alfol 810 Alcohol

Title: Acute Toxicity of Alfol 810 and Alfol 10 Alcohols to Daphnia magna

Accession No.: 226887

Study Date: Sept. 1976.

Researcher: E. G. & G. Bionomics

Submission: Continental Oil Company

Additional Test Data:

Test Acceptability: This Test meets the requirements for a acute bioassay (48hr) for an aquatic invertebrate.

Test: 48 hour Static Bioassay.

Species: Daphnia (Daphnia magna)

Results: 48 hr LC_{50} = 6.51 (4.78-8.87) mg/ℓ 95% C.L. No discernible effect level 48 hr - 2.80 mg a.i./ℓ

Chemical: Alfol 10 Alcohol - The active ingredient of Flo-Mo 10.

Title: Acute Toxicity of Alfol 810 and Alfol 10 Alcohols to Daphnia magna.

Accession No.: 226887

Study Date: Sept, 1976

Researcher: E. G. & G. Bionomics

Submission: Continental Oil Company

Additional Test Data:

Test Acceptability: This test meets the requirements for an acute bioassay (48 hr) for an aquatic invertebrate.

103.2 SUBACUTE TOXICITY

103.2.1 BIRD

Test: 8 Day Dietary LC_{50}

Species: Mallard Duck (Anas platyrhynchos)

Results: LC_{50} = >10,000 ppm

Chemical: Flo-Mo 10

Title: Eight Day Dietary LC_{50} - Mallard Duck Flo-Mo 810 Final Report.

Accession No.: 226887

Study Date: 8/18/75

Researcher: Indistrial Bio-Test Laboratories Inc.

Submission: Sellers Chemical Corp.

Additional Test Data:

Test Acceptability: This study meets the requirements for the dietary LC_{50} for one species of waterfowl.

Test: 8 Day Dietary LC_{50}

Species: Bobwhite Quail (Colinos virginianus)

Results: LC_{50} >10,000 ppm

Chemical: Flo-Mo 10

Title: Eight-Day Dietary LC_{50} - Bobwhite Quail Flo-Mo 810 Final Report.

Accession No.: 226887

Study Date: 8/18/75.

Researcher: Industrial Bio-Test Laboratories Inc.

Submission: Sellers Chemical Corp.

Additional Test Data:

Test Acceptability: This study meets the Dietary LC_{50} requirements for one species of upland game bird.

104.0 HAZARD ASSESSMENT

104.1 DISCUSSION

Flo-Mo$_R$ 10 Sucker is applied at rates to PRODUCE expected residues on Tobacco plant of approximately 1423 ppm. (2 gal. or 1138 lbs a.i./A). The use pattern from the label should preclude wind drift or soil transport as the pesticide is applied direct to the foliage by ground application.

104.1.1 ADEQUACY OF TOXICITY DATA:

The data submitted are adaquate.

104.1.2 ADDITIONAL DATA REQUIRED:

Sufficient data are submitted to support this registration for this use pattern.

8

104.1.3 LIKELIHOOD OF EXPOSURE TO NON-TARGET ORGANISMS:

Minimal hazard exists for mammal and avian species due to the method of application, the low use pattern of the crop to wildlife, and the low acute and subacute toxicity of this chemical to these species. Aquatic organisms, both fish and aquatic are susceptible to low concentrations of this pesticide (LC_{50}s 7.6-8.24 ppm). However the use pattern (ground application) and direct foliar application should preclude any aquatic contamination.

104.1.4 CLASSIFICATION

The use of Flo-Mo$_R$10 Sucker on tobacco can be considered for General Use Classification. See classification table and calculations appendix.

105.0 CONCLUSIONS

The Environmental Safety Staff concurs with this registration and recommends a general use classification.

Thomas F O'Brien

Thomas F. O'Brien
Fish and Wildlife Section
Efficacy and Ecological Effects Branch

3/3/77