

TO: Denise Webster, Program Specialist
Pesticide Registration Branch

FROM: Medical Toxicology Branch

Date: 6/17/08
Revised Date: 8/7/08

PRODUCT REGISTRATION RECOMMENDATION SHEET

Formulated Product Name: LBAM-F

Chemical Code #: 5022, 5966

ID #: 228577 E

EPA Reg. #: 42579-

SB 950 #: NA

Document #: 52127-0022

Company Name: USDA APHIS Plant Protection and Quarantine

RECOMMENDATION:

Submitted as additional data. No recommendation requested at this time.

The LBAM-F acute oral, dermal and inhalation toxicity, primary eye and dermal irritation studies are acceptable and all of the study data indicate Toxicity Category IV hazards. The localized lymph node (LLNA) dermal sensitization study is acceptable and indicates that the test article is a potential skin sensitizer. The Buehler guinea pig dermal sensitization study is acceptable and indicates that the test material is not a dermal sensitizer.

TO--File: Registration
Branch: Registration
FROM--Medical Toxicology

Program Specialist: Denise Webster

DATA PACKAGE SUMMARY AND RECOMMENDATION SHEET

Active Ingredient: 1. (E)-11-Tetradecen-1-yl acetate, 2. (E, E)-9, 11-tetradecadien-1-yl acetate
Formulated Product Name: LBAM-F
Formulation: 1. 16.9%, 2. 0.71%; other ingredients: 82.39%
Chemical Code #: 1. 5022, 2. 5966 **ID #:** 228577 E
EPA Reg. #: 42579- **SB 950 #:** NA
Document #: 52127-0022
Company Name: USDA APHIS Plant Protection and Quarantine

SUMMARY ("One-liners" from each study worksheet, significant information not mentioned in worksheets, other pertinent information for ongoing review or registration. Attach additional sheets if needed):

LBAM-F Acute Toxicity Categories

Acute Oral LD50	IV
Acute Dermal LD50	IV
Acute Inhalation LC50	IV
Eye Irritation	IV
Dermal Irritation	IV
Dermal Sensitization	Dermal sensitizer (LLNA) Not a dermal sensitizer (Buehler)

LBAM-F Acute Toxicity Studies

Acute Oral LD50

0022; 239680; "Acute Oral Toxicity Study (UDP) in Rats" (Kuhn, J.O., Stillmeadow, Inc., Sugar Land, TX, Laboratory Study Number: 11748-08, 05/08/08). 870.11. LBAM-F (Lot# LBAM08129.1, 16.9% (E)-11-Tetradecen-1-yl acetate, 0.71% (E, E)-9, 11-tetradecadien-1-yl acetate) was administered by gavage in a single dose to 3 female Sprague- Dawley albino rats. No animals died. No clinical signs were observed. No effect on body weight gain was observed. Necropsy revealed no observable abnormalities. LD₅₀ (F) > 5000 mg/kg. Toxicity Category IV. **Acceptable.** (Corlett, 06/02/08)

Acute Dermal LD50

0022; 239681; "Acute Dermal Toxicity Study in Rats" (Kuhn, J.O., Stillmeadow, Inc., Sugar Land, TX, Laboratory Study Number: 11749-08, 05/05/08). 870.12. LBAM-F (Lot# LBAM08129.1, 16.9% (E)-11-Tetradecen-1-yl acetate, 0.71% (E, E)-9, 11-tetradecadien-1-yl acetate) was applied to the clipped dorsal skin of 5 Sprague-Dawley albino rats per sex per dose at a dose level of 5050 mg/kg for 24 hours. One male animal died on day 1 of the study. No clinical signs or signs of dermal irritation were observed. One female animal lost weight during the study. Necropsy on the male animal that died revealed dark red lungs, liver and spleen; necropsy on the surviving animals revealed no observable abnormalities. LD₅₀ (M/F) > 5050 mg/kg. Toxicity Category IV. **Acceptable.** (Corlett, 06/03/08)

Acute Inhalation LC50

0022; 239682; "Acute Inhalation Toxicity Study in Rats" (Crutchfield, V., Stillmeadow, Inc., Sugar Land, TX, Laboratory Study Number: 11750-08, 05/28/08). 870.13. LBAM-F (Lot# LBAM08129.1, 16.9% (E)-11-Tetradecen-1-yl acetate, 0.71% (E, E)-9, 11-tetradecadien-1-yl acetate) was diluted 1:1 v/v in deionized water, aerosolized, and administered in a nose-only

manner to 5 Sprague-Dawley albino rats per sex per dose at dose level (mean exposure concentration, analytically determined) of 2.2 mg/l (MMAD (GSD) = 2.2 (5.9) μ m) for 4 hours. No animals died. No clinical signs were observed. One male animal lost weight between days 7 and 14 of the study. Necropsy revealed dark red liver in 2 males and 1 female and pale lungs in 1 male and 2 females. LC_{50} (M/F) > 2.2 mg/l. Toxicity Category IV. **Acceptable.** (Corlett, 06/03/08)

Eye Irritation

0022; 239679; "Acute Eye Irritation Study in Rabbits" (Kuhn, J.O., Stillmeadow, Inc., Sugar Land, TX, Laboratory Study Number: 11751-08, 05/05/08). 870.24. 0.1 ml of LBAM-F (Lot# LBAM08129.1, 16.9% (E)-11-Tetradecen-1-yl acetate, 0.71% (E, E)-9, 11-tetradecadien-1-yl acetate) was placed into the conjunctival sac of 1 eye of each of 3 New Zealand White rabbits. No corneal opacity or iritis was observed. Grade 1 conjunctival redness and chemosis was observed in all treated eyes 1 hour after treatment with all signs of conjunctival irritation clearing in all treated eyes 24 hours after treatment. Toxicity Category IV. **Acceptable.** (Corlett, 06/04/08)

Dermal Irritation

0022; 239683; "Acute Dermal Irritation Study in Rabbits" (Kuhn, J.O., Stillmeadow, Inc., Sugar Land, TX, Laboratory Study Number: 11752-08, 05/05/08). 870.25. 0.5 ml of LBAM-F (Lot# LBAM08129.1, 16.9% (E)-11-Tetradecen-1-yl acetate, 0.71% (E, E)-9, 11-tetradecadien-1-yl acetate) was applied to the clipped dorsal skin of each of 3 New Zealand White rabbits for 4 hours. No edema was observed. Grade 1 erythema was observed in 2 animals 24 hours after patch removal clearing in both animals 48 hours after patch removal. Toxicity Category IV. **Acceptable.** (Corlett, 06/04/08)

Dermal Sensitization

52127-0022; 239871; "Skin Sensitization: Local Lymph Node Assay in Mice"; (J.O. Kuhn; Stillmeadow, Inc., Sugar Land, TX; Study No. 11753-08; 5/8/08); The dorsal skin on the ears of 5 female CBA/J mice/group was treated by topical application with 25 μ l/ear/day of 0 (vehicle: propylene glycol), 25 and 50% preparations of LBAM F in propylene glycol and undiluted test material (lot no. LBAM08129.1, E-11-Tetradecenyl acetate: 16.9%, E,E-9, 11-Tetradecadienyl, acetate: 0.71%) for 3 days. Additionally, 5 female mice/group were dosed in the same manner with 0 (vehicle: 4:1 acetone:olive oil) or 90% hexylcinnamaldehyde (vehicle: 80% acetone/20% olive oil) for 3 days. Three days later, 20 μ Ci of 3 H-thymidine was injected iv into the tail vein of each animal and 5 hours later each animal was euthanized. The draining auricular lymph nodes were removed and single cell suspensions were prepared from the lymph node tissue. These suspensions were washed and treated with 5% trichloroacetic acid. The precipitated DNA was incubated for 18 hours at 4 $^{\circ}$ C. Liquid scintillation was used to measure the radioactivity being emitted from the preparations and the disintegrations/minute (dpm) was measured. A stimulus index (SI) was determined by dividing the mean dpm of each experimental group by the mean value for the vehicle control. The SI index was 2.8, 4.6 and 10.3 for the 25, 50 and 100% preparations, respectively. The positive control was functional. **Study acceptable.** (Moore, 6/13/08)

52127-0022; 240792; "Skin Sensitization Study in Guinea Pigs"; (J.O. Kuhn; Stillmeadow, Inc., Sugar Land, TX; Study No. 11921-08; 7/28/08); The skin of 10 Hartley-Albino guinea pigs/sex was treated with 0.4 ml of LBAM F (lot no. LBAM080129.1, E-11-Tetradecenyl acetate: 16.9%, E,E-9, 11-Tetradecadienyl, acetate: 0.71%), undiluted, for 6 hours under an occlusive wrap, once per week, for 3 weeks in the induction phase. For the challenge, after a 2 week interlude after the last induction treatment, the skin of these treated animals along with that of 10 naïve controls was treated for 6 hours with 0.4 ml of the undiluted test material under an occlusive wrap at a location previously untreated. No dermal irritation was evident for the treated animals during the induction phase or for either the treated or naïve control animals during the 48 hour observation period of the challenge phase. The test material is not a dermal sensitizer as determined in the Buehler assay. The positive control (DNCB) in the first assay was not functional; a second study in which

α -hexylcinnamaldehyde was applied resulted in a positive response. **Study acceptable.** (Moore, 8/1/08)

CONCLUSIONS: Are data adequate to support registration?

The LBAM-F acute oral, dermal and inhalation toxicity, primary eye and dermal irritation and dermal sensitization studies are acceptable.

RECOMMENDATIONS: What type of registration action is being requested? In case of ongoing registration, register or do not register? What other specific studies or data are requested?

Submitted as additional data. No recommendation requested at this time.

The LBAM-F acute oral, dermal and inhalation toxicity, primary eye and dermal irritation studies are acceptable and all of the study data indicate Toxicity Category IV hazards. The localized lymph node (LLNA) dermal sensitization study is acceptable and indicates that the test article is a potential skin sensitizer. The Buehler guinea pig dermal sensitization study is acceptable and indicates that the test material is not a dermal sensitizer.