122804

Date Out EFB: 07 SEP 1982

To: Product Manager 15 LaRocca
TS-767

From: Samuel M. Creeger
Acting Chief, Review Section No. 1
Environmental Fate Branch

Attached please find the environmental fate review of:

Reg./File No.: 618-EUP-10

Chemical: Avermectin

Type Product: I

Product Name: Avermectin: MK-936

Company Name: Merck

Submission Purpose: Human exposure

ZBB Code: 3(c)(5)

ACTION CODE: 701

Date in: 7/21/82

EFB # 405

Date Completed: 07 SEP 1982

TAIS (level II)	Days
52	1

Deferrals To:

_____ Ecological Effects Branch

_____ Residue Chemistry Branch

__X__ Toxicology Branch

1.0 INTRODUCTION

Merck Sharp and Dohme has submitted an analysis of potential human exposure to MK-936 in fire ant baits.

2.0 MK-936: Avermectin B_1

See figure for structure.

3.0 DISCUSSION

The model presented assumes that the worst exposure situation is developed by having an average female (162 cm and 60 kg) come in contact with the ground of the treated area. The total exposure, assuming 15% of the body surface was exposed to the bait applied at a rate of 50 mg ai/acre, is 0.00005 mg ai/kg body weight.

EFB agrees that this value should represent the maximum possible exposure to people entering fire ant infested areas after application of the bait. Although not specifically addressed in the exercise, it seems reasonable to assume that this number could also represent the maximum amount of ai that would come in contact with a mixer/loader involved either in aerial or ground application.

4.0 RECOMMENDATION

EFB believes this analysis is reasonable and recommends that a field exposure study not be undertaken at this time by the registrant.

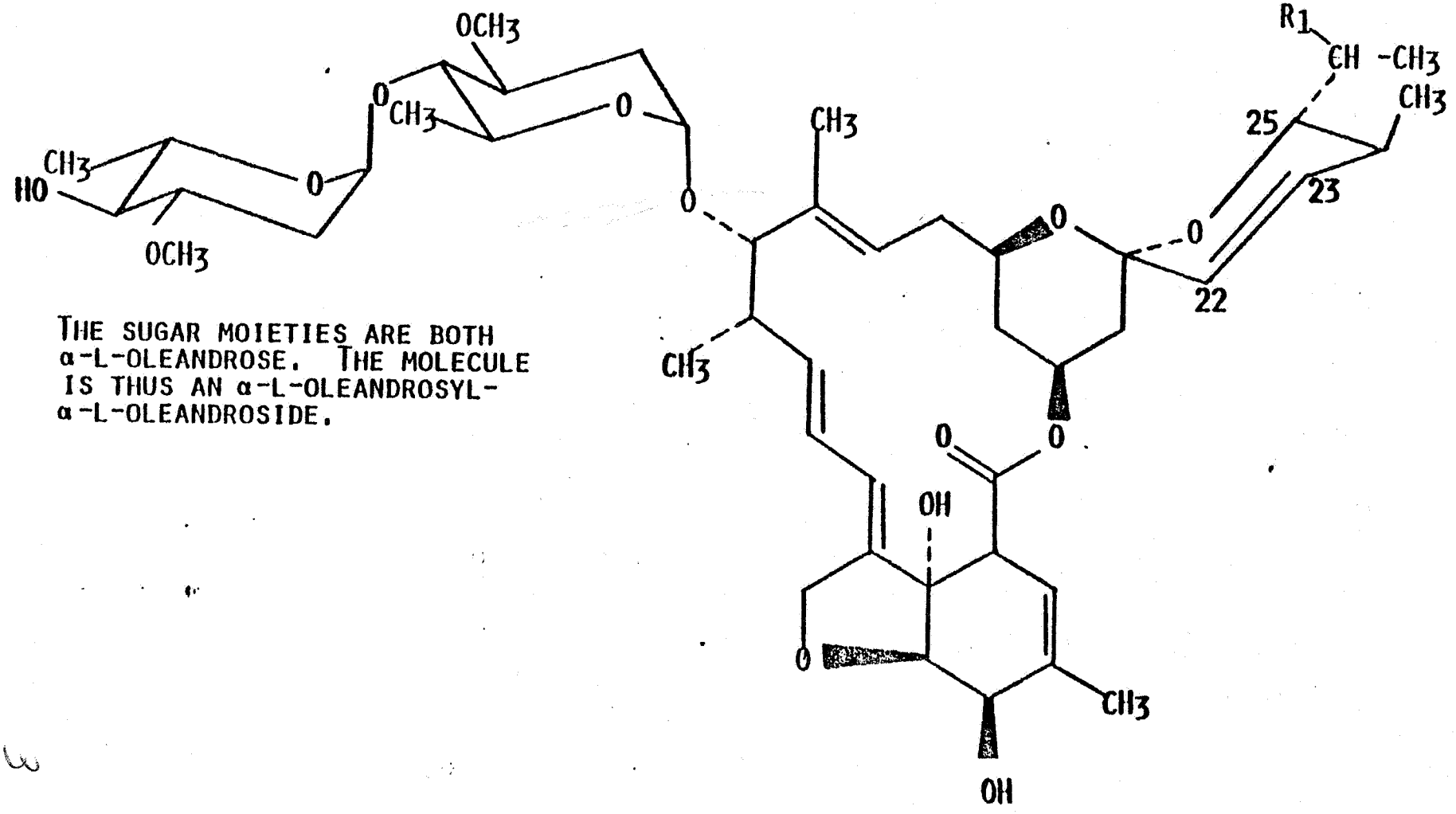
It should be noted that the aerobic soil metabolism study cited by the registrant in the text has not been validated by EFB.

Richard V. Moraski, Ph.D.
Chemist, Review Section No. 1
Environmental Fate Branch, HED

MK-936

AVERMECTIN B_1

L-676,863



THE SUGAR MOIETIES ARE BOTH α-L-OLEANDROSE. THE MOLECULE IS THUS AN α-L-OLEANDROSYL-α-L-OLEANDROSIDE.

$R_1 = C_2H_5 \geq 80\%$ (AVERMECTIN B_{1A}, L-676,895)