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EFFICACY REVIEW
by Mark Suarez, Entomologist - IB

Mark Suarez
15 FEBRUARY 2005

DATE: 4 February 2005

EPA REG. NUMBER: 1021-1706

PRODUCT NAME: Aquapel 25% DEET Insect Repellent Pump Spray 27411;
MGK Aquapel Pump Spray 27413;
MGK Aquapel Pump Spray 27413

REGISTRANT: McLaughlin Gormley King Co.

PM: REVIEWER: Richard Gebken, Acting PM10
Joseph Tavano

DECISION: 348164 [1021-1706]
345455 [1021-RIRO]
345459 [1021-RIRI]

DP BARCODE: 307848 [1021-1706]
307849 [1021-RIRO]
307844 [1021-RIRI]

ACTION: R34 [1021-1706]
R31 [1021-RIRO]
R31 [1021-RIRI]

ACTIVE INGREDIENT(S): 080301, Diethyl toluamide
[1021-1706].....25%
[1021-RIRO].....7.5%
[1021-RIRI].....15%

TYPE: Topical Spray Repellent

OPPTS GUIDELINE(S): 810.1000
810.3000
810.3400

MRID: 46293502

GLP?: No.

SITES: Human Skin

PESTS: Mosquitoes, *Aedes aegypti*

STUDY APPLICATION RATE: 1.0 mL/250 cm²

LABEL APPLICATION RATE: Sparingly

STUDY SUMMARIES:

The registrant submitted three studies of product efficacy. The studies tested the efficacy of DEET formulated in either liposomal suspension or isopropyl alcohol. The products tested are different in composition than the subject products, which contain only DEET (7.5, 15, or 25%) [REDACTED]

The first two studies evaluated a 7.5% formulation of DEET in isopropyl alcohol against *Aedes aegypti* mosquitoes. The test formulation proved effective as a repellent against this species for approximately five and one half hours (combined studies). No data were provided on other mosquitoes or biting insects.

The third study tested the efficacy of a 15% DEET formulation. The carrier was not specified in the study. In a phone conversation, Dr. Robin Todd of ICR, Inc. stated that the carrier was most likely isopropyl alcohol. The test formulation proved efficacious against both *Culex pipiens* and *Anopheles albimanus* for up to 8 hours. Repellency against stable flies, *Stomoxys calcitrans*, was up to 4 hours.

ENTOMOLOGIST'S COMMENTS AND RECOMMENDATIONS:

Based upon the data submitted, the 15 and 25% DEET subject formulations (1021-RIRI and 1021-1706) are expected to be efficacious for up to 8 hours against mosquitoes. The 7.5% product (1021-RIRO) is not expected to be efficacious for 8 hours against mosquitoes.

Recommendations:

- Label claims of up to 8 hour repellency against mosquitoes are acceptable for EPA Reg. #s 1021-RIRI and 1021-1706. In addition, claims against other biting flies for up to 4 hours remain acceptable.
- Label claims of up to 8 hour repellency against mosquitoes are unacceptable for EPA Reg.# 1021-RIRO. No claims against biting flies are acceptable based upon the data submitted. Data should be submitted or cited for the inclusion of biting flies and time claims on the labeling of this product.
- The subject products are formulated with [REDACTED] as the carrier, not isopropyl alcohol. The registrant must submit confirmatory data using the subject formulations upon request.
- West Nile Virus claims are not acceptable. Claims against mosquitoes that transmit West Nile Virus must be verified by testing against two vectors of the virus, *Culex pipiens*, *Cx. quinquefasciatus* or *Cx. restuans*, and a vector in the genus *Aedes*.

Enclosure
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