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CASWELL FILE

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OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: DEET: Review of a 1-year oral toxicity in dogs

Caswell No.	346	MRID No.	43320101
EPA Case No.	819244	PC Code.	080301
DP Barcode:	D207136	Submission No.	S472821

TO: Jane Mitchell / Walter Waldrop, PM Team 71
Special Review and Re-registration Division (7508C)

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THROUGH: James Rowe, Ph.D. *James N. Rowe 8/1/95*
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and
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Acting Branch Chief
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Toxicology Branch II has been requested to review a chronic oral toxicity study in dogs. This study has been reviewed. The DER is attached, and the citation for the study and conclusion of the review are the following:

Citation: Goldenthal, E.I. (1994) Evaluation of DEET in a one-year chronic oral toxicity study in dogs. International Research and Development Corp.; Study No. 555-021. January 30, 1994. Submitted to EPA by CSMA. EPA MRID No. 43320101

Conclusion: Groups of beagle dogs (4/sex/dose) received DEET in a gelatin capsule at dose levels of 30, 100, or 400 mg/kg/day. The control animals received white mineral oil in gelatin capsule. Each daily dose was divided into two equal administrations. One was administered in the morning, and other was given in the afternoon at one hour following the presentation of food.

Under the conditions of this study, DEET, at dosages of 30 and



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100 mg/kg/day, did not produce systemic toxicity in beagle dogs. However, at 400 mg/kg/day DEET produced the following effects:

1. An increase in the incidence of ptyalism in both male and females. A male and a female dog showed signs of tremor. Most of the clinical signs were observed within 30 minutes after dosing.
2. A decrease in food intake and body weights in males and females during the first 5 weeks of the treatment.
3. A decrease in cholesterol level was seen in males.
4. Gross examination showed an increased incidence of thin males and females.
5. An increase in platelet level in female dogs was also seen.
6. Hyperplasia of uterine epithelium.

Based on the finding of the decreases in food consumption and body weights, an increase in the incidence of clinical signs, and a decrease in cholesterol levels in 400 mg/kg dogs, the LEL for chronic toxicity in dogs is 400 mg/kg; NOEL, 100 mg/kg.

This study meets the data requirements for a chronic toxicity study in dogs (Guideline No. 83-1b) and is classified as minimum.

The report alluded to seeing clinical signs such as unusual head movement, compulsive biting and scratching, and convulsion in dogs which received DEET in gelatin capsules at dose levels of 125 mg/kg or above in two other dose range-finding studies in dogs. Tox. Branch II requests that these studies be submitted for review.

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