

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

003711

DATE: October 14, 1977

SUBJECT: EPA #2724-ETL, Propoxur Flea Collar for Cats Caswell No. 508

FROM: Chan S. L.,
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E 10:05 PM 10/17/77

TO: Mr. Sanders F., PM #12

Other studies presented in support of this registration are evaluated below:

1. Cholinesterase determinations in Cats wearing two 13.7% Propoxur releasing collars. Paul Pruitt and Jim Smith, (1976) Foecon Ind. Inc., Dallas, Texas.

The following design was followed:

<u>group</u>	<u>No. of Cats</u>	<u>Treatment</u>
I	12	placebo
II	8	dichlorvos (4.37% AI)
III	12	2 collars (13.7% A.I.)

Blood plasma and RBC were analyzed for cholinesterase activity on days -8, -5, 0, 2, 4, 7, 14, 21 and 28 of treatment. RBC AChE and plasma ChE were determined by the PH Stat method after centrifugation and separation.

Results:

RBC AChE for (i) Propoxur collared - No effect (ii) DDVP collared - 40% depression

Plasma ChE for (i) Propoxur collared - no effect
(ii) DDVP collared - 250% depression

Evaluation: AChE and ChE assay employed does not, in all probability, measure the enzyme inhibition by a reversible inhibitor such as Propoxur. It is difficult to believe that there is no Propoxur penetration through the skin. DDVP action, on the other hand, is detected because it is essentially an irreversible inhibitor. This study should be repeated.

Classification: not valid.

2. Study on the release of Propoxur from Cat Collars; Kerwin Baxter (1977), Foecon, Dallas, Texas. The study was conducted with cats wearing 4 propoxur collar (9.4% active). Propoxur was measured weekly from collars removed at random, over a period of 16 weeks. The release was found to

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be gradual, up to 56.7% for 16 weeks.

Evaluation: No toxic symptoms were seen on cats. A detailed description of the determination of propoxur release should be given.

Note: (i) No IDT Studies.

(ii) EPA #2724-252, -253, -254, may be deficient in the same studies as this product.

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