DATA EVALUATION RECORD

(1) CHEMICAL: Trichlorfon

(2) TYPE OF FORMULATION: Active ingredient

(3) CITATION: Buruiana, L.M., Lozinschi, A., and Badescu, C. 1972. The persistence in the blood of hens of organophosphoric compounds, applied by different ways. Wiad. Parazytol. 18:697-702

(4) REVIEWED BY:

Donald L. Hill
Staff Scientist
Southern Res. Inst.
Birmingham, Alabama
(205) 323-6592

Signature: _____

Date: _____

Duncan Turnbull
Staff Scientist
Clement Associates
Washington, D.C.
(202) 333-7990

Signature: _____

Date: _____

(32A-0101)

(5) APPROVED BY:

Signature: _____

Date: _____

(6) TOPIC: This study has information pertinent to discipline toxicology, topic metabolism. It relates to the Proposed Guidelines data requirement 163.85-1.

(7) CONCLUSION: Although the quantitative data in this manuscript cannot be relied upon, evidence is presented that suggests that trichlorfon and/or its metabolites that inhibit acetylcholinesterase persist in the blood of hens for 2-3 days after oral dosing and for 14-21 days after external application.

CORE CLASSIFICATION: Not applicable

(8) MATERIALS AND METHODS:

Three groups of crossbred Plymouth hens, 3 months old, were used. Assays of trichlorfon and its active metabolites were accomplished by measuring the inhibition of acetylcholinesterase according to a published procedure (Buruiana and Lozinschi. 1970. Simp. de Organofosforice, Cluj (IDT), 1-4 October; Buruiana, Lozinschi, and Badescu. 1970. Conf. Nat. de Alim., Galati, 21-23 September).

Experiment A: Trichlorfon was fed with the food, as a single dose, to two groups of 10 hens. In the first group, the dose was 50 mg/kg, in the second 100 mg/kg.

Experiment B: Trichlorfon (100g) was mixed with 500 g talcum and used to dust 10 hens.

Experiment C: A 1% solution of trichlorfon in water was used to spray 10 hens, their cages, and the hall in which they were kept.

(9) REPORTED RESULTS:

Experiment A: Acetylcholinesterase-inhibitory material could be detected in the blood of hens for 48 hours after

dosing with either 50 or 100 mg/kg. None was present at 72 hours. At 2, 8, and 24 hours, the inhibition was stronger after the higher dose.

Experiments B and C: After dusting or spraying hens with trichlorfon, acetylcholinesterase-inhibitory material was present in the blood for 14 days. None could be detected at 21 days.

No overt toxicity was noted in either experiment.

(10) DISCUSSION: The following points make the quantitative data in this study suspect: The purity of the trichlorfon used in this study was not reported; the assay used is not specific (metabolites of trichlorfon inhibiting cholinesterase would also be measured); and it is difficult to estimate the dose applied externally to the hens.

Nevertheless, there is an indication that trichlorfon and/or its metabolites that inhibit acetylcholinesterase remain in the blood of hens for 2-3 days after an oral dose and for 14-21 days after external application.

(11) TECHNICAL REVIEW TIME: 4.0 hours