TOXICOLOGY BRANCH: DATA REVIEW

DRAFT

Caswell No.: 385
Shaughnessy No.: 057901

Chemical: Trichlorfon

Study Type: Neurotoxicity in hens

Citation: Lazarov, V.P. and A. Magat. 1975. Biochemical and physiopathological aspects of acute and moderate-term poisoning of chickens with trichlorfon. Bull. Soc. Sci. Vet. Med. Comp. Lyon 77: 89-96. (Translated from French).

Accession No./MRID No.: NA/GS0104100

Sponsor/Contracting Lab.: ~~NA~~ n/a (published study)

Report No./Date: ~~NA~~ n/a

Test Material: Neguvon (Bayer), purity not stated; prepared as 1% solution in water for oral administration.

Procedures: Two-month old "broiling" hens (1.3 kg) were intubated once at 40, 60 and 80 mg/kg, or for 28 days at 5, 10 and mg/kg/day; serially assayed for serum biochemical values (ChE, alkaline phosphatase, uric acid, proteins, electrolytes); observed for functional effects (appearance, appetite, motor signs, etc.); and certain organs of the acute study (heart, brain, kidneys) examined histologically.

Results: All acute doses of trichlorfon produced labored respiration, muscle weakness, salivation, ~~thrust~~ thirst and appetite depression, but no macroseopic or microscopic lesions in parenchymal organs (other than hyperemia). Dose-related inhibition in ChE were found, as well as ~~decreases in AP,~~ calcemia (but no changes in magnesium), and electrolyte (but no protein) changes. In birds treated sub-chronically, 10 and 20 mg/kg/day depressed ChE, but all doses depressed AP and produced uricaciduria; no changes were found in proteins or electrolytes throughout the 28-day study. Body weights decreased after 14 days, but only at the HDT; no deaths occurred in the subchronic study.

Conclusions: Although biochemical changes (otherwise useful data) were reported, both the acute and the subchronic segments of this study are inadequate in procedures and reporting to qualify as acceptable assays of neurotoxicity in the hen. Delayed neurological effects (acute phase), if any, were not described; and subchronically treated birds were not autopsied. A NOEL = 5 mg/kg may be ~~considered~~ ascertained for repeat dosage.

Core: The study (both acute and subchronic segments) ~~are judged~~ SUPPLEMENTARY. DATA

alkaline phosphatemia and