

US EPA ARCHIVE DOCUMENT

DRAFT

TOXICOLOGY BRANCH: DATA REVIEW

Caswell No.: 385
Shaughnessy No.: 057901

Releasable

Chemical: Trichlorfon (TCF)

Study Type: Subchronic (21-day) neurotoxicity in rats

Citation: Finkiewicz-Murawiejska, L. 1978. The influence of subacute poisoning with the organophosphate insecticide Trichlorfon on morphology of the spinal cord in white rats. Folia Morphol. (Warsz) 37: 135-150.

Accession No./MRID No.: NA/GS0104059

Sponsor/Contracting Lab.: n/a (published article)

Report No./Date: n/a

Test Material: Technical (95%), "administered ... in 0.9% NaCl solution."

Procedures: Group of 21 male Wistar rats (4-5 mo. of age, weighing 220-250 g) were intubated with TCF for 21 days at dose levels of 50, 100 and 250 mg/kg/day. Equal number of animals were sacrificed one and nine days after the last dose, and thoracic segments of spinal cord examined histologically. Groups of 16 and 15 rats served as controls (saline only) for comparison of the 1- and 9-day neuropathological examinations.

Results: No clinical observations were reported throughout the study. Dose-related neuropathological lesions were found in anterior horn motor neurons, neuroglia and blood vessels, evident even at the LDT in 9-day preparations, with extensive tissue damage including obstruction of blood vessels suggesting "ischemic disease" at 250 mg/kg (both 1- and 9-day). Demyelination was found only at the HDT in 1-day preparations, progressively more severe in 9-day preparations. Perivascular inflammatory dilatation ("edema perivascular in the form of spongiosis") and lymphocytic infiltration of blood vessel walls were also observed at all dosage levels.

TB Conclusions: Although the author's statements are contradictory with respect to the NOEL for demyelination (none at 50 mg/kg stated in the results section vs "damage" in discussion), the numerous micrographs indicate no NOEL for neuropathy in this study. No individual animal data were reported.

CORE Classification: Supplementary Data (no NOEL; no clinical observations; summary histopathological data only).

J. Travers
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