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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

MAY 26 1993

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

MEMORANDUM:

SUBJECT: Chlorpyrifos: Review of generic data submission to support reregistration

EPA IDENTIFICATION NUMBERS: Caswell No.: 219AA
P.C. Code: 059101
D.P. Barcode: D188148, D188791
Submission: S435336, S436324

FROM: Robert F. Fricke, Ph.D. Robert F. Fricke 25 May 93
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and

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Registrant: DowElanco

Chemical: Chlorpyrifos (Dursban)

Action Requested: Review range-finding and definitive Neurotoxicity Screening Battery (§81-8) toxicology studies in rat to support reregistration.

1. The following studies were reviewed: Chlorpyrifos: Acute neurotoxicity study in Fischer 344 rats (MRID No.: 426691-01) and Chlorpyrifos: Acute oral toxicity (range-finding) study in Fischer 344 rats (MRID No.: 424954-04)

RESULTS: Male and female Fischer 344 rats were treated once, by oral gavage, with test compound at doses of 0, 10, 50, or 100

mg/kg and evaluated for neurotoxicity on Days 1 (at the peak time of toxicity, approximately 6 hours after dosing), 8 and 15. Systemic toxicity consisted of decreased body weights of animals in the 50 and 100 mg/kg groups. Neurotoxic effects consisted of decreased motor activity on Day 1 through Day 8 (females only). Significant FOB changes were limited to high dose females, of which six out of ten could not perform the landing hind leg splay on Day 1 of the study. Grip performance on Day 1 revealed a possible treatment-related decrease with increasing dose. Neuropathological examinations did not reveal any treatment-related effects.

2. Conclusions: The systemic and neurotoxic NOEL and LOEL are as follows:

	NOEL	LOEL
Male and Female	10 mg/kg (LDT)	50 mg/kg (MDT)

LOEL is based on decreases in both body weight and motor activity and increased incidence of adverse clinical signs consistent with organophosphorus intoxication.

CLASSIFICATION: core - supplementary; study did not include positive controls.