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

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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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**THRU:** Jess Rowland *Jess Rowland 5/25/93*  
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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



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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:

	<u>NOEL</u>	<u>LOEL</u>
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.