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

MAR 29 1994

MEMORANDUM

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

SUBJECT: Review of Draft Risk Characterization Document Prepared by California for Whip®.

FROM: Charles Lewis
Special Review and Registration Section II

TO: S. Willett
Chemical Coordination Branch (7509C)

THRU: Mark I. Dow, Ph.D., Section Head
Special Review and Registration Section II

Larry C. Dorsey, Chief
Occupational and Residential Exposure Branch
Health Effects Division (7509C)

The Occupational and Residential Exposure Branch (OREB) has been requested by the Chemical Coordination Branch (CCB) to provide an immediate assessment of a draft risk characterization prepared by California for Whip® (fenoxaprop-ethyl). Only major discrepancies in the worker assessment were to be addressed.

California relied on two surrogate studies to derive the unit of exposure values for Whip®. The time CCB allowed for OREB to conduct this evaluation did not permit a detailed analysis of these two studies. Consequently, OREB utilized the Pesticide Handlers Exposure Database, Version 1.01 (PHED) to estimate exposure to mixer/loaders, flaggers, and applicators.

Based on the use of PHED, OREB's estimates of exposure are similar to those calculated by California.

A comparison of the OREB estimates of exposure and those presented in the California document are contained in TABLE 1.

TABLE 1. Comparison of OREB and California estimates of exposure (μg ai/kg bw/day) for mixer/loaders, flaggers and applicators using Whip® (fenoxaprop-ethyl) on rice with ground and aerial equipment.

	Mixer/loader (μg ai/kg bw/day)		Flagger (μg ai/kg bw/day)		Applicator (μg ai/kg bw/day)	
Equipment type	OREB	CA	OREB	CA	OREB	CA
Ground	1.0	1.0 - 22.0			2.6	1.0 - 22.0
Aerial	7.4	2.9	13.2	43.0	6.6	52.0

Note, OREB used a handler weight of 70 kg in the calculations. California used 75 kg as the handler weight. This difference is not considered significant.

No major discrepancies were noted by OREB during the cursory assessment of the California Draft Risk Characterization Document for Whip®.

DP Barcode: D200928

Pesticide Chemical Code: 128701

EPA Reg. No.:

PHED: Yes; Mixer/loaders for ground-boom and aerial equipment, Run # 16; Applicators for ground-boom equipment, Run # 25; Applicators for aerial equipment, Run # 10; Flaggers, run #26.

CALCULATIONS

Mixer/loaders

Aerial Equipment

7.17 µg/lb ai handled (PHED unit of exposure value, run # 16, for mixer/loader, closed loading, short-sleeved shirt, long pants, wearing gloves) x 72.0 lb ai/day (360 acres at 3.2 oz ai/A = 72 lb ai from CA document) = 516.24 µg ai/day ÷ 70 kg bw = 7.38 µg ai/kg bw/day.

Ground Equipment

7.17 µg/lb ai handled (PHED unit of exposure value, run # 16, for mixer/loader, closed loading, short-sleeved shirt, long pants, wearing gloves) x 9.8 lb ai/day (from CA document) = 70.27 µg ai/day ÷ 70 kg bw = 1.0 µg ai/kg bw/day.

Applicators

Aerial Equipment

6.42 µg/lb ai applied (PHED unit of exposure value, run # 10, for aerial applicator, long-sleeved shirt, long pants, wearing gloves) x 72.0 lb ai/A = 462.24 µg ai/day ÷ 70 kg bw = 6.6 µg ai/kg bw/day.

Ground Equipment

18.86 µg/lb ai applied (PHED unit of exposure value, run # 25, for ground-boom applicator, open cab, long-sleeved shirt, long pants, wearing gloves) x 9.8 lb ai/A = 184.83 µg ai/day ÷ 70 kg bw = 2.64 µg ai/kg bw/day.

Flaggers

12.81 µg/lb ai applied (PHED unit of exposure value, run # 26, for short-sleeved shirt, long pants, wearing gloves) x 72.0 lb ai applied = 922.32 µg ai/day ÷ 70 kg = 13.18 µg ai/kg bw/day.

Note, OREB used a handler weight of 70 kg in the calculations. California used 75 kg as the handler weight. This difference is not considered significant.

cc: C. Lewis, OREB
Correspondence File
Chemical File (128701)
Circulation