2/10/81

FILE COPY

Date Out EFB: FEB 10 1981

To: Product Manager 16 Miller
TS-767

From: Dr. Willa Garner III
Chief, Review Section No. 1
Environmental Fate Branch

Attached please find the environmental fate review of:

Reg./File No.: 239

Chemical: Naled

Type Product:

Product Name:

Company Name: Chevron

Submission Purpose: data submission

ZBB Code: ?

ACTION CODE: 400

Date in: 11/6/80

EFB # 669

Date Completed: FEB 10 1981

TAIS (level II)	Days
67	1

Deferrals To:

_____ Ecological Effects Branch

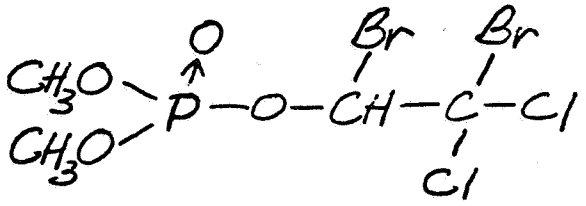
_____ Residue Chemistry Branch

_____ Toxicology Branch

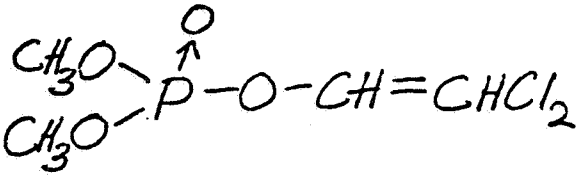
1.0 Introduction

Chevron Chemical Co. has submitted soil mobility data for Naled and dichlorvos (DDVP).

Naled = 1, 2-dibromo-2,2-dichloroethyl dimethyl phosphate



Dichlorvos



2.0 Discussion of Data

2.1 "Mobility of Naled and Dichlorvos in Soil as Determined by Soil Thin-layer Chromatography, "D. E. Pack, Chevron Chemical Co., Agricultural Chemical Division, Richmond, CA., August 29, 1980, Accession No. 243547.

Materials and Methods

Four soils of widely varying properties (see Table 1) were sieved at 100 mesh, mixed with water and applied to 8x8 inch glass plates at 250 um thickness. After air-drying, ^{14}C-labelled Naled DDVP, and two reference chemicals; paraquat (immobile) and acephate (mobile) were applied to the plates. The plates were developed to 10 cm with deionized water, and autoradiograms were prepared to visualize the test chemicals.

Results

The results are listed in Table 2. According to the Helling and Turner classification, Noled has intermediate (class 3) mobility, while dichlorvos is mobile (class 4).

Conclusions

This is a valid study which satisfies EFB soil mobility requirements under section 163.62-9 for non-aged residues.

TABLE 1

Classification, Properties and Source of Soils Used for Thin-Layer Chromatograms

Soil Classification (Series, Texture)	Blendon sandy loam	Nicollet clay loam	Oakley loamy sand	Stockton adobe clay
pH	5.6	7.2	7.3	4.5
% organic matter	1.4	6.7	1.4	2.4
% sand	68	23	85	28
% silt	16	40	6	26
% clay	16	37	9	46
Water Holding Capacity (%)	13	38	2.4	34
Cation Exch. Cap. (meq/100 g)	7.5	21	7.5	25
Field Source	Merrick County NE	Dallas Center IA	Oakley CA	Biggs CA

TABLE 2

Frontal R_f Values Found

Compound	Frontal R_f			
	Blendon sandy loam	Nicolett clay loam	Oakley loamy sand	Stockton adobe clay
Naled	0.48	0.28	0.41	0.48
Dichlorvos	0.80	0.56	0.80	0.80
Paraquat	0.02	0.02	0.02	0.02
Acephate	0.93	0.88	0.97	0.93

3.0 Executive Summary

In a variety of soils, Naled displays intermediate mobility and its degradate (also an insecticide) dichlorvos is mobile.

4.0 Recommendations

Despite propensity for leaching, Naled and dichlorvos do not appear to constitute a groundwater contamination hazard due to rapid (t 1/2 <1 day) soil dissipation.

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