

Shaughnessy No.: 035001

Date out EAB: 14 MAY 1984

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To: William Miller
Product Manager 16
Registration Division (TS-767)

From: Lionel A. Richardson, Chief
Environmental Chemistry Review Section 3
Exposure Assessment Branch
Hazard Evaluation Division (TS-769c)

Attached, please find the EAB review of:

Reg./File No.: 241-75

Chemical: Dimethoate

Type Product: Insecticide

Product Name: Cygon

Company Name: American Cyanamid

Submission Purpose: Review protocol re: ¹⁴C label location

ZBB Code:

Action Code: 656

Date In:

EAB No.: 4274

Date Completed:

TAIS (Level II) Days

Deferrals To:

62

2.0

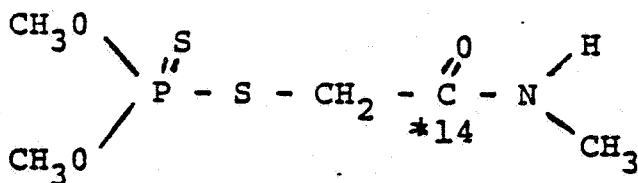
Ecological Effects Branch

Residue Chemistry Branch

Toxicology Branch

1.0 INTRODUCTION

Cyanamid has requested comment on their proposed ^{14}C -labeling position for dimethoate for testing and as shown below:

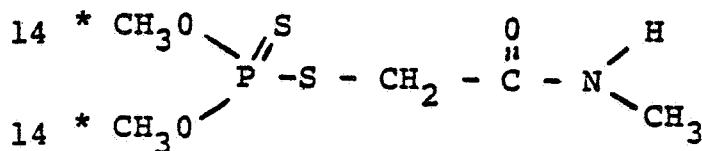


O,O-Dimethyl S-(N-methylcarbamoylmethyl)phosphorodithioate

2. Discussion and Recommendation

Cyanamid argues that this ^{14}C position "would permit the detection of all metabolites/degradates except dimethylphosphorodithioate and its hydrolysis products".

According to Menzie (1969) that would fail to account for approximately 33% of the degradation product(s). Consequently, we recommend dual labeling as follows:



This will permit the detection and accounting of all degradates, whether the desmethyl dimethoate, the dimethyl carboxylic acid, or the dimethyl phosphates.

Hudson Boyd 5/9/84
Hudson Boyd
Chemist



American Cyanamid Company
Agricultural Research Division
P. O. Box 400
Princeton, NJ 08540
(609) 799-0400

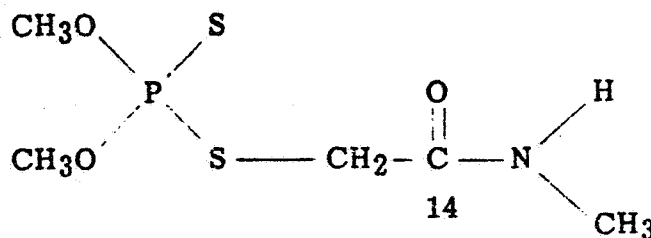
March 22, 1984

Mr. William H. Miller
Product Manager 16
Registration Division (TS-767)
Office of Pesticide Programs
Environmental Protection Agency
Washington, D.C. 20460

Dear Mr. Miller:

The EPA notified American Cyanamid Company of the initiation of the reregistration process for manufacturing use products and certain end use products containing dimethoate as the single active ingredient. Attached to that letter was a registration standard for dimethoate. In Table A, Generic Data Requirements for Dimethoate, under Section 158.130 the EPA required certain studies to be submitted by 4/86.

Many of the required environmental fate studies will have to use C-14 radiolabelled dimethoate. A key question for the validity of the studies is "Where should the C-14 label(s) be placed?", since labeling two different atoms in the dimethoate molecule would double the cost. Therefore, on behalf of the DTF companies, Cyanamid proposes that environmental fate studies be done with dimethoate labelled as follows:



We propose this C-14 position because the great majority of compounds of toxicological concern in the degradation scheme shown in the "Initial Scientific and Minieconomic Review of Dimethoate", retain the carbon at the proposed labelling position. One could argue that radiolabelled P would also cover all degradates of toxicological significance, but labelled P has an unacceptably short 1/2 life. The label that we propose would permit detection of all metabolites/degradates except dimethyl phosphorodithioate and its hydrolysis products.

We ask the Agency's concurrence with the C-14 labeling proposal and will defer initiating studies until the Agency provides a decision.

Very truly yours,

R. L. Linkfield, Ph.D.
Registrations Program Coordinator
Global Plant Industry Registrations