

US EPA ARCHIVE DOCUMENT

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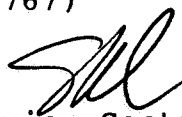
Shaughnessy #: 128821

Date out of EAB: 11/21/84

Init: _____

To: Taylor/Yowell
Product Manager #25
Registration Division (TS-767)

From: Samuel M. Creeger, Chief
Environmental Chemistry Review Section 1
Exposure Assessment Branch
Hazard Evaluation Division (TS-769c)



Attached please find the EAB review of...

Reg./File No.: 241-273

Chemical: AC 243,997

Type Product: Herbicide

Product Name: ARSENAL Herbicide

Company Name: American Cyanamid

Submission Purpose: Review letter on waiver request (EUP on noncropland areas).

ZBB Code: Other

ACTION CODE: 440

Date In: 10/31/84

EAB # 5046

Date Completed: 11/13/84

TAIS (level II) Days

52

1.5

Deferrals To:

_____ Ecological Effects Branch

_____ Residue Chemistry Branch

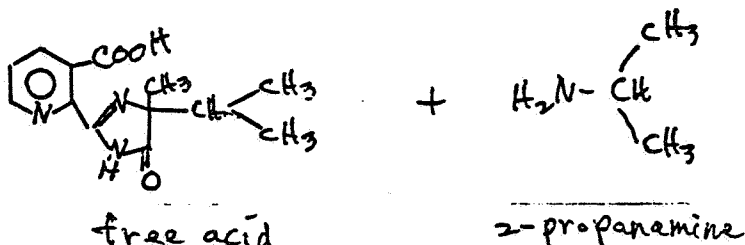
_____ Toxicology Branch

1.0 INTRODUCTION

Chemical Name and Type of Pesticide: CL 243,997; AC 243,997
(free acid; AC 252,925 (2-propanamine/isopropylamine salt)
2- (4-isopropyl-4-methyl-5-oxo-2-imidazolin-2-yl, nicotine acid,
herbicide.

Trade Name: ARSENAL Herbicide:

Chemical Structure:



American Cyanamid is responding to a previous review (21 Mar 1984) of a request for an Experimental Use Permit (EUP) to use ARSENAL Herbicide on noncropland areas.

2.0 DIRECTION FOR USE

See review of 15 March 1984.

3.0 DISCUSSION OF DATA

3.1 No new data submitted.

3.2 Of the data required for an EUP on noncropland area (hydrolysis, aerobic soil, metabolism and fish accumulation), hydrolysis and aerobic soil metabolism data we have reviewed are adequate to support an EUP. Fish accumulation data could be waived with sufficient justification.

3.3 Certain environmental fate parameters are still not adequately defined for registration purposes:

1. Aerobic soil metabolism-an additional study is needed to identify all the soil degradation products. Previous studies monitored parent and CO₂ only.
2. Soil field dissipation-an additional study is needed which includes analysis for those degradates found in the aerobic soil study. Sufficient sampling at sufficient depths to determine extent of leaching must also be done.

3.4 American Cyanamid requests the waiving of fish accumulation data on the basis of the very low octanol/water partition coefficient (1.3) and aqueous photolysis t_{1/2} of 2-5 days.

3.5 They also request waiving the environmental fate data for 2-propanamine, the salt compound of AC 252,925, because the amount of this component being added to the environment from the application of ARSENAL is insignificant compared to the amount already applied.

4.0 RECOMMENDATION

4.1 EAB does not agree to waive the fish accumulation study for this EUP. In the absence of information on the experimental program (Section G), as noted the EAB review of 3/21/84, the very low octanol water partition coefficient of 1.3 is not sufficient basis alone to waive the study, since the parent compound is stable in water and in soil and the parent compound could be taken up by fish and metabolized to compounds that accumulate in fish. If a complete description of the proposed EUP shows no impact on surface aquatic systems by Arsenal, then the study may be waived.

Also, if the EAB evaluation concludes that use of Arsenal will result in residues reaching surface water, then the potential for the aqueous photoproducts to accumulate in fish may have to be studied for purposes of full registration.

4.2 We do not feel that because the proposed use of 2-propanamine is only a small portion of the amount of the chemical being applied by others, it is reason enough to waive data requirements. We have no data on it in our files.

However, we have no objection to the registrant using the open scientific literature, or any other sources, to provide us with some idea of its fate in soil.

It appears to us that as a primary amine, 2-propanamine would undergo oxidative deamination to the aldehyde and then be changed to the secondary alcohol, which might then be incorporated into soil microbes. Verification of this from the literature, along with references, should be provided.

4.3 EAB finds the hydrolysis and aerobic soil metabolism studies adequate to support an EUP on noncropland areas. Information on the fate of 2-propanamine in soil will be needed to support registration.

Hebert L. Manning

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EAB/HED