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Environmental Chemistry Review for Actidone [3-[2-(3,5-Dimethyl-2-oxocyclohexyl)-2-hydroxyethyl]glutarimide]

Petition No. 4G1422

Reg. No. 1023-52
The Upjohn Company 70-15 Ltr. March 5, 1974

I. INTRODUCTION

1. Refer to evaluations of 8/14/72 for specific information as to properties, formulation and other names.

2. Petition contains 70-15 data supporting experimental use of this chemical as a plant regulator.

II. DIRECTIONS FOR USE

Same as in evaluation of 8/14/72.

III. DISCUSSION OF DATA

A. Soil leaching study

1. ^{14}C cycloheximide aged in soil for 30 days prior to elution.

a. Preparation of column packed 12 inches of air dried soil* in 48 mm i.d. glas column

*Composition:

Type	%
Organic matter	6.75
Sand	95.2
Silt	1.4
Clay	3.4

b. ^{14}C cycloheximide is added in 100 gm of dried soil to top of column.

c. Method of elution .5 ml of water was added each day for 45 days and fraction collected.

d. 70.2% of the ^{14}C activity was elnted in the total 45 fractions. Of this none was the orginal chemical by bioassay. 20.8% remained in the soil.

2. ^{14}C cycloheximide added to soil but unaged prior to elution.

   a. column prepared in same manner as for aged soil

   b. sample added likewise

   c. Method of elution: 46 ml of water is added to column each hour for 20 hours.

   d. 95.8% of the label was contained in the 20 fractions of this 64.5% was the parent compound by bioassay 2.6% of the activity was left, distributed throughout the column

Conclusions:

1. Aging in soil leads primarily to breakdown of cycloheximide
2. Some soil binding is observed.
3. Breakdown is evidenced by loss of biological activity.
4. More leaching occurs if not aged.
5. Leaching does occur in sand.

B. Correction for fish study: Completed in revised report contained in our files. Conclusions were unchanged.

IV. RECOMMENDATION

NAC

8/6/74

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gjl:8/6/74