April 20, 1971

Subject: Opinion for Tolerance
Pesticide Petition Number OF1008
Tolerances for aldicarb and/or its
chotinesterose inhibiting metabolites
sulfone and sulfoxide
Submitted by Union Carbide Corporation
Filed July 27, 1970

To: C. L. Smith, Head
Petitions Control Office

Please refer to the Divisions memorandum of November 2, 1970.

On February 22, 1971, the petitioner responded to the departments memorandum of November 2, 1970.

The revised opinion is favorable for the proposed tolerances.

Mr. Smith send with separate letter and/or with registration on RL basis.

We have reviewed your "Response to comments on Pesticide Petition OF1008 and feel that Items 1, 2, 3 and 5 have been adequately covered.

In regard to Item 4 we do not feel that your data adequately supports your statement that "In spite of solubilities, downward movement or run-off of more than trace amounts of aldicarb or its toxic metabolites does not occur."

In three separate instances leaching studies show that aldicarb can pass through a sandy matrix. To support registration of aldicarb for sugar beets, soil column leaching studies of a more definative nature should be performed.

We would like to see tests whereby it can be assessed how much water would be necessary to cause a break through of the aldicarb. We would like to have this tied in to specific parameters such as column length, field capacity of substrate, breakthrough volumn of non adsorbable anions such as Chloride.

We would perfer that this be an accelerated tests whereby the upward "corporative" loss is minimized as compared to the elution displacement mechanism thoracteristic of the chromalographic process. Perferably, we would like to see the study include at least two comparison pesticides - one leachable (e.9 picloram) and a second fairly non-mobile pesticide.

If, under relatively drastic leaching condition, the pesticide or its major products of interest do not show up in the eluate at fairly high level, a profile of the pesticide level in extruded column material would be necessary.

A comparison study using coarse sand, Lakeland fine sand and a light sandy-loam matrix would be desirable.

To support continued overall registration of the pesticide aldicarb it will also be necessary to supply data requested in PR Notice 70-15. Included in these studies should be field data on leaching in light sandy loam and sandy soil.

Chemicals Evaluation Staff

Aschlosser:RENey:sd 4-20-71

Reevaluation No. 1 of Pesticide Petition
No. OF1008 for Aldicarb (Temik)
Submitted by Union Carbide
Filed July 27, 1970
Revised February 22, 1971

I. Introduction

1. See evaluation dated September 20, 1970.

2. See opinion of November 2, 1970, and certification letter of November 2, 1970.

3. February 22, 1971 petitioner submitted an acknowledgement to our letter of November 2.

1. 1/2 lives. In pp No. OF1008 refers to total aldicarb and metabolites Sec. D, Book I, Part C, A. D-36. In pp9F0798 total sum Sec. D, Book II, Pg. D-57, 61-62. All other reports in 9F0798 separate analyses. Any other petition refer to aldicarb only.

2. Percent recovered on any given component in its percentage of total activity found and not percent of applied does. Soil studies Sec. D, Book I, pg. D-8 para. 2 and 3 is percent of applied does.

3. Data show that bound residues are a consequence of artificial systems and inefficient extraction methods. When soils are subjected to thorough extraction, the unextractable residues are not present in significant levels. Uptake of aldicarb by plants is not influenced by soil moisture levels.

4. Granular formulation is not water soluble. Aldicarb and its oxidation products are water soluble. Union Carbide states that downward movement or run-off does not occur and residue are reveraibly solved. No data on run-off. This statement states that aldicarb and its degradation are bound and reversible and is in disagreement with number 3.

5. Sample of weathered soil residues extracted with on extraction was only increased by 5-100 with the second extraction on almost no increase with 3rd and 4th extraction. It would appear the analytical method would determine weathered residues. (90%) extraced by first extraction.

6. Data has been submitted on soils indicating the following:
6.
1. Can leach in some soils (sand)
2. Can move upward from site of application to soil surface.
3. Can valitalize out of soil
4. Can be held in day soils.