105001

Counter

January 31, 1975

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Attached are our conclusions regarding the persistence and bioaccumulation of counter in aquatic systems.

We will be available to meet with your staff at your convenience to discuss these comments.

Attachment

3 pages

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

SUBJECT: Conclusions Regarding Aquatic Persistence and Bioaccumulation of Counter

DATE: January 30, 1975

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FROM: J. H. Kerby, Ph.D.
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TO: William G. Phillips, Ph.D.
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THRU: Gunter Zweig, Ph.D.
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Our conclusion regarding the persistence and bioaccumulation of Counter and its active metabolites based upon known data at this time is that Counter is registerable for the single use requested. That is, one pound active per acre of the 15G formulation applied once per year in pressed band application for corn rootworm control. Multiple applications or other uses would need further review.

Other Considerations and Recommendations

1. We do have reservations regarding the acute toxicity of Counter to both aquatic and non-aquatic animals. Therefore, better data on the exposure level under actual field conditions is needed. It should be estimated, how much the exposure level will be to other living species in the environment once it has been used.

2. Hydrolysis and photodegradation studies suggest a very short half-life for the parent compound. The soil metabolism data also suggest a rapid breakdown of

Counter. For this reason this compound does not appear to present any persistence problem. However, the metabolites (94,301; 94,302; 94,221 and 94,365) are just as toxic as the parent compound. Therefore, one must know the persistence and fate of these metabolites especially 94,301, which has been identified as the major photolytic product in a pond water study and once formed, degrades at a slower rate than the parent compound in water.

3. Soil dissipation studies also suggest a relatively rapid breakdown of Counter. CL 94,301 is the major toxic metabolite identified in these studies. It would be desirable to know the physical-chemical characteristics fate and movement of CL 94,301 in the aqueous-soil environment.

4. The bio-accumulation studies indicate Counter accumulates 3X to 14X depending upon fish species. This suggests that Counter does not bio-accumulate to any appreciable degree. However, similar bio-accumulation data on major toxic metabolites are needed.

5. Some key environmental data are missing. Such properties as water solubility, vapor pressure, vapor loss and adsorption to soil surface, on Counter are missing. Therefore, such data on Counter and its major toxic metabolites are needed.