

TO: Dewey Smith

FROM: T. G. Grumbles

DATE: December 16, 1987

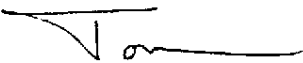
Interoffice
Communication

SUBJ: EPA RESPONSE TO VMC-100 TESTING QUESTIONS

VISTA

Enclosed is the Agency's response to the technical questions regarding the required tests and recommended protocols.

Please give me a call when you have reviewed so that we can discuss our response. As you can see, we need to respond by January 9.


T. G. Grumbles

ajo

Enclosure
.202

cc Carl Kerfoot
Pat Jernigan
Wayne Hilgers
Bill McClain

VVV 000014867



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

DEC 9 1987

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

Thomas G. Grumbles, C.I.H.
Environmental Quality Manager
Vista Chemical Company
15990 North Barker's Landing Road
P.O. Box 19029
Houston, TX 77224
Subject: VMC-100
EPA Reg. No. 56602-1
Your letter of August 13, 1987

Dear Mr. Grumbles:

Your letter has been reviewed. Responses to your questions are contained in the enclosure. Although you requested a time extension, you did not specify a new deadline for submission of required data. Please respond within 30 days with a specific deadline and an indication of which study or studies will be submitted. Finally, you should note that EPA will consider alternative testing for field dissipation studies. If you wish to make such a proposal, you should include it in your next letter. If you have any questions, feel free to call me.

Sincerely yours,

Jeff Kempter
Product Manager 32
Disinfectants Branch
Registration Division (TS-767C)

Enclosure

VVV 000014868



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

December 2, 1987

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

7

—

Dougherty

SUBJECT: Response of questions and concerns of registrant (Vista Chemical Company) about guidelines to be used in designing studies to obtain full registration of VMC-100 Mining Chemicals.

In an EAB review (Dougherty, 10/30/86), two options were given to the registrant: (a) to provide acceptable data for hydrolysis, aerobic soil metabolism, leaching or adsorption/desorption, and soil field dissipation and (b) to submit a protocol for field monitoring studies. A letter from the registrant to the product manager, dated 8/13/87, requests clarification of some issues regarding the Pesticide Assessment Guidelines, Subdivision N. These issues are clarified below.

1. Soil Field Dissipation Studies

In the United States, coals bearing the highest contents of pyrite are located in the Northern Appalachian region. Thus, sites located in States within the Northern Appalachian region and near where high-pyrite coal is mined, processed, or stored will constitute "representative sites".

For soil dissipation studies, the use of radiolabelled test material is not necessary. If used, the site should be confined to prevent contamination of the environment. However, radiolabelled material is preferred for the laboratory-scale studies. In the case

VVV 000014869

of sodium linear alkylbenzene sulfonate (LAS), radiolabelling at the benzene ring is recommended. Note that laboratory studies should precede any field studies, since laboratory studies provide indication of the type of degradates to be expected, and therefore, to be monitored.

An important consideration in the design of field studies are application rate and application frequency as well as the method of application. All of them should be in accordance with the directions specified on the product label. Application rate should be the maximum recommended rate.

Pre-application sampling: One day, but not more than two days, prior spraying LAS. We recommend that the "pest" (Thiobacillus ferrooxidans) population be also determined at this point. If more than one application are required, please refer to GUIDELINES 164-1 (2)-iiiB.

Duration of studies: Four-to-six months, but duration of studies is determined by the persistance of LAS (hydrolysis; aerobic metabolism) and the mobility of LAS and its degradates (leaching and adsorption/desorption studies).

Size of plots: The proposed minor use of VCM-100 is for treatment of coal stored for power-plant usage. A scaled-down storage area should be adequate (such as 5x5 m).

2. Aerobic Soil Metabolism

Because the intended use of LAS differs from common agricultural practices, it is recommended that the soils used are soils typical and representative of the Northern Appalachian region where coals with high pyrite contents are mined, processed, and stored.

Two soils are required for the aerobic soil metabolism studies. One soil should be obtained from near an intended use area and the other one from an actual intended use area (for example, one near a coal-storage site and the other from within the coal-storage site).

Besides the usual description of soil source and characteristics, it is recommended that any coal and pyrite content of the soils be specified and that the type of coal be indicated. Also, the sulfate content and the microorganism population should be included.

Application rate relates to the practical level of application (concentrations) that would enable the identification and measurement of residues in order to determine half-life values.

"0.01 ppm" refers to level at which residues should be identified, when feasible, calculated on basis of recommended application rate.

"Representative residue data" indicates the amounts of parent pesticide and different degradates found, preferably expressed as percentages of the applied radioactivity. Also refer to 160-5 Reporting and Evaluation of Data for further information.

Although TLC may be used as a separation technique, adequate methodology other than TLC should be used to confirm the identity of parent and degradates.

3. Leaching and Adsorption/Desorption Studies

a. Leaching:

Yes, both the unaged and aged studies are required.

Use the two soils used in the aerobic soil metabolism studies and include two other soils representative of the areas of intended use. For aged studies, incubate for periods of time corresponding to the estimated half-life of each soil or thirty days, whichever is shorter. The registrant may wish considering the use of columns longer than 30cm (avoid metal columns). By "measured portions of aged soil" is meant a known weight of the aged soil; include also the height of the packed aged soil.

Residues(parent and degradates) should be identified by methodology other than TLC. Identification of residues is particularly important with the leachates and soil at lower half of column. Also data on pH and sulfate and iron content should be included. Alternatively, mobility of individual main degradates identified in aerobic soil metabolism studies may be tested in adsorption/desorption or column leaching studies (this is the meaning of sentence in 163-1(c)(2)ivC).

b. Adsorption/Desorption Studies

Both, the water used to "presaturate" the column prior to elution and the water used to elute the pesticide should be 0.01 N or M in Ca^{2+} (paragraph 163-1 (c)(2)(v)(C) of GUIDELINES, Subdivision N.

The registrant has also requested the Agency to allow the Company to propose alternative testing for field dissipation studies. The Agency concurs with the registrant's petition.

EAB has no objection to the registrant's request for an extension of the submitted deadlines.