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

FEB 3 1993

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: PP#0F3918 -- SAN-582H (Dimethanamid). Analyses for Sulfonate Metabolite. Revised Analytical Method. Amendment Dated 1/13/93.

DP Barcode: D186860. CB # 11223.

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and

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Health Effects Division (H7509C)

The present submission is responsive to two deficiencies noted in our two memos dated 1/4/93.

Summary of Deficiencies Remaining to Be Resolved

Product Chemistry data gaps.

Conclusions

1. Sandoz has submitted additional analytical data on the forage sample from South Dakota. CBTS now concludes that the sulfonate conjugate of SAN-582H is not likely to be present in field corn grain, forage or fodder at levels exceeding 0.05 ppm.

2. Sandoz has submitted a revised analytical method which incorporates the changes requested in ACB's 12/21/92

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memo.

3. Pending receipt and satisfactory evaluation of product chemistry data, specified in our 1/22/93 memo, CBTS will recommend for the proposed tolerances of 0.01 ppm for residues of parent SAN-582H in/on field corn grain, forage and fodder.

Recommendation

CBTS does not recommend that the proposed tolerances be established. Product chemistry data are still outstanding.

Detailed Considerations

Deficiencies in our 1/4/93 reviews are listed along with Sandoz's response and CBTS' comments.

Deficiency #1 (Conclusion #3 from our 1/4/93 memo [CB # 10763])

> Residue data from field trials held during 1991 and 1992 generally show sulfonate levels <0.05 ppm in corn racs. Higher levels were found in samples from the 1992 South Dakota field trial, but these levels could be due to an interference. Portions of the check sample (0.068 ppm), the preemergence treated sample (0.094 ppm) and early postemergence treated sample (0.101 ppm) should be fortified with the sulfonate conjugate at 0.05 ppm and chromatograms compared with those from the unspiked samples. If we cannot conclude that the peaks in the unfortified samples are due to interferences, it will be necessary to reevaluate the HED Metabolism Committee's conclusions using a sulfonate conjugate level of 0.2 ppm rather than 0.05 ppm.

Sandoz Response

Sandoz has reanalyzed the forage sample from South Dakota. For these analyses a new HPLC column and a new pre-column were installed on the HPLC and a new UV lamp was used. The instrument had recently been serviced. Samples were fortified at 0.05 ppm sulfonate, as requested. Under these new conditions the main interference peak observed in previous analyses shifted to a slightly longer retention time, leaving a smaller peak present at the retention time of the major sulfonate peak. (The sulfonate conjugate is a rotamer giving two HPLC peaks.) Under these circumstances a fortification of 0.05 ppm clearly produces an observable difference in the chromatograms. The increase in peak height from the fortified sample is greater than the original peak from the unfortified one, which implies that even if the interference were the sufonate conjugate itself, the concentration would be less than 0.05 ppm. Based on integration of the peak areas in the unfortified sample, the maximum sulfonate concentration would be less than 0.02 ppm. Sample chromatograms are given as an attachment to this memo.

CBTS Comment

We are convinced that the presence of sulfonate conjugate in

corn forage was lower than 0.05 ppm in the samples analyzed. This deficiency is resolved.

CBTS Deficiency #2 (from our 1/4/93 memo [CBTS # 9978])

> Sandoz should submit a revised version of the analytical method in which ACB's changes are incorporated...

Sandoz Response

A revised analytical method has been submitted. The method is now denoted AM-0884-0193-1. Recommended changes have been incorporated.

CBTS Comment

ACB's 12/21/92 memo, Conclusions 6-10, listed certain changes that should be made in Sandoz's method. These changes have been incorporated in Sandoz's method. One of these changes was deletion of a recovery factor in calculating the residue in mg/kg (Conclusion 9, ACB's report; page 15 of 41, AM-0884-0193-1). Because the recovery factor was deleted, the first line of page 15 should read "Calculate the residue level in a sample ..." rather than "Calculate the (corrected) residue level in a sample..." Because the recovery factor has been omitted, the calculated residue is not a corrected residue. We regard this as a non-substantive change and will make our own correction in the copy sent to the FDA for inclusion in PAM II.

This deficiency is resolved.

Other Considerations

Product Chemistry data gaps still exist, as specified in our 1/22/93 memo. These are solubility in water (Guidelines Reference No. 63-8) and corrosion characteristics (Guidelines Reference No. 63-20).

Attachment: Sample chromatogram from forage analyses.

cc: PP#0F3918, M. Flood, E. Haeberer, RF, SF, Circu. Harvey Hundley (H7503).
H7509C:CBTS:Reviewer(MTF):CM#2:Rm804P:703-305-7990:typist(mtf):2/3/93.
RDI:SectionHead:ETHaeberer:2/3/93:BranchSeniorScientist:RALoranger: 2/3/93.

DIMETHENAMID RIN 2014-93

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