PP# 4407
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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

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OFFICE OF
PREVENTION, PESTICIDES, AND
TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: PP# 4F04407. Sulfentrazone in/on Soybeans. **Results of Petition Method Validation (PMV).** MRID#s 436510-14 and -15. Chemical No 129081. Barcode D223860. Chemical No 129093. CBTS# 16964.

FROM: G.F. Kramer, Ph.D., Chemist
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THRU: E. Zager, Acting Branch Chief
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TO: JoAnne Miller, Product Manager
Dianne Morgan, Team 23 Reviewer
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FMC has submitted an application for a permanent tolerance for the combined residues of the preemergent herbicide sulfentrazone (N-[2,4-dichloro-5-[4-(difluoromethyl)-4,5-dihydro-3-methyl-5-oxo-1H-1,2,4-triazol-1-yl]phenyl]methanesulfonamide) and its major metabolite 3-hydroxymethyl sulfentrazone (N-[2,4-dichloro-5-[4-(difluoromethyl)-4,5-dihydro-3-hydroxymethyl-5-oxo-1H-1,2,4-triazol-1-yl]phenyl] methanesulfonamide) on soybean seed at 0.05 ppm. For inadvertent residues, the petitioner has proposed tolerances (expressed as parent plus the metabolites 3-hydroxymethyl sulfentrazone and 3-desmethyl sulfentrazone [N-[2,4-dichloro-5-[4-(difluoromethyl)-4,5-dihydro-5-oxo-1H-1,2,4-triazol-1-yl]phenyl]methanesulfonamide]) on wheat, corn and rice RACs. The present memorandum evaluates the results of the validation of the method to be used on rotational crops.

On 8/39/95, CBTS requested that ACL perform a PMV on the following method:

Analytical Methodology for the Determination of Sulfentrazone and Its Metabolites in/on Winter Wheat. 3/7/95. By I. Kim. FMC Co.

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MRID# 436510-14.

The results of the PMV and the TMV Pre-review are appended to this memorandum as Attachments 1 & 2.

Results

For sulfentrazone, the average recovery in wheat grain was 76.8 ± 6.8%; in wheat forage, was 92.4 ± 11.4%; and in wheat straw, was 50.4 ± 23.6%. For 3-desmethyl sulfentrazone, the average recovery in wheat grain was 85.0 ± 9.0%; in wheat forage, was 94.5 ± 10.0%; and in wheat straw, was 56.9 ± 21.1%. For 3-hydroxymethyl sulfentrazone, the average recovery in wheat grain was 22.9 ± 10.4%; in wheat forage, was 37.7 ± 12.2%; and wheat straw was not analyzed. One analyst can extract and clean-up 8 samples in 1.5-2 days.

Conclusions

The recoveries of sulfentrazone and 3-desmethyl sulfentrazone residues in wheat grain and forage are acceptable. However, this method does not meet the requirements of the Pesticide Assessment Guidelines for residues of sulfentrazone and 3-desmethyl sulfentrazone in wheat straw or for residues of 3-hydroxy sulfentrazone in all wheat RACs. The following comments were made by ACL in the PMV results (Memo, M. Law 2/28/96):

1) The standards of sulfentrazone and its metabolites are not available from the EPA repository in RTP.

The following additional comments were made by ACL in the TMV Pre-review (Memo, E. Greer, Jr. 9/25/95):

2) Section 1a. should be modified to describe how the commodities are ground up prior to weighing.

3) Sections 1b., 1c., 3b., 3c. and 3d. should be modified to indicate the temperature for the nitrogen evaporation step.

4) Section D. should be modified to indicate that the use of a control sample is not allowed for tolerance enforcement purposes.

5) A complete set of GC/MSD instrument parameters should be specified for the confirmatory technique.

This method will be suitable for enforcement of sulfentrazone and

3-desmethyl sulfentrazone residues in wheat grain and forage once the revisions recommended by ACL are incorporated and a standard of sulfentrazone and its metabolites are available from the Repository.

Recommendations

The registrant should submit standards of sulfentrazone and its metabolites (conclusion 1) along with the appropriate MSDS to the EPA repository in RTP and a revised version of the proposed analytical enforcement method as specified in conclusions 2-5. A new method should be developed for 3-hydroxymethyl sulfentrazone in all wheat RACs and for sulfentrazone and 3-desmethyl sulfentrazone in wheat straw. An ILV of the new method should then be performed. The requirements for analytical enforcement methodology will remain unfulfilled until:

a) receipt of the analytical standards

b) submission of a revised method for sulfentrazone and 3-desmethyl sulfentrazone residues in wheat grain and forage

c) submission of a new method for sulfentrazone and 3-desmethyl sulfentrazone in wheat straw and for 3-hydroxymethyl sulfentrazone in all wheat RACs

d) and completion of a successful ILV and PMV of the latter method.

Attachment 1- Memo, M. Law 2/28/96
Attachment 2- Memo, E. Greer, Jr. 9/25/95

cc (with Attachments): M. Clower (FDA, HFS-335)
cc (w/o Attachment): PP#4F04407, S.F., Kramer, Circ., R.F., H. Hundley (7503W)
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