5-13-96
PP#4407

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

MAR 13 1996

OFFICE OF
PREVENTION, PESTICIDES, AND
TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: PP# 4F04407. Sulfentrazone for Use on Soybeans. Data Waiver Request. MRID# none. Chemical# 129081. Barcode D220548. CBTS# 16430.

FROM: G.F. Kramer, Ph.D., Chemist
Tolerance Petition Team I
Chemistry Branch I, Tolerance Support
Health Effects Division (7509C)

THRU: E. Zager, Acting Branch Chief
Chemistry Branch I, Tolerance Support
Health Effects Division (7509C)

TO: JoAnne Miller, Product Manager
Dianne Morgan, Team 23 Reviewer
Registration Division (7505C)

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.

In a letter dated 10/12/95, FMC has requested a data waiver for conducting additional plant metabolism studies for sulfentrazone.

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RECOMMENDATIONS

CBTS recommends against the data waiver for conducting additional plant metabolism studies. CBTS would recommend in favor of a data waiver for conducting additional plant metabolism studies in support of preemergent uses of sulfentrazone only. For any postemergent use, metabolism studies on the primary crop will be required.

DETAILED CONSIDERATIONS

The nature of the residue in soybeans and rotational crops (barley, radish and lettuce) is considered to be understood (Memos, G. Kramer 9/19/95 and in preparation; PP#4F04407). Sulfentrazone is metabolized via four different pathways: 1) Oxidation of the 3-methyl group to form 3-hydroxymethyl sulfentrazone, followed by further oxidation to form sulfentrazone carboxylic acid which is decarboxylated to 3-desmethyl sulfentrazone. 2) Hydrolysis of the trifluoromethyl group to form desdifluoromethyl sulfentrazone which is oxidized and decarboxylated to form desdifluoromethyl desmethyl sulfentrazone. 3) Hydrolysis of the sulfonamide group to form desmethylsulfonyl sulfentrazone. and 4) Scission of the phenyl and triazole rings to produce methyl triazole. For preemergent uses, CBTS is willing to translate the results of the rotational crop studies to primary crops. Since those studies were done on three diverse crops (barley, radish and lettuce), preemergent uses on all types of crops can be covered by these data.

Based on the results of these studies, CBTS considers the nature of the residue in plants to be understood when sulfentrazone is applied prior to crop emergence. However, the nature of the residue in plants following foliar applications has not been investigated. CBTS thus recommends against the data waiver for conducting additional plant metabolism studies. CBTS would, however, recommend in favor of a data waiver for conducting additional plant metabolism studies in support of preemergent uses of sulfentrazone. For any postemergent use, metabolism studies on the primary crop will be required.

cc: PP#4F04407, Kramer, Circ., R.F.
RDI: TPT1 (3/12/96), R.A. Loranger (3/12/96), R. Perfetti for E. Zager (3/13/96)
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