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

JAN 2 1996

171-4e

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: **Oxyfluorfen.** Storage Stability - Meat, Milk, and Eggs. Reregistration Case No. 2490 Chemical No. 111601 MRID #43813201 DP Barcode D220695 CBRS #16436

FROM: Steven A. Knizner, Chemist
Special Review Section I
Chemistry Branch II - Reregistration Support
Health Effects Division (7509C)

THRU: Andrew Rathman, Section Head
Special Review Section I
Chemistry Branch II - Reregistration Support
Health Effects Division (7509C)

TO: Mark Wilhite, PM Team 53
Accelerated Reregistration Branch
Special Review and Reregistration Division (7508W)

Rohm and Haas Company has submitted storage stability data for oxyfluorfen residues in/on meat, milk, and eggs (MRID #43813201). A livestock feeding study has been previously reviewed by CBRS (S.Knizner, 8/19/94, CBRS #13395, D200532, MRIDs #43152201 and 43152202). The review concluded that, "Samples from the ruminant and poultry feeding studies were stored for up to 12 months prior to analysis. Storage stability data on oxyfluorfen residues in milk, eggs, and tissues are required to support the storage conditions and intervals of these feeding studies."

Tolerances are established for residues of the herbicide oxyfluorfen [2-chloro-1-(3-ethoxy-4-nitrophenoxy)-4-(trifluoromethyl)benzene] and its metabolites containing the diphenyl ether linkage in or on various commodities including: fat, meat and mbyp of sheep, poultry, horses, hogs, goats and cattle at 0.05 ppm; eggs at 0.05 ppm; and milk at 0.05 ppm [40 CFR §180.381 (a)].

(1)

Recommendations

This study adequately fulfills storage stability data requirements for oxyfluorfen residues in livestock tissues and adequately supports results reported in the livestock feeding study. Oxyfluorfen residues were stable in cow muscle and liver for up to 14 months and in milk and eggs for up to 12 months of frozen storage at -10 C.

Detailed Considerations

Analytical Method Method TR 34-94-72 was used for cow muscle and liver analyses. The previous review of the livestock feeding study (S.Knizner, 8/19/94, CBRS #13395, D200532) concluded that based on the submitted radiolabeled validation data, Method TR 34-93-72 does adequately recover oxyfluorfen from muscle, however, this method does **not** adequately recover oxyfluorfen residues from hen liver. Its adequacy in recovering residues of concern from goat liver cannot be determined until the required additional information from the ruminant metabolism study is submitted. Hen liver samples from the metabolism study contained 0.781 and 0.875 ppm oxyfluorfen, but Method TR 34-94-72 yielded results of 0.291 and 0.233 ppm for these samples.

Briefly, the procedure involves extraction of residues with ACN, followed by liquid-liquid partition, silica gel column chromatography for muscle, and florisil column chromatography for liver. Oxyfluorfen residues are quantitated using GC/ECD.

Method TR 34-93-17 was used for milk analyses. The review of the livestock feeding study concluded that this method was adequate. Briefly, the milk sample is homogenized using a Polytron homogenizer, 10% aqueous NaCl is added, followed by extyraction using a hexane/acetone solution (2 times). The extract is then cleaned up using florisil column chromatography. Oxyfluorfen residues are quantitated using GC/ECD.

Method TR 34-93-46 was used for analysis of egg samples. The review of the livestock feeding study concluded that this method was adequate. Briefly, the procedure involves extraction with acetonitrile, liquid-liquid partitions and florisil column chromatography. Oxyfluorfen residues are quantitated using GC/ECD.

NOTE: As stated in a previous CBRS review (S.Knizner, 8/19/94, CBRS #13395, D200532), the residue methods used this study represent a substantial modification of Method II in PAM, Vol. II. Therefore, if the registrant is proposing these methods as tolerance enforcement methods, an independent laboratory validation (described in PR Notice 88-5, dated 7/15/88) of Methods TR 34-93-17, TR 34-93-72 and TR 34-93-46 must be submitted. Non-confidential copies of the methods must also be submitted for Agency validation.

Controls and freshly fortified samples were run with all analyses to validate the analytical procedure. Representative chromatograms were provided for standards, fortifications, and samples. Center Analytical Laboratories, State College, PA, conducted analysis of egg samples; Biodevelopment Laboratories, Cambridge, MA, conducted milk analyses; and Rohm and Haas, Spring House, PA, conducted muscle and liver analyses.

Test System Cow muscle and liver were purchased locally, milk and egg samples used were controls from the livestock feeding study. Processed samples of cow muscle, cow liver, milk, and egg were spiked with 1.0 ppm oxyfluorfen and its isomers (RH-0671, RH2382, and RH-4672) or left unfortified to serve as controls and fresh fortifications. Samples were stored frozen at -10 c. At intervals of 0, 0.5, 1, 2, 4, 6, 8, 19, 12, and 14 months for cow muscle and intervals of 0, 0.5, 1, 2, 4, 6, 8, 19, and 12 months for milk and egg, three aged samples, one control, and two fresh fortifications were analyzed using the methods described above.

Results

Adequate representative chromatograms were provided for controls, fresh fortifications, aged fortifications, and standards. Adequate calibration curves, and raw data used to construct the curves were provided.

Based on data supplied for concurrent recovery samples, the analytical methods used in this study were adequate for determination of storage stability.

Oxyfluorfen residues were stable in cow muscle and liver for up to 14 months and in milk and eggs for up to 12 months of frozen storage at -10 C.

cc: S.F., circ., R.F., List B File, S.Knizner
RDI: A.Rathman, 1/2/96 R.Perfetti, 1/2/96 E.Zager, 1/2/96
H7509C:CBRS:CM#2:305-6903:SAK:sak:oxysto:1/2/96