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MEMORANDUM

SUBJECT: The HED Metabolism Committee Meeting Held on April 4, 1995: Methidathion (MRID Nos. 43399701 and -02, Barcode D210041)

FROM: R. B. Perfetti, Ph.D., Chemist
Tolerance Petition Section 3
Chemistry Branch I: Tolerance Support
Health Effects Division (7509C)

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

TO: Metabolism Committee
Health Effects Division (7509C)

A. Individuals in Attendance:

1. Metabolism Committee: (Signature indicates concurrence unless otherwise stated.)

Karl Baetcke _____

Richard Loranger _____

Michael Metzger _____

Richard Schmitt _____

William Burnam _____

Alberto Protzel _____

Mike Ioannou _____

Paul Chin _____

2. Scientists: (Non-committee members responsible for data presentation; signatures indicate technical accuracy of panel report.)

R. B. Perfetti _____

Melba Morrow _____

3. Metabolism Committee Members in Absentia: (Committee members who were unable to attend the discussion; signatures indicate concurrence with the overall conclusions of the committee.)

B. Material Reviewed:

The Committee considered the cholinesterase inhibiting potential of methidathion and its identified metabolites as well as the levels of each compound observed in the plant and livestock metabolism studies. Residues of parent are higher than any metabolite in citrus, alfalfa and beans. Also, no residues of methidathion sulfide, sulfoxide or sulfone were observed in plant matrices. Low levels of methidathion <5-32 ppb) were observed only in fat matrices in livestock at dose rates of 10 to 110 times the maximum theoretical dietary burden for poultry and ruminants.

C. Conclusions:

The Metabolism Committee concluded that;

1) The cholinesterase inhibitors observed in the metabolism studies were parent, oxon and the desmethyl metabolite.

2) The oxon is present at levels considerably less than the parent and since it is a rat metabolite its toxicity would have been accounted for in the TOX studies. The desmethyl metabolite would likely be a significantly less potent cholinesterase inhibitor compared to the parent or oxon. Therefore, risk assessment using parent only will adequately account for risks resulting from all cholinesterase inhibiting metabolites and only the parent compound need be included in the tolerance expression.

3) The sulfide, sulfoxide and sulfone metabolites are not considered to be cholinesterase inhibitors.

Based on these considerations, the Committee decided that the residue to be regulated in plants and livestock is parent compound only and that, since no real levels of cholinesterase inhibitors are expected in livestock commodities under the present theoretical maximum dietary burden, this is considered to be a 40 CFR 180.6(a)(3) situation with respect to livestock commodities and therefore the present tolerances in/on these commodities can be revoked.

(Note: The Registrant should be advised that the conclusion above regarding the need for tolerances on livestock commodities requires that the registrations/tolerances on alfalfa, clover and grasses are canceled/revoked. Any additional uses resulting in residues of methidathion in/on livestock feed items may engender the need for tolerances in/on meat, milk, poultry and eggs.)

cc: RBP, B. O'Keefe/SRRD, Methidathion Reg. Std. File, RF, SF, Metabolism Committee File, Signers Above.