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

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HEALTH EFFECTS DIVISION
SCIENTIFIC DATA REVIEWS
EPA SERIES 361

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OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: **Thiabendazole Reregistration.** List B Chemical No. 060101; Case No. 2670. Merck & Co., Inc. Response to the Product Chemistry Data Requirements Regarding Stability (Guideline # 63-13). (MRID No. 431728-01; CBRS No. 13697; DP BARCODE: D203296)

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THRU: William J. Hazel, Ph.D., Section Head W. J. Hazel
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Merck & Co., Inc. has submitted data (MRID 431728-01) regarding the stability (GLN No. 63-13) of the 98.5% Thiabendazole TGAI/MP (EPA Reg. No. 618-67) to metals and metal ions.

Thiabendazole 98.5% T (EPA Reg. No. 618-67) and a reference substance with 99.7% purity were used in this study. The report indicated that 1% slurries of thiabendazole T (concentration of 10 mg/mL) were mixed with 1000 ppm metal ion solutions (Sn^{+2}, Al^{+3}, and Fe^{+3}) in amber bottles with polysealed caps. The solutions were placed in 25 and 50° C environmental chambers for 24 hours. The samples were analyzed at zero and 24 hours using HPLC/UV detector at 254 nm. The results (see table below) indicated that the

concentration of Thiabendazole in the presence of Sn^{+2}, Al^{+3}, and Fe^{+3} at 25 °C and 50 °C did not change with time, regardless of temperature.

Metal ion	TBZ/(mg/ml) Initial	24 hr, at 25 °C	24 hr, at 50 °C
Al^{+3}	9.94	9.84	9.75
Fe^{+3}	9.72	9.84	9.82
Sn^{+2}	9.57	9.69	9.72

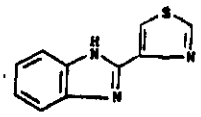
A sample HPLC chromatogram for thiabendazole was provided.

The registrant also indicated that a soil photolysis study using uniformly phenyl-ring labeled ^{14}C-thiabendazole (MRID 41397301 and 413973-02; submitted to satisfy N-161-3). This experiment indicated that thiabendazole is photolytically stable at 25 C on the surface of soil when exposed to a Xenon arc light source.

CBRS Comments:

The data gap regarding stability of Merck's 98.5% Thiabendazole T/MP (EPA Reg. No. 618-67) to metals and metal ions is satisfied. No additional data are required.

The structure of Thiabendazole is given below:



cc: Thiabendazole S.F., R.F., F. Toghrol, List B File, F. Chow (HED/CCB).
RDI: R.B.P(6/17/94): W.J.H (7/11/94): M. M(7/12/94) E. Z(7/12/94)
7509C:CBRS:F.Toghrol:F.T.:RM:804B:CM#2:(703)305-7887:6/10/94.

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