US EPA ARCHIVE DOCUMENT

C. Furlow
PIB/FOD

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

MAY 24 1990

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: LA-900006. Mancozeb*. MANEX II (EPA Reg # 352-398-1812). Spent Soak Water on Rice Fields.
No MRID #. DEB # 6563.

FROM: Leung Cheng, Chemist
Special Registration Section II
Dietary Exposure Branch
Health Effects Division (H7509C)

THRU: Francis Suhre, Section Head
Dietary Exposure Branch
Health Effects Division (H7509C)

TO: Jim Stone/Susan Lewis, PM Team 21
Fungicide-Herbicide Branch
Registration Division (H7505C)

*Note to PM: According to the submitted labels, the active ingredient in MANEX II is identical to those in Dithane F-45 and Dithane DF. Therefore, the chemical name (on the "bean sheet") should be mancozeb rather than maneb.

DEB has been asked to determine whether the use of soak water from mancozeb-treated rice seeds to rice fields in which mancozeb-treated seeds have been planted is a food use. Mancozeb is the coordination product of zinc and manganese ethylenebisdithiocarbamate.

Currently, there is no established tolerance for residues of mancozeb in or on rice even though mancozeb may be used for treatment of rice seed. The Residue Chemistry chapter (8/15/86) did conclude that seed treatments are no longer automatically considered to be non-food uses, and appropriate data reflecting seed uses are required.

The SLN label for MANEX II (EPA Reg # 352-398-1812), under DIRECTIONS FOR USE, states "Apply the soak water from rice seed treatment facilities to non-flooded rice fields at a rate not to exceed 75 gallons per acre. Do not make more than one application per field per year. Do not apply to flooded fields. Water in soak

tanks should be replaced frequently, not to exceed 7 days. If pungent odor exists replace water immediately." No details on seed treatment were provided.

Assuming the rice seeds were treated according to the label rate of 0.2 lb ai/100 lbs seed, the disposal of spent soak water in this case would not expose treated seeds/plants to mancozeb beyond the amount permitted on the label from the seed treatment use. The registered label for Manex II was not provided by the PM.

However, in response to seed treatment residue data gap, Rohm and Haas Company submitted a study on the treatment of rice seed with radiolabeled mancozeb (MRID # 408697-17). Briefly, rice seeds were mixed in a slurry with carbon-14 mancozeb on a rotary shaker to ensure uniform coating of the seeds. The rate used was 4 oz ai/100 pounds of seed; the current labels permit 3.2-6.4 fl oz Dithane F-45 or 2.1-4.3 oz Dithane DF (0.1-0.2 lb ai) per 100 pounds of seed. Treated seeds were planted and samples of rice grain, stems and leaves were collected at harvest for radioanalysis. The grain and leaves had no detectable activity (<0.01 ppm), but the rice stem fraction had 0.08 ppm activity.

Also in response to the seed treatment data gap, a study was submitted in which magnitudes of mancozeb and ETU residues in rice grown from mancozeb-treated seeds were determined (MRID # 410918-01). Briefly, treated rice seeds (0.2 lb ai/100 lbs seed) were grown to maturity in PA and MS. However, due to the severe drought conditions at both trial locations, no rice grain was produced. Mature straw at the MS site had no detectable residues (<0.05 ppm mancozeb and <0.01 ppm ETU) but residues of 0.13 ppm mancozeb and 0.03 ppm ETU were found in the PA rice straw.

Both the radiotracer study and the field trial study show uptake of mancozeb residues to the aerial part of the rice plant. DEB concludes that treatment of rice seeds is a food use, requiring a tolerance and appropriate residue data in support of the tolerance.

CONCLUSIONS AND RECOMMENDATION

The disposal of spent soak water in the proposed use will not expose treated seeds/plants to mancozeb beyond the amount permitted from the seed treatment use.

However, both the radiotracer study and the field trial study show uptake of mancozeb residues to the aerial part of the rice plant. Thus, treatment of rice seeds is considered to be a food use, requiring a tolerance and appropriate residue data in support of the tolerance .

DEB cannot recommend in favor of LA-900006 since residues of

mancozeb and ETU are expected in rice grain grown from mancozeb-treated rice seeds regardless of the disposal of spent soak water onto treated rice fields.

DEB could conditionally recommend in favor of this 24 (c) use if the registrant were to submit a petition and progress toward a tolerance for residues resulting from mancozeb seed treatment use on rice, including this 24 (c) use.

cc:Circ, RF, Section 24 (c) F, Cheng, FOD/PIB
RDI:SHummel:5/21/90:EZager:5/22/90
H7509C:DEB:CM#2:Rm810:Cheng:5/11/90:1: