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

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OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: LA-900002 & 900003. Mancozeb. Spent Soak Water
on Rice Fields. No MRID #. DEB # 6588, 6589.

FROM: Leung Cheng, Chemist *L. Cheng*
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THRU: Francis Suhre, Section Head *Susan V. Humpal acting for*
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TO: Jim Stone/Susan Lewis, PM Team 21
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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. Mancozeb may be used for seed treatment of rice. However, the Residue Chemistry chapter (8/15/86) concluded that seed treatments are no longer automatically considered to be non-food uses, and appropriate data reflecting seed uses are required.

Two SLN labels were submitted, one for Dithane DF (EPA Reg # 707-180) and the other for Dithane F-45 (EPA Reg # 707-156). Both labels permit 0.1-0.2 lb mancozeb be applied to 100 pounds of rice seed for early season control soilborne seedling disease. The fungicide may be applied to dry rice seed with conventional slurry or mist seed treatment equipment. Before aerial planting, the treated seed should be soaked in water to promote rapid plant establishment which assists in weed control.

Additionally, under SOAK TANK WATER INSTRUCTIONS, both labels describe the disposal of spent soak water. Water in the soak tanks should be replaced frequently (not to exceed 6 days of soaking, if

odors exist the water shall immediately be replaced). Spent soak water must be uniformly applied across treated rice seed at a planting location. **DO NOT APPLY (A) MORE THAN 75 GALLONS OF SPENT SOAK WATER PER ACRE, (B) MORE THAN ONCE TO A GIVEN SITE OR (C) TO A FLOODED RICE FIELD.**

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.

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 the PA rice straw sample contained 0.13 ppm mancozeb and 0.03 ppm ETU residues.

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 on the label 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-900002 and LA-900003 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 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
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