2,4-D/TOX (48)

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

5-7-81

~~MAY 15 1981~~

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OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

Caswell 315

DATE: MAY 7 1981

SUBJECT: IR-4 Requested PP 7E 1980 2,4-D on millet grain at 0.5 ppm and 20 ppm on millet straw.

FROM: Henry Spencer, Ph.D.
Review Section #1
Toxicology Branch/HED (TS-769)

Desk 5/11/81

Dup Rec RBJ 5/12/81

TO: Clinton Fletcher PM #43
Registration Division (TS-767) RBJ 2ZB

Petitioner: IR-4
C.C. Compton, Coordinator
Rutgers University
New Brunswick, New Jersey 08903

Conclusions and Recommendations:

1. TOX Branch concludes that the IR-4 proposed alternate use of the propylene glycol butyl ether ester of 2,4-D can be toxicologically supported.

2. Prior tolerances exist on grain crops, at 0.1 ppm wheat barley oats and rye at 0.5 ppm. Resultant tolerances exist for meat, milk, poultry and eggs. Residue Chemistry Branch has determined that residues in these foods which result from the proposed use on millet are adequately covered by the existing tolerances (memo of J. Onley, R.C.B. dated 12/8/77 re: PP 7E1980).

3. The ADI will not be exceeded by the proposed use. The TMRC will not increase since this is not a direct food use for humans.

4. Data gaps do exist for 2,4-D, but are presently being filled by industry.

5. TOX Branch does not consider the contamination of 1 ppb of possible nitrosamine residue to be a significant health hazard in this use pattern.

Comments:

TOX Branch is aware of dermal absorption data suggesting that the amine salts of 2,4-D are absorbed to a much greater degree than is the acid or PGBE ester (personal comm. with Dr. C. Franklin, Health and Welfare, Canada). Dermal absorption data has been included in the SPRD/HED. 3.c.2.b. request on 2,4-D to industry.

The majority of the data gaps are currently being filled by industry through the 3.c.2.b. letter.

Data considered for this petition is referenced as a summary from the review of R. Engler, TOX Branch dated 10/11/77 and is not specific for either the PGBE ester or the alkanolamine salt.

Oral LD_{50} rat 300-470 mg/kg
113 day rat feeding study NEL 300 ppm
90 day dog feeding study NEL 400 ppm
2 year rat feeding study NEL 1250 ppm
2 year dog feeding study NEL 500 ppm
rat 3 generation reproduction study NEL 500 ppm
rat teratology no terata at 25 mg/kg
hamster teratology no terata at 40 mg/kg
teratology on 2,7-dichloro dibenzo
dioxin (rat and hamster) no terata at 2 mg/kg
22 week cattle feeding NEL 50 mg/kg
carcinogenicity screen (mice)
Bionetics no carcinogenicity