JUN 1 0 1981

OFFICE OF
PESTICIDES AND TOXIC SUBSTANC

MEMORANDUM

DATE: June 10, 1981

SUBJECT: PP#OF2413/OH5275; Thiodicarb (Larvin) in/on Cotton and Soybeans
          CASWELL #900AA

FROM: William Dykstra, Toxicologist   _WAD for LDC 6/10/81_
          Toxicology Branch, HED (TS-769)

TO: Jay Ellenberger (12)
          Registration Division (TS-767)
                  and
          Residue Chemistry Branch
          Hazard Evaluation Division (TS-769)

THRU: Chris Chaisson, Acting Chief
          Toxicology Branch, HED (TS-769)

Recommendations:

The journal article entitled "Prevention by Arginine Glutamate of the
Carcinogenicity of Acetamide in Rats", Weisburger et al. Toxicol.
Appl. Pharmacol. 14, 163-175 (1969), has been reviewed and used for
an oncogenic one-hit risk assessment as shown below:

Dietary levels of 2.5% acetamide to male Wistar rats for periods up
to 15 months produced the following results for liver tumors:

              Dose - 0 mg/kg/day   1250 mg/kg/day
              Response - 0/11   12/24
              Incidence - 0   0.5

Abbott's Correction

$$P = \frac{0.5-0}{1-0} = 0.5$$

$$B = \frac{1}{1250 \text{ mg/kg/day}} \times 7^* \times \ln\left(\frac{1}{1-0.5}\right)$$

*Rat to Human Conversion Factor

$$B = .00388 \text{ mg/kg/day}^{-1}$$

Dietary Exposure

$$\text{TMRC} = .002 \text{ mg/kg} \times 1.5 \frac{\text{kg}}{\text{day}} \times \frac{45.25}{100} = .001357 \text{ mg/day}$$

For a 60 kg person, dietary exposure to acetamide is 2.263×10^{-5} mg/kg/day

Risk

Risk = B x Dietary exposure

Risk = 3.88×10^{-3} mg/kg/day^{-1} x 2.263×10^{-5} mg/kg/day

Risk = 8.78×10^{-8}

Toxicology Branch considers the calculated risk of 8.78×10^{-8} to be within the limits of acceptability and recommends that the residues of acetamide in the commodities found not require further regulation or inclusion in the tolerances for Thiodicarb.

TS-769:th:TOX/HED:WDyksrta:6-10-81:#2