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

MAY 3 1988

Memorandum

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

Subject: DDVP Dietary Exposure Assessment; Availability of residue chemistry data; No MRID No., RCB No. 3718, 3719, and 3720

From: Francis B. Suhre, Chemist
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Thru: Edward Zager, Section Head
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To: Anita Schmidt, Review Manager
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In a recent memo to RD (F. Suhre, RCB, to A. Schmidt, RD; memo dated 4-28-88), RCB recommended that naled be considered in connection with the Special Review of DDVP. In light of that recommendation, we have screened the DDVP and naled residue data in our files to determine the availability of data for conducting a DDVP dietary exposure assessment.

DDVP: Residue data for DDVP are available in the following petitions:

8F0706	RAC, non-perishable (bag and pkg) 6% fat or less (post-H) RAC, non-perishable (bag and pkg) 6% fat or more (post-H)
9F0788	Meat, fat, and meat by-product of cattle, goats, hogs, horses, and sheep; and milk.
0E0875	Cucumbers, Radishes, Tomatoes (pre/post harvest), lettuce
1F1059	Meat, fat, and meat by-product of poultry; and eggs.
1E1100	Mushrooms

1F1132	RAC, non-perishable (bulk storage) post-H
1E2510	Figs

The residue data submitted in conjunction with these petitions are discussed in the Residue Chemistry Chapter of the DDVP Registration Standard (1-28-86). Data gaps, likely to affect the uncertainty of a DDVP dietary exposure assessment, include:

i. Animal metabolism studies, reflecting direct treatment of livestock (beef and dairy cattle, poultry, swine, goats, and sheep) with DDVP.

ii. Stability studies reflecting commercial transport and storage of agricultural commodities treated pre/post harvest with DDVP. Data reflecting ambient storage of flour and pinto beans, and frozen storage of sorghum, figs, and swine tissue fortified with DDVP are available; however, data reflecting refrigerated storage of fresh vegetables treated with DDVP are not available.

iii. Processing and cooking studies. Cooking data for rice, and wheat flour fortified with DDVP are available; however, processing data for tomatoes containing DDVP residues are not available.

iv. Residue data for crops treated with DDVP. Most of the data submitted in support of existing tolerances are inadequate (DDVP Registration Standard).

v. Residue data for stored RACs, processed commodities (cereal, cookies, crackers, sugar, etc.), and animal feed items treated with DDVP pest strips and DDVP aerosol foggers. Available data do not support the established tolerance (DDVP Registration Standard).

vi. Residue data reflecting use of DDVP in food areas of food handling establishments.

vii. Residue data for meat, milk, eggs, and poultry of livestock receiving direct treatments of DDVP.

NALED: Residue data for naled (combined residues of naled and DDVP) are available in the following petitions:

7F0532	Broccoli, brussels sprouts, cabbage, cauliflower, lettuce, and strawberries Tomatoes, eggplants, peppers, beans, peas, soybeans (dry and succulent), cucumbers, summer squash, melons, pumpkins, winter squash, and rice. Oranges, lemons, grapefruit, tangerines, spinach, chard, and turnip tops.
0F0975	Alfalfa, celery, collards, and kale Beans, bean forage, cottonseed, grass, grapes, peaches, soybeans, soybean forage, sugarcane, sugar beets (roots and tops) and walnuts
1F1078	Beans (dry/succulent) hops, peas, soybeans (succulent), safflowerseed, and pea (vines)
1E1100	Mushrooms
1F1111	Meat, fat, and meat by-products of cattle, goats, hogs, horses, poultry, and sheep; eggs;and milk
5F1614	Almonds, and almond hulls
5E3179	Caneberries

The residue data submitted in conjunction with these petitions are discussed in the Naled Registration Standard (6/83). Data received in response to the Naled Registration Standard DCI are discussed in separate RCB memos. Naled data gaps, likely to affect the uncertainty of a dietary exposure assessment for DDVP, include:

i. Animal metabolism studies reflecting direct treatment of poultry with naled.

ii. Stability studies reflecting commercial transport and storage of agricultural commodities treated with naled. Data reflecting frozen storage of citrus and strawberries are available, however, data reflecting refrigerated storage of fruits and vegetables are not available.

iii. Processing and cooking studies. Laboratory simulated processing studies are available for tomatoes and oranges; these studies do not reflect actual processing practices.

iv. Residue data for crops treated with naled. Most of the data submitted in support of existing tolerances are inadequate (Naled Registration Standard). Data on several crops were recently submitted in response to the Naled DCI.

v. Residue data reflecting use of naled in food areas of food handling establishments.

vi. Residue data for poultry and eggs from birds receiving direct treatments of naled.

CONCLUSIONS

Data gaps most likely to affect the validity of a DDVP dietary exposure estimate are those associated with maximum exposure, i.e.:

i. Inadequate residue data for stored RACs, processed commodities, and animal feed items treated with DDVP pest strips and aerosol foggers.

ii. Inadequate metabolism/residue data reflecting direct treatment of livestock (cattle, swine, goats, sheep, and poultry) with DDVP, and poultry with Naled.

RECOMMENDATION

We recommend that a dietary exposure estimate for DDVP (resulting from registered uses of DDVP and Naled) be postponed until the data gaps discussed in our conclusions (see above) are filled. At present RCB could conduct a dietary exposure assessment from registered crop uses (field treatments) of DDVP and naled; however, such an assessment would in all probability underestimate actual dietary exposure.

cc: DDVP/Naled S.F., DDVP/Naled Reg. Std. File; Circu., Reviewer, PMSD/ISB.
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