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

JUN 8 1988

Memorandum

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

Subject: RCB's Response to Public Comments on the PD-1 for DDVP; ID No. 084001; RCB No. 3873.

From: Francis B. Suhre, Chemist
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Thru: Edward Zager, Section Head
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To: Anita Schmidt, Review Manager
Special Review Branch
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The Special Review Branch (SRB) of RD has requested that RCB review all Public Comments to the PD-1 for DDVP; and that any comments containing information/data germane to RCB's involvement in the Special Review of DDVP be discussed.

Of the 18 Public Comments forwarded to RCB, 2 contained residue chemistry data applicable for consideration in a dietary exposure assessment for DDVP. These 2 comments are discussed below:

Public Comment from National Food Processors Association (NFPA)

At EPA's request, NFPA surveyed several of its members with respect to the availability of DDVP residue data in processed foods. A single response (source not specified) was received, as follows:

Vapona (DDVP) 1% dust was applied (1 or 2 times; rate not specified) to binds of tomatoes. Treated tomatoes were graded, washed, and processed into juice (0 to 1 day after final treatment). Processing involved: passing the liquid fraction through a 0.033" screen; bringing the juice to 195°F; transferring the juice to cans; sealing the cans; and cooking the juice in the sealed cans at 212°F for 15 minutes. Samples of juice were assayed for DDVP using Shell Chemical's acetylcholinesterase inhibition-colorimetric method (complete

reference not provided). The analytical results of this study are summarized in Table 1 below:

Table 1: DDVP residues in juice from tomatoes treated with Vapona (DDVP) 1% dust (application rate not specified).

No. of Trts.	Preprocessing Interval	Mean residue DDVP (ppm)
1	0	<0.05 (n=3)
ck	0	<0.05 (n=3)
1	1	0.13 (n=3)
ck	1	<0.05 (n=3)
2	0	0.19 (n=3)
ck	0	<0.05 (n=3)

RCB's comments

The above data indicate that post-harvest treatment of tomatoes with Vapona (DDVP) 1% dust may result in DDVP residues in tomato juice.

Although these data are useful, they do not fulfill the data requirements for a tomato processing study. Please note that lack of an adequate tomato processing study was cited as a data gap in the DDVP Registration Standard (1-28-86). The primary purpose of a tomato processing study is to determine whether pesticide residues concentrate in tomato processed fractions (wet and dry pomace; puree, catsup, and juice); if residues do concentrate then food/feed additive tolerances are required.

RCB anticipates that the above data will be useful for comparison with any future submission of tomato processing data, as requested in the DDVP Registration Standard DCI.

Public Comment from AMVAC Chemical

AMVAC Chemical responded to the PD-1 for DDVP by submitting a 2 page cover letter with 5 Attachments (listed below):

Attachment No. 1: Dichlorvos: Response to the Initiation of Special Review--Rebuttal to the Risk Characterization; 24 pages.

Attachment No. 2:	Dichlorvos: A Response to the EPA Registration Standard Label Requirements--Cancer Hazard Warning and 48-Hour Reentry Interval; 15 pages.
Attachment No. 3:	Dichlorvos: A Review of Carcinogenicity and Mutagenicity Studies; 47 pages.
Attachment No. 4:	Various Exposure Studies Not Cited in the Registration Standard or Position Document; 66 pages.
Attachment No. 5:	Dichlorvos: Response to Initiation of Special Review Benefit Assessment.

In Attachment No. 4 (identified above), AMVAC provided a copy of a paper entitled:

Dichlorvos for Control of Stored-products Insects in Port Warehouses: Low Volume Aerosol and Commodity Residues, R. Cogburn and R. Simanaitis, J. Econ. Entomology, Vol. 68, No. 3, 1975.

This paper discuses DDVP residues on stored commodities (bagged and non-bagged) resulting from the application of DDVP as a low volume aerosol. A rotary-whip applicator was placed at one end of the warehouse and aimed down the center aisle. The warehouse was closed and a concentration of 3-5 ug DDVP/liter of air (ca. 1/15th the maximum registered rate of 100 g/50,000 ft^3) was maintained in the warehouse for four hours. Commodities located ca. 15 and 165 meters from the applicator were assayed for DDVP residues by gas chromatography/flame photometric detection. The results are summarized in Table 2 (taken from the journal article referenced above):

Table 2: Dichlorvos residues in stored agricultural commodities treated with DDVP as a low volume aerosol.

Packaging material	Distance from source (Meters)	Residues after indicated no. of Treatments (ppm)				
		1	2	3	3[a]	3[b]
		Flour				
None	15	0.54	1.32	1.58	0.20	0.01
Burlap	15	0.05	0.16	0.42	0.07	0.01
Cotton	15	1.03	1.69	1.28	0.20	0.04
None	165	0.34	0.36	0.42	0.06	0.02
Burlap	165	0.04	0.03	0.09	0.01	0.01
Cotton	165	0.15	0.19	0.33	0.01	0.01
		Milled Rice				
None	15	0.85	2.34	1.10	0.26	0.01
Burlap	15	0.22	0.50	1.28	0.12	0.02
Cotton	15	0.08	0.51	0.89	0.11	0.01
None	165	0.20	0.45	0.07	0.07	0.01
Burlap	165	0.06	0.22	0.13	0.05	0.01
Cotton	165	0.02	0.19	0.05	0.07	0.01
		Corn meal				
None	15	0.66	2.22	0.90	0.09	0.02
Paper	15	0.02	0.05	0.02	0.02	0.02
None	165	0.18	0.37	0.18	0.02	0.02
Paper	165	0.03	0.02	0.02	0.02	0.02
		Bulgur (parched cracked wheat)				
None	15	0.59	1.47	0.79	0.12	0.02
Paper	15	0.54	1.21	0.62	0.09	0.02
None	165	0.22	0.38	0.20	0.02	0.02
Paper	165	0.19	0.31	0.12	0.05	0.02
		Corn-soya-milk				
None	15	0.77	3.06	1.38	0.13	0.02
Paper	15	0.02	0.02	0.02	0.06	0.02
None	165	0.47	0.73	0.24	0.02	0.02
Paper	165	0.02	0.02	0.02	0.02	0.02

a. Samples drawn 7 days after the 3rd treatment
b. Samples drawn 30 days after the 3rd treatment

RCB's Comments

The above residue data indicate that multiple aerosol applications of DDVP (3-5 ug per liter of air) to stored commodities may result in residues levels above the established tolerance (0.5 ppm) immediately following treatment. In all cases, DDVP residues were below the established tolerance (0.5 ppm) 7 days after the last treatment.

Please note that the lack of adequate residue data for treatment of stored raw agricultural and processed agricultural commodities was cited as a data gap in the DDVP Registration Standard (1-28-86).

RCB anticipates that the above data will be useful for comparison with any future submission of residue data on stored commodities, as requested in the DDVP Registration Standard DCI.

cc: DDVP S.F., DDVP Reg. Std. File; Circu., Kyle Barbehenn (SIPS), Reviewer, PMSD/ISB.
RDI:EZ:6/7/88:RDS:6/7/88
TS-769:RCB:FBS;fbs: 557-1883:CM#2:RM814:6/8/88