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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: Methamidophos (Monitor® 4, EPA Reg. No. 3125-280) on Cauliflower. Amended Registration request for Reduced PHI.
No Acc. Number
RCB #1464

From: Michael S. Metzger, Chemist *Michael S. Metzger*
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Thru: Edward Zager, Section Head, SRS 2 *Zager*
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To: W. H. Miller, PM 12
Registration Division (TS-767C)

Mobay Corporation, Agricultural Chemicals Division, requests amended registration (reduced PHI) for methamidophos [O,S-dimethyl phosphoramidothioate] on cauliflower. The formulation to be used is Monitor® 4, a 4 lbs.a.i./gallon emulsifiable concentrate. Monitor® 4 is an insecticide used on cauliflower to control aphids, cabbage loopers, diamondback moth larvae and imported cabbage worms.

Tolerances are established for residues of methamidophos per se ranging from 0.02 ppm in or on sugar beet roots to 1.0 ppm on a variety of commodities including cauliflower. Numerous tolerances are pending (40 CFR 180.315; 21 CFR 561.277). A Registration Standard has been completed for methamidophos (Residue Chemistry Chapter, 2/12/82).

Monitor® 4 is currently registered for applications to cauliflower at rates of 1 pint product (0.5 lbs.a.i.)/A at 7-day intervals beginning when the plants are small (for preventive programs); or 1 1/2 - 2 pints (0.75-1.0 lbs.a.i.)/A (for control of existing populations; no interval between applications specified). A PHI of 28 days is imposed.

The proposed new use is identical except that a 14-day PHI would be imposed, and the following restriction would be added to the label:

Note: Do not apply more than 10 pints [5 lbs.a.i.] per acre per crop season to cauliflower.

Residue data were generated using Chevron Chemical Company's analytical methods RM-10 and RM-12A-6. The former method can be found in PAM II (Method I) and is considered adequate for enforcement. The macerated raw agricultural commodity is extracted X3 (and filtered) with ethyl acetate. Clean-up is performed on a silicic acid column followed by GLC analysis using a thermionic detector. The limit of detection for this method is 0.01 ppm.

No new residue data were submitted.

Residue data were previously submitted with PP#0F0956 and in response to deficiencies identified in the Registration Standard. These data are summarized in the table below.

Residues of Methamidophos in Cauliflower

<u>Application Rate (lbs.a.i./A)</u>	<u>Number of Applications</u>	<u>Application Method</u>	<u>PHI (days)</u>	<u>Residue (ppm)</u>	<u>Total a.i./A</u>	
1.0	6	Aerial	28	<0.01	6	
			28	0.03-0.05		
	3	Ground	28	<0.01	3	
			27	0.05		
			13	0.09		
			28	0.02		
	5		14	0.11	5	
			28	<0.01		
			28	0.04		
	6		28	0.12	6	
			28	0.02		
	7		14	0.02	7	
			21	<0.01		
	8		14	0.03	8	
			3	0.23		
	9		28	0.07	9	
			21	0.19-0.23		
	15	6		21	0.19-0.23	15
				3	1.20	
	6			3	1.30	6
7				0.67		
0				2.0		
3				0.18		
3				0.59		
7				0.09		
7				0.09		
7				0.09		

(Continued)

(Continuation of Table)

<u>Application Rate (lbs.a.i./A)</u>	<u>Number of Applications</u>	<u>Method</u>	<u>PHI (days)</u>	<u>Residue (ppm)</u>	<u>Total a.i./A</u>				
1.0	12	Ground	0	0.17	12				
			0	0.30					
			3	0.10					
			3	0.14					
			7	0.06					
			7	0.07					
			14	0.05					
			14	0.08					
			2.0	6		Ground	3	2.20	12
							3	2.60	
7	0	2.40		14					
	0	3.20							
	3	0.25							
	3	0.33							
	7	0.19							
	7	0.27							
	0.5	7			Ground		0	0.62	3.5
							0	0.87	
3			0.05						
3			0.10						
7			0.05						
7			0.08						
12			0	0.07		6.0			
		0	0.08						
		3	0.02						
4		4	Ground	3		0.05	2.0		
	7			0.03					
	7			0.04					
	14			0.02					
	14			0.05					
	12			0.08-0.20					

The residue data reflecting aerial applications of methamidophos to cauliflower is minimal (2 samples) and does not reflect the proposed 14-day PHI. However, residues at a 28-day PHI are comparable for ground and aerial applications. Additionally, the residue data for ground applications indicate that it is very unlikely that residues will exceed the 1.0 ppm tolerance as a result of ground applications. Therefore, we conclude that it is unlikely that the 1.0 ppm tolerance for residues of methamidophos on cauliflower will be exceeded as a result of the proposed use (i.e. either ground or aerial applications at the reduced PHI).

Conclusions and Recommendations

Residues of methamidophos resulting from applications of Monitor® 4 to cauliflower as described in the proposed use are not likely to exceed the established tolerance of 1.0 ppm. RCB has no objections to this amended registration.

cc:Methamidophos (Monitor®) S.F., R.F., Amended Use S.F.,
Circu, M.Metzger, PMSD/ISB
RDI:E.Zager:EZ:12/11/86:RDS:12/11/86
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