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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

Memorandum

Subject: Comments on the Draft Federal Register (FR) Notice for Chlordimeform Tolerance Revocation.
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From: Michael S. Metzger, Chemist
Residue Chemistry Branch
Hazard Evaluation Division (TS-769C)

Thru: Edward Zager, Section Head, SRS 2
Residue Chemistry Branch
Hazard Evaluation Division (TS-769C)

To: Patricia Critchlow
Emergency Response and Minor Use Section
Registration Division (TS-767C)

RCB has been asked to comment on a draft Federal Register (FR) Notice which would revoke all tolerances for the insecticide/acaricide chlordimeform except those for cottonseed (5 ppm), cottonseed hulls (10 ppm), eggs (0.05 ppm), milk (0.05 ppm) and for the meat, fat and meat by-products of cattle, goats, hogs, horses, poultry and sheep (0.25 ppm)(40 CFR 180.285; 21 CFR 193.60, 561.80).

Tolerances are established for residues of chlordimeform (N'-(4-chloro-o-tolyl)-N,N-dimethylformamidine) and its metabolites containing the 4-chloro-o-toluidine moiety (calculated as the pesticide) from application of the pesticide as the free base or as the hydrochloride salt. A Registration Standard has not been completed for this pesticide although a draft copy of the Standard (and the Residue Chemistry Chapter) is available. The pesticide is currently undergoing Special Review because of mutagenicity concerns and potentially high applicator exposure.

All registrations for chlordimeform (except for use on cotton) were cancelled more than four years ago, most in the late 1970's. Therefore, it is unlikely that residues will be found in or on raw agricultural commodities (other than cotton which still has current uses and animal products because of intake of residues from cotton-related animal feeds) due to past

applications of the pesticide. Chlordimeform is a systemic pesticide which is rapidly metabolized in highly metabolically-active plant tissue, but slowly metabolized in less metabolically-active tissue such as ripe fruit. The half life of chlordimeform in soil and water is less than 40 days (highly dependent on pH).

No rotational crop restrictions are included on the labels of chlordimeform formulations (including Galecron® 4E, Galecron® SP, CibaGeigy Corporation; Fundal® 4 Emulsive, Fundal® SP, Nor-Am Chemical Company). Considering this as well as the short soil and water half-lives of the chemical, it is unlikely that the pesticide will be persistent in the environment. Crop rotation restrictions are not necessary. Additionally, we conclude that it is unnecessary to establish action levels for commodities for which tolerances for residues of chlordimeform are being revoked.

Since tolerances would be revoked for some animal feed items as a result of this notice, residue intake for animals could be decreased. Therefore, modification of the tolerances for animal commodities would be necessary. Cattle and poultry (hens) feeding studies were submitted with PP#2F1185 (Acc. No. 117447) and reviewed by J. G. Cummings (1/13/72). Cattle were fed 4 ppm, 12 ppm or 24 ppm chlordimeform in their diets for 7-21 days. Samples of muscle, fat, liver and kidney were taken for analysis. No detectable residues (<0.03 ppm) were found in muscle or fat. Other results are summarized below.

ppm in Feed	Days on Feed	Total Residues (ppm) Liver	Kidneys
Control	21	<0.03	<0.03
4	21	0.09	<0.03
12	21	0.38	0.07
24	7	0.45	0.05
24	14	0.53	0.13
24	21	0.50	0.13

Using a cattle diet containing chlordimeform residues only from cotton products and consisting of cottonseeds (25%, 5 ppm tolerance), cottonseed hulls (15%, 10 ppm) and cottonseed soapstock (5%, 5 ppm), the total dietary intake of chlordimeform residues by cattle would be 3.0 ppm. Based on this dietary intake and on the feeding study above, we conclude that residues of chlordimeform and its metabolites are not likely to exceed 0.1 pm in the meat, fat and meat by-products of cattle, goats, hogs, horses and sheep assuming that the only chlordimeform residues ingested by these animals are from cotton commodities. We recommend that these tolerances be reduced to reflect the maximum likely residue values.

The current tolerance for milk (0.05 ppm) is approximately at the analytical method limit of detection. We recommend that this tolerance remain unchanged.

The Residue Chemistry Chapter of the Registration Standard concluded that the metabolism of chlordimeform in poultry is not adequately understood (pp. 11, 14) because no poultry metabolism study is available. A poultry feeding study submitted with PP#2F1185 is summarized below. Hens were fed at 0.25 ppm, 0.75 ppm and 1.5 ppm chlordimeform in their diets for 28 days.

ppm in Diet	Tissue	Residue (ppm)
0.25	Breast	<0.05
"	Fat	<0.05 - 0.12
"	Liver	<0.05
0.75	Breats	<0.05 - 0.06
"	Fat	<0.05 - 0.10
"	Liver	<0.05 - 0.11
1.5	Breast	<0.05 - 0.05
"	Fat	<0.05 - 0.25
"	Liver	0.09 - 0.29

Using a poultry diet containing chlordimeform residues only from cotton products, and consisting of cottonseed meal (10%, 5 ppm tolerance) and cottonseed soapstock (5%, 5 ppm), the total dietary intake of chlordimeform residues by poultry could be 0.75 ppm. The increase in tissue residues with increased in dietary residue consumption in the poultry feeding study is erratic, i.e., the maximum residues for the 0.25 ppm and 0.75 ppm feeding levels are 0.12 ppm and 0.11 ppm respectively. Considering this as well as the absence of a poultry metabolism study, we recommend that the current tolerance of 0.25 ppm for chlordimeform residues in the meat, fat and meat by-products of poultry remain unchanged.

The current tolerance for eggs (0.05 ppm) is approximately at the analytical method limit of detection. We, therefore, recommend that this tolerance also remain unchanged.

Conclusions and Recommendations

RCB concurs with the Chlordimeform Tolerance Revocation FR Notice as written with the added stipulation that the tolerance of 0.25 ppm for the meat, fat and meat by-products of cattle, goats, hogs, horses and sheep be modified to reflect the decreased dietary residue intake by these animals.

We recommend that the tolerance be changed from 0.25 pm to 0.1 ppm.

We recommend that the tolerances for eggs, milk and for the meat, fat and meat by-products of poultry remain unchanged.

cc: Chlordimeform S.F., R.F., Registration Standard S.F., Circu, M. Metzger, PMSD/ISB
RDI:E.Zager:EZ:7/30/87:RDS:7/30/87
TS-769C:RCB:M.Metzger:MM:Rm803a:CM#2:7/30/87