



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

MAY 28 1996

MEMORANDUM

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

SUBJECT: PP# 6F04612: Chlorothalonil: Pesticide petition to establish tolerances on peanut hay and supporting field trial data: Reregistration Case No. 0097: Chemical No. 08190: MRID No. 43843601: DP Barcode D221397: CBRS No. 16720.

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THROUGH: Edward Zager, Chief *Edward Zager*
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TO: M. Clock
Registration Section
Risk Characterization and Analysis Branch
Health Effects Division (7509C)

In response to reregistration data requirements ISK Biosciences has submitted a petition to establish a tolerance of 20 ppm for the combined residues of the fungicide chlorothalonil and its metabolite 4-hydroxy-2,5,6-trichloroisophthalonitrile (SDS-3701) in or on the raw agricultural commodity, peanut hay, and to remove livestock feeding and grazing restrictions from uses on peanuts.

CONCLUSIONS

1. This tolerance proposal, which is in response to Agency requirements (W. Smith; 8/5/95; D194461...), is supported by the data reviewed herein and by data that have already been found acceptable. No further chemistry data are required in support of this proposed tolerance.
2. The label amendment proposed in conjunction with this tolerance petition is acceptable. Contingent upon establishment of the proposed tolerance, all relevant labels should be amended to remove grazing and feeding restrictions on peanut hay.

3. The potential transfer of chlorothalonil residues of concern from treated feed commodities to meat, milk, poultry and eggs has been evaluated previously. Based on present uses of chlorothalonil, including the proposed label changes, the situation can be summarized as follows:
 - a.) No chlorothalonil residues of concern will transfer to poultry or eggs; therefore no tolerances are required for these commodities (W. Smith; 10/14/94; D199685).
 - b.) Only the 4-OH metabolite of chlorothalonil (SDS-3701) has the potential to transfer to meat and milk (W. Smith; 10/14/94; D199685). The registrant has proposed tolerances for residues of SDS-3701 in meat and milk (PP#6F4611) and CBRS has recommended in favor of the proposed tolerances (W. Smith; 3/5/96; D220825).
4. A recent DRES exposure analysis for chlorothalonil uses on food and feed crops (B. Steinwand; 4/23/96) includes anticipated residues for the uses considered here; therefore, another DRES analysis is not needed at this time.
5. The HED Chapter of the Chlorothalonil RED should be revised to reflect the recommendations made in this review.

RECOMMENDATIONS

CBRS recommends in favor of the proposed tolerance of 20 ppm in or on peanut hay. Contingent upon establishment of the proposed tolerance, the registrant should amend labels on all chlorothalonil products that are registered for use on peanuts to delete the following restriction: "Do not allow livestock to graze in treated areas. Do not feed hay or threshings from treated fields to livestock."

DISCUSSION

Field trial data in support of the proposed tolerance on peanut hay (MRID 43843601) are discussed in this section.

Six field trials were conducted in 1991 in OK (1), GA (2), AL (1), FL (1), and NC (1) to determine the magnitude of chlorothalonil, SDS-3701, SDS-46851, hexachlorobenzene (HCB) and pentachlorobenzonitrile (PCBN) on peanut hay following 7 applications of BRAVO 720 at 1.5 pts/A each for a total of 10.5 pt/A (7.9 lb a.i./A). The formulation (Batch # 029249) contained 53.6% chlorothalonil, 0.28 % PCBN and 0.014% HCB. Samples from all field trials were analyzed by Ricerca, Inc., Painesville, OH.

Directions for Use

The proposed tolerance is to support the removal of the restrictions "Do not feed hay or threshings from treated fields to livestock" from the directions for use on peanuts for all of the registrant's chlorothalonil products that are registered for use on peanuts. Field trial data reflect current use patterns of peanuts including a maximum of 7 applications per season at 1.1 lb ai/A and a 14-day PHI.

Analytical Method

Residues of chlorothalonil, SDS-3701, SDS-46851, and impurities PCBN and HCB were extracted from samples, selectively partitioned into an organic solvent and separated by column chromatography. The metabolites SDS-3701 and SDS-46851 were derivatized with diazomethane; all residues were determined by gas chromatography with electron capture detection. The method is adequately documented in the submitted study and is acceptable for determination of residues on peanut hay. Recovery data for chlorothalonil, SDS-3701 and HCB are summarized below in Table 1. The data for SDS-46851 and PCBN will not be considered in this review because the Agency does not consider them to be residues of concern based on present use patterns of chlorothalonil.

The methodology described in the current submission is adequate for residue determinations on peanut hay. Acceptable tolerance enforcement methods are also published in PAM Vol II.

Table 1. Recovery of Chlorothalonil Residues of Concern from Fortified Check Samples of Peanut Hay.

Fortification (ppm)	Recovery Range in % (number of samples)		
	Chlorothalonil	SDS-3701	HCB
0.0005	-	-	94-126 (5)
0.002	-	-	110 (1)
0.005	-	-	98 (1)
0.03	90-123 (6)	83-100 (4)	77- 97 (4)
0.05	-	-	112 (1)
0.10	-	80-88 (3)	-
0.50	-	66-114 (4)	-
1	95 (1)	-	-
5	69-101 (3)	-	-
10	96 (1)	-	-
20	117 (1)	-	-
50	85 (1)	-	-
200	97 (1)	-	-
mean	99 $\pm$ 14	88 $\pm$ 13	103 $\pm$ 14

Storage Stability Data

Samples were stored frozen for 206 to 297 days prior to analysis. These storage intervals and conditions are supported by storage stability data reviewed previously (W. Smith; 8/5/94; D194461).

Magnitude of the Residue

The residue data from six field trial locations are summarized in Table 2, which is adapted from a similar table in the registrant's submission.

Table 2. Summary of Chlorothalonil Residues of Concern in Peanut Hay form Six Field Trials.

Location	Total a.i. " (lb/A)	PHI (days)	Range of Residues (ppm)					
			Chlorothalonil		SDS-3701		HCB	
			min	max	min	max	min	max
Pinehurst, GA	NA ¹	-	ND ²	ND	ND	ND	ND	ND
Meigs, GA	NA	-	1.34	2.83	0.05	0.18	0.00095	0.0012
Grangerburg, AL	NA	-	0.16	0.19	0.01	0.03	0.00039	0.00052
Malone, FL	NA	-	0.01	0.01	0.01	0.01	0.00044	0.00054
Lucama, NC	NA	-	ND	ND	ND	ND	0.00048	0.00056
Eakly, OK	NA	-	0.01	0.05	ND	ND	0.00053	0.00067
Pinehurst, GA	7.9	14	18.25	18.56	0.88	1.04	0.0033	0.0035
Meigs, GA	7.9	14	0.94	1.93	0.23	0.27	0.00070	0.00076
Grangerburg, AL	7.9	14	2.01	4.54	0.26	0.52	0.00084	0.0016
Malone, FL	7.9	14	1.95	6.31	0.51	0.66	0.0011	0.0015
Lucama, NC	7.9	14	6.78	7.89	0.40	0.47	0.0027	0.0032
Eakly, OK ³	9.0	14	44.69	45.53	0.98	1.18	0.012	0.012
Pinehurst, GA	7.9	21	7.13	9.26	0.49	0.75	0.00094	0.0013
Meigs, GA	7.9	21	0.87	2.79	0.27	0.28	0.00064	0.00081
Grangerburg, AL	7.9	21	5.30	10.88	0.30	0.50	0.0019	0.0032
Malone, FL	7.9	21	1.63	1.71	0.41	0.41	0.00075	0.00078
Lucama, NC	7.9	21	5.59	5.66	0.25	0.41	0.0018	0.0026

Table 2. Summary of Chlorothalonil Residues of Concern in Peanut Hay form Six Field Trials.

Location	Total a.i. " (lb/A)	PHI (days)	Range of Residues (ppm)					
			Chlorothalonil		SDS-3701		HCB	
			min	max	min	max	min	max
Eakly, OK ³	9.0	21	40.73	55.09	1.15	1.15	0.011	0.015
Not available								

1. Not applicable - control sample.

2. ND = < 0.01 ppm chlorothalonil and SDS-3701, < 0.00025 ppm HCB

3. High residue levels at this site are attributed to protocol violations.

Complete and adequate documentation of the results in Table 2 is included in the submission. The results of the Oklahoma test are included here for informational purposes but they are not included in the determination of an adequate tolerance level because of protocol deviations. This crop, which was planted too late to permit maturity of the edible portion before frost, was harvested early. The resulting samples, containing excessive leaves, were not representative of peanut hay. The site also received one treatment at a level of approximately 1.5x the maximum use rate. For these reasons we accept the registrant's proposal to ignore the high residues in samples from this site in determining an appropriate tolerance level.

From the five sites treated and harvested according to the present use pattern on chlorothalonil, which includes a 14-day preharvest interval, combined residues of chlorothalonil and SDS-3701 in or on peanut hay are not expected to exceed the proposed tolerance of 20 ppm. Residues of HCB were found in peanut hay at levels proportionate to the amount of active ingredient that was present. The dietary risk associated with the present proposal has already been considered in earlier estimations of anticipated residues (W. Smith; 6/13/95; D208333) and in a recent DRES analysis (B. Steinwand; 4/23/96); therefore, no further DRES analysis is required at this time.

cc: W. Smith (CBRS), Rose Kearns (RD), A. Ertman (SRRD/RB), Reg Std File, SF, RF, Circ.

7509C:CB-II:WOS:wos:Rm805A:CM2:305-5353:05/21/96
RDI: Team(05/21/96) RPerfetti(05/22/96) EZager(05/24/96).