



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

JUL 13 1989

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: FENOXAPROP-ETHYL, TOLERANCE REQUEST FOR THE COMBINED RESIDUES OF THE HERBICIDE AND ITS METABOLITES ON WHEAT(GRAIN) FROM THE USE OF THE FORMULATION TILLER.

TO: R. MOUNTFORT/R. IKEDA PM 23
REGISTRATION DIVISION (H7505C)

FROM: K. CLARK SWENTZEL *K. Clark Swentzel 7/11/89*
ACTING SECTION HEAD
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HED (H7509C)

THRU: MARIA VAN GEMERT, PH.D. *M van Gemert 7/12/89*
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EPA ID No.: 8340-GI, 9F3714
PROJECT No.: 9-1002
CASWELL No.: 431C
REGISTRANT: HOECHST CELANESE CORP.

REQUESTED ACTION

REVIEW REQUESTED TOLERANCE FOR FENOXAPROP-ETHYL AND USE DIRECTIONS ON THE PRODUCT LABEL.

REQUEST

THE REGISTRANT'S SUBMISSION INDICATED THAT TILLER HERBICIDE IS A PRODUCT FOR THE SELECTIVE POSTEMERGENCE CONTROL OF ANNUAL GRASS AND BROADLEAF WEEDS IN HARD RED SPRING WHEAT. IT IS A MULTIPLE ACTIVE INGREDIENT PRODUCT CONTAINING 8.57% FENOXAPROP-ETHYL, 10.06% 2,4-D AND 32.85% MCPA ISOOCYCLESTER. TOLERANCES FOR 2,4-D AND MCPA ISOOCYCLESTER ON WHEAT GRAIN ARE 0.5 PPM (40 CFR 180.142) AND 0.1 PPM (40 CFR 180.339), RESPECTIVELY. THE REGISTRANT IS REQUESTING A TOLERANCE OF 0.05 PPM ON WHEAT GRAIN FOR THE COMBINED RESIDUES OF FENOXAPROP-ETHYL, (+)-ETHYL 2-[4-[6-CHLORO-2-BENZOXAZOLYL)OXY] PHENOXY] PROPANOATE, AND ITS METABOLITES: 2-[4-[6-CHLORO-2-BENZOXAZOLYL)OXY]PHENOXY] PROPANOIC ACID AND 6-CHLORO-2,3-DIHYDROBENZOXAZOL-2-ONE.

RESPONSE

THE FOLLOWING DATA WERE CONSIDERED FOR FENOXAPROP-ETHYL:

STUDY	RESULTS
ACUTE ORAL LD ₅₀ : RAT	2357 MG/KG(M); 2500 MG/KG(F)
ACUTE DERMAL LD ₅₀ : RABBIT	>1000 MG/KG (HDT)
ACUTE INHALATION: RAT	LC ₅₀ > 511 MG/M ³ (HDT)
PRIMARY EYE IRRITATION: RABBIT	POSITIVE (CORNEAL OPACITY) IN 4/6 RABBITS
PRIMARY DERMAL IRRITATION: RABBIT	SLIGHT DERMAL IRRITATION (ERYTHEMA AND EDEMA)
DERMAL SENSITIZATION: GUINEA PIG	NEGATIVE
TERATOGENICITY: RABBIT(COMBINED STUDIES)	DEVELOPMENTAL NOEL = 50 MG/KG (DIAPHRAGMATIC HERNIAS AT 200 MG/KG); MATERNAL TOX NOEL = 12.5 MG/KG (DECREASED WT. GAIN AT 50 MG/KG)
TERATOGENICITY: RAT	DEVELOPMENTAL NOEL = 32 MG/KG(INHIBITED GROWTH & DELAYED OSSIFICATION AT 100 MG/KG); MATERNAL TOX NOEL = 32 MG/KG (INHIBITED GROWTH AT 100 MG/KG)
REPRODUCTION-2 GENERATION: RAT	DEVELOPMENTAL NOEL > 9 MG/KG (HDT); MATERNAL TOX NOEL = 0.25 MG/KG (BLOOD LIPID CHANGES AT 1.5 MG/KG)
THREE-WEEK DERMAL: RAT	NOEL > 20 MG/KG (HDT)
TWENTY EIGHT DAY INHALATION: RAT	NOEL = 0.015 MG/L (LIVER & KIDNEY WT CHANGES; LIPID METABOLISM CHANGES; EYE OPACITY AT 0.075 MG/L)
TWO-YEAR FEEDING STUDY: DOG	NOEL = 0.375 MG/KG (REDUCED BODY WT AT 1.9 MG/KG)
TWO-YEAR FEEDING/ONCOGENIC: MOUSE	NOT ONCOGENIC AT 6 MG/KG (HDT); NO SYSTEMIC NOEL
TWO-YEAR FEEDING/ONCOGENIC: RAT	NOT ONCOGENIC AT 9 MG/KG (HDT); SYSTEMIC NOEL = 1.5 MG/KG (DECREASED SERUM LIPIDS AND CHOLESTEROL AT 9 MG/KG)
AMES SALMONELLA TEST	NEGATIVE
MICRONUCLEUS TEST: MOUSE	NEGATIVE
UNSCHEDULED DNA SYN.: HELA CELLS	NEGATIVE
CHROMOSOME ABERRATION: HUMAN LYMPHOCYTES	NEGATIVE

TOLERANCE SUMMARY AND EFFECT ON THE TMRC

THE SCIENCE ANALYSIS AND COORDINATION BRANCH (SACB) WILL PREPARE THE TOLERANCE SUMMARY AND QUANTITATE THE IMPACT OF THE REQUESTED TOLERANCE ON THE TMRC. PUBLISHED TOLERANCES FOR FENOXAPROP-ETHYL ARE FOUND IN 40 CFR 180.430.

PENDING REGULATORY ACTIONS

THERE ARE NO KNOWN REGULATORY ACTIONS PENDING AGAINST THIS CHEMICAL.

DISCUSSION AND RECOMMENDATIONS

TB CONCURS WITH THE REGISTRANT'S REQUEST PROVIDED THAT THE REQUESTED TOLERANCE DOES

NOT INCREASE ESTIMATED CONSUMPTIONS LEVELS ABOVE THE RFD FOR FENOXAPROP-ETHYL.

IT IS TB'S OPINION THAT THE USE DIRECTIONS AND PRECAUTIONARY STATEMENTS ON THE PRODUCT LABEL ARE ADEQUATE.

THE COVER LETTER WITH THIS SUBMISSION INDICATED THAT "THIS IS A NEW TILLER FORMULATION IN WHICH MCPA ISOCTYLESTER HAS BEEN SUBSTITUTED FOR MCPA BUTOXYETHYLESTER." THE REGISTRANT SHOULD BE ADVISED THAT A NEW BATTERY OF TOXICITY STUDIES IS REQUIRED WHEN AN ACTIVE INGREDIENT IN A FORMULATION IS REPLACED WITH ANOTHER. TB CAN NOT COMMENT ON THE ADEQUACY OF THE CURRENT TOXICITY DATA BASE FOR TILLER SINCE NONE OF THESE DATA ARE LOCATED IN THE CASWELL FILE.

CITATION	MATERIAL	ACCESSION/ MRID NO.	RESULTS	TOX CAT	COREGRADE/ DOCUMENT#
Reproduction-2 generation Species: rat Life Science Research A30806 & A31073; 5/13/85	Fenoxapropethyl 94% tech	258965 258966 258967 258968 258970	Maternal NOEL = 30 ppm, Maternal LEL = 80 ppm (increase liver & kidney weight); Feto NOEL < 5 ppm (decrease survival and terminal body weights and significant changes in kidney and liver weights for F2a and F2b). Levels tested: 0, 5, 30, & 180 ppm. (See replacement #A32781; 2/20/86; Doc# 006320)		Minimum 004963
Reproduction-2 generation Species: rat Res. and Consulting Co.; Swiss A3078-1; 2/20/86	Fenoxapropethyl 97.2% tech	263030	Maternal NOEL = 5 ppm, Maternal LEL = 30 ppm (blood lipid effects; increase liver wts. at 180 ppm; increase incidence of nephrocalcinosis was reported in a previous study); Reproductive NOEL > 180 ppm; Offspring NOEL = 5 ppm, Offspring LEL = 30 ppm (decrease body weight at day 21 post partum). At 180 ppm - decrease pup wt. at day 21 and increase liver and kidney wts. Doses tested: 0, 5, 30, & 180 ppm		Minimum 005632
Oncogenic-2 year Species: mice Hoechst AG A30816; 3/11/85	Fenoxapropethyl 94% tech Batch 11283	258955 258956 258957 258960 258965	A MTD was not found at 40 ppm (HDT). The study was not adequate for oncogenicity determination. A LEL was not found. <i>has been changed for</i> <i>11/11/86</i>		Inadequate 004963
Feeding-2 year Species: dog Hoechst AG 693	Fenoxapropethyl tech	073972 073973	NOEL = 15 ppm, LEL = 75 ppm (reduced body weight). Levels tested: 0, 3, 15 and 75 ppm		Minimum 005632 004963
Feeding/oncogenic-2 year Species: rat Hoechst AG A30807 & A31880; 6/28/85	Fenoxapropethyl 94% tech Batch 11123 & 11283	258948 258949 258954 073971	Oncogenic NOEL > 180 ppm (HDT); Sys NOEL = 30 ppm, Sys LEL = 180 ppm (decrease serum lipids and cholesterol). Doses tested: 0, 5, 30, & 180 ppm		Minimum 004963
Feeding-32 day Species: rat Hoechst Analytical Lab 154/80; 6/9/80	Fenoxaprop-ethyl 97% tech	071768	NOEL Range Finding: < 80 ppm (LDT) (changes in liver and kidney and altered lipid metabolism) decreased cholesterol. Doses tested: 20, 80, 315, 1250, 5000 ppm in feed.		Minimum 003682
Feeding-3 month Species: rat Hoechst Analytical Lab 695/81; 12/4/81	Fenoxaprop-ethyl 96% tech	071789	NOEL = 20 ppm, LEL = 80 ppm (relative organ weight changes - kidney, thyroid, adrenals; changes in cholesterol levels and total lipids); doses tested: 20, 80, & 320 ppm in the diet.		Minimum 003682
Feeding-32 day Species: mice Hoechst Pharma Forschung Tox. 336/80; 6/10/80	Fenoxaprop-ethyl 97% tech	071790	Range Finding: NOEL was not found. (Significant increases in absolute and relative liver weights at all doses, NOEL < 80 ppm (LDT); lesions in liver and kidneys at high doses); Levels tested: 0, 80, 315, 1250, & 5000 ppm in the diet.		Supplementary 003682