

10-12-79

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DATE: October 12, 1979

SUBJECT: EPA Reg. No. 241-243, Prowl Herbicide, Amend Label to Include Use in Transplanted Tobacco.

Caswell #454BB

FROM: John Doherty
Toxicology Branch/HED (TS-769)

TO: R. J. Taylor, PM #25
Registration Division (TS-767)

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Action Requested:

Amend label to include additional use of Prowl Herbicide, to be applied preplant and incorporated in transplanted tobacco.

Conclusion:

This product should not be registered for use on tobacco until the questions concerning the oncogenic potential of the nitrosamine contaminant are settled.

Remarks:

1. This product contains a nitrosamine [redacted] See A. Smith memo of Jan. 22, 1979. EPA personnel are currently doing risk analyses and other toxicologic evaluations to determine the oncogenic potential of this chemical.
2. This product (EPA Reg. No. 241-243) may be improperly labeled (see Doherty memo, March 23, 1979). Additional studies with the product as formulated have been requested.
3. The 21-day subacute inhalation study was judged provisionally INVALID (see review). This study may possibly be upgraded by providing a suitable answer to the question concerning the concentration of smoke in the chamber and the LD50 to rats for smoke. SEE CHEM REVIEW OF 6-13-79
4. Use on tobacco will result in some residues. For example, the usage rate will have residues in the range of 0.855 ppm and five times the usage rate will have residues in the range of 5.559 ppm (see Acc. No. 237965).

Smoke inhalation studies in rats with cigarette tobacco treated with AC92553 (pendimethalin)

Food and Drug Research Laboratories, Jan. 6, 1975.

MANUFACTURING PROCESS INFORMATION IS NOT INCLUDED

Protocol:

Three groups of 10 rats (5 male and 5 female) were placed into a 72 liter exposure chamber and the air flow rate was adjusted to 6 liters per minute. A cigarette smoking device was attached to the inlet port and smoke was injected at the rate of 30 ml of smoke each 30 second interval. Exposure was set for 1 hour. This corresponds to 9 mg/liter interims of tobacco burned (not including condensable tars).

The rats were exposed 5 days a week for 3 weeks for a total of 15 exposures. The test material consisted of three lots of cigarettes impregnated with AC92553 (pendimethalin) at 0, 1X or 5X concentrations. The X refers to cigarettes prepared from lots grown at 0, the recommended use level (X) and 5 times this level (5X).

Results:

Comprehensive examination of the rats revealed no treatment related effects on weight gain, hematologic or biochemical parameters, or organ weights. There were no reported pathological lesions that were test chemical related. In both controls and treated rats, there was an unexpectedly high incidence of respiratory problems. These included peribronchial lymphoid tissue and necrotic delres and acute inflammatory cells.

Conclusion:

Provisionally INVALID. The protocol states that 6 mg per liter smoke from cigarette tobacco is the LD50 for a one hour exposure. However, the test results state that the chamber consistantly reached 9 mg/liter and there were no deaths. This discrepancy must be resolved (for example, by actual determinations made in the atmosphere). This test might otherwise be upgraded.

NOTE: Analytical data indicate that the residue of pendemethelin in smoke was <0.10 and 1.347 ppm when 79 mg or 375 mg/tobacco plant were used.