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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: EPA No. 352-346: Chlorimuron-ethyl (Classic)
Amended Registration to Allow Aerial Application to
Soybeans. MRID No. 401300-01; RCB No. 2193

FROM: Joel Garbus, Chemist $\$$
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THRU: Andrew Rathman, Section Head
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TO: R. Taylor / V. Walters, PM-25
Registration Division (TS-767C)

E. I. du Pont de Nemours & Co., Inc. Wilmington DE, has submitted an application for an amended registration for its herbicide Classic® to add aerial application on soybeans to the label.

The active ingredient in Classic® is chlorimuron ethyl. Prior to the adoption of the common name, the active was designated as DPX-F6025. Chemically, chlorimuron ethyl is ethyl 2-[[[(4-chloro-6-methoxypyrimidin-2-yl)amino]carbonylamino]sulfonyl]benzoate. Classic® is marketed as a 25% dispersible granule formulation.

40 CFR 180.429 establishes a tolerance of 0.05 ppm for chlorimuron ethyl in or on soybeans.

Current label usage allows the post emergent application of 0.5 to 0.75 ozs (0.125 to 0.188 ozs active) /A after crop emergence until 60 days before soybean maturity. A second application of 0.5 ounces/A may be made 2 to 3 weeks after the initial application. A total of 1 ounce per season may be applied. Classic® is to be applied by ground equipment as an aqueous solution containing 0.25% surfactant. A minimum of 10 gallons of solution per acre is recommended. The label carries a specific caution against the use of crop oils. there is a restriction agaist feeding the forage or hay to livestock

The proposed aerial use retains these application rates and schedule with the exception that a minimum of 3 to 5 gallons spray solution is to be applied and, under hot and dry conditions, crop oil concentrate to 1% may be added.

The analytical method for chlorimuron ethyl residues on soybeans is Du Pont method AMR-459-85 "Analysis of DPX-F6025 in Soybeans."

Finely ground soybeans are extracted with methylene chloride and the slurry is filtered and centrifuged. Water is added to the solution and the organic solvent is evaporated off. The aqueous phase is repeatedly washed with hexane and then reextracted with methylene chloride. The volume is reduced and the concentrated solution cleaned up on silica. Chlorimuron ethyl is eluted with the mobile phase components for HPLC, (cyclohexane, isopropanol, and methanol), subjected to HPLC, and quantified with a photoconductivity detector.

Each determination is accompanied by standards bracketing the sample injection. Recoveries ranged from 61 to 102% and averaged $82 \pm 12\%$.

Seventeen soybean samples were analyzed from 13 sites in 11 states: AL, AR, GA, IN, IL, NC, NE, OH, TN, and TX. All applications were aerial and rates ranged from 0.125 ozs ai to 0.25 ozs ai/A. PHI's ranged from 28 to 136 days and averaged 58 days.

Most samples were frozen at harvest and remained frozen until analyzed. Some samples (6) remained at ambient temperatures prior to storage at freezer temperatures. (Du Pont has included a study that demonstrates that the storage of spiked soybeans at room temperature does not significantly effect the levels of chlorimuron that can be recovered.)

In all samples residues of chlorimuron ethyl were <0.01 ppm. This result is the same as that seen with the currently approved ground application mode.

Conclusion and Recommendation

- 1) The aerial application of chlorimuron ethyl to soybeans results in residues at maturity of <0.01 ppm. This the same level reported for ground application.
- 2) We recommend that aerial application of chlorimuron ethyl to soybeans be approved.

cc: Circ., Subject File, Amend.Use F., R. F., Reviewer, PMSD/ISB
RDI:ARR:5/13/87:RDS:5/13/87
TS-769:JG:jg:RM:810:CM#2: 5/14/87