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

JUL 8 1983

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: EPA Reg. No. 214-243. Amended registration for
Prowl (pendimethalin) on potatoes.

FROM: Linda S. Propst, Chemist *Linda S. Propst*
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Hazard Evaluation Division (TS-769)

THRU: Charles L. Trichilo, Chief *CL Trichilo*
Residue Chemistry Branch
Hazard Evaluation Division (TS-769)

TO: Robert J. Taylor, Product Manager #25
Fungicide-Herbicide Branch
Registration Division (TS-767)

American Cyanamid Company is requesting an amended registration for the herbicide PROWL® to add early postemergence incorporation alone or in tank mix combination with metribuzin and with Eptam in potatoes.

A tolerance has been established for the combined residues of PROWL® [pendimethalin or N-(1-ethylpropyl)-3,4-dimethyl-2,6-dinitrobenzeneamine] and its metabolite 4-((1-ethylpropyl)amino)-2-methyl-3,5-dinitrobenzyl alcohol in or on potatoes at 0.1 ppm (40 CFR 180.361).

Pendimethalin formulated as PROWL® (an emulsifiable concentrate containing 44% active ingredient (4 lb a.i./gal)) is currently registered for use on potatoes as a preemergence soil incorporated application with rates up to 1.5 lb active/A depending upon soil composition.

Metribuzin, (4-amino-6-(1,1-dimethylethyl)-3-(methylthio)-1,2,4-triazin-5 (4H)-one), is registered for pre-emergence and post-emergence use on potatoes at rates of 0.5-1.5 lb act./A and has an established tolerance of 0.6 ppm in potatoes (40 CFR 180.332).

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Eptam, (S-ethyl dipropylthiocarbamate), is registered for pre-emergence and postemergence use on potatoes at a maximum rate of 6.1 lb act/A and has an established tolerance of 0.1 ppm (40 CFR 180.117).

The proposed amended use would allow a single treatment of potatoes from crop emergence to the 6-inch stage of growth with PROWL® to be applied alone at 0.75-1.5 lb active/A; in tank mix combination with metribuzin using 0.5 - 1.5 lb active/A pendimethalin + 0.25 - 0.50 lb active/A metribuzin; and in tank mix combination with Eptam® using 0.5 - 1.5 lb active/A pendimethalin + 2.6 - 3.1 lb active/A Eptam®. All precautions and restrictions on the metribuzin labels are pertinent to the PROWL®/metribuzin tank-mix combination. PROWL® plus Eptam® postemergence tank-mixture may be applied through sprinkler irrigation systems only.

There was no new submission of residue data with this request. The registrant referred us to the residue data submitted in conjunction with PP#9F2134 (see memo of A. Smith, 1/22/79). Of that data, one study reflected residues of pendimethalin on or on potatoes occurring from post-emergence treatment with PROWL® alone or in a tank-mix combination. Potatoes treated postemergence incorporation with 0.75 lb active pendimethalin/A yielded no detectable residues (<0.05 ppm, method sensitivity) 60 days or 91 days following treatment.

There were no detectable residues of pendimethalin or metribuzin in potato samples analyzed 60 and 91 days after postemergence incorporation of PROWL + metribuzin (0.75 + 0.5 lb ai/A).

Residues of pendimethalin were non-detectable in potatoes sampled 60 and 91 days after post-emergence incorporation in a tank mix combination of PROWL® + Eptam (0.75 + 2.6 lb ai/A). Eptam residues were <0.02 ppm, method sensitivity.

None of the data reflect residues of pendimethalin occurring on potatoes from postemergence incorporation using the maximum recommended application rate of 1.5 lb active/A. In the absence of such data we are unable to make a conclusion concerning the adequacy of the 0.1 ppm established tolerance.

Conclusions and Recommendations

In the absence of data which reflect post emergence incorporation up to the 6-inch stage of growth using the maximum recommended application rate, we are unable to conclude that the tolerance of 0.1 ppm established to cover residues of pendimethalin on potatoes will not be exceeded.

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For this reason we recommend against the proposed amended registration. A favorable recommendation is contingent upon the registrant submitting residue data which reflects postemergence incorporation of pendimethalin up to the 6-inch stage of growth of potatoes using the maximum recommended application rate.

cc: R.F., Circu, Reviewer, Subject file, (Pendimethalin)

Amended use file, (Pendimethalin)

RDI:Section Head:RJHummel:Date:6/16/83

TS-769:RCB:Reviewer:LSPropst:LDT:557-7324:CM#2:RM:810:Date:6/17/83

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