ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

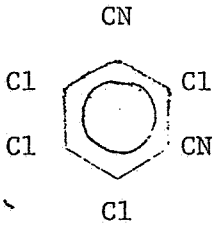
Date: May 10, 1972

Reply to Attn of:

File: PP# 2F1230

Subject: Daconil; Chlorothalonil - Proposal to establish tolerances of the fungicidal chemical 2,4,5,6-tetrachloroisophthalonitrile and its metabolite, 4-hydroxy 2,5,6-trichloroisophthalonitrile applied as a pre-harvest treatment:

Bean vines (lima and snap)	50 ppm Daconil
Peanut vine hay	20 ppm Daconil
Sugar beet tops	20 ppm Daconil
Sweet corn forage	20 ppm Daconil
Lima beans (in pods)	15 ppm Daconil
Sugar beets	0.2 ppm Daconil
Meat, fat and meat by-products of cattle, goats, hogs, horses and sheep and in milk	0.2 ppm Daconil



To: Mr. Drew M. Baker, Jr., Chief
Petitions Control Branch
Pesticides Tolerances Division

Pesticide Petition No. 2F1230 - Diamond Shamrock Chemical Co.
300 Union Commerce Building
Cleveland, Ohio 44115

Related Petitions: 7G0516, 9F0743, 7F0599, 1F1024

MAY 16 1972

TOXICOLOGICAL EVALUATION

A. Formulations

BRAVO W-75tm

Technical Product	75.0%
[redacted]	

INERT INGREDIENT INFORMATION IS NOT INCLUDED

B. Toxicity Data

1. Previous reviews

C. H. Williams, memo of 4/15/71, PP No. 1F1024.

a. Rat 3 generation reproduction study (submitted in PP No. 7F0599):

Reproductive performance - no-effect level - 15,000 ppm

Lactation Index - no-effect level - 1500 ppm

Toxic effects: Exchange nursing demonstrated that growth effects were not due to daconil in the milk. Renal and liver effects were present at all levels fed.

E. C. Hagan, memo of 2/16/71, PP No. 1F1024

a. Acute toxicity

Dog	Oral	LD_{50}>5000 mg/kg
Rat	Oral	LD_{50}>10,000 mg/kg
Rabbit	Dermal	LD_{50}>10,000 mg/kg
Rabbit	Eye irritation: 3 mg gave transient conjunctivitis	
Rabbit	Inhalation	LC_{50}>4.7 mg/L

b. Chronic Toxicity

2 year dog feeding no-effect level: 60 ppm based on histopathological considerations (see memo of H. Blumenthal, 3/1/71).

2 year rat feeding no-effect level: 60 ppm-highest level fed.

c. Rabbit teratology study - negative for teratological effect of Daconil.

E. Long, memo of 1/31/69, PP No. 7F0743

a. Subacute dog feeding study for 16 weeks - no-effect level not determined based on findings of increased PBI with dose.

b. 13 week rat stomach tube study no-effect level presumably 2 Gm/kg.

2. New Toxicity data

None submitted.

C. Conclusions

Daconil has demonstrated a low degree of toxicity. A safe level of total dietary intake in man has been calculated to be 1.8 mg/day (memo of H. Blumenthal, 3/1/71). Previously granted tolerances (40 CFR 180.275) and pending proposed tolerances would add about 1.0 mg/day of Daconil to the dietary (memo of E. Hagan, 2/16/71, PP No. 1F1024). The amounts added by those RAC's in the present proposal represent some 0.5 mg/day.

D. Recommendations

1. TB defers to CB the question of possible transfer of combined residues from sugar beets into refined sugar or into molasses made from such beets.

2. Forage crops and hay are not human food items; they require no comment by TB.

3. Lima beans (with pods) are a minor human food item, and the requested residue tolerance of 15 ppm Daconil and its hydroxy-metabolite is considered to be safe.

4. Chemistry Branch has raised questions concerning the amount of hydroxy-metabolite which could appear in milk from feeding Daconil (4/16/71 memo of conference, PP No. 1024). Until CB comments upon the percent of the hydroxy-metabolite present in the requested tolerance for 0.2 ppm combined residues of Daconil in milk, TB cannot make a judgment of safety. The requested level is not negligible, and we will have to consider whether adequate toxicity data has been furnished for the hydroxy-metabolite to enable a tolerance to be established in milk.

5. TB has no objection to establishing the requested tolerance of 0.2 ppm combined residues of Daconil in meat, fat and meat by-products of cattle, goats, hogs, horses and sheep. The maximum dietary ingestion of residues from these sources would amount to only 0.03 mg/day based on 150 gram (10% of dietary) daily intake.

David L. Ritter, Pharmacologist
Toxicology Branch
Pesticides Tolerances Division

cc: JGCummings
PRD/EPA
Atlanta Branch (Lewis)
Perrine Branch
Division Reading File
Branch Reading File
PP No. 2F1230
DLRitter

RD/init:CHWilliams:5/2/72
DLRitter:ss:5/10/72
init:CHWilliams 5/12/72