RESIDUE CHEMISTRY BRANCH, HED
PETITION REVIEW QUICK FORM

MAR 24 1983

FROM: Maxie Jo Nelson, Chemist
Residue Chemistry Branch
Hazard Evaluation Division (TS-769)

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

TO: H. Jacoby, PM 21
Registration Division (TS-767)
and
Toxicology Branch
Hazard Evaluation Division (TS-769)

1. Petition No(s).: 3F2815

2. Chemical(s): chlorothalonil (fungicide)

3. Tolerance Proposal (RAC's & Levels): peaches @ 3.0 ppm
(presently there is a peach tolerance at 0.5 ppm)

4. Petitioner: Diamond Shamrock

5. Tolerance Expression: per Sec. 180.275: chlorothalonil plus
its metabolite 4-hydroxy-2,5,6-trichloroisophthalonitrile

0.1 - 15 ppm various rac's

7. Letter(s) of Authorization (if applicable): N/A

8. Formulation(s): Bravo 500 (EPA Reg. No. 677-313), a flowable
formulation containing 40.4% ai (4.17 lbs/gal. or 500 g/l)

9. Inerts Status: All cleared under Sec. 180.1001 (ref. discussion
in 8/13/80 review P. Errico, pp# 6F1799)
10. Manufacturing Process: *Discussed in R. Schmitt review of 11/27/74, PP# 4E1502. Composition of technical chlorothalonil in PP# 1E2473. Impurities of concern: HCB, 0.05% max; PCBN, 2.0% max.*

11. Proposed Use(s):

Apply BRAVO 30G in sufficient water and with proper calibration to obtain uniform coverage of tree canopies. Applications through ground equipment is recommended. When concentrates sprays are used to control apple scab, or on mature trees, the lower rate of BRAVO 30G listed may be used. The following spray volumes are recommended as gallons of spray per acre:

<table>
<thead>
<tr>
<th>Crop</th>
<th>Spray Volume (Gallons per Acre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peach</td>
<td>300</td>
</tr>
<tr>
<td></td>
<td>50 to 150</td>
</tr>
</tbody>
</table>

See #32 for comment.

12. Plant Metabolism Data on: *Various vegetable crops (corn, tomatoes, potatoes).* See 11/17/76 review, R. Cox, PP# 4E1799 for discussion.

13. Plant Residues Comprised of: *See #5. Plant residues are mainly surface in nature. Foliar deposits of chlorothalonil do not translocate and there is no uptake from roots to aerial parts.*

14. Plant Metabolism Data Translatable Here: #12

15. Nature of Plant Metabolism Data is not adequately defined. The Residue of Concern is: See #5

16. Animal Metabolism Data on: *Rats, dogs, cows*
17. Animal Residues Comprised of: see #5 (Note: the 4-hydroxy metabolite is a minor component of animal (and plant) residues, but is of concern because of its transfer potential to meat and milk).

18. Animal Metabolism Data Applicable Here: #16, but no feed items are associated with this petition providing #32 is imposed.

19. Nature of Animal Metabolism Data is not adequately defined. The Residue of Concern is: see #5

20. Analytical Methods (reference or brief description):

Residues of parent (DS-2787) and 4-OH metabolite (DS-3701) were simultaneously extracted with aceticid acetone, vacuum filtered, selectively separated via liquid-liquid partitioning, the metabolite converted to its methyl ether derivative, and cleaned-up via alumina column chromatography, the parent cleaned-up via Florisil column chromatography, and both separately determined by EC-GLC. By varying the eluants during the Florisil column clean-up, HCB and PCBN (contaminants) can also be isolated for determination by GLC.

Claimed sensitivity: <0.01 ppm DS-2787, <0.01 ppm DS-3701, <0.005 ppm PCBN, <0.003 ppm HCB.

21. Method Validation (crop recoveries): chemical/fortifications/recoveries (avg): DS-2787 0.02-5.13 ppm/80-116% (94%) ; DS-3701 0.02-1.0 ppm /67-102% (75%); PCBN 0.02-0.106 ppm/60-86% (77%); HCB 0.01-0.051 ppm/55-100% (71%).

22. Method Validation (control values): DS-2787: ND = 0.1 ppm; DS-3701, PCBN, HCB: all ND

23. Residues Determined by Method: DS-2787, DS-3701, PCBN

HCB (via #20)

24. Enforcement Methodology is not available.
25. Residue Data (crop and residue range (ppm) from proposed use):

Crop: Peaches
- <0.01 - 5.25 ppm chlorothalonil
- ND - 0.02 ppm DS-3701
- ND - trace HCB
- ND - 0.033 ppm PCB

Crop: 4.5-6.7% A (ex range)

Crop: 3-12 applications (as needed, allowed)
- 26-102 day PHI's (45-day proposed)
- 8 states (LA, NC, GA, CA, VA, PA, OR, TX)
1982 crop year

Other Comments: Questionable if 3 ppm/45-day PHI would be adequate (cf 2.29 ppm/50-day PHI and 2.86 ppm/50-day PHI field data).
Recommend 3 ppm/60-day PHI or 5 ppm/45-day PHI be proposed.

Residues will not exceed proposed tolerance on (commodities) peaches if recommendation in #25 is implemented and will exceed proposed tolerance on (commodities)

27. Livestock Feeding Studies on (species): N/A. There will be no feed items to consider provided #32 is imposed.

28. Animal Feeding Levels: N/A

29. Animal Residue Ingestion Levels from Proposed Crop Tolerance Levels (proposed tol. level x % in diet):
- ppm in beef cattle;
- ppm in dairy cattle/goats;
- ppm in hogs;
- ppm in horses;
- ppm in sheep;
- ppm in poultry.

30. Livestock Tolerances are Adequate in (species) N/A, but not adequate in ________
31. Livestock Tolerances Need to be Established: yes/no. If yes (species/levels): N/A

32. Other Comments: A grazing restriction should be added to the proposed labeling: "Do not allow livestock to graze treated areas."

33. Other Considerations:

34. Additional Data Needed:

35. Recommendations: Negative as proposed. Revised Sections B and maybe F needed. See #25 and #32 for details.

36. Other Comments under Recommendations: EFB review (G. Fletcher, 3/183) was negative. TOX is has not yet been received in RCB.

37. Compatibility with Codex Tolerances: No. Codex and Mexican tolerances are 25 ppm (shorter THI) too high for our need.

cc: RF, Circ, Reviewer, Thompson, TOX, EEB, EFB, FDA, PP#3F2815
Approved: Quick RSQ 3/21/93; Schmitt 3/21/93
<table>
<thead>
<tr>
<th>Codex Status</th>
<th>Proposed U. S. Tolerances</th>
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<tbody>
<tr>
<td>No Codex Proposal Step 6 or above</td>
<td>for 180.275</td>
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</tbody>
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Residue: \( \text{sum of chlorothalonil and 4-hydroxy-2,5,6-trichloro-1,3-benzene dicyanamide, expressed as chlorothalonil} \)

<table>
<thead>
<tr>
<th>Crop(s)</th>
<th>Limit (mg/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>peaches</td>
<td>25</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Crop(s)</th>
<th>Tol. (ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>peaches</td>
<td>3</td>
</tr>
</tbody>
</table>

**Canadian Limit**

Residue:  

<table>
<thead>
<tr>
<th>Crop</th>
<th>Limit (ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>none (on peaches)</td>
<td></td>
</tr>
</tbody>
</table>

**Mexican Tolerancias**

Residue: \( \text{chlorothalonil (presumed)} \)

<table>
<thead>
<tr>
<th>Crop</th>
<th>Tolerancia (ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>peaches</td>
<td>25</td>
</tr>
</tbody>
</table>

Notes: \( * 4 \text{-OH-2,5,6-trichloroisophthalonitrile} \)