FROM: M. Nelson, Chemist
Residue Chemistry Branch
HED (TS-769)

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

TO: Minor Uses Officer
Registration Division (TS-767) and Toxicology Branch
HED (TS-769)

1. Petitioner: IR-4 and Ag. Exp. Stn. of CA

2. Petition No(s): 2E2668

3. Chemical(s): Chlorpyrifos

4. Tolerance Proposal (RAC's & Levels): Figs @ 0.1 ppm

5. Tolerance Expression: Chlorpyrifos and its metabolite
3,5,6-trichloro-2-pyridinol

0.05-15 ppm various raw and processed commodities

7. Letter(s) of Authorization (if applicable):

Dow Chemical USA 3/17/82

8. Formulation(s): Lorsban® 4E Insecticide (EPA Reg. No. 464-448) 4 lbs ai/gal. EC Formulation

9. Inerts Status: All cleared, 1 (ref. K. Anne review of 3/4/82, pp# 1E2575/FPP# 1H5322)

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11. Proposed Use(s): Soil application with incorporation to fig orchard floor during dormancy. One application (2 lbs ai/A) per year, 7 month PHI, CA only.

12. Plant Metabolism Data on: Corn and beans (pp# 3F1306); apples and soybeans (pp# 8F2281). Plant studies summarized in K. Arne review of 3/18/82, pp# IF2575/FP# IH5322.

13. Plant Residues Comprised of: parent, 3,4,5-trichloro-2-pyridinol (TCP) and numerous other metabolites (see discussion in attached K. Arne review).

14. Plant Metabolism Data Translatable Here: #1a

15. Nature of Plant Metabolism Data is not adequately defined. The Residue of Concern is: chlorpyrifos and TCP

16. Animal Metabolism Data on: rats and lactating cow (pp# 3F1306); lactating goat (pp# 0E2281)

17. Animal Residues Comprised of: parent, TCP and various other metabolites (see discussion in attached K. Arne review)
18. Animal Metabolism Data Applicable Here: # 16

19. Nature of Animal Metabolism Data is not adequately defined. The Residue of Concern is: parent plus TCP

20. Analytical Methods (reference or brief description):
   (a) parent - blinder extraction with acid/mixed solvents mixture followed by reflux. Sweep co-distillation cleanup. Analysis by FPD-GC. Sensitivity = 0.01 ppm. In principle, similar to PAM II methodology for measuring chlorpyrifos residues.
   (b) TCP - reflux extraction with alkaline methanol. Cleanup by liquid-liquid partitioning and Florisil column. Derivatization with N,O-bis-(trimethylsilyl)acetamide. Analysis by EC-GC. Sensitivity = 0.1 ppm. In principle, similar to PAM II methodology for measuring TCP residues.

   Note: parent and TCP are measured individually by separate methodologies.

21. Method Validation (crop recoveries): Using fortified dried figs:
   chlorpyrifos, 0.01 ppm (90% recovery) and 0.05 ppm (88% recovery);
   TCP, 0.1 and 0.25 ppm (80% recovery) and 0.5 ppm (84% recovery).

22. Method Validation (control values): Using untreated figs:
   chlorpyrifos, < 0.01 ppm; TCP, < 0.1 ppm

23. Residues Determined by Method: #20 for chlorpyrifos and TCP

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

Crop (ppm range):
- Dried figs NDR of chlorpyrifos $(<0.01 \text{ ppm})$
- TCP $(<0.1 \text{ ppm})$
- 1X rate (2 lbs ai/acre) $71/2 \text{ mo. PHI}$
- 1977 crop year - CA

Other Comments: (1) NDR would be expected in fresh figs either:
- (2) Storage stability studies with figs validate both chlorpyrifos and TCP for the entire storage interval (1977 to 1979 or 1980).

26. Residues will not exceed proposed tolerance on (commodities)
- Figs (or dried figs)
and will exceed proposed tolerance on (commodities)

27. Livestock Feeding Studies on (species): N/A. RCB does not consider figs to be a livestock feed, but see #28.

28. Animal Feeding Levels: N/A

29. Animal Residue Ingestion Levels from Proposed Crop Tolerance Levels (proposed tol. level x % in diet):
- N/A
- 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 [X] If yes (species/levels): N/A Already have been.

32. Other Comments: Re #27, we note meat, milk, poultry, and egg tolerances are established in the event bull figs were to be fed.

33. Other Considerations:

34. Additional Data Needed:

35. Recommendations: TOX considerations permitting, we recommend in favor of the establishment of the proposed tolerance.

36. Other Comments under Recommendations: A geographic restriction is unnecessary since ca 99% of commercial fig production is in CA.

37. Compatibility with Codex Tolerances: N/A. See attachment.

cc: RF, Circ, Reviewer, Thompson, Tox, EEB, EFB, FDA, PP.
Approved: Quick 5/28/82 Schmitt 5/28/82

[Signature] [Signature]
**INTERNATIONAL RESIDUE LIMIT STATUS**

**CHEMICAL:** Chlarpyrifos  
**CCPR NO.:** 84  
**PETITION NO.:** 2E2668

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<tr>
<th>Codex Status</th>
<th>Proposed U.S. Tolerances</th>
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<tr>
<td>No Codex Proposal Step 6 or above</td>
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<tr>
<th>Residue (if Step 9):</th>
<th>Chlarpyrifos</th>
<th>Residue: Chlarpyrifos and its TCP* metabolite</th>
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<th>Crop(s)</th>
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<th>Crop(s)</th>
<th>Tol. (ppm)</th>
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<tr>
<td>figs</td>
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**CANADIAN LIMIT**

Residue: Includes metab 3,5,6-trichloro-2-pyridinol

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**MEXICAN TOLERANCIA**

Residue: 

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**Notes:** 3,5,6-trichloro-2-pyridinol