



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

OFFICE OF  
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: Cyhalothrin Data to Substitute for PP321 Data  
Requirements

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11/3/87

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TO: George La Rocca  
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Attached are the Ecological Effects Branch (EEB)  
reviews of Karate, also known as PP321, for use on  
cotton and soybeans.

On January 30, 1987, EEB received a response from ICI  
Americas, Inc. with regards to several data requirements  
some of which, being fulfilled by studies that were conducted  
on cyhalothrin instead of PP321, the active ingredient.

Specifically, the avian reproduction studies on the bobwhite quail and the mallard duck. EEB can not accept data on the 4 isomeric composition (cyhalothrin), in lieu of the 2 isomeric composition (PP321 or Karate) for these studies. It is apparent from the acute avian data (Table A) that PP321 is more toxic than cyhalothrin to waterfowl, both on an acute oral basis and on a subacute dietary basis. Therefore, the results from the avian reproduction studies on cyhalothrin would not portray the potential hazard to avian wildlife from exposure to PP321.

ICI Americas, Inc. has submitted acute freshwater toxicity data on PP321, therefore the acute data that were submitted on cyhalothrin need not be included. However, it should be noted that PP321 is more toxic than cyhalothrin to aquatic organisms as well.

The data requirements are specified in each of the reviews.

TABLE A

<u>Study</u>	<u>PP321</u>	<u>Compound</u> <u>Cyhalothrin</u>
Avian Acute Oral LD <sub>50</sub> mallard	>3950 mg/kg	>5000 mg/kg
Avian Dietary LC <sub>50</sub> mallard	3948 ppm	12488 ppm
bobwhite	>5300 ppm	2354 ppm
Fish acute LC <sub>50</sub> bluegill	0.21 ug/l	0.46 ug/l
rainbow	0.24 ug/l	0.54 ug/l
<u>Daphnia magna</u> LC <sub>50</sub>	0.36 ug/l	0.38 ug/l