State of California – The Resources Agency EDMUND G. BROWN, JR., Governor
PESTICIDE INVESTIGATIONS UNIT
OFFICE OF SPILL PREVENTION AND RESPONSE
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Review of Criteria Derivation Drafts for Cypermethrin and Permethrin

Thank you for the opportunity to review the drafts of water quality criteria for the pesticides cypermethrin and permethrin. As the agency charged with protection of fish and wildlife in California, the Department of Fish and Game has a strong interest in ensuring that water quality criteria be protective of aquatic life in California's water bodies.

There have been several different methodologies developed in recent years to generate water quality criteria. Rather than evaluation of the method used to develop these criteria, comments will pertain to the utility of the proposed values in the protection of aquatic life.

Cypermethrin

For cypermethrin, the proposed acute and chronic criteria are 1 ng/L and 0.003 ng/L, respectively.

The acute criterion was derived using acute toxicity data for eight organisms, the most sensitive of which was the amphipod *Hylella azteca* with a mean EC_{50} value of 2.7 ng/L. This criterion appears sufficiently low to protect sensitive aquatic organisms.

The chronic criterion was calculated using available acute-to-chronic ratios (ACR) because there were chronic values available for relatively few families of organisms. The chronic value of 0.003 ng/L was based on the ACR for *Daphnia magna* of 949. As this ratio is relatively high, the resulting chronic criterion is fairly low. Although the proposed chronic criterion does appear conservative, it would be prudent to adopt this criterion until additional studies can be performed. If additional studies indicate that the ACR for *Daphnia magna* is atypically high, it may be warranted to raise the chronic criterion.

Permethrin

The proposed acute and chronic criteria for diazinon are 10 ng/L and 2 ng/L, respectively. It appears that sufficient data were available to derive these criteria and they appear appropriate to protect aquatic organisms.

Thank you for the opportunity to comment on this issue. Please contact me at (916) 358-2954 if you have any questions.

Sincerely,
Stella McMillin
Department of Fish and Game
Pesticide Investigations Unit