



Department of Pesticide Regulation



Mary-Ann Warmerdam
Director

MEMORANDUM

Arnold Schwarzenegger
Governor

TO: John Sanders
Branch Chief
DPR-Environmental Monitoring

FROM: KayLynn Newhart
Associate Environmental Research Scientist
DPR-Environmental Monitoring

DATE: November 4, 2005

SUBJECT: Environmental Monitoring Branch's Aquatic Pesticide Registration Review

Environmental Monitoring Branch (EM) staff conducts scientific evaluation of aquatic pesticides prior to product registration to identify potential adverse problems in surface water and sediments. EM has a standing request of DPR's Registration Branch to review all registrations of new products that have aquatic sites on the label. This request includes products proposed for use on rice as well as other aquatic sites. When aquatic pesticide registration packages arrive in Environmental Monitoring appropriate staff at the Regional Water Quality Control Board and California Department of Fish and Game are notified to allow them to review and comment regarding the registration. When assessing possible surface water impacts all available scientific data, studies, and reports are assessed. Types of registrations that are submitted for review to Environmental Monitoring include:

- Section 3 (full or conditional)
 - The data submitted by the applicant meets all requirements under FIFRA section 3 criteria.
- 24C-Special Local Needs (SLN)
 - Can be used when a special pest need exists and no other product is available.
 - Cannot contain a new active ingredient not registered by U.S.EPA.
- Section 18-Emergency exemption for emergency pest problem with no registered available alternative.

Environmental Hazard Statements that are required on the pesticide label often do not include detail that mitigates surface water or sediment environmental impacts. Additional field dissipation studies that mimic California crop growing and regional water quality concerns and conditions are often necessary to ensure more environmental protection than a federal USEPA registration may require.

Initial use of a newly registered pesticide applied on minimal area may not pose an initial surface water or sediment hazard. However, larger regional use can cause higher concentrations and greater environmental loading into adjacent waterways. Pesticide reviews conducted by EMs



Surface Water Program staff include a summary of the intended use of the pesticide, fate, transport and effects including:

- Target pest and growth stage.
- Projection of future use of pesticide on target pest and resulting environmental loading.
- Rate of application.
- Method of application (air, ground, subsurface).
- Whether application is to flowing or quiescent water.
- Possible environmental concerns to downstream receiving water.
- Parent and metabolite half-life and breakdown in surface water and sediment.
- Persistence of parent chemical and metabolites in water and sediment.
- Resuspension of pesticide parent or metabolites from sediment to water.
- Oxygen depletion due to organic matter decay.
- Treated water and phytotoxicity concerns if treated water is used for irrigation.
- Toxicity and field dissipation studies.
- Aquatic species toxicity.
- Bioaccumulation studies.

Additional scientific concerns and information that EM Surface Water staff use for evaluations can include:

- Drinking water Maximum Contaminant Level (MCL).
- Swimming/fishing restrictions following application.
- U.S.EPA studies and reports.
- U.S.EPA Reregistration Eligibility Decision (R.E.D.) documents.
- Reports of adverse incidences or problems in other U.S. states.
- Assessments by non-U.S. regulatory agencies such as Environment Canada.

EM Surface Water scientists may make one or more of the following recommendations after reviewing pesticide data packages.

- Recommend that registration be approved, denied, or conditional on the basis that more studies or information be required from the registrant.
- Recommend if water quality data is acceptable and supports registration.
- Make recommendations if additional water quality testing is required.
- Determine if there is evidence of an adverse effect or potential adverse effect to aquatic species from pesticide concentrations in surface water or sediments.
- Determine if all water quality adverse effects are mitigated by label language.
- Recommend a pesticide be restricted use when needed.
- Recommend water hold requirements following application when needed.

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EM Air Program staff may also evaluate aquatic pesticides for additional restrictions and buffers when needed for application drift that may cause aquatic toxicity to adjacent non-target waterways and phyto-toxicity to non-target plant species. EM Ground Water Staff may also evaluate the pesticide for potential to contaminate ground water depending on the pesticide's physico-chemical properties.