

Propetamphos Facts

EPA has assessed the risks of propetamphos and reached an Interim Reregistration Eligibility Decision (IRED) for this organophosphate (OP) pesticide. Provided that the risk mitigation measures outlined in this document are adopted, propetamphos fits into its own “risk cup”; that is, its aggregate risks are within acceptable levels. Propetamphos is also eligible for reregistration, pending a full reassessment of the cumulative risk from all OPs.

Propetamphos is an insecticide used indoors for the control of insects, such as ants, cockroaches, fleas and termites. Propetamphos residues in food and drinking water do not pose risk concerns. Additionally, risks are low to workers who mix, load, and apply propetamphos at commercial and residential use sites. There are also no environmental risk concerns. However, there are post-application risk concerns for adults, and especially children entering areas treated with propetamphos. With mitigation canceling all residential use, propetamphos fits into its own “risk cup”. With other mitigation measures, propetamphos’ worker risks also will be below levels of concern for reregistration.

EPA is reviewing the OP pesticides to determine whether they meet current health and safety standards. OPs need decisions about their eligibility for reregistration under FIFRA. Additional OPs with residues in food, drinking water, and other non-occupational exposures also must be reassessed to make sure they meet the new Food Quality Protection Act (FQPA) safety standard.

EPA’s next step under the Food Quality Protection Act (FQPA) safety standard is to complete a cumulative risk assessment and risk management decision encompassing all the OP pesticides, which share a common mechanism of toxicity. The interim decision on propetamphos cannot be considered final until this cumulative assessment is complete. Further risk mitigation may be necessary at that time.

The OP Pilot Public Participation Process

The organophosphates are a group of related pesticides that affect the functioning of the nervous system. They are among EPA’s highest priority for review under the Food Quality Protection Act.

EPA is encouraging the public to participate in the review of the OP pesticides. Through a six-phased pilot public participation process, the Agency is releasing for review and comment its preliminary and revised scientific risk assessments for individual OPs. (Please contact the OP Docket, telephone 703-305-5805, or see EPA’s web site, www.epa.gov/pesticides/op.)

EPA is exchanging information with stakeholders and the public about the OPs, their uses, and risks through Technical Briefings, stakeholder meetings, and other fora. USDA is coordinating input from growers and other OP pesticide users.

Based on current information from interested stakeholders and the public, EPA is making interim risk management decisions for individual OP pesticides, and will make final decisions through a cumulative OP assessment.

The propetamphos IRED was made through the OP pilot public participation process, which increases transparency and maximizes stakeholder involvement in EPA's development of risk assessments and risk management decisions. EPA worked extensively with affected parties to reach the decisions presented in this IRED document, which concludes the OP pilot process for propetamphos.

Uses

- Propetamphos is an OP insecticide used indoors for the control of insects, primarily ants, cockroaches, fleas, and termites. Propetamphos may be applied at indoor residential, medical, commercial, and industrial buildings and equipment, such as homes, apartments, stores, schools, hospitals, offices and factories. It may also be used in food service establishments where there is no contact with food, and where no processing, packing, or warehousing of food occurs.
- Total annual usage is low, and estimated at 90,000 pounds active ingredient. The typical rate of dilution varies from 0.5% to 1.0% active ingredient solution. Propetamphos is applied as a water dilution through a compressed air sprayer, often with a low pressure hand wand.

Health Effects

Propetamphos can cause cholinesterase inhibition in humans; that is, it can overstimulate the nervous system causing nausea, dizziness, confusion, and at very high exposures (e.g., accidents or major spills), respiratory paralysis and death.

Risks

- Dietary exposures from food are not of concern for the entire U.S. population, including infants and children, provided food is removed or covered prior to an area being treated. Because propetamphos is only used indoors, exposure from drinking water sources is not expected.
- Risks are low, but still of concern for workers who mix, load, and apply propetamphos at commercial and residential use sites.
- Risks are of concern for adults, and especially children, from combined dermal, inhalation, and (for children only) oral routes of post-application exposure from re-entering areas treated with propetamphos.
- Because propetamphos is used indoors, exposure to the environment is not expected, and therefore, ecological risks are not of concern to the Agency.

In order to support an IRED for propetamphos, the following risk mitigation measures are necessary:

- To mitigate dietary (food) risks:
 - for use in food service establishments, all food must be either covered or removed prior to the area being treated.
- To mitigate worker risks:
 - reduce the maximum rate of dilution from 1.0% to 0.5% active ingredient solution;
 - applicators must wear personal protective equipment consisting of a long-sleeve shirt, long pants, shoes and socks, and chemical-resistant gloves; and
 - only protected handlers may be in the area during applications.
- To mitigate non-occupational risks to persons re-entering treated areas (post-application risks):
 - cancel all residential uses;
 - prohibit use in structures children and the elderly occupy, such as or including homes, schools, day-cares, hospitals, nursing homes (except for areas of food service when food is covered or removed prior to treatment);
 - cancel all spot, broadcast, and termiticide treatment; and
 - restrict the method of application to crevice treatment only, as defined in OPPTS 860.1460 Food Handling.

Next Steps

- Numerous opportunities for public comment were offered as this decision was being developed. The Propetamphos IRED, therefore, is issued in final (see www.epa.gov/REDS/ or www.epa.gov/pesticides/op) without a formal public comment period. The docket remains open, however, and any comments submitted in the future will be placed in this public docket.
- To effect risk mitigation as quickly as possible, time frames for making the changes described in the Propetamphos IRED are shorter than those in a usual RED. All labels need to be amended to include the above mitigation and submitted to the Agency within 90 days after issuance of this IRED.
- For propetamphos, tolerances for residues in food commodities will remain in effect and unchanged until a full reassessment of the cumulative risk assessment for all OP pesticides is completed. Upon completion of the cumulative risk assessment, EPA will issue its final tolerance reassessment decision for propetamphos and may request further risk mitigation measures. For all OPs, raising and/or establishing tolerances will be considered once a cumulative assessment is completed.