

US EPA ARCHIVE DOCUMENT

Oxamyl Facts

EPA has assessed the risks of oxamyl and reached an Interim Reregistration Eligibility Decision (IRED) for this carbamate pesticide. With the risk mitigation measures required, oxamyl fits into its own “risk cup”—its individual, aggregate risks are within acceptable levels. Oxamyl also is eligible for reregistration, pending a full reassessment of the cumulative risks.

Used on several vegetables, fruits, and non-food items, oxamyl residues in food and drinking water do not pose risk concerns for the general population. Although oxamyl showed potential aggregate risks to children (1-6 years), the Agency does not expect risks to children due to the rapid reversibility of cholinesterase inhibition. Oxamyl has no residential uses, and fits into its own “risk cup.” With required mitigation measures, oxamyl worker and ecological risks are believed to be significantly reduced.

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

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

The oxamyl interim decision was made through an abbreviated public participation process, which increases transparency and maximizes stakeholder involvement in EPA’s development of risk

The Carbamate Public Participation Process

The carbamates are a group of related pesticides that affect the functioning of the nervous system. EPA considers them a high priority for review under the Food Quality Protection Act.

EPA encourages the public to participate in the review of the carbamate pesticides. The Agency released the preliminary scientific risk assessments for review and comment earlier and is now releasing the revised scientific risk assessments for oxamyl and its interim reregistration decision. The Docket telephone is 703-305-5805, or see EPA’s web site, www.epa.gov/pesticides/reregistration/oxamyl/

EPA is exchanged information with stakeholders and the public about oxamyl to address the uses and risks through stakeholder meetings, conference calls, and other fora. USDA coordinated input from growers and other oxamyl pesticide users.

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

assessments and risk management decisions. EPA worked with affected parties to reach the decisions presented in this interim decision document.

Uses

- C A systemic and contact insecticide/acaricide and nematicide, oxamyl is a restricted use pesticide used on apples, bananas, carrots, celery, citrus, cotton, cucumbers, eggplants, garlic, ginger, muskmelon (including cantaloupe and honeydew melon), onion (dry bulb), peanuts, pears, peppers, peppermint, pineapples, plantains, potatoes, pumpkins, soybeans, spearmint, squash, sweet potatoes, tobacco, tomatoes, watermelons, yams. Oxamyl is also used on Non-bearing apple, cherry, citrus, peach, pear, and tobacco.
- Approximately 800,000 of oxamyl active ingredient (a.i.) are applied annually. Although cotton accounts for most of the usage, 600 thousand pounds a.i. oxamyl is used on only 7 percent of total cotton acreage. Oxamyl is applied 1-2 times per season when it is used, usually at a rate of about 0.4 pounds a.i. per acre. For most other crops, oxamyl is generally applied 1 to 2 times per season around 1 lb. ai/A. Rates as low as 0.2 lb ai/A may be used.
 - There are no residential uses.

Health Effects

- Oxamyl 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

- Acute dietary risks from food and drinking water are below the level of concern for all segments of the population, except children 1-6 years old.
- Chronic dietary risks were not assessed for oxamyl due to the rapid reversibility of ChEI.
- The Agency believes the acute aggregate (food and water) risks to children (1-6 years) is largely an overestimated risk concern because the assessment does not account for the rapid reversibility of ChEI, which occurs within 2 to 3 hours. The Agency believes the results from an ongoing drinking water study will confirm the assessed risks.
- The current occupational assessment indicates risk concerns for all use scenarios at the current maximum label rate. Post-application risks for workers entering treated fields are generally not

of concern under the current restricted entry intervals (REI), except for hand-harvesting of citrus tree crops.

- However, the Agency believes that implementing the mitigation measures which includes rate reductions, engineering controls, additional personal protective equipment, and several voluntary cancellations will effectively reduce exposure and risk to a level that is not of concern to the Agency. The Agency is also increasing the REI for hand-harvesting of citrus tree crops and expects the risks to be reduced to level that is not of concern.
- There may be some acute and chronic risks to avian and mammalian species, as well as, potential concerns for endangered species of freshwater invertebrates. However, the Agency believes that the mitigation measures summarized below and the “restricted” use classification will reduce potential ecological the risks and adequately mitigate risks.

Risk Mitigation

To mitigate risks to handlers and workers:

- Reduce maximum aerial application rate to 1.0 lb ai/A for foliar applications on all crops except cotton.
- Reduce maximum chemigation application rate to 2.0 lb ai/A for all crops except cotton.
- Reduce maximum rate to 0.5 lb ai/A for cotton, except for AZ and CA (1.0 lb ai/A with closed systems); and reduce maximum seasonal rate to 3.0 lb. ai/A/year.
- Reduce maximum soil application rate to 4.0 lb ai/A for all crops, except mint and pineapple, which must be reduced to 2.0 lb ai/A.
- Reduce seasonal maximum applications for all crops to 8 per crop and incorporate all groundboom soil treatments by water or mechanical means.
- Require enclosed cockpits for aerial applicators and closed mixing/loading systems in CA and AZ for cotton use at 1 lb. ai/A.
- Maintain PPE for all uses (baseline and coveralls, chemical resistant shoes, socks, chemical resistant gloves, chemical resistant apron, head gear for airblast, and an organic vapor respirator).

Also, the registrant has decided to voluntarily cancel the following uses:

- Seed piece dip (yams).
- Soybean use.
- Soil broadcast treatment for cotton.

To mitigate the ecological risks:

- Measures mentioned above are expected to affect the ecological concerns.

Next Steps

- The oxamyl IRED is being issued in final (see www.epa.gov/REDs/ or www.epa.gov/pesticides/reregistration/oxamyl), without a formal comment period. The docket remains open, however, and any comments submitted will be considered in any future actions.
- To effect risk mitigation as quickly as possible, the Agency is requiring that all labels must be amended to include the above mitigation and submitted to the Agency within 90 days after issuance of this IRED.
- The registrant must submit the final results of the drinking water study by the year 2001.
- When the cumulative risk assessment for carbamates, including oxamyl is complete, EPA will issue its final tolerance reassessment decision for oxamyl and may require further risk mitigation measures. Similarly, the Agency may reconsider any part of this interim decision based on new information which may come to the Agency's attention. The Agency will revoke fourteen tolerances because there are either no registered uses or because the commodity is no longer considered a significant feed item; and decrease three tolerances because available data supports the decrease. Raising/or establishing new tolerances will be considered once a cumulative assessment is completed.