

US EPA ARCHIVE DOCUMENT



Coumaphos Facts

EPA has reassessed the risks of coumaphos and reached a Reregistration Eligibility Decision (RED) on the uses of coumaphos where a decision was deferred in the 1996 Coumaphos RED. In 1996, a reregistration decision was only reached for the dip vat use by the U.S. Department of Agriculture. In this RED Addendum, EPA has determined that if the risk mitigation measures for this organophosphate (OP) pesticide are adopted, coumaphos fits into its own “risk cup”—its individual, aggregate risks are within acceptable levels. Coumaphos also is eligible for reregistration, pending a full reassessment of the cumulative risk from all OPs.

Used on livestock (beef and dairy cattle, horses, goats, sheep and swine) and swine bedding for the control of arthropod pests, coumaphos residues in food and drinking water do not pose risk concerns. With mitigation limiting exposure to workers who handle this pesticide, coumaphos fits into its own “risk cup.” With other mitigation measures, groundwater sources of drinking water could be further protected from potential pesticide contamination.

EPA’s next step under the Food Quality Protection Act (FQPA) 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 coumaphos cannot be considered final until this cumulative assessment is complete. Further risk mitigation may be warranted at that time.

EPA is reviewing the OP pesticides to determine whether they meet current health and safety standards. Older OPs need decisions about their eligibility for reregistration under FIFRA. OPs 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 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 coumaphos reregistration eligibility decision 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 interim decision document, which concludes the OP pilot process for coumaphos.

Uses

- An insecticide/acaricide, coumaphos is used to control flies, ticks, and mites, among other arthropod pests on livestock and swine bedding. Predominant use is on beef cattle.
- Coumaphos is an important tool in the USDA Cattle Fever Tick Eradication Program (dip vat treatment) to prevent the reintroduction of equine and bovine piroplasmiasis into the U.S.
- Emergency exemptions exist for coumaphos use in bee hives to control varroa mites and small hive beetles.
- Estimated annual domestic use is very low-- approximately 71,000 pounds of active ingredient per year.

Health Effects

- Coumaphos 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 eating commodities treated with coumaphos are not of concern for the entire U.S. population, including infants and children. Drinking water is not a significant source of exposure.
- Coumaphos is not registered for use in residential areas, therefore residential risks were not assessed.
- Risks are of concern for workers who mix, load, and apply coumaphos to livestock and swine bedding.
- Environmental risks were not reassessed because the Agency has no reason to believe the conclusions would change since the 1996 RED was issued.

Risk Mitigation

In order to support a reregistration eligibility decision for coumaphos, the following risk mitigation measures are necessary:

- To mitigate risks to workers:

For dip vat use:

- Restrict the use of the 42% flowable product to U.S. Department of Agriculture (USDA-APHIS) staff enrolled in the USDA-APHIS cholinesterase monitoring program.

For spray uses:

- Maintain the current use restriction limiting the number of animals an individual can treat using hand-held sprayers to 100 head per day at the maximum application rate and move this restriction to a more prominent place on the labels.

For dust uses:

- Prohibit the use of mechanical dusters as a method of application for coumaphos technical, all manufacturing-use products and all end-use products;
- Require the use of a dust/mist respirator and a chemical-resistant apron; and
- Limit the number of animals an individual may treat using a shaker can to 25 head per day and the swine bedding area to be treated to 1,000 sq. ft. per day.
- To further mitigate any potential ground water contamination:
 - Restrict the disposal of bioremediated coumaphos spent solution from dip vat operations to shallow, concrete-lined evaporation ponds.
- To reflect the uses currently supported by the technical registrant:
 - Restrict the formulation of coumaphos products for use on beef cattle, dairy cattle, horses, swine and swine bedding use only.

Next Steps

- Numerous opportunities for public comment were offered as this decision was being developed. The Coumaphos RED Addendum 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 Coumaphos RED Addendum 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 RED Addendum.
- When the cumulative risk assessment for all organophosphate pesticides is completed, EPA will issue its final tolerance reassessment decision for coumaphos and may request further risk mitigation measures. The Agency expects to revoke six tolerances for residues in meat, fat, and meat byproducts of goats and sheep, because the technical registrant no longer supports these uses and will request voluntary cancellation of these uses. For all OPs, raising and/or establishing tolerances will be considered once a cumulative assessment is completed.