

Health Questions and Answers for Dibrom® Insecticide

This Material is not applied to Fruit Trees or Food Crops

Prepared by the Office of Environmental Health Hazard Assessment, CalEPA



Q: What is Dibrom®?

A: Dibrom® is a component of a bait that is used by the California Department of Food and Agriculture to control the Oriental Fruit Fly and other invasive pests. Naled is the active ingredient in Dibrom®.

Q: How does the fruit fly bait work?

A: The bait is a mixture of (a) Dibrom®, (b) a fruit fly attractant, and (c) a clay-like thickening agent. A small portion (about one large spoonful) of the mixture is applied to selected trees and utility poles 6 to 8 feet above the ground. The mixture dries quickly and forms spots about 5 inches in diameter. Male fruit flies are attracted to the bait and killed by naled when they land on the bait. Killing males suppresses the breeding of fruit flies and fruit fly populations.

Q: How does naled in Dibrom® work?

A: Naled is an organophosphate insecticide that is toxic to the nervous system of insects, such as fruit flies and mosquitos. It inhibits the breakdown of a chemical in the nervous system. When the chemical is not broken down, it accumulates and disrupts the nervous system, leading to death. Insects are much more sensitive to naled than mammals because they are less capable of eliminating naled from their bodies.

Q: What happens to naled in the environment?

A: When naled is used in the fruit fly bait, most of it stays within the clay mixture. A small amount of naled gradually moves to the bait surface and evaporates into the air. A monitoring study conducted by the California Department of Pesticide Regulation did not detect naled in air samples taken 1 meter from the baits.

This study did find trace levels of dichlorovos, a chemical created by the breakdown of naled. These very low levels were found within 1 meter of the baits, with levels dropping 50 percent within two days after application of naled. Dichlorovos has been shown to cause cancer in laboratory animals and is listed as a carcinogen under California's Proposition 65 law. However, the cancer risk associated with dichlorovos from the baits is expected to be negligible due to the very low air levels and the brief period of potential exposure.

Q: What are the potential health risks to humans from naled in fruit fly bait?

A: Adverse health effects are not expected from naled when used in these baits. Inhalation of naled and dichlorovos is predicted to be negligible based on air monitoring results. Both naled and dichlorovos are skin irritants at high concentrations. Skin irritation is not expected when they are used in the bait because (a) the bait is positioned at a height that would require effort for most people to reach, (b) only a small amount of naled is used in each bait, and (c) the naled is mixed with a clay-like substance and once the substance dries only a small amount of naled would be available for skin contact.

Q: Are there any health effects from the inert ingredients in Dibrom®?

A: The identity of the inert ingredients in Dibrom® is considered proprietary information and is only disclosed to government agencies involved in pesticide regulation. The Office of Environmental Health Hazard Assessment has reviewed the toxicity of the inert ingredients. No health effects are expected from the use of these inert ingredients in the bait. The inert ingredients constitute a very small proportion of the bait and evaporate very rapidly. Once in the air they quickly dissipate or degrade, resulting in insignificant inhalation exposure.

Two of the inert ingredients are derived from petroleum or natural gas and have been shown to be carcinogenic in animal studies. However, due to the low air concentrations and very short exposure duration, the cancer risk posed by the two inert ingredients is expected to be negligible.

Q: What precautions should I take when baits containing Dibrom® are applied to trees or utility poles in my neighborhood?

A: Do not touch the bait or try to remove it from the trees or utility poles. Wash your skin and clothing in the unlikely event that you come in contact with the bait. Follow precautions provided by the California Department of Food and Agriculture.

Q: What should I do if I feel sick after the application of Dibrom® bait?

A: Call the California Poison Control System hotline at (800) 222-1222 or consult with your physician.

For further information, please contact:

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