

Health Questions and Answers for Dibrom[®] Insecticide for Use in Fruit Fly Lure Traps

Prepared by the Office of Environmental Health Hazard Assessment, CalEPA



Q: What are fruit fly lure traps?

A: Fruit fly lure traps are used by the California Department of Food and Agriculture (CDFA) to detect and control invasive fruit fly pests. The trap is a small tent-like device, with a sticky board on the inside, containing a cotton wick with a chemical lure. The lure is a mixture of Dibrom[®], which contains the insecticide naled, and a fruit fly attractant. The attractant is either Cuelure, a pheromone-like substance that attracts male flies, or methyl eugenol, a naturally occurring chemical. Male fruit flies are attracted to the lure and killed by naled when they land on the wick, and are retained in the trap by the sticky surface. Besides detecting fruit flies, the trap also removes male flies from the population to reduce the breeding of new flies.

Q: Where are the traps placed?

A: The traps are hung in fruit and ornamental trees 6 to 8 feet above the ground. In areas with low-growing host plants which lack trees, traps may be hung on poles 3 to 5 feet above the ground.

Q: How does naled, the active ingredient in Dibrom[®], work?

A: Naled is an organophosphate insecticide that is toxic to the nervous system of insects, such as fruit flies and mosquitoes. Naled prevents the breakdown of a certain chemical in the nervous system, causing the chemical to accumulate. Too much of this chemical disrupts the insect's nervous system, leading to its death.

Q: What happens to naled in the environment?

A: When naled is used in a fruit fly lure, a small amount of the chemical gradually moves to the wick surface and evaporates into the air. Over time, naled breaks down into dichlorvos, another pesticide, which also evaporates and degrades in the air.

Q: What are the potential health risks to residents from fruit fly lure traps?

A: Residents may be exposed to naled and dichlorvos in the air surrounding the trap. A 2010 CDFA study found very low concentrations of naled and dichlorvos in the air where the workers were putting the Dibrom-lure mixture onto the wicks. The air concentrations experienced by the residents should be much lower than those for the workers, and the exposure should not result in adverse health effects.

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Both naled and dichlorvos are skin irritants at high concentrations. Skin irritation is not expected when naled is used in lure traps because (a) there are clear warning signs on the traps and they are positioned at a height that would be difficult for children to reach, and (b) the chemicals are absorbed into a cotton wick located inside the trap.

There is no evidence of carcinogenicity of naled in laboratory animal studies. Dichlorvos and methyl eugenol have been shown to cause cancer in laboratory animals and are listed as carcinogens under California's Proposition 65 law. However, the cancer risk from either dichlorvos or methyl eugenol exposure from the fruit fly lure traps is negligible due to very low air levels.

Q: What is known about the health effects of the inert ingredients in Dibrom[®]?

A: Adverse health effects are not expected from the inert ingredients in Dibrom[®] because they constitute a very small proportion of the lure and evaporate rapidly. Once in the air, they quickly dissipate or degrade and thus inhalation exposure is expected to be very low.

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

Q: What precautions should I take when fruit fly lure traps containing Dibrom[®] are placed in my neighborhood?

A: Do not touch the trap or try to remove it from the trees or poles. If you come into direct contact with the lure, wash your skin and clothing immediately. Follow CDFA's precautionary warnings on the trap.

Q: What should I do if I feel sick after encountering a trap containing Dibrom[®]?

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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