

## **Health Questions and Answers for Isomate<sup>®</sup>-EGVM Pheromone Twist Ties**

Prepared by the Office of Environmental Health Hazard Assessment, CalEPA



**Q: *What is Isomate<sup>®</sup>-EGVM?***

**A:** Isomate<sup>®</sup>-EGVM is also commonly known as “twist tie.” It is a pheromone-releasing device that consists of two parallel plastic tubes sealed at both ends. One tube is filled with a pheromone solution which very slowly diffuses to the outside of the tube and evaporates. The other tube contains an aluminum wire which adds rigidity to the device. When used, the device is tied to a grape vine or a tree branch at a height of 4-10 feet. It is effective for 120-180 days; after that, it is either removed or replaced with a fresh one.

**Q: *What are pheromones?***

**A:** Pheromones are natural chemicals emitted by insects to send messages to members of the same species. They serve a number of functions including finding the location of food sources, alarming others of potential danger, and locating a potential mate. The pheromone in Isomate<sup>®</sup>-EGVM is referred to as a “sex pheromone” because it is identical to the chemical that female European Grape Vine Moths (EGVM) emit to attract males.

**Q: *How does Isomate<sup>®</sup>-EGVM work?***

**A:** The sex pheromone inside Isomate<sup>®</sup>-EGVM is specific to the EGVM. Male moths follow the sex pheromone “scent” released by females to locate and mate with them. When Isomate<sup>®</sup>-EGVM is applied at an appropriate density, the sex pheromone released from the devices overwhelms the “scent” released by female moths and impairs the male’s ability to find the females. The end result is disruption of the moth’s breeding cycle and suppression of the moth population.

**Q: *Would Isomate<sup>®</sup>-EGVM harm other animals or insects?***

**A:** The sex pheromone released from the device is quite specific. Its only effect is to disrupt the communication between male and female EGVM moths and reduce their mating success. It does not harm the moths. It has no effect on other non-target species including mammals, birds, and other insects.

**Q: *What ingredients are present in Isomate<sup>®</sup>-EGVM?***

**A:** Isomate<sup>®</sup>-EGVM contains an active ingredient, (E,Z)-7,9-dodecadien-1-yl acetate, and two inert ingredients, bumetrizole and butylated hydroxytoluene (BHT). (E,Z)-7,9-Dodecadien-1-yl acetate is the sex pheromone of the EGVM; it belongs to a group of chemicals called straight-chain lepidopteran pheromones (SCLPs). The United States Environmental Protection Agency (US EPA) and the California Office of Environmental Health Hazard Assessment have evaluated SCLPs and concluded that these chemicals pose negligible risk to human health because they exhibit very low toxicity in animal testing, have no effects on non-target species, and are used in extremely low amounts.

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The inert ingredients are added to prevent degradation of the sex pheromone by ultraviolet light and oxidation. Bumetrizole is approved by the Food and Drug Administration (FDA) to be used in producing, manufacturing, packaging, processing, and transporting food. BHT is approved by the FDA as a food additive. Since 1949, it has been used as an antioxidant in many food products as well as edible fats and oils.

**Q: *Can I continue to eat the food from my garden or fruits collected from my orchard after twist ties are placed in my neighborhood?***

**A:** The sex pheromone emitted from Isomate<sup>®</sup>-EGVM will not contaminate home-grown vegetables and fruits. Home-grown produce can be consumed without restriction.

**Q: *What are the potential human health effects associated with the use of Isomate<sup>®</sup>-EGVM?***

**A:** When Isomate<sup>®</sup>-EGVM is used as recommended by the manufacturer, no human health effects are anticipated. Direct contact with ingredients inside the device should be avoided as they could be slightly irritating to the skin and eye. If direct contact occurs, wash thoroughly with water.

**Q: *What should I do if I feel sick after twist ties are placed in my neighborhood?***

**A:** You can call the California Poison Control System hotline at: (800)-222-1222, or consult with your physician.

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For further information, please contact:

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