

Health Questions and Answers for Entrust[®] Insecticidal Products

Prepared by the Office of Environmental Health Hazard Assessment, CalEPA



Q: *What is Entrust[®]?*

A: Entrust[®] is an insecticide product that contains spinosad as its active ingredient. Since spinosad is produced by a naturally occurring bacterium, *Saccaropolyspora spinosa*, it is considered a “non-synthetic” ingredient. Entrust[®] is used to control a variety of insects on farms and in gardens and by the California Department of Food and Agriculture (CDFA) to control invasive pests in urban areas. CDFA applies Entrust[®] by spraying it on foliage (i.e., leaves) of targeted plants from the ground level.

Q: *How does the active ingredient, spinosad, work?*

A: After an insect eats or touches spinosad, the insect’s nerves become highly excited. The nervous system becomes overloaded leading to paralysis and finally death. Insects are very sensitive to spinosad. Tests indicate that spinosad has little effect on mammalian nervous systems, even at very high doses.

Q: *How do federal agencies classify spinosad health effects and risk?*

A: Spinosad meets the US Environmental Protection Agency’s requirements for “reduced risk pesticides” as it has been shown to have low impact on human health and low toxicity to non-target organisms. The US Department of Agriculture has certified spinosad for organic use partly because it is derived from a natural biological source rather than being synthesized from other chemicals.

Q: *What are the human health effects associated with spinosad?*

A: Spinosad poses very little health risk to humans when handled properly. It has been tested on laboratory animals and cell systems using standardized tests. High doses given once or repeatedly and given by mouth or on the skin showed very low toxicity to mammals. Studies showed no evidence of mutations or other DNA damage, or cancer. Spinosad caused temporary slight eye and skin irritation when tested at high concentrations. It did not cause allergic dermatitis in test animals.

Q: *What is known about the inert ingredients in Entrust[®]?*

A: There are several inert ingredients in Entrust[®], and all of them have been tested for toxicity in laboratory animals. Some of the inert ingredients, when tested at high concentrations, caused transient slight skin or eye irritation. None of the inert ingredients showed evidence of being carcinogenic (i.e., cancer causing). Because less than 20% of the weight of Entrust[®] is from inert ingredients, exposure to any one of the inert ingredients is expected to be very low. All of the inert ingredients, either individually or in combination with the other inert ingredients, are also used in various consumer products (e.g., cosmetics, oral over-the-counter medications, and paper products that contact food).

Q: *What happens to Entrust after it is sprayed on foliage in my yard?*

A: Most of the active ingredient, spinosad, remains on the surface of the foliage. A small amount of spinosad may enter leaves but it is not distributed to other parts of the plant. Foliage application could also result in spinosad landing on the ground. Spinosad tends to stay in the top soil and is not persistent in the environment; the residues on foliage and on the ground are broken down by sunlight or bacteria in a few days to several weeks.

Q: *What actions can people take to reduce their exposures in areas treated with Entrust®?*

A: People should take common sense actions to avoid unnecessary contact. Do not do yard work or allow children to play under or on the treated trees or plants immediately after the treatment. Rinse off outdoor play areas after the treatment. Wash skin and clothing if contact occurs. Follow instructions provided by the responsible authority, CDFA.

Q: *Can I eat fruits and vegetables from my garden following treatment with Entrust®?*

A: Yes, produce can be harvested after Entrust has dried. As always, follow the practice of washing fruits or vegetables (homegrown or from the grocery store) before eating or cooking them.

Q: *What should I do if I feel sick after the application of Entrust®?*

A: You can 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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