

Technical Bulletin #49:

Agrochemical General Information Sheet - Deltamethrin

Deltamethrin: Insecticides

Registered trade names in Cambodia: Videci 2.5 EC

Formulation types: Emulsifiable Concentrate (EC), Suspension Concentrate (SC), Soluble Concentrate (SL), Wettable Powder (WP) and others

Chemical family: Pyrethroid

What is deltamethrin?

Deltamethrin is an insecticide belonging to the pyrethroid family. Pyrethroids are versions of pyrethrins, natural insecticides from chrysanthemum flowers. It is used to control whitefly, leaf beetles, mites, true bugs, and aphids, and caterpillars on corn, vegetable and fruits; it is considered the most toxic of all pyrethroids.



Picture 1: Whiteflies



Picture 2: Striped flea beetle

How it works? (Mode of Action)

Deltamethrin can kill insects by direct contact or ingestion. Structurally based on natural pyrethrins, Deltamethrin rapidly paralyzes the insect's nervous system giving a quick knockdown effect as it immediately disables insects when they are feeding on a Deltamethrin sprayed plant. Death of insects seems to be due to irreversible damage to the nervous system.

Resistance: Insecticide resistance is becoming more prevalent in many parts of the world due to a reduction in the sensitivity of insect populations to insecticides caused by frequent and heavy use. There are some strategies recommended to delay resistance as following:

- Monitor pest levels and do not spray unless pest thresholds are exceeded.
- Rotate insecticide group and do not use two consecutive applications of products with the same mode of action.
- Integrate both chemical and non-chemical means of control as part of the overall control strategy.

Human Hazards:	Environmental Fate:
Acutely toxic to humans	Bird (quail): Non toxic
No carcinogenic data	Fish (trout): Highly toxic
	Mammals (rabbit): Moderately toxic
	Bee (honey): Toxic
	Ground water/surface water: No threat

First aid measures:

Inhalation: Move the patient to fresh air and keep at rest. If symptoms persist, call a physician.

Eye Contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Warm water may increase the subjective severity of the irritation. Get medical attention if irritation develops and persists.

Skin Contact: Immediately rinse with plenty of water for at least 15 minutes. Seek medical assistance if irritation develops and persists.



Ingestion: Rinse out mouth and give water in small sips to drink. Do not induce vomiting as there is a risk of a pesticide product entering the lungs from vomiting. If swallowed, seek medical advice immediately and show the pesticide container or label.

Mitigation Measures:

- Wear protective clothing such as a long-sleeved shirt, long pants, rubber gloves, boots, glasses, etc.
- Wash hands with soap and water after use.
- Contain spills and absorb with sand, soil, or absorbent granules.
- Do not allow product or washings to enter the waterways or sewer.
- Triple rinse empty containers prior to disposal. Do not re-use empty containers for any other purpose.
- Store in the original container in a cool, dry, ventilated place.
- Store away from sunlight.
- Store away from foodstuffs, children, and animals.
- Do not allow product to get wet in storage.
- Never use or store in or around the home.
- Keep container sealed when not in use.
- Do not apply around open bodies of water (fish ponds) and water sources, this product is very toxic to fish. If some of the product enters a fish pond, all fish will die.
- Chemical sprayers and mix tanks have to be cleaned in designated areas and separated from the insecticide sprayer if available.
- Apply under favorable weather conditions.
- Practice chemical rotation.
- Practice correct implementation of integrated pest management (IPM) practices.

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