

Technical Bulletin #57:

Agrochemical General Information Sheet – Diazinon

Diazinon: Insecticides and acaricide

Registered trade names in Cambodia: Diaphos 10H, Diazan 50EC

Formulation types: Wettable powders (WP), Suspension concentrate (SC), Water granules (WG), and others

Chemical family: Organophosphate

What is Diazinon?

Diazinon does not occur naturally in the environment. The pure chemical is a colorless and practically odorless oil. Commercial diazinon is a pale to dark brown liquid. Diazinon is used to control pest insects in soil (by soil application); sucking and chewing insects and mites on a very wide range of crops, including, citrus tree, olives, bananas, pineapples, vegetables, potatoes, sugar cane, coffee, tea, tobacco, maize, cotton, rice, ornamental plants, forestry etc. It is also used as a veterinary ectoparasiticide and as a seed treatment.

How it works? (Mode of Action)

Diazinon is a non-systemic insecticide and acaricide which acts as a contact, stomach and respiratory poison. It kills insects by interfering with nervous system function. This results in a loss of control over the nervous system that eventually leads to the death of the insect.

Resistance:

Repeated use of the same insecticide or insecticides with the same mode of action and against a particular insect in a given area may result in the effectiveness of the insecticide being reduced. To delay or prevent resistance of insects to insecticides:

- Integrate different control methods (cultural, biological, and chemical) into insect control programs whenever possible.
- Use insecticides only when the economic threshold for a pest has been surpassed and natural controls fail to limit economic damage.
- Rotate between insecticides with different modes of action, particularly if several applications are made in a season.
- Keep accurate records of insecticides used for each of your fields. Insecticides can be classified according to their similarity in chemical structure (chemical group), and by mode of action (the process by which the insecticide kills the insect). By selecting products with different modes of action for an insecticide rotation program, risk of insecticide resistance can be reduced.

Human Hazards	Environmental Fate
Low acute toxicity	Bird (quail): Highly toxic
Moderate skin irritation	Fish (trout): Very toxic
Moderate eyes irritation	Mammals (rabbit): Low toxic
No carcinogenic effects	Bee (honey): Highly toxic
	Ground/surface water: No threat

First aid measure:

Inhalation: Move person to fresh air. If person is not breathing, call the health center or doctor for further treatment advice.



Skin Contact: Wash off skin immediately with soap and plenty of water. Remove all contaminated clothing and shoes. If irritation persists seek medical attention.

Eye Contact: Rinse immediately with plenty of water for at least 15 minutes, holding eye open and taking care to rinse under eyelids as well. If irritation persists seek medical attention.

Ingestion: Call a health center or doctor immediately for treatment advice. Wash out mouth with water and have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the health center or doctor. Do not give anything by mouth to an unconscious person.

Mitigation Measures:

- Monitor plants regularly and spray only when necessary.
- Read and follow the label instructions carefully, particularly, dosage, pre-harvest intervals and safety measures. Ask for assistance from your local extension agriculture office, if unsure.
- Wear protective clothing for applicator such as long sleeved shirt and long pants, rubber gloves, boots, glasses, etc.
- Avoid contact with mouth, eyes and skin.
- Chemical sprayer and mix tanks have to be cleaned in designated areas.
- Do not eat, drink or smoke while preparing or applying pesticides.
- Avoid allowing children, pets, or sensitive people in treatment areas to prevent accidental exposure during pesticide applications.
- Do not apply near water sources or fish ponds because it is very toxic to fish.
- Apply under favorable weather conditions (no wind or rain).
- Thoroughly wash clothes and body with soap after use.
- Never use or store in or around the home.
- Store in the original container in a cool, dry, ventilated place.
- Keep away from foodstuffs, empty foodstuffs containers, and animal feed.
- Triple rinse empty containers prior to disposal. Do not re-use empty containers for any other purpose.
- Keep containers sealed when not in use.
- Practice chemical rotation.
- Practice correct implementation of integrated pesticide management (IPM) measures.
- Do not apply when bees are active.

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Recommendation Rate of Diazinon

Crop	Pest	Recommendation Rate		
		Diazinon 50EC	Diazinon 10H/10G	Diazinon 800 EC
Rice	Stem borer, leaf miner nematode and brown plant hopper		15-20 kg/ha, Scatter in the rice field when there are caterpillars present	
	Aphid			64ml/tank of 16 l, 1-1.5 tanks/1,000m ² (800ml in 200 liters of water/ha) Apply as soon as aphids begin to appear. Aerial application: Apply 2 passes at right angles to each other. Use 400ml/100 liters of water/ha for each pass.
	Leaf roller	70 ml/tank of 16 l, 2 tanks/1,000m ²		
	Stem borer	60-100 ml/tank of 16 l, 2 tanks/1,000m ²		
Vegetables, beans, corn, onion, tomato sugarcane	Army worms, crickets, mites/aphids, thrip, termites,		15-20 kg/ha, Scatter in soil before plowing and transplanting or apply at the base of plant	50ml-80/tank of 16 l, (1-2tanks/1000m ²) 1 liter in 200-300 liters of water/ha
Corn	Stem borer	50-70 ml/tank of 16 l, 2 tanks/1,000m ²		
Coffee, tea, pepper, rubber	Aphids, beetles, nematode, stem borer		15-20 kg/ha, Bury at the base of the tree	
Soybean	Stem borer	40-120 ml/ tank of 16 l, 2 tanks/1,000m ²		
Coffee	Stem borer	56 ml/ tank of 16 l		
Coconut	Coconut weevil, beetles		15-20 kg/ha, Apply stem of plant	
Cashew	Stem borer	24 ml/ tank of 16 l, 3 tanks/1,000m ²		



Leaf roller



White grove



Amy worm



Aphid



Nematode