

BIOPREN® 4 GR MOSQUITO LARVICIDE GRANULE



**based on
S-methoprene
insect growth
regulator**



BIOPREN® 4 GR

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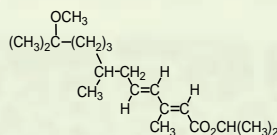


BIOPREN® 4 GR is a ready-to-use mosquito larvicide. It contains insect growth regulator in free and slow release form on carrier for use in open water or where water is obscured by vegetation. It can be applied prior to flooding by tides or at any larval stage after flooding by rain or tide, or in permanent water sites.

ADVANTAGES:

- Relative immediate and prolonged efficacy.
- Not toxic to vertebrates and environment friendly.
- Adequate for pre-hatch application of mosquito.
- Can be applied environmentally sensitive aquatic habitats and portable water.
- Suitable for both aerial and ground application.
- Excellent penetration of canopy and vegetation.
- Superior storage characteristics.

ACTIVE INGREDIENT:



w/w 0.40 % (4.00 g/kg) S-methoprene

Acts as an insect juvenile hormone analogue that inhibits insect maturation processes. The mature stages lose their capacity to reproduce, thus the cycle of reproduction stops and infestations diminish.

PHYSICAL PROPERTIES:

APPEARANCE: granules
ODOUR: none
SOLUBILITY: practically insoluble in water

STABILITY:

Store in the closed, original container in a dry, cool, well-ventilated area, out of direct sunlight. It can be used for 2 years at or above 25°C.

Use insecticides safely. Always read the label and product information before use.

**PRODUCT FOR
PROFESSIONAL AND
AMATEUR USE**

**EXPIRATION PERIOD:
2 years**

PACKING:

KS-22237	 5 kg	 80 buckets
KS-22238	 20 kg	 33 buckets



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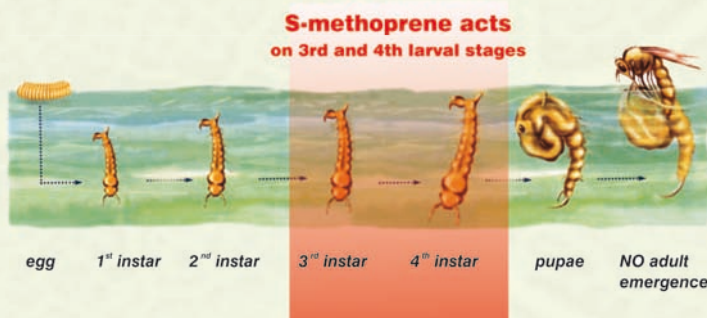
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S-methoprene based mosquito larvicides disrupt the development of mosquito larvae in ponds, puddles, swamps, and other natural or artificial bodies of water. The environment-friendly biorational active ingredient S-methoprene break the mosquito's life cycle preventing the emergence of biting and breeding adults. S-methoprene is active against a range of species including Anopheles, Culex, Culiseta, Coquilletidia spp. as well as those of the floodwater complex, Aedes and Psorophora spp. Larvae treated with S-methoprene can continue to develop into the pupal stage but die prior to emergence.

S-methoprene based mosquito larvicides are enviro-friendly formulations. S-methoprene does not pose unreasonable risks to wildlife or the environment. Its toxicity to fish and birds is low, and it is non toxic to bees. The acute oral toxicity of S-methoprene and other toxicological parameters are also very favourable, with extremely low mammalian toxicity demonstrated by the fact that the World Health Organization (WHO) allows the use of S-methoprene based products for control of mosquito larvae in potable water storages.

S-methoprene has no effect on mosquitoes which have reached the pupal or adult stage prior to treatment, typically acts during 3rd and 4th larval instars of the mosquitoes' development. Since this active substance interferes with the development of the larvae, they will stay alive and develop into pupae.



Treated larvae continue to develop normally to the pupal stage after which they fail to emerge and drown. Their death will mostly occur while hatching from the pupae (hatching inhibition).

To achieve maximum efficacy, start the treatment before the entry of the mosquito season, as soon as the first larvae appear. Check the breeding site in advance for size of the water surface and depth of water, and apply the necessary dosages per hectare given in the table below by hand-held equipment or a granule diffuser mounted on ground vehicle. If necessary, repeat treatment every 21 days.

Biopren 4 GR (kg/hectare)		
Breeding site type	Breeding site / water depth	
	<30 cm	>30 cm
Clean (flooded area, prevention)	2	3
Slightly contaminated (marshy, swampy area)	3	4
Highly contaminated (sewer treatment plant pool)	4	5



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Water holding features be treated:

- areas covered with inland waters
- sewage works pools
- flooded area
- infiltration pool
- unused pools
- marshlands

and any other water reservoir except for drinking water.

The granules start to release the active ingredient as soon as in contact with water, so make sure the dispersed granules is covered with water. Do not apply the granules to water bodies that are in connection with natural/fresh water (e.g. brook, river, lake, etc.)!

The water treated with Biopren 4 GR granule is not suitable to water plants grown for food (e.g. vegetables, spices), but can be used to irrigation of the soil, courtyards, as well as gardens, parks and pastures.

Application:

Ground: Apply by hand or by using ground equipment capable of achieving good, even coverage. A guide to the weight or volume of Biopren® 4GR at rates typically used to treat small areas is given in the following table:

Area to be treated	3 kg Biopren® 4 GR /ha rate		4 kg Biopren® 4 GR /ha rate	
	by weight, g	by volume, mL	by weight, g	by volume, mL
10 m ²	3 g	2 mL	4 g	2.5 mL
100 m ²	30 g	20 mL	40 g	25 mL

Protection of crops, native and other non-target plants:

do not apply when weather conditions favour drift from treated areas.

Do not apply the product to water bodies that are in connection with natural/fresh water. Avoid entering into natural/fresh water. To be used only for the control of mosquito larvae and only in compliance with the directions for use.

Do not throw/empty the product, its remnants or empty container into natural/fresh water (river, lake, etc.).

Precaution:

- to be applied in a targeted way and only to mosquito and fly larvae breeding sites surveyed in advance,
- not to be used in nature reserves

