For more technical information scan the code with your smart phone.

Bábolna Bio

BIOPREN® 6 EC - key benefits

- Fast flushing and knockdown action, thanks to synergised natural pyrethrins.
- Highly activity against tough, modern bed bugs resistant to residual insecticides, thanks to *S-methoprene*.
- With its approval for use on mattresses, its low odour, and favourable safety profile, it is ideal for use in sensitive domestic environments.

Emulsifiable concentrate containing insect growth regulator (IGR), insecticide, PBO and synergist combination for control of bed bugs and fleas. Recommended especially for control of bed bugs resistant to synthetic pyrethroids. The product is excellent in flushing out adults and nymphs from their harbourages. The solution should be applied directly onto the hiding places of the insects. To improve efficacy, always spray any exposed insects directly.

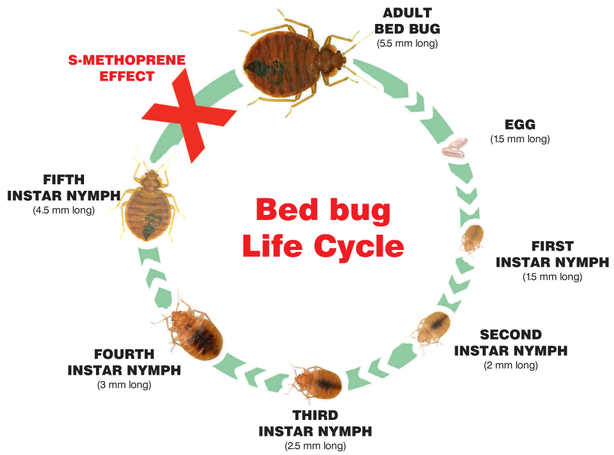
Dilution rate:
50 - 100 ml / 5 litre

Application dose:
5 litres of working solution for 100 m^2 surface.

code number	packing unit	unit/carton	unit/pallet
KS-22234	0.5 litre/dosing bottle	12	528
KS-22233	1 litre/bottle	12	384

S-methoprene active substance

The European Committee has approved the *S-methoprene* active substance by its Implementing Regulation No. 91/2014/EU of 31 January 2014 for product type 18 (Insecticides). A number of product dossiers have been prepared by BÁBOLNA BIO till 1 September 2015 for several indoor and outdoor formulations and applications.



Bed bug (*Cimex lectularius*)

Bed bugs are flattened, brown-coloured insects, measuring up to 5 mm long, and hiding in crevices on or close to the bed. At night they emerge from their hiding places to bite people and feed on their blood. They can cause serious problems in all types of residential accommodation.

In recent years, bed bug problems have become much more common all over the world, mainly because they are now resistant to some insecticides.

The bed bug life cycle, showing the impact of S-methoprene

S-methoprene was the first juvenile hormone analogue insecticide to be commercially developed. Its impact on insects is completely different from insecticides such as pyrethroids and carbamates. Insects' growth and reproduction is regulated by their natural juvenile hormone. S-methoprene disrupts the action of this natural hormone, resulting in nymphs that are unable to moult successfully, and so are blocked from reaching maturity and completing their life-cycle. This results in the gradual decline and death of the bed bug population.

S-methoprene treatments result in bed bug nymphs that are unable to feed, moult and reproduce, and therefore will shortly die.

BIOPREN® 6 EC for bed bug control

“ Good night, sleep tight Don't let the bed bugs bite.”

You can try reciting it, but it’s wiser to ask for an expert’s help.

Contains S-methoprene (IGR) and synergised pyrethrins. Effective against pests resistant to synthetic pyrethroid insecticides

THE FORMULATION IS HIGHLY EFFECTIVE AND SAFE TO USE, EVEN ON MATTRESSES

Bábolna Bio
The European Company
E-mail: info@babolna-bio.com
Internet: www.babolna-bio.com
1107 Budapest, Szállás utca 6. Hungary
Phone: (+36-1) 43-20-400

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

Getting the best from your BIOPREN® 6 EC

Initial inspection

Before you start treatment, carefully inspect the premises to confirm that bed bugs are present. They usually hide in joints in the bed frame, headboard or on the edges of mattresses, or they may be resting behind cupboards or drawers. They may also be on the sofa and chairs in the living room. Look out for the bugs themselves, and also for their dark faecal spotting.

Preparing the room(s) for treatment

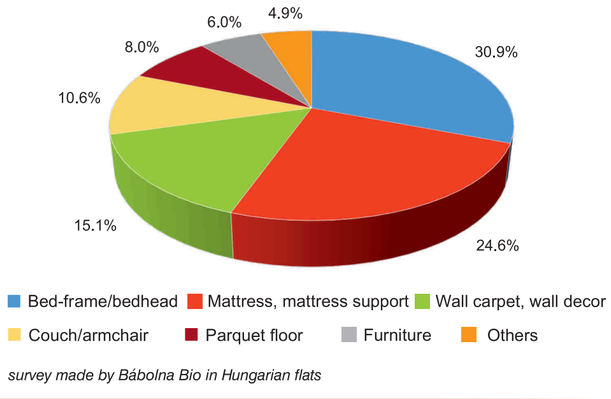
- Before treatment, the linen should be removed from the bed and bagged ready for laundry at 60°C.
- The contents of drawers and cupboards close to the bed should be removed to allow treatment.
- Fitted carpets should be loosened at the edges.
- Any electrical items should be turned off and unplugged.
- Pets and residents must not be in the room during treatment.

Choice of treatment

If the premises is only lightly infested, treatment with **BIOPREN®6 EC** alone usually achieve eradication.

However, if the premises is heavily infested or badly congested, then an adulticide should be added to the **BIOPREN® 6 EC** in the sprayer. Read and follow the label dilutions for both products.

Typical whereabouts of bed bugs



survey made by Bábolna Bio in Hungarian flats

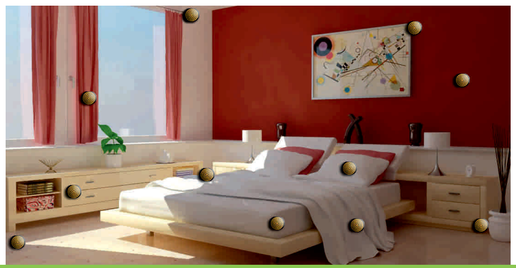
Initial treatment

Before preparing the spray, make sure you read the label, are using the correct PPE (personal protective equipment), and residents and pets are out of the room.

Use a compression sprayer, fitted with a flat fan nozzle. Pour half of the required water into the sprayer, then the appropriate amount of **BIOPREN® 6 EC**, then the required amount of the choosen adulticide if being used, and finally the rest of the water. Close and shake the sprayer, and then pressurise to 1.5 – 2 bar.

Thoroughly treat all potential bed bug harbourages, and surrounding surfaces. Ensure that the bugs receive maximum direct contact with the spray. Pay particular attention to crevices in the headboard, bed-base, mattress, bed-legs, bedside furniture, and wall-floor junctions. Try to avoid run-off of liquid onto the floor.

Ensure that the room is well ventilated and all sprayed surfaces are dry before the residents and any pets re-enter, and the bed is used.



Follow-up inspection and treatments

At 1-2 weeks after the first treatment, the premises should be re-visited and inspected. If live bed bugs are still present, apply another thorough treatment with **BIOPREN® 6 EC** (together with an adulticide, if necessary) to all potential harbourage areas. Further inspections and treatments may be required with heavy or extensive infestations, or congested premises.

BIOPREN® 6 EC – composition and profile

Fortunately, **BIOPREN® 6 EC** has been designed with a unique mix of active ingredients to give it high potency, even against bugs that are resistant to conventional insecticides:

S-methoprene: 6.74 % (60 g/l)
S-methoprene (IGR) blocks bed bug development, by killing nymphs as they try to moult, and preventing the formation of adult bugs. It is active on bed bugs resistant to conventional insecticides.

Natural pyrethrins: 4.81 % (43 g/l)
Provides a powerful flushing action to ensure good contact between bugs and spray, and a fast knockdown.

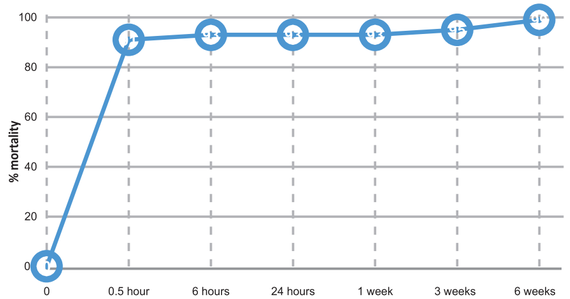
PBO: 10.17 % (91 g/l)
The Piperonyl-butoxide boosts the activity of the pyrethrins, especially against resistant bugs.

In addition to **BIOPREN® 6 EC**'s high activity against bed bugs, it also has a very favourable safety profile, and is one of the few products approved for application directly to mattresses.

BIOPREN® 6 EC efficacy

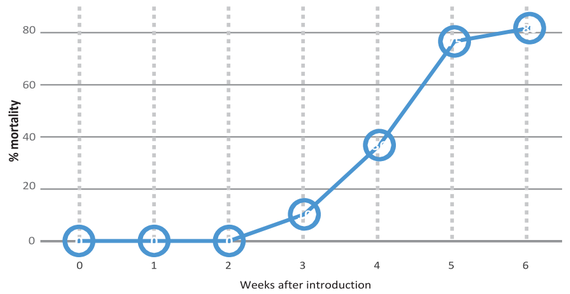
Direct treatment of exposed insects is important in achieving rapid kill. In this test, batches of adult and nymphal field strain bed bugs were exposed to a brief spray of the approved concentration of BIOPREN® 6 EC.

Impact of BIOPREN® 6 EC direct spray treatment of a field strain of bed bugs



By 30 minutes after direct spray treatment, over 90 % insects were either moribund or dead.

S-methoprene (IGR) effect on young nymphs of a bed bug field-strain, exposed to a dry deposit of BIOPREN® 6 EC



Results show that without any direct treatment, the dry BIOPREN® 6 EC deposit causes progressive mortality of young nymphs over the following weeks, preventing the development to adults even if they are resistant to carbamates and pyrethroids.

Tests carried out at the University of Sheffield, UK

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Phone: (+36-1) 43-20-400

USE PESTICIDES SAFELY

ALWAYS READ THE LABEL