

GRANULES FOR THE LARVAL
STADS OF MOSQUITOES
CONTROL



About Company

ICB Pharma is a family business, one of the most innovative chemical companies in its sector, operating internationally. In excellently equipped laboratories, ICB Pharma's scientists create innovative products used in the following sectors: health protection, sanitary hygiene, agriculture, gardening and animal breeding.

Since the beginning of its existence our company rests on pillars of profound knowledge, passion and imagination of its creators, and thoroughness of all research conducted. Such high standards come from the Company's Patron, a double Nobel Prize nominee, professor Wojciech Alojzy Świętosławski.



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About our product

An innovative larvicide granules for control of the mosquitoes populations. Eliminates mosquitoes before they develop and start biting. With its high efficacy and high stability of the formulation it is a unique product that meets all the nowadays standards and requirements.



PyriLarv® is an innovative granular formulation; once placed in water it slowly releases its contents to the water leading to an effective elimination of the mosquito larvae.

AFTER THE PLACEMENT ON THE EDGE OF THE WATER RESERVOIR, THE WATER WASHES THE GYPSUM OUTER CASING FROM THE GRANULES, RELEASING THE MICROENCAPSULATED ACTIVE SUBSTANCE.

PyriLarv enables horizontal transfer between water reservoirs. This amazing feature means that the product's area of action by spreading them on the body of mosquitoes can be much larger. The micro-capsules are then eaten by the larvae along with the decomposed organic matter which is their basic source of nourishment. It inhibits the development of adult structures, preventing the insect from reaching sexual maturity and reproducing.

THIS DISRUPTS THE INSECT'S LIFE CYCLE AND REDUCES ITS POPULATION (MORE ABOUT PYRIPROXYFEN – SEE PAGE 5)

PyriLarv does not require the use of additional dosing equipment.

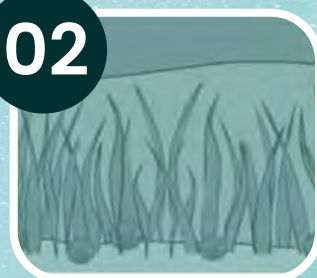
For the best results the treatment should be reapplied after 6 weeks.

01



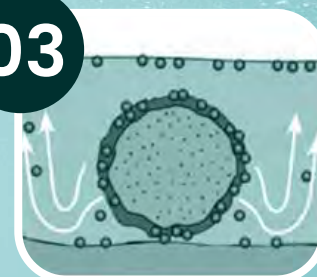
Water activates the products

02



Water slowly dissolves the gypsum from the granules.

03



Their structure changes by elution and after a week, microcapsules appear on the surface of the water.

04



Larvicide released from microcapsules disrupts developmental stages of mosquitoes.

Pupae



Adult



How pyriproxyfen works

Pyriproxyfen

2-[1-Methyl-2-(4-phenoxyphenoxy)ethoxy]pyridine

Pyriproxyfen is an insect growth regulator (IGR) that is commonly used as an insecticide. It affects the growth and development of insects by disrupting their hormonal balance.

Mode of action: Pyriproxyfen is an analogue of the insect hormone called juvenile hormone (JH). In insects, JH plays a crucial role in regulating development and metamorphosis. By mimicking JH, pyriproxyfen interferes with the normal hormonal signaling pathways in insects.



Selective action: Pyriproxyfen is generally considered to have low toxicity to mammals and birds. It primarily affects insects and is relatively safe for non-target organisms. This selectivity is one of the reasons why pyriproxyfen is widely used in pest management programs.

Disruption of metamorphosis: Pyriproxyfen primarily targets insects during their larval and pupal stages, which are critical periods of growth and metamorphosis. It inhibits

the development of adult structures, preventing the insect from reaching sexual maturity and reproducing. This disrupts the insect's life cycle and reduces its population.

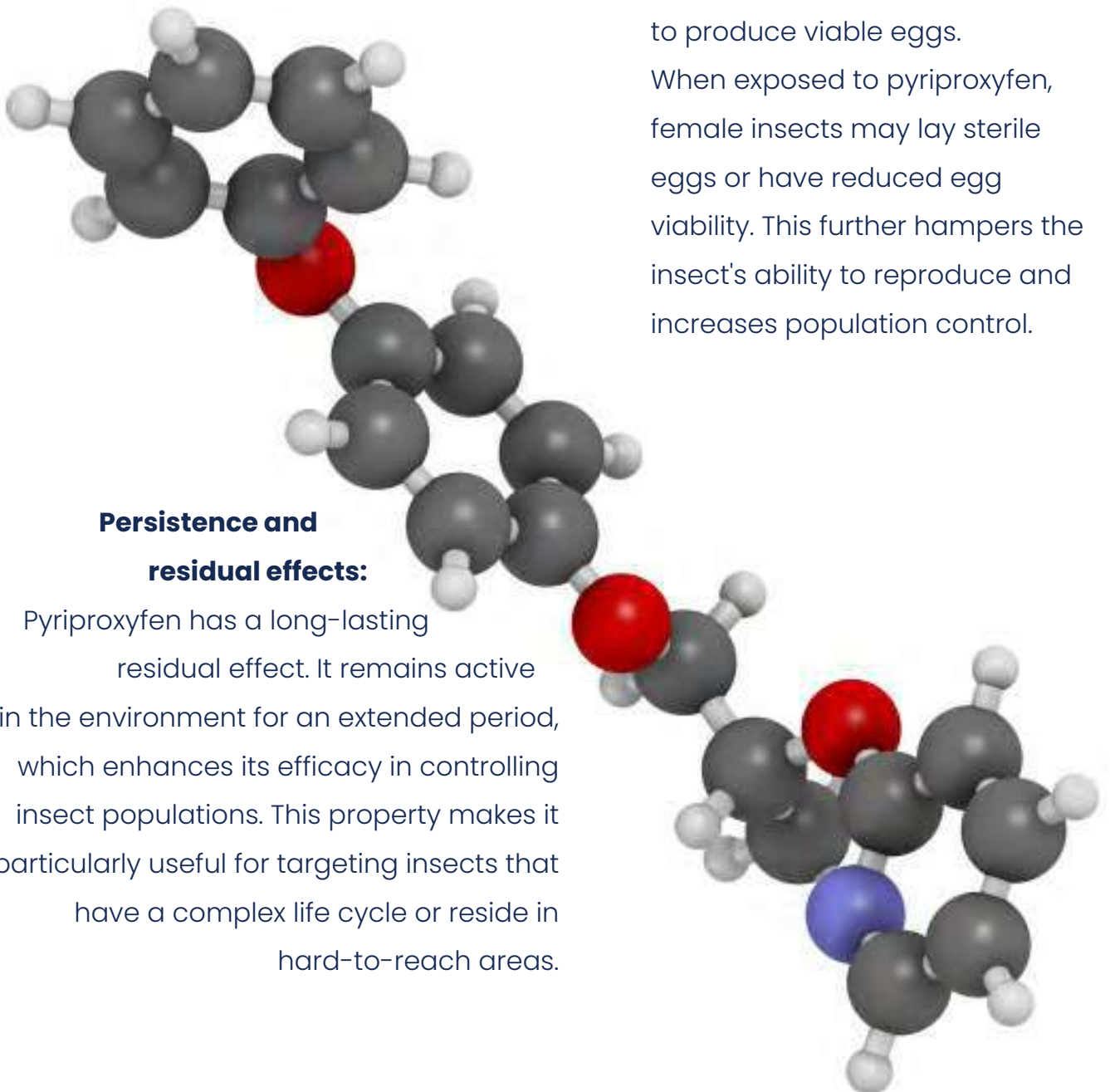
Inhibition of egg production:

Pyriproxyfen also affects female insects by disrupting their ability to produce viable eggs.

When exposed to pyriproxyfen, female insects may lay sterile eggs or have reduced egg viability. This further hampers the insect's ability to reproduce and increases population control.

Persistence and residual effects:

Pyriproxyfen has a long-lasting residual effect. It remains active in the environment for an extended period, which enhances its efficacy in controlling insect populations. This property makes it particularly useful for targeting insects that have a complex life cycle or reside in hard-to-reach areas.



Targeted pest – **mosquitos**

Examples of mosquitos which, due to the method of reproduction and life cycle, are eliminated by Pyrilarv:



Pyrilarv

can also be used prophylactically in flood plains, even before the water appears, reducing the potential infestation of mosquitos.



the large winter mosquito

*mosquito
Culiseta*



no common name

Ochlerotatus



the western encephalitis

Culex



no common name

Toxohynchites



no common name

Psorophora



no common name

Uranotaenia



yellow fever mosquito

Aedes



no common name

Wyeomyia

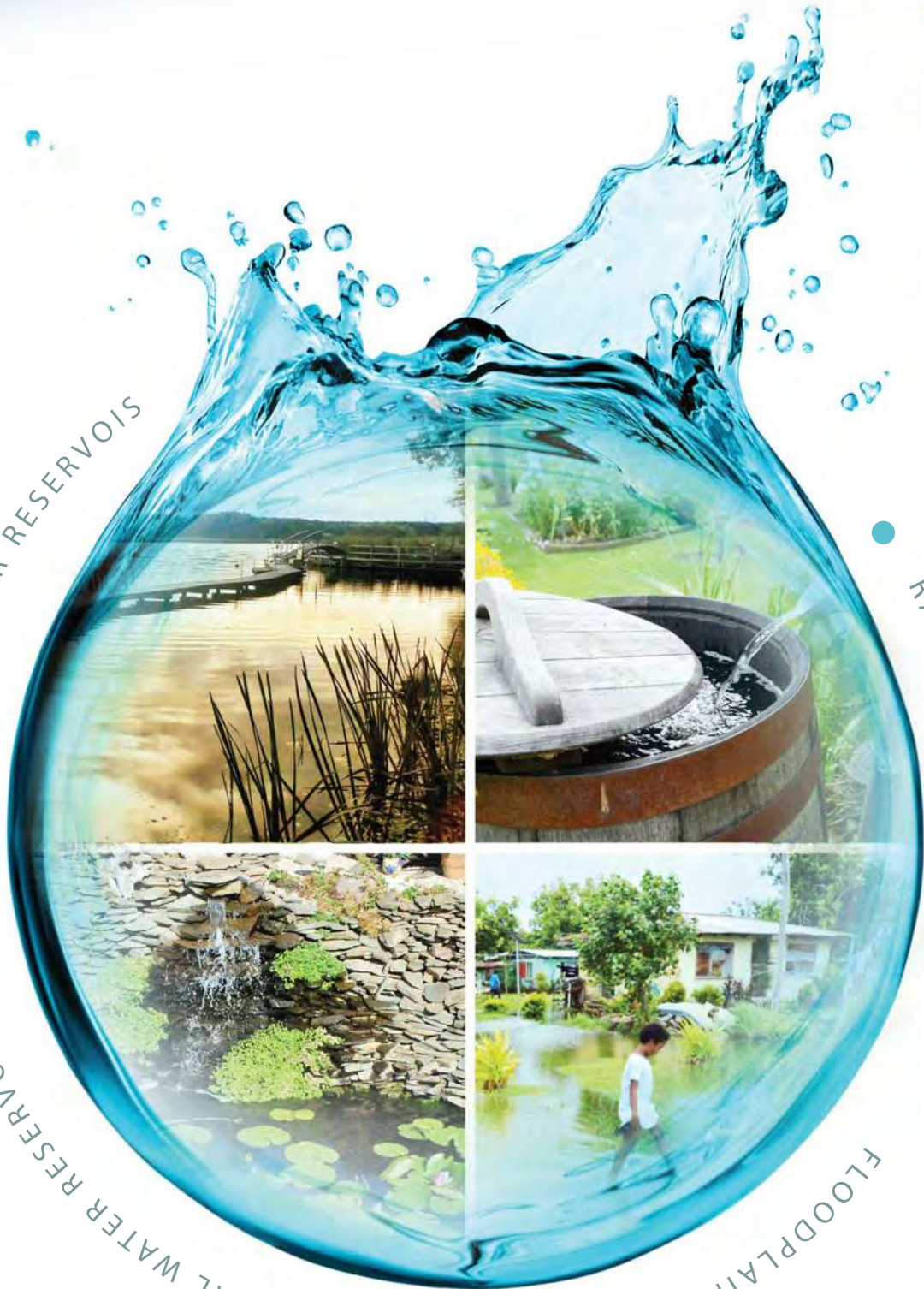
Recommended places of application

NATURAL WATER RESERVOIRS

RAINWATER TANKS

ARTIFICIAL WATER RESERVOIRS

FLOODPLAINs



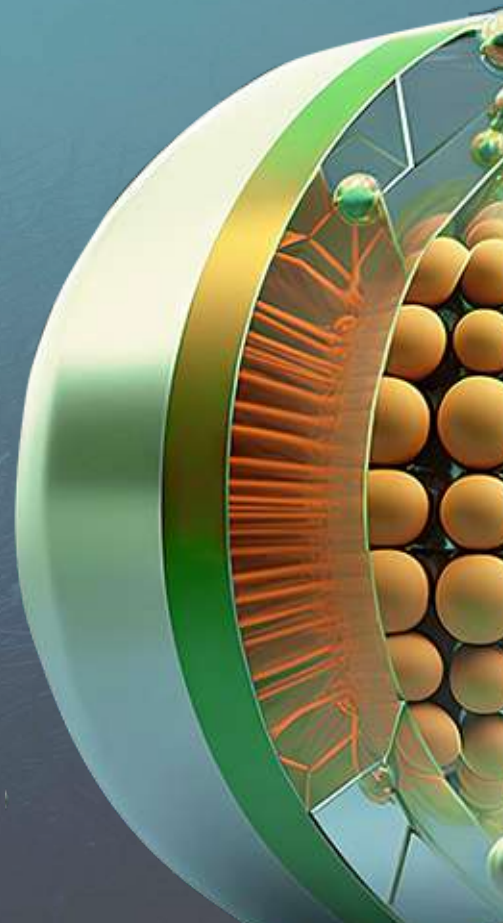
SLOW RELEASE

Slow release technology refers to a method or mechanism used to control the release of a substance over an extended period of time. It releases the active ingredient at a controlled rate, providing sustained or prolonged effects. Primary use encapsulation that means that active ingredients are encapsulated within a matrix or microsphere, allowing for controlled release as the matrix degrades or the microspheres dissolve.

✓ **Extended duration of action:** slow release technology allows for the gradual release of the active ingredient, which leads to a prolonged and sustained effect.

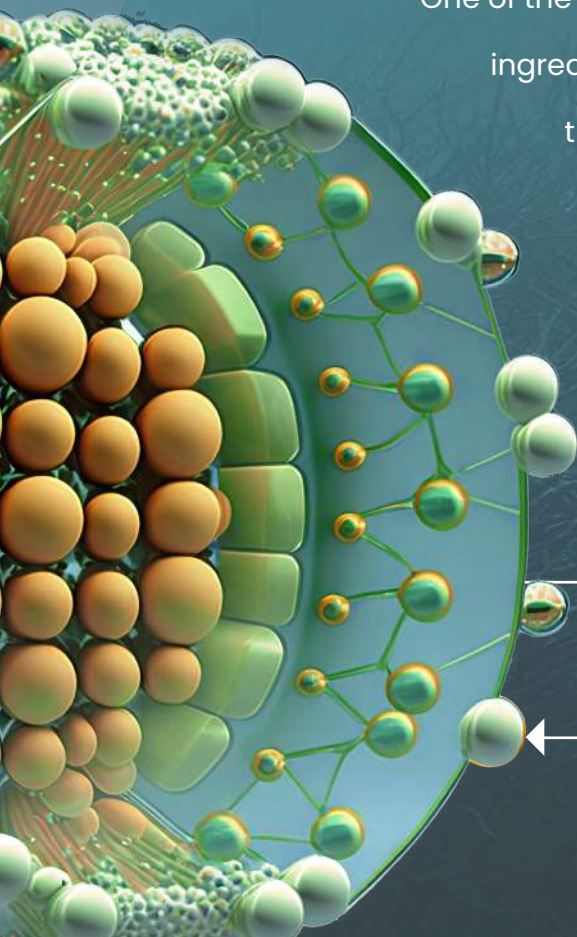
✓ **Reduced dosing frequency:** by releasing the active ingredient slowly and steadily, slow release formulations often require less frequent dosing compared to immediate-release products. It improves the effectiveness of the treatment over time, extends the effect of the product, affects the labor costs and thus the cost of the procedure and the time needed to carry it out.

✓ **Enhanced efficacy and safety:** slow release technology can optimize the amount of the active ingredient in the environment.



Slow release technology enables a controlled and sustained release of substances, providing benefits such as prolonged effects, reduced dosing frequency, and improved resource.

The evolution of encapsulation for the delivery of different substances is one of the key priorities. This technology has significantly influenced a number of key formulation parameters concerning safety and the environment. One of the key characteristics is release of the active ingredient at a fully controlled concentration, thus increasing the life of the formulation after treatment. As a consequence, the concentration of the active substances used for a treatment is significantly reduced.



LAYER CARRYING
THE CAPSULES

SAND GRAIN

MICROCAPSULES HOLDING
THE ACTIVE INGREDIENT

How to use:

01

It may be applied in conventional ground or aerial application without any special equipment.

The high mass core of the granules ensures targeted application even in adverse weather conditions when the most of liquid formulations cannot be applied.

02

Spread evenly the measured dose of Pyrrilarv over the water surface. For effective insect elimination, the treatment should be repeated after 4-6 weeks depending on the level of infestation.

Recommended concentrations and doses

The dose of Pyrrilarv depends on the water depth and should be in the range of 0.01-0.05 ppm of the active ingredient, according to the table below:

Water depth (cm)	Dose of Pyrrilarv (kg/500 m ²)
10	1
20-30	1-2



KEY FEATURES

- Highly effective at minimal dosage rates
- Easy to apply without any special equipment (or aerially)
- Use active transfer between egg sites by insects
- Unique sinking microcapsules technology
- Easy to control the release of the active substance to the environment
- Exhibits a wide-ranging effectiveness against mosquito larvae of various species
- Demonstrates prolonged activity when used in real-world conditions
- Possesses a distinctive and unique mode of action
- No instances of resistance observed in the field
- Valuable in programs aimed at preventing or managing resistance development

Technical parameters

10

Available amounts:



Testimonial

The technology of encapsulation used in "PyriLarv" meant to be used for mosquito and fly control. The main advantage is the controlled and targeted delivery of the active ingredient. In consequence, it offers lower environmental impact, prolonged efficacy time and lower application rate.

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