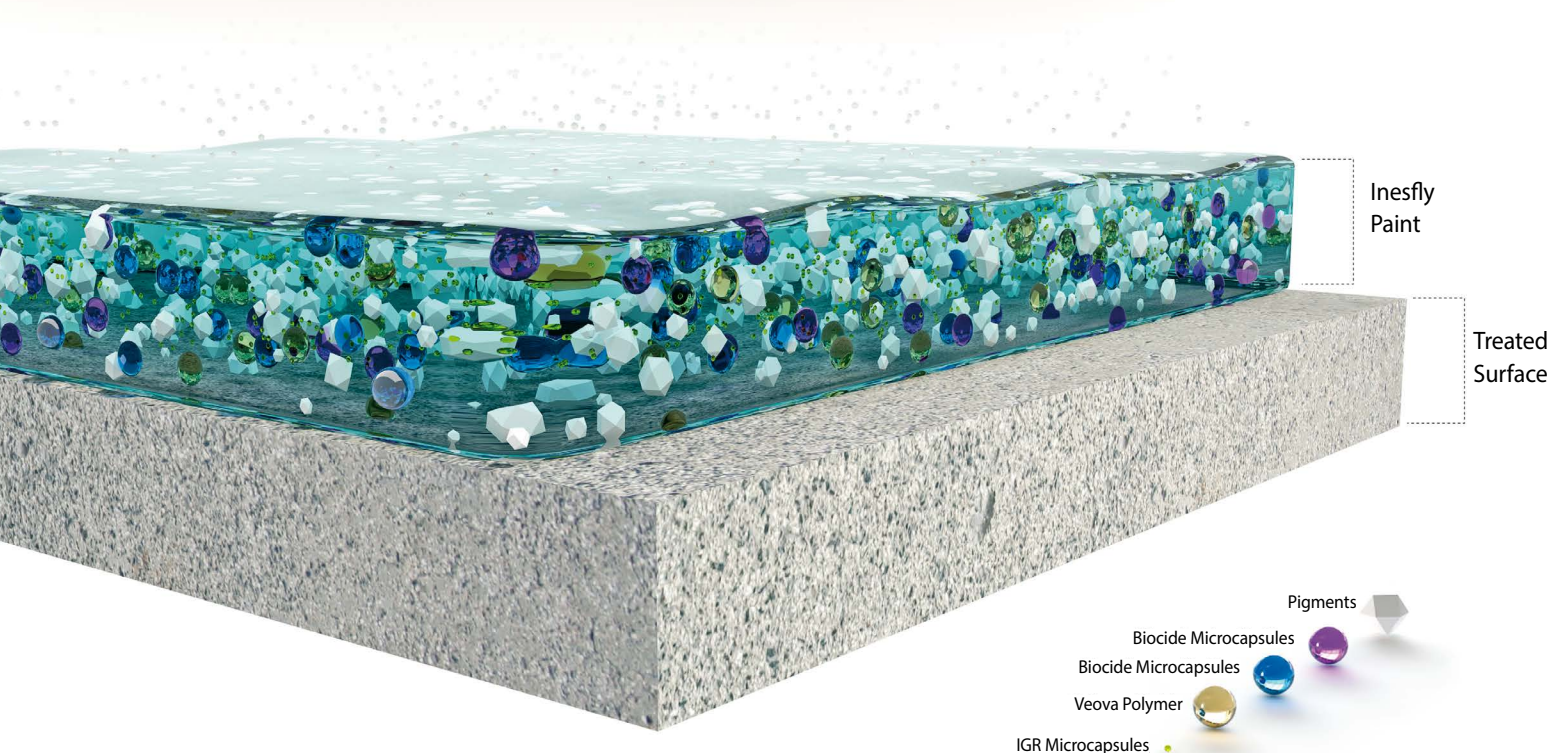
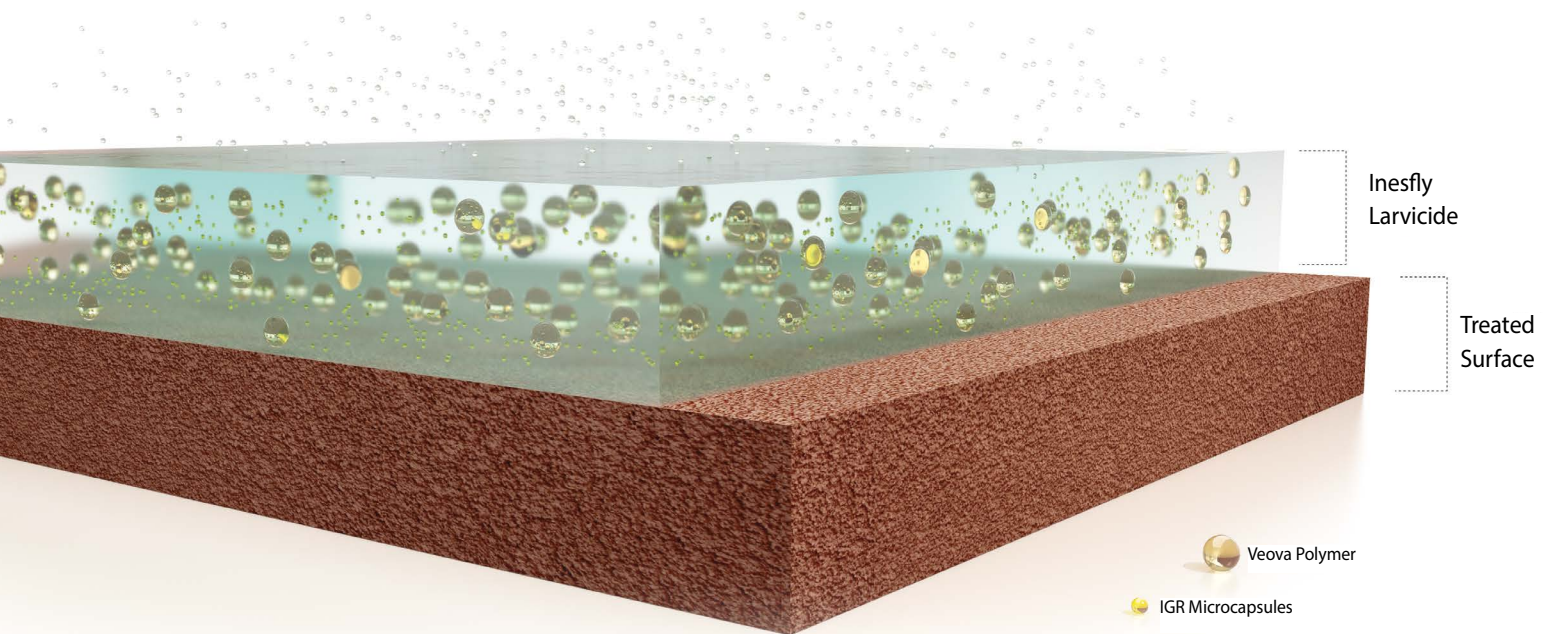




Controlling Mosquitoes of the Aedes Genus

Dengue Fever | Yellow Fever | Chikungunya Virus





OUR TECHNOLOGY

Inesfly technology has made it possible to combine a variety of types of active ingredients (natural products, biocides etc.) in a polymer microcapsule. This ensures their controlled release, improves their duration and makes it easier to use them to control pests and vectors in our surroundings.

SPECIFIC PROPERTIES

- Prolonged efficacy and duration
- Harmless to humans and animals
- Published scientific trials
- Proprietary method of application
- Resistant to alkalinity, UV radiation and temperature.
- Reduced treatment costs
- Low toxicity, greater duration.

INESFLY products are the result of a long process of research and development. The studies and projects carried out have demonstrated its efficacy in controlling various vectors which transmit endemic diseases. These efficacy studies have been performed in accordance with international protocols and by the world's foremost centres and experts in the field of Health.

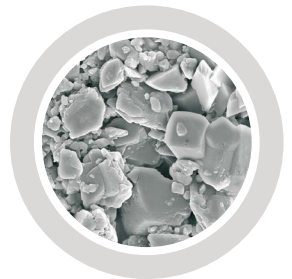
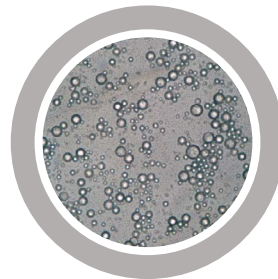
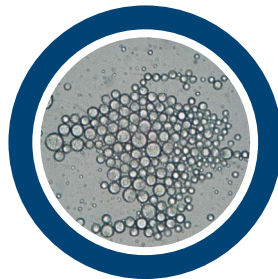
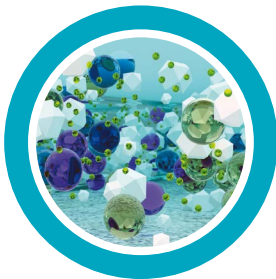
INESFLY products provide protection for humans against mosquitoes of the *Aedes* genus, either directly or through integral control of their biological cycle.

Inesfly technology, patented in 53 countries worldwide, is used in various fields, including public health, animal health, agriculture and ornamental plants.

The INESFLY microcapsule is formulated in a chemical process that produces microcapsules in suspension which include low-dosage biocides containing insect growth regulators. The type of polymer and the coating of the microcapsule, both ensure the gradual, controlled release of the active ingredients.

We believe in health projects based on three main pillars:

- Control of vectors
- Clinical diagnosis and treatment
- Education on Hygiene and Health



AEDES

DISEASE TRANSMISSION

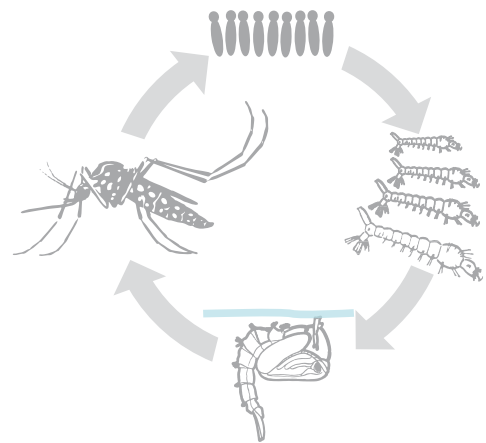
Strategies for the prevention and eradication of vector-borne diseases necessarily involve disrupting the life cycle of the causative agent of the disease before it can be passed onto humans. Consequently, controlling diseases of this kind necessarily involves controlling vector populations. Control measures like these can only be implemented successfully with a knowledge of the biology and ecology of these vectors.

Dengue fever, yellow fever and chikungunya, are transmitted arbovirally by Culicidae mosquitoes. They are key to this process because they need to ingest blood, they are highly adaptable to different environments and they can feed on a wide range of different hosts.

Aedes aegypti and *Aedes albopictus* (Asian tiger mosquito) are two mosquitoes of tropical and subtropical origin that have spread on a massive scale across all five continents in recent decades, mainly as a result of the effects of global change. This biological dispersion has gone hand in hand with the emergence and/or resurgence of the diseases caused by viruses that can be transmitted by these mosquitoes.

This is demonstrated in the outbreaks of autochthonous dengue fever and chikungunya recorded in continental Europe since 2000. One of the main features of these insects is that they live so close to humans. They are synanthropic species and are therefore usually found in domestic and peridomestic environments. They are also regarded as essentially urban insects, although they can also establish themselves in a rural setting.

In adulthood, they have a particular fondness for laying eggs in water receptacles or containers, both natural ones including cavities in trees, crevices in rocks or the stems of leaves, and artificial ones including swimming pools, ponds, water tanks, tyres, watering cans or vases, tins etc. Females do not lay eggs on the water, but in the humid area close to the water surface. This allows the eggs to remain viable for over a year, ready to hatch as soon as the water receptacle in question is refilled with water.



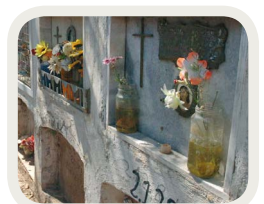
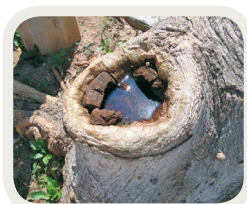
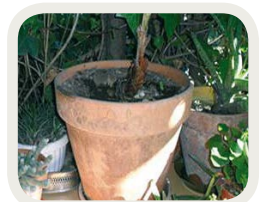
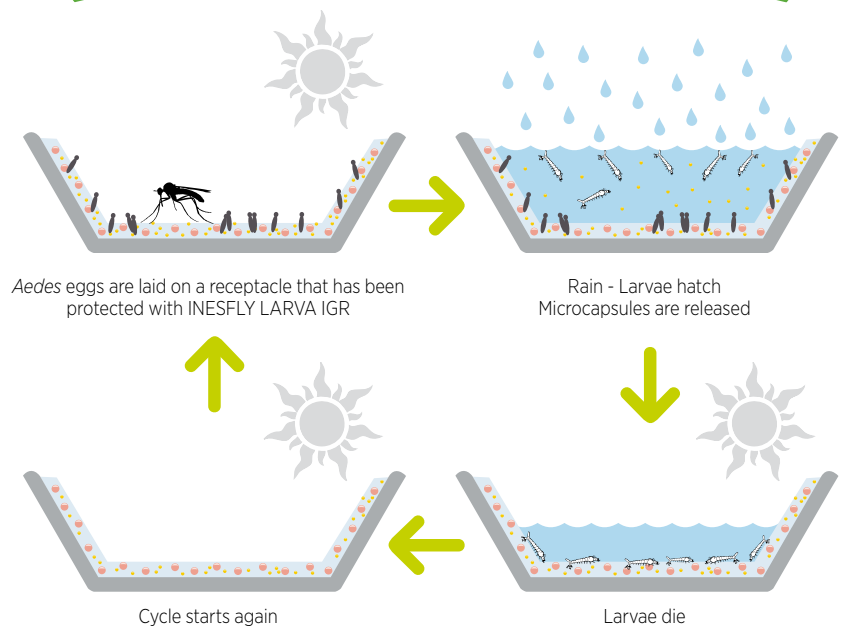
Once the egg has hatched, the larva will mutate four times, passing through four larval stages. Feeding of the larva takes place both at the bottom and along the side walls of the breeding area and in the water source itself, a very significant factor in the formulation of products to control these larva populations. The larva turns into a pupa after the fourth larval stage. Once in this stage, the pupa stops feeding and the changes necessary for it to reach the adult stage take place.



Males have a much shorter lifespan than females, and feed exclusively on sugary plant exudates, while females need a protein supply to produce eggs, which is why they need to ingest blood. These species feed during the day when humans are most active. They can also feed inside homes at night if there is artificial light indoors. Furthermore, these mosquitoes prefer human blood to that of other domestic animals. These are key features on which to focus strategies to control populations, either by using larvicidal or adulticidal substances.

Strategies to control these vectors should aim at achieving the greatest possible reduction in population to reduce incidence of the diseases that they transmit and thereby to create a healthier environment to live in.

This can only be achieved by implementing an integrated control strategy that is effective in a variety of environments (within homes, outdoors areas) and that above all takes the developmental stages of the vector and personal protection into account. At INESFLY, we offer specific product ranges to control fully-grown insects (INESFLY PAINTS), larvae (INESFLY LARVA, INESFLY LARVAE) and for personal protection (BODY).



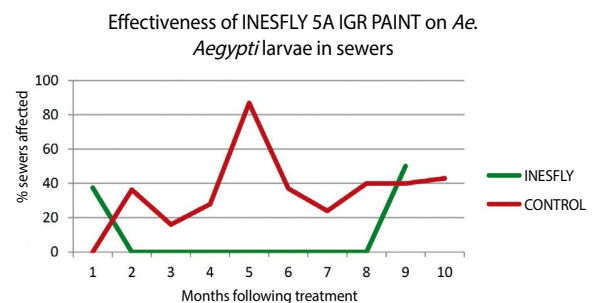
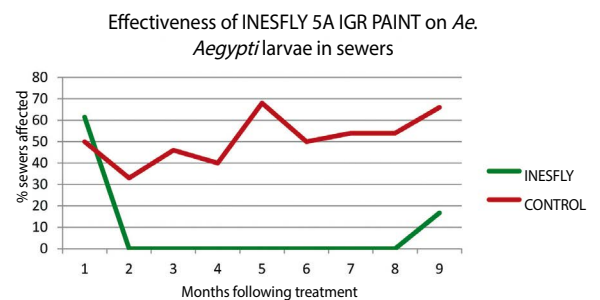
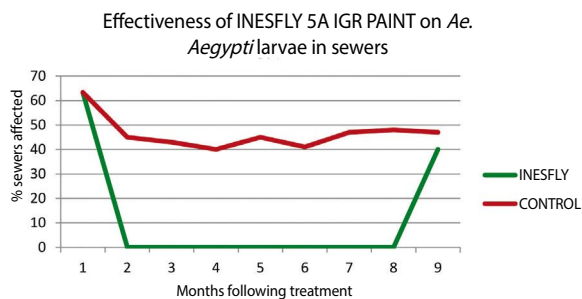
PROJECTS

PILOT SCHEME USING INESFLY PAINT TO CONTROL *Aedes aegypti*.

Puntarenas, Costa Rica.

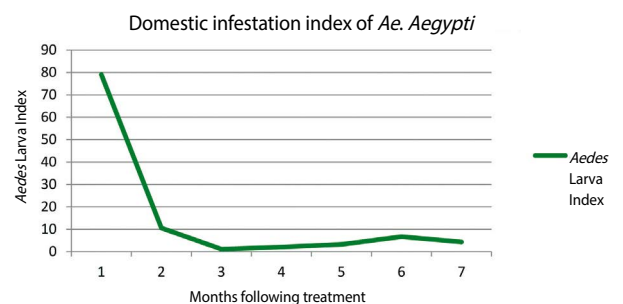
Central Pacific Region (2001-2003)

Carried out in collaboration with the Costa Rican Ministry of Health. The results made it possible to measure the effectiveness and duration of INESFLY paint in controlling *Aedes aegypti* at the larval, pupal and adult stages in the Central Pacific Region when the paint is applied to the rain water sewage system in the district of Carmen, as well as to plastic receptacles and wooden surfaces.



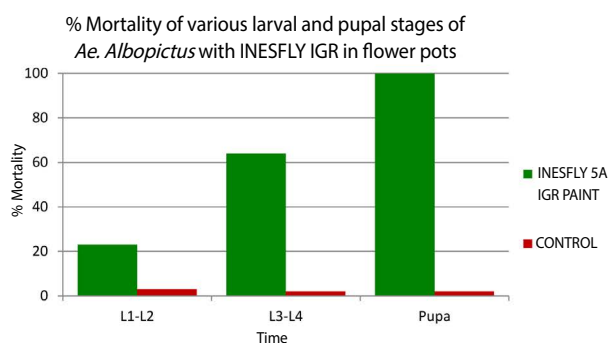
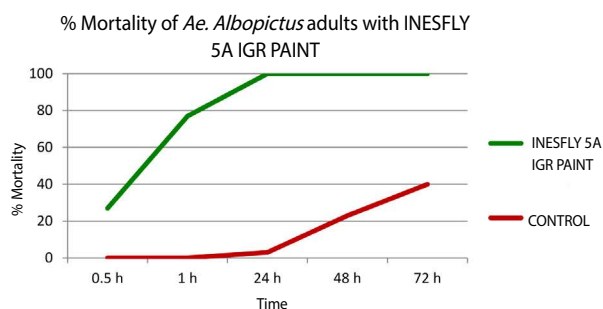
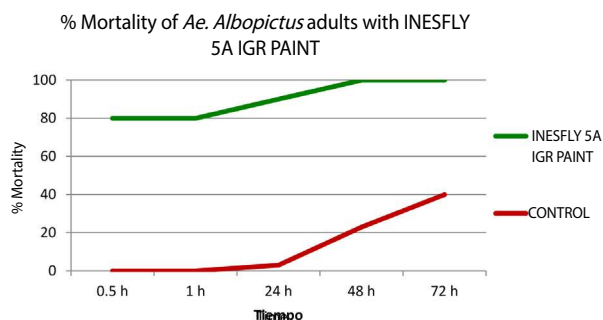
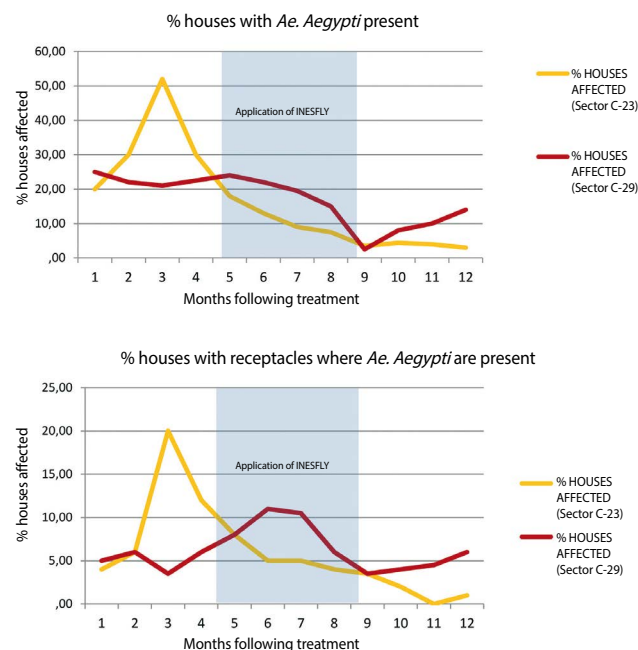
RESEARCH PROJECT BY THE UNIVERSIDAD DEL ATLÁNTICO TO CONTROL *Aedes aegypti* In two districts of Barranquilla in Colombia using Inesfly paint (2007)

Carried out in collaboration with the Entomology Laboratory of the Universidad del Atlántico. The results established the effectiveness and duration of applying INESFLY paint to the walls of homes in the districts of San José and Bellavista.



PROJECT TO EVALUATE INESFLY 5A IGR PAINT TO CONTROL *Aedes aegypti* In a village in Tabasco, Mexico (2009-2010)

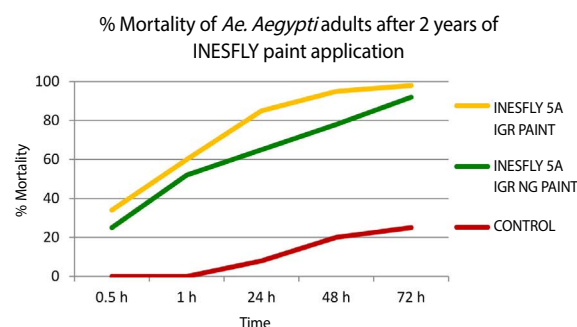
Carried out in collaboration with the National Institute of Health, the Federico Gómez Infant Hospital of Mexico, the Health Department of Tabasco, the Chrysler Foundation and the Foundation of the Americas. The results made it possible to establish the adulticide effect and duration of INESFLY 5A IGR paint on various surfaces and also to assess the toxicological effect on humans by taking measurements of their acetylcholinesterase levels before and after the paint was applied.



PILOT PAINT SCHEME: *Aedes* NORTH-SOUTH PROJECT (2010-2013) to evaluate the effectiveness of Inesfly formulations on *Aedes albopictus* and *Aedes aegypti* under both laboratory and field conditions

Carried out under laboratory conditions in collaboration with the Parasitology and Parasitic Diseases Unit of the Universidad de Zaragoza (Spain) and the National Centre for Tropical Diseases (CENETROP) of Santa Cruz de la Sierra (Bolivia) and tested under field conditions in the city of Camiri (Bolivia).

The results made it possible to assess larvicide and adulticide effect, and duration, of INESFLY paint against various insecticides and growth inhibitors applied in the form of paints and emulsions on various surfaces against two vectors: *Aedes aegypti* and *Aedes albopictus*.



PRODUCTS OF INESFLY AFRICA

PUBLIC HEALTH



INESFLY 5A IGR NG

DESCRIPTION

Inesfly 5A IGR NG paint enables the control of all arthropods and pests, especially to control vectors that transmit endemic diseases including malaria, dengue fever, Chagas disease, leishmaniasis etc.

Highly effective for all kinds of insects: mosquitoes, flies, cockroaches, bed bugs, fleas, ticks, spiders, scorpions, ants and mites.

It can be used anywhere there is a substantial infestation of insects, including: Inside and outside homes, offices, health centres, hospitals, schools, hotels etc.

COMPOSITION

Alpha-cypermethrin	0.7%
d-Allethrin.....	1.0%
Pyriproxyfen	0.063%

USES

Easy to use as a standard water-based paint, and can be applied with a brush, a roller or an air-powered or airless sprayer. The applicable dosage can vary between 1 lt/6 m² and 1 lt/12 m², depending on the type of surface, the type of pest, and the severity of the infestation.

For best results, apply INESFLY PAINTS on the largest surface area possible to avoid creating “safe havens” for pests.

PRESENTATION

1 litre, 5 litres and 10 litres



INESFLY 5A IGR

DESCRIPTION

Inesfly 5A IGR paint is highly effective for all kinds of insects: mosquitoes, flies, cockroaches, bed bugs, fleas, ticks, spiders, scorpions, ants and mites.

Allows you to control all kinds of arthropods and pests, and in particular to control vectors that transmit endemic diseases including malaria, dengue fever, Chagas disease, leishmaniasis etc.

Inesfly 5A IGR paint is specially recommended for areas with pyrethroid-resistance problems.

Product is exclusively for professional use.

COMPOSITION

Chlorpyrifos	1.5%
Diazinon	1.5%
Pyriproxyfen	0.063%

USES

Easy to use as a standard water-based paint, and can be applied with a brush, a roller or an air-powered or airless sprayer. The applicable dosage can vary between 1 lt/6 m² and 1 lt/12 m², depending on the type of surface, the type of pest and the severity of the infestation.

For best results, apply INESFLY PAINTS on the largest surface area possible to avoid creating “safe havens” for pests.

PRESENTATION

1 litre, 5 litres and 10 litres



INESFLY EM HOUSE IGR NG

DESCRIPTION

INESFLY EM HOUSE IGR NG is a ready-to-use, water-based transparent biopolymer coating that contains suspended biopolymer microcapsules which serve as insecticides, acaricides and insect-growth regulators.

Highly effective at controlling all kinds of arthropods. Can be used wherever paint cannot be applied.

Can be applied to fabrics: Product is specially designed to protect personal fabrics in environments with high infestations of disease-transmitting vectors.

Product supplied to NATO - No. 9484B

COMPOSITION

Alpha-cypermethrin	0.3%
d-Allethrin.....	0.3%
Pyriproxyfen	0.063%

USES

Product is ready to use. Apply directly to any surface you wish to treat. Can be applied using an air-powered sprayer. Spray around 50 ml of the product per m² (a 5 lt sprayer can treat a 100 m² surface area).

Recommended for spraying fabrics including clothing, awnings etc.

Spray from a distance of 15 cm and leave to dry for 3-4 hours. Reapply after every wash.

PRESENTATION

100 ml, 200 ml, 500 ml, 1 lt, 5 lt and 10 lt



INESFLY SP COATING

DESCRIPTION

INESFLY COATING is a water-based biopolymer coating containing suspended insecticide, acaricide and growth-regulating microcapsules. The product has a very high duration and is ideal for use in hard-to-reach places that cannot be painted.

Highly effective for all kinds of insects, including: mosquitoes, flies, cockroaches, bed bugs, fleas, ticks, spiders, scorpions, ants and mites.

COMPOSITION

Alpha-cypermethrin	0.7%
d-Allethrin.....	1.0%
Pyriproxyfen	0.063%

USES

Dosage: 1 lt/1 m².

For best results, apply this product on the largest surface area possible to avoid creating “safe havens” for pests.

Means of application: brush, roller, air-powered/airless sprayer, depending on the surface to be treated.

PRESENTATION

400 ml and 5 lt



INESFLY EM HOUSE FLOOR CLEANER

DESCRIPTION

Inesfly EM House Floor Cleaner is a floor cleaner which has been designed to eliminate all kinds of dirt, especially grease. Its neutral pH means it can be used on any kind of floor.

Its composition ensures a low level of foaming when used in sweepers. It has a pleasant scent.

It is effective against all kinds of crawling arthropods including cockroaches, silverfish, ants, mites, spiders and scorpions.

COMPOSITION

Alpha-cypermethrin	0.25%
d-Allethrin	0.25%
Pyriproxyfen	0.050%
Mixture of non-ionic surfactants.	

USES

Industrial floors and surfaces, farms, shops and homes. Places which need to be kept very clean and protected from crawling insects: warehouses, storerooms, terraces, basements, wine cellars, larders, food storage areas, kitchens etc.

Dilute the product to 1% in water for normal levels of dirt, for use in sweepers and for manual use with a mop. Do not rinse.

PRESENTATION

1 lt and 5 lt

PERSONAL PROTECTION



INESFLY BODY

DESCRIPTION

INESFLY BODY repels flies and mosquitoes, providing over 6 hours of protection.

COMPOSITION

Pyrethrum extract.
Piperonyl butoxide.
Cital. d-Limonene. Geraniol.

USES

Apply and spread thoroughly over all areas of skin exposed to bites. No need for frequent or repeated application.

Do not use on children under 2 years.

PRESENTATION

100 ml bottle.



INESFLY BODY REPELLENT

SANITISING REPELLENT WITH ALOE VERA

DESCRIPTION

INESFLY INSECT SANITISING REPELLENT is a mosquito-repellent gel with aloe vera extract which offers excellent protection for over 6 hours. Formulated with aloe, it has a moisturising effect, unlike other repellents on the market which dry the skin.

INESFLY INSECT SANITISING REPELLENT does three things: repels, sanitises and moisturises.

COMPOSITION

Pyrethrum extract.
Piperonyl butoxide.
Aloe Vera.
Citral. d-Limonene. Geraniol.

USES

Apply and spread thoroughly over all areas of skin exposed to bites. No need for frequent or repeated application.





Do not use on children under 2 years.

PRESENTATION

Individual sachets containing 7 ml of product. Box of 10

CONTROL OF AEDES MOSQUITOES



			INESFLY 5A IGR NG PAINT	INESFLY 5A IGR PAINT	INESFLY EM HOUSE IGR NG	INESFLY SP COATING	INESFLY EM HOUSE FLOOR CLEANER	INESFLY BODY REPELLENT	INESFLY BODY
AEDES AEGYPTI	ADULTS		●	●	●	●	●	●	●
	LARVAE								
AEDES ALBOPICTUS Tiger mosquito	ADULTS		●	●	●	●	●	●	●
	LARVAE								

	INESFLY 5A IGR NG PAINT	INESFLY 5A IGR PAINT	INESFLY EM HOUSE IGR NG	INESFLY SP COATING	INESFLY EM HOUSE FLOOR CLEANER	INESFLY BODY REPELLENT	INESFLY BODY
Walls and ceilings of homes and offices	●	●	●	●			
Floors			●	●	●		
Sewers and scuppers	●	●		●			
Domestic water tanks and cisterns							
Water cans, buckets and other receptacles							
Flower containers, flower pots, dishes, bottles and other receptacles							
Tyres							
Cavities in tree trunks and plants							
Roof water channels							
Cavities in rocks							
Textiles (curtains, carpets, rugs)			●	●			
Textiles (clothes, uniforms)			●				
Body (applied to the skin)						●	●

INESFLY

CONTROLLING OTHER VECTORS OF ENDEMIC DISEASES

MOSQUITOES OF THE *Anopheles* genus, transmitters of malaria

The *Anopheles* genus includes the mosquitoes which transmit malaria.

Malaria is the main disease transmitted by mosquitoes: it causes over 1 million deaths every year, predominantly in continental Africa, approximately 90% of which are children under the age of 5. This endemic disease is hindering the economic growth and development of the countries affected.

Adult *Anopheles* have scales on their wings and a distinctive resting position as they hold their abdomen upright instead of level with the resting surface as observed in other genera. They are active between early evening and dawn. Males feed on nectar and other sources of sugar. Females, in addition to needing sugar, also need blood as a source of protein so that they can develop eggs. 2-3 days after consuming blood, females lay their eggs (between 50 and 200 of them) one by one into the water. The eggs cannot tolerate dry conditions. After 2-3 days they hatch and a larva emerges from each one of them. The larvae of the *Anopheles* mosquito do not have a respiratory siphon, so they position themselves with their body level with the water surface.

This vector can reproduce in a variety of habitats, including rice paddy fields and irrigation water. Most species are believed to prefer clean, uncontaminated water. *Anopheles* mosquito larvae have been found in freshwater swamps, saltwater, mangrove swamps, ditches overgrown with grass, the banks of streams and rivers and small, temporary pools of rain water.

INESFLY SOLUTIONS TO CONTROL *Anopheles*

Controlling adults (INESFLY PAINTS, INESFLY SP COATING, INESFLY EM HOUSE). Controlling larvae (INESFLY LARVA IGR, INESFLY LARVAE 0.5G, INESFLY LARVAE 1G). Personal protection (INESFLY BODY, INESFLY INSECT REPELLENT GEL WITH ALOE VERA).

TRIATOMINE BUGS, the transmitters of Chagas disease

Triatomine bugs are the vectors of Chagas disease, an endemic disease caused by the *Trypanosoma cruzi* protozoon, which is transmitted in the faeces of these bugs.

Chagas disease remains a serious health problem, and there is no vaccine for it. Controlling its transmitting vector remains the only option to eradicate the disease. It is endemic to large parts of America, from the southern United States to southern Argentina. Around 18 million people are thought to be affected, and around 100 million are thought to be at risk of contracting the disease.

Although there are over 100 species of triatomines, only 50% of them have been found to be naturally infected with *T. cruzi*. Of all those vectors, the one that is most effective and most frequently colonises domestic habitats is *Triatoma infestans*, widely known as the kissing bug.

The kissing bug species is almost exclusively found in the home. It is most commonly found in human dwellings as well as in areas inhabited by domestic animals, including chicken coops, dovecotes and rabbit hutches. This insect tends to hide inside cracks in walls, ceilings and behind furniture, clothes and other items.



Overnight, when humans are asleep, kissing bugs emerge from their hiding places to feed on blood. Once they are on the person or animal on which they are going to feed, the bugs draw blood and defecate, and it is in that faeces that the parasitic protozoon is found.

INESFLY SOLUTIONS TO CONTROL TRIATOMINE BUGS

Controlling adults in domestic and peridomestic environments (INESFLY PAINTS, INESFLY SP COATING, INESFLY EM HOUSE).

SANDFLIES, the transmitters of leishmaniasis

These are tiny 2-4 mm Diptera flies. Their bodies appear like that of a mosquito, but smaller. They belong to the Psychodidae family, are haematophagous and females need blood to reproduce. 800 species have been identified, two-thirds of which have been reported in the Americas, the Middle East and Central Asia.

The adults are straw-yellow in colour and fly silently. They do not need water during their life cycle, only a certain amount of humidity, which is why they have been able to live in a wide variety of habitats, from leaf litter and cavities in the roots and trunks of trees in tropical rainforests to rodent burrows and caves. Most of the species have nocturnal feeding habits, but it is not unusual for the insects to bite during the day, and there are some species which only come out in daylight.

Sandflies have a painful bite, but their primary medical significance derives from being the vectors of leishmaniasis which, after malaria, is the second-most important transmissible disease produced by protozoa.

INESFLY SOLUTIONS TO CONTROL SANDFLIES

Controlling adults in domestic and peridomestic environments (INESFLY PAINTS, INESFLY SP COATING, INESFLY EM HOUSE). Personal protection (INESFLY BODY, INESFLY INSECT REPELLENT GEL WITH ALOE VERA).

SCORPIONS, the cause of scorpion stings

These are arachnids that can potentially invade and colonise homes, causing serious problems including death from stings, predominantly in children.

There are around 1500 known species, living in all parts of the globe except the polar regions, with Mexico as the country with the greatest number of different species (221), 7 of which can kill humans.

All scorpions are able to inject venom containing 80 different toxins, 10 of which are toxic to humans, but only 25 species in the world have been identified as lethal to humans.

There are an estimated 1.2 million scorpion stings every year, resulting in around 3250 deaths. 1000 people die from scorpion stings every year in Mexico.

INESFLY SOLUTIONS TO CONTROL SCORPIONS

Controlling adults in domestic and peridomestic environments (INESFLY PAINTS, INESFLY SP COATING, INESFLY EM HOUSE, INESFLY EM HOUSE FLOOR CLEANER).



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