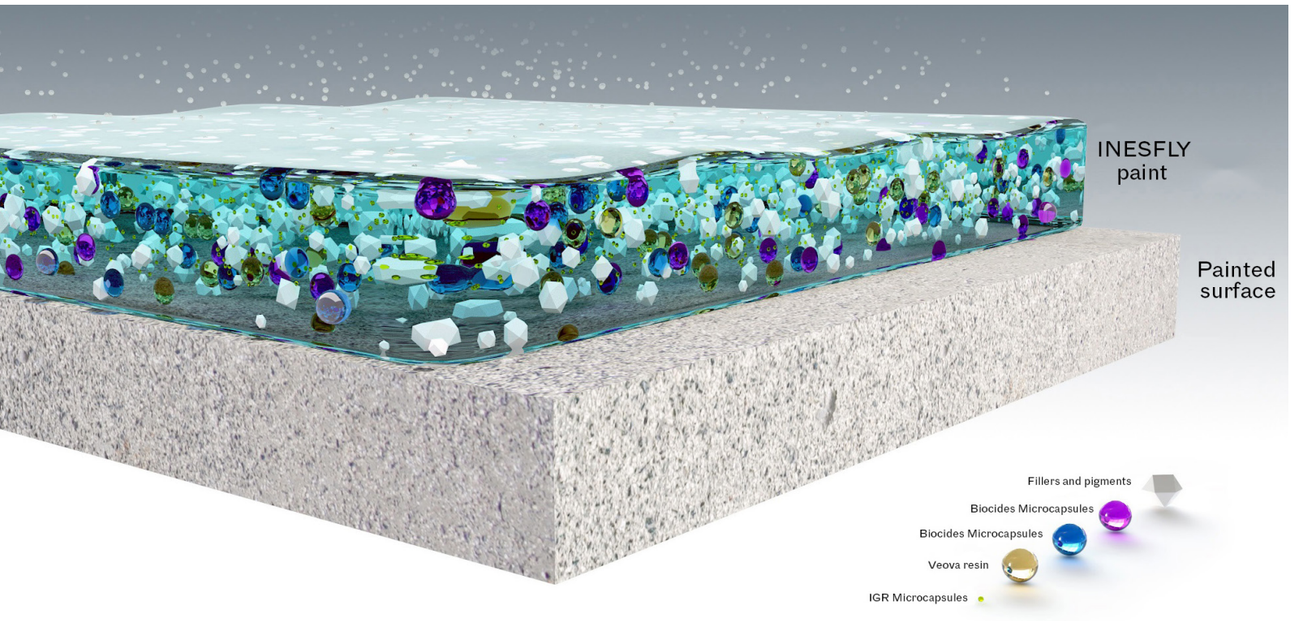
Inesfly® Corporation

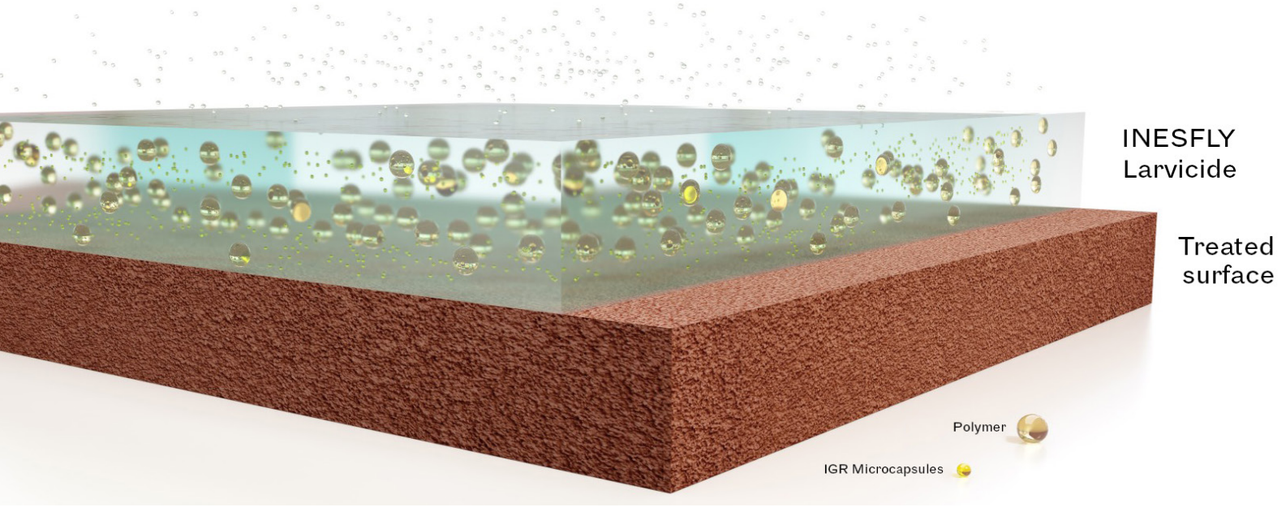
Control of the *Aedes* Genus Mosquitoes

Dengue | Yellow Feber | Chikungunya | Zika

INNOVATIVE SME
Valid until Jan 23rd 2022
GOBIERNO DE ESPAÑA · MINISTERIO DE CIENCIA, INNOVACIÓN Y UNIVERSIDADES

TDR Key Achievement of the year 2017





OUR TECHNOLOGY

INESFLY technology allows the incorporation of different active ingredients (natural products, biocide, etc.) into a polymeric microcapsule. A slow gradual release mechanism with a controlled long residual effect lets improve its persistence and facilitates its use for controlling pests, insects and vectors that are present in our environment.

SPECIFIC PROPERTIES

- Long persistence of efficacy
- Safety for people and animals
- Scientific studies published
- Own application methodology
- Resistance to alkalinity, UV radiation and temperature
- Reduces the cost of treatment
- Lower toxicity and ecotoxicity

NESFLY products are the result of a long process of research and development. Efficacy studies and research projects are the last step of this process. These studies have been carried out under international protocols by well-known centers and experts in Public Health worldwide.

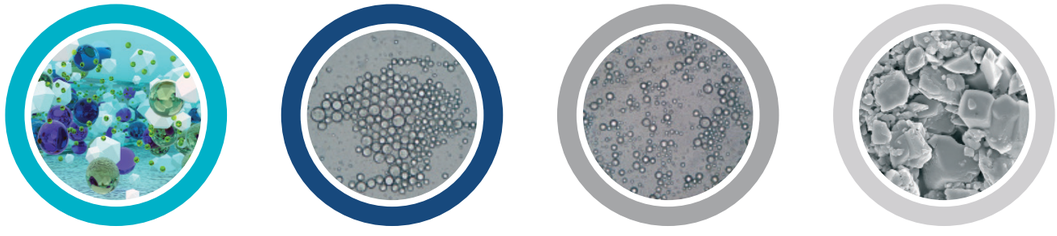
Inesfly is constantly developing insecticide products based on its technology and is able to adapt to specific requirements of the insect, geographical area, resistance status, regulatory aspects, etc. INESFLY products allow the protection of people, against *Anopheles* mosquitoes genus, either directly or through the integral control of their biological cycle.

INESFLY technology, patented in numerous countries, is used in different areas as Public Health, Animal health and Agriculture and Ornamentals.

Inesfly microcapsule creation is a chemical process which produces microcapsules in suspension, where conventional biocides at very low doses and insect growth regulators are included. Gradual and controlled release of the microencapsulated active ingredients is a direct result of the polymeric covering.

We believe in comprehensive health projects based on three points:

- Vector control
- Diagnosis and clinical treatment
- Education and training in health and hygiene



Inesfly Corporation

AEDES MOSQUITOES
DISEASE TRANSMISSION

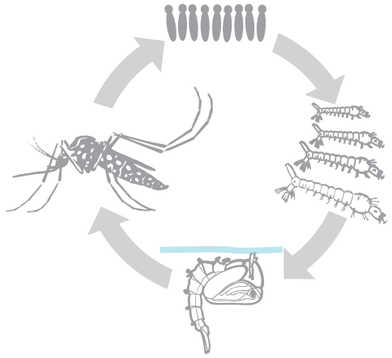
Strategies for the prevention and eradication of vector-borne diseases necessarily go through the interruption of the life cycle of the transmitting disease causing agent before accessing the human being.

In the case of dengue, yellow fever, zika and chikungunya, *culicidae* mosquitoes play an essential role in the transmission of arboviruses due to their need for blood intake, their great adaptability to different environments and the variability of hosts on which perform their feeding.

Aedes aegypti and *Aedes albopictus* (tiger mosquito) are two mosquitoes of tropical and subtropical origin that in the last decades have experienced an enormous dispersion throughout the five continents, thanks mainly to the effects derived from the global change derived from the increase in the transport of people and goods. This biological dispersion has been accompanied by the emergence and / or re-emergence of diseases caused by viruses that are capable of transmitting.

A clear example of this are the autochthonous dengue and chikungunya outbreaks that have occurred in the European continent since the beginning of the 21st century. One of the main peculiarities of these species is that they live in close association with humans. They are synanthropic species, so they are usually found in the domestic and peridomestic areas. In addition, they are urban mosquitoes that can also be established at the rural level.

Adult *Aedes* mosquitoes have a special fondness for depositing eggs in containers or water containers, natural - *tree hollows, rock crevices or leaf stalks* - and artificial - *pools, water tanks, tires, drums, vases or cans,* among others-. Females do not lay eggs in water. They lay them in the wet area, a short distance from the water surface. In this way, the eggs can remain viable for up to a year, ready to hatch at the moment when the container in question is refilled with water.



After hatching from the egg, the larva will undergo four molts with four larval stages. The feeding of the larva is carried out both in the bottom and the walls of the hatchery and in the water column, a very important aspect for the formulation of control products for these larval populations. After the fourth larval stage, the larva transforms into a pupa. In this state the individual no longer feeds and is where the necessary changes take place until reaching the adult state.

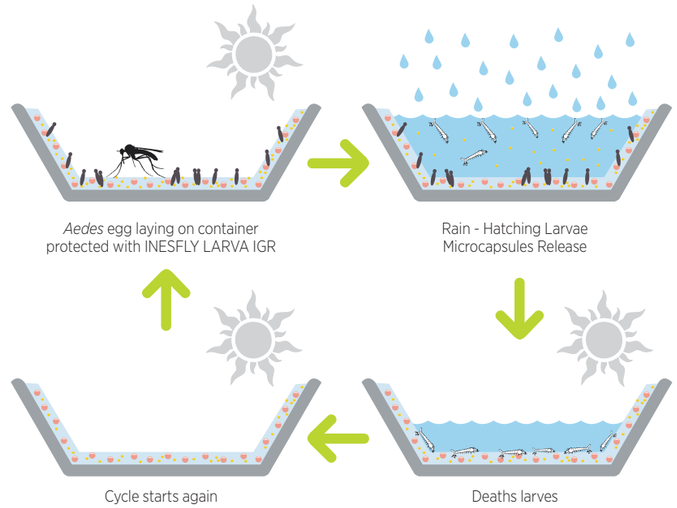
The male has a much shorter half-life than the female and feeds exclusively on sugary vegetable exudates, while the females need a protein intake for egg production, so they need to eat blood. These species feed during the day in periods of maximum human activity. They can even do it at night inside the houses if there is artificial light inside. Also, these mosquitoes prefer human blood to that of other pets. These characteristics are key elements on which to focus efforts aimed at population control, either through the use of larvicides or adulticides.

Efforts to control these vectors should be directed towards achieving the maximum possible reduction in their populations, which will translate into a decrease in the incidence of the diseases they transmit and, consequently, achieve living in a healthier environment.

To achieve this control, it is essential to apply a comprehensive control strategy that works in different environments (*homes, outdoor environments*) and, above all, takes into account all stages of vector development and the protection of people.

From INESFLY CORPORATION we propose specific product lines for the control of:

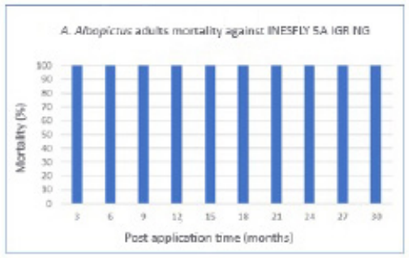
- adults
- larves
- body protection



SCIENTIFIC STUDIES

Evaluation of the residual efficacy of Inesfly 5A IGR NG against *Aedes albopictus*

Carried out in the laboratory through the WHO cone test by the University of Zaragoza (Spain).



PAINTING HEALTH PROJECT

In the municipality of Pedro Carbo (Ecuador) with the Inesfly 5A IGR NG paint.

Carried out in collaboration with the Ministry of Public Health.

According to a perception survey of residents in painted houses:

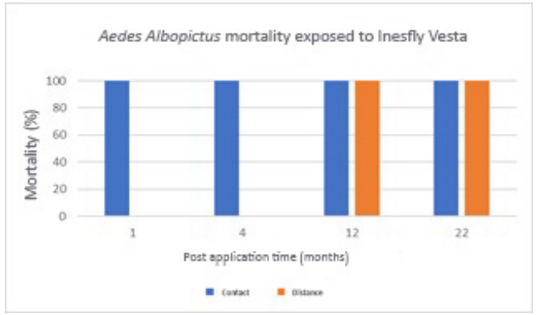
-Reduction of the presence of mosquitoes and other insects: 100%

-Absence of side effects: 97%

-General satisfaction: 100%

Evaluation of the residual efficacy of Inesfly VESTA against *Aedes albopictus.*

Carried out in the laboratory through the WHO cone test by the University of Zaragoza (Spain).



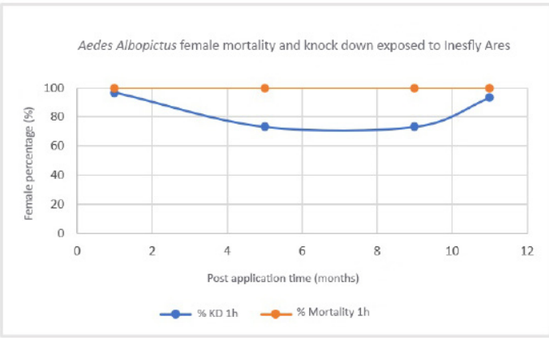
Laboratory evaluation of the residual efficacy of Inesfly LARVA IGR against *Aedes albopictus* larvae.

Carried out by the University of Zaragoza (Spain).

MATERIAL	PUPICIDE EFFICACY	POST APPLICATION TIME (months)
Plastic	94%	27
Wood	96%	20
Tire	94%	24

Evaluation of the residual efficacy of Inesfly ARES against *Aedes albopictus.*

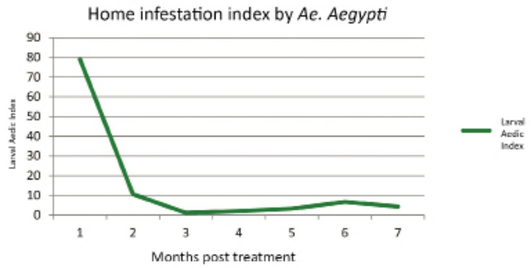
Carried out in the laboratory through the WHO cone test by the University of Zaragoza (Spain).



ATLANTIC UNIVERSITY RESEARCH PROJECT FOR THE CONTROL OF *Aedes aegypti*

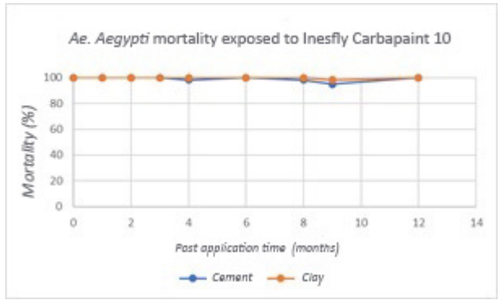
In two neighborhoods of Barranquilla, Colombia (2007) with the Inesfly Paint

Carried out in collaboration with the Entomology Laboratory of the Atlantic University. The results determined the effectiveness and persistence of applying the Inesfly paint on the walls of the houses in Barrio de San José de Malambo and Barrio Bellavista.



Biological efficacy of Inesfly CARBAPAINT 10 against a wild strain of *Aedes aegypti* resistant to pyrethroid insecticides.

Carried out by the University of Sonora (Mexico).



Bioefficacy evaluation of Inesfly CARBAPAINT 10 paint under field conditions against *Aedes aegypti.*

Carried out by the University of Sonora (Mexico).

Results:

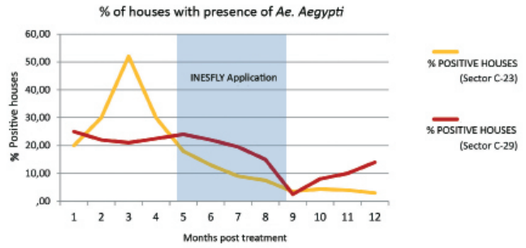
-Indoor density reduction of *Aedes aegypti*:> 90%

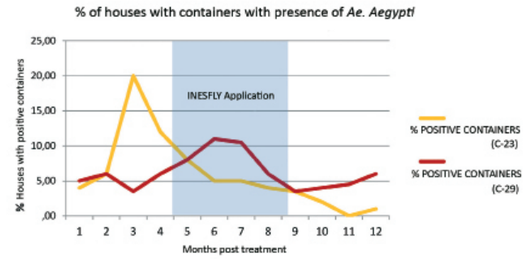
-General resident satisfaction: 95%

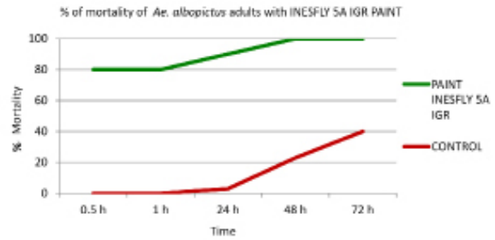
EVALUATION PROYECT OF INESFLY 5A IGR PAINT for *Aedes agypti*

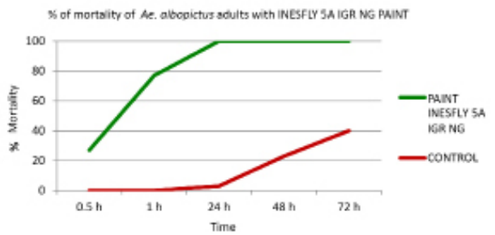
In Tabasco neighborhood, México (2009-2010)

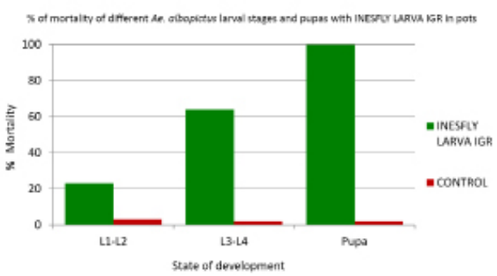
Carried out in collaboration with the National Institute of Health, the Federico Gómez Children's Hospital of Mexico, the Tabasco Health Secretariat, the Chrysler Foundation and the Foundation of the Americas. The results made it possible to determine the adulticidal effect and the persistence of the INESFLY 5A IGR paint on different surfaces, as well as to assess the toxicological effect on people using acetylcholinesterase measurements before and after applying the paint.







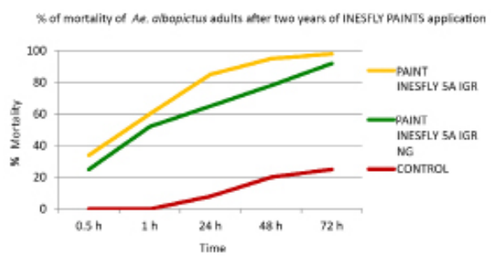




PILOT PROJECT WITH PROJECT PAINTING *AEDES* NORTH-SOUTH (2010-2013) to evaluate the efficacy of Inesfly formulations against *Aedes albopictus* and *Aedes aegypti* in laboratory and field conditions.

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

The results allowed evaluating the larvicidal and adulticidal effect, as well as its persistence over time, of the INESFLY paint associated with various insecticides and growth inhibitors applied in the form of paints and emulsions on various surfaces against the vectors *Aedes aegypti* and *Aedes albopictus.*



SCIENTIFIC PUBLICATIONS

1. Laboratory evaluation of the efficacy of an IGR formulation in *Aedes albopictus* larvae.

Pinal R., Mateo P., Oropeza V., Delacour Estrella S., Alarcón Elbal PM, Ruiz Arrondo I., Muñoz A., Lucientes J. Poster Curso Internacional de dengue. La Habana, Cuba. 2011.

2. The residual efficacy of three formulations of insecticidal paints (Inesfly® technology) for the control of *Aedes*.

Oropeza V., Pinal R., Mateo P., Delacour Estrella S., Alarcón Elbal P.M., Ruiz Arrondo I., Muñoz A., Lucientes J. VIII Congreso Nacional de Entomología Aplicada. Mataró, Spain. 2013.

3. Experimental evaluation of insecticidal paint applied to ovitraps for control of *Aedes albopictus.*

Boubidi SC, Vaille G, Lagneau C, Tounsi R, Founteneille D and Reiter P. Poster ECTMIH Basel, Swizterland. 2015

4. Biological efficacy of two insecticidal paints against ticks and mosquitoes under laboratory conditions.

Jorge Castañeda-Gómez, Alejandro C. Villegas-Trejo, Juan P. Castillo-Munguía, Vanessa A. Arteaga-Cárdenas, Ricardo Arce-Vega, Ana L. Mata-Pineda, María del C. Candia-Plata, Gerardo Álvarez-Hernández. Poster of Public Health Days. National Institute of Public Health. Mexico. 2019

5.Overview of Inesfly Insecticide Paints. Scientific results in vector control.

Poster PAMCA. Yaunde, Camerún. 2019.

INESFLY
PRODUCTS

INSECTICIDE PAINTS

- INESFLY VESTA
- INESFLY 5A IGR
- INESFLY 5A IGR NG
- INESFLY ARES
- INESFLY CARBAPAINT 10

INSECTICIDE DISPERSIONS

- INESFLY EM HOUSE IGR NG
- INESFLY LARVA IGR

INSECTICIDE COATINGS

- INESFLY SP COATING
- INESFLY SATIS

PERSONAL PROTECTION

- INESFLY BODY REPELLENT
- INESFLY BODY 35

INESTRAP

INSECTICIDE **PAINTS**

INESFLY VESTA

DESCRIPTION

Inesfly VESTA is a double-acting insecticide paint that contains a special pyrethroid capable of exerting a powerful contact and vapor phase effect, creating a repellent space for insects. Very effective product for flying insects such as mosquitoes, flies, sandflies and also for crawlers like cockroaches, bedbugs and ants. Especially recommended for the control of vectors that transmit endemic diseases such as malaria, dengue, leishmaniosis, etc. Inesfly VESTA paint is recommended for areas with susceptibility and resistance to pyrethroid insecticides.

COMPOSITION

Transfluthrin 0.5%

USES

Easy to use as a conventional water paint, being able to apply by brush, roller, hand spraying devices and airless systems. Depending on the type of surface and the level of infestation, the application doses range from 1 lt/8 m^2 to 1 lt/12 m^2.

To achieve the best results, it is advisable to apply the INESFLY PAINTS on as much surface area as possible, avoiding “shelter” areas for pests.

PRESENTATIONS

1 liter, 4 liters and 10 liters

INESFLY 5A IGR

DESCRIPTION

Inesfly 5A IGR is a paint based on organophosphate insecticides and Insect Growth Regulators (IGR) very effective for all types of insects: mosquitoes, flies, cockroaches, bedbugs, fleas, ticks, spiders, scorpions, ants and mites. The product achieves the control of all type of arthropods and disease vectors of malaria, Chagas, dengue, leishmaniosis, etc.

Inesfly 5A IGR paint is especially recommended in areas where there is resistance to pyrethroid insecticides. It can be used in all interior places where there is a high infestation of insects.

COMPOSITION

Chlorpyrifos 1.5%
Diazinon 1.5%
Pyriproxyfen 0.063%

USES

Easy to use as a conventional water paint, being able to apply by brush, roller, hand spraying devices and airless systems. Depending on the type of surface and the level of infestation, the application doses range from 1 lt/8 m^2 to 1 lt/12 m^2.

To achieve the best results, it is advisable to apply the INESFLY PAINTS on as much surface area as possible, avoiding “shelter” areas for pests.

PRESENTATIONS

1 liter, 4 liters and 10 liters

INESFLY 5A IGR NG

DESCRIPTION

Inesfly 5A IGR NG is a paint based on pyrethroid insecticides and IGR that allows controlling all types of arthropods and pests, especially for the control of vectors that transmit endemic diseases such as malaria, dengue, Chagas, leishmaniosis, etc.

Very effective for all types of insects: mosquitoes, flies, cockroaches, bedbugs, fleas, ticks, spiders, scorpions, ants and mites. It can be used in all places where there is a high infestation of insects, such as: interior of homes, offices, health centers, hospitals, schools, hotels, workplaces etc.

COMPOSITION

Alfhacipermethrin 0.7%
D-allethrin 1.0%
Pyriproxyfen 0.063%

USES

Easy to use as a conventional water paint, being able to apply by brush, roller, hand spraying devices and airless systems. Depending on the type of surface and the level of infestation, the application doses range from 1 lt/8 m^2 to 1 lt/12 m^2.

To achieve the best results, it is advisable to apply the INESFLY PAINTS on as much surface area as possible, avoiding “shelter” areas for pests.

PRESENTATIONS

1 liter, 4 liters and 10 liters

INSECTICIDE **PAINTS**

INESFLY ARES

DESCRIPTION

Inesfly ARES is an indoor insecticide paint that combines the action of an organophosphate and an IGR. Very effective product for all types of insects: mosquitoes, flies, cockroaches, bedbugs, fleas, ticks, spiders, scorpions, ants and mites.

It allows to control all types of arthropods and pests, especially for the control of vectors that transmit endemic diseases such as malaria, dengue, Chagas, leishmaniasis, etc. Inesfly ARES paint is especially recommended in areas of presence of insect populations resistant to pyrethroid insecticides.

COMPOSITION

Pyrimiphos-methyl 1.0%
Pyriproxyfen 0.1%

USES

Easy to use as a conventional water paint, being able to apply by brush, roller, hand spraying devices and airless systems. Depending on the type of surface and the type of pest and the level of infestation, the application doses range from 1 lt/8 m^2 to 1 lt/12 m^2.

To achieve the best results, it is advisable to apply the INESFLY PAINTS on as much surface area as possible, avoiding "shelter" areas for pests.

PRESENTATIONS

1 liter, 4 liters and 10 liters

INESFLY CARBAPAINT 10

DESCRIPTION

Inesfly CARBAPAINT 10 is an insecticide paint that contains propoxur, a carbamate insecticide with a broad spectrum of efficacy: mosquitoes, flies, cockroaches, bedbugs, fleas, ticks, spiders, scorpions, ants and mites.

It allows to control all types of arthropods and pests, especially for the control of vectors that transmit endemic diseases such as malaria, dengue, Chagas, leishmaniasis, etc. Inesfly CARBAPAINT 10 paint is especially recommended in areas of presence of populations of insects resistant to pyrethroid insecticides.

COMPOSITION

Propoxur 1.0%

USES

Easy to use as a conventional indoor water paint, it can be applied by brush, roller, hand spraying devices and airless systems. Depending on the type of surface and the type of pest and the level of infestation, the application doses range from 1 lt/8 m^2 to 1 lt/12 m^2.

To achieve the best results, it is advisable to apply the INESFLY PAINTS on as much surface area as possible, avoiding "shelter" areas for pests.

PRESENTATIONS

1 liter, 4 liters and 10 liters

INSECTICIDE **DISPERSIONS**

INESFLY EM HOUSE IGR NG

DESCRIPTION

Inesfly EM HOUSE IGR NG is an aqueous dispersion of ready-to-use microencapsulated insecticides containing insecticides, acaricides and insect growth regulators.

Very effective in controlling all types of arthropods. It can be applied on surfaces where the use of insecticide paint is not suitable. Application on fabrics: product specially designed for personal protection through textiles in places with presence of disease-transmitting vectors.

Product supplied to NATO no 9484B.

COMPOSITION

Alfhacipermethrin 0.3%
D-allethrin 0.3%
Pyriproxyfen 0.063%

USES

Product ready to use. Apply directly to any surface to be treated. It can be applied by trigger spray and backpack sprayers.

Spray about 50 ml of product per m^2 (a 5 liters sprayer allows you to treat an area of 100 m^2).

It is recommended to spray the tissues –clothes, canvases, etc.- Apply at a distance of 15 cm and let dry for 3-hours. Apply again after each wash.

PRESENTATIONS

100ml, 250ml, 500ml and 5 liters

INESFLY LARVA IGR

DESCRIPTION

Inesfly Larva IGR is a larvicidal product that contains an insect growth regulator of the juvenile hormone analogue type.

It has high specificity to interfere with the processes of molting in immature stages of mosquitoes and flies.

This product is designed for application in non-potable water including shallow ponds, stagnant water pools, sinks, drainage pipes in urban areas, batteries, water in tires ect.

COMPOSITION

Pyriproxyfen 0.2%

USES

Product ready to use. Apply directly to the surface to be treated. It can be applied with hand spraying devices and airless systems.

Dose: 1 liter/40m^2.

PRESENTATIONS

500ml and 5 liters

INSECTICIDE **COATINGS**

INESFLY SATIS

DESCRIPTION

Inesfly SATIS is a transparent, water-based insecticide coating that contains insecticide microcapsules, acaricides and insect growth regulator (IGR) in places where you do not want to change the appearance of the surfaces to be treated.

Specially designed for mosquito control in water tanks. Its application on the vertical walls of the water tanks exerts an adulticidal effect on the females that contact the walls to deposit the eggs, along with the larvicidal effect of the IGR that is released into the water.

COMPOSITION

Alfhacipermethrin.....0.7%
Pyriproxyfen 0.063%

USES

Dose: 1 liter / 10 m^2 - 1 liter / 12 m^2

Application by brush or roller on the vertical walls of tanks or water storage containers.

Surfaces to be treated must be dry and clean of scale or dirt. Leave to dry for at least 24 hours. For non-absorbent surfaces such as metal, plastic or tiles, it is recommended to add an adhesion promoter to achieve a good fixation and resistance to water. Not suitable for tanks with drinking water.

PRESENTATIONS

1 liter, 4 liters and 10 liters

INESFLY SP COATING

DESCRIPTION

Inesfly SP COATING is a transparent water-based insecticide coating that contains microcapsules of insecticides, acaricides and insect growth regulator in places where you do not want to change the appearance of the surfaces to be treated.

Product based on pyrethroid insecticides very effective against all types of insects, such as: mosquitoes, flies, cockroaches, bedbugs, fleas, ticks, spiders, scorpions, ants and mites.

COMPOSITION

Alfhacipermethrin 0.7%
D-allethrin 1.0%
Pyriproxyfen 0.063%

USES

Dose : 1 liter/10 m^2 - 1 liter/12 m^2

To achieve the best results, it is advisable to apply the product on as much surface area as possible, avoiding “shelter” areas for pests.

Application method: brush, roller, hand spraying devices and airless systems.

PRESENTATIONS

Spray: 400 ml

1 liter, 4 liters and 10 liters

PERSONAL PROTECTION

INESFLY BODY 35

DESCRIPTION

Inesfly BODY 35 is an insect repellent for human use that protects from mosquito bites and other insects such as ticks for a period of 6 to 8 hours.

Demonstrated efficacy against *Aedes aegypti* mosquitoe with 100% repellency during the first 7 hours.

COMPOSITION

Alcohol, Aqua, Ethyl Butylacetylaminopropionate (IR 3535) 20%, PEG-8, PEG-32, VP/VA Copolymer, Polysorbate 20, PPG-15 Stearyl Ether.

USES

Apply and spread well on areas of the skin exposed to possible bites. It can be used in children from 3 years and in adults.

Properly wash your hands after using the product.

It is not oily or sticky to the skin.

PRESENTATIONS

100ml

INESFLY BODY REPELLENT

DESCRIPTION

Inesfly BODY REPELLENT is an effective body repellent against mosquitoes and other insects such as ticks.

Provides protection for more than 6 hours.

COMPOSITION

Pyrethrum Extract.

Piperonyl Butoxide.

Citral. D-Limonene. Geraniol.

USES

Apply and spread well on all areas of skin exposed to bites. Frequent and repeated use is not necessary.

Do not use in children under 2 years.

PRESENTATIONS

100ml

INESTRAP

INESTRAP

DESCRIPTION

INESTRAP is a black plastic container that simulates or reproduces the ideal humid places where female *Aedes* mosquitoes (*aegypti*, *albopictus* or Tiger, ...) lay their eggs.

Its special design is very attractive for females to lay their eggs. This oviposition is favored by the smell given off by the mixture of the vegetable attractant that is incorporated into the water. Includes an adhesive strip located inside the capture chamber where female mosquitoes are trapped.

Each trapped mosquito female prevents the emergence of up to 1,000 new mosquitoes.

USES

INESTRAP has two main uses:

- To detect the presence of mosquitoes for entomological monitoring purposes.
- As a population reduction tool due to its capture effect.

Population control functions will be favored with the placement of a minimum of 3 units depending on the dimensions of the area to be controlled.

To avoid the development of larvae in water and thus enhance the effect of INESTRAP, it must be used in combination with Inesfly Larva IGR (larvicide) by spraying this product inside the bucket and allowing it to dry before filling with water.

INESTRAP can be used on terraces, gardens, parks, chalets, gardens, patios, balconies.

CONTROL
AEDES
MOSQUITOE

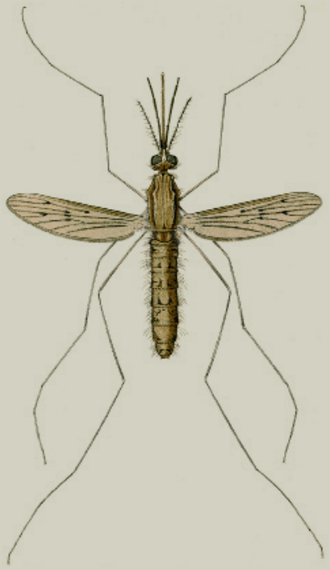
			INESFLY VESTA	INESFLY 5A IGR	INESFLY 5A IGR NG	INESFLY ARES	INESFLY CARBAPAINT 10	INESFLY EM HOUSE IGR NG	INESFLY LARVA IGR	INESFLY SP COATING	INESFLY SATIS	INESFLY BODY REPELLENT	INESFLY BODY 35	INESTRAP
AEDES AEGYPTI *AEDES ALBOPICTUS*	ADULTS		●	●	●	●	●	●		●	●	●	●	●
	LARVES								●		●			●

	INESFLY 5A IGR NG	INESFLY 5A IGR	INESFLY EM HOUSE IGR NG	INESFLY SP COATING	INESFLY SATIS	INESFLY LARVA IGR	INESFLY BODY REPELLENT	INESFLY BODY 35	INESFLY ARES	INESFLY CARBAPAINT 10	INESFLY VESTA
Walls and ceilings of houses and buildings	●	●	●	●					●	●	●
Sewer and scuppers	●	●		●							
Non-potable domestic water tanks and tanks					●	●					
Drums, buckets and other containers						●					
Flower containers, flower pots plates, bottles and other containers						●					
Tires						●					
Tree trunks and plants						●					
Roof water channels						●					
Holes in the rocks						●					
Textiles (curtains)			●	●							
Textiles (clothing, uniforms)			●								
Body (cutaneous application)							●	●			

Inesfly Corporation

INESFLY

IN THE CONTROL OF OTHER VECTORS OF ENDEMIC DISEASES



INESFLY CORPORATION HAS SOLUTIONS FOR

CONTROLLING VECTOR OF OTHER INFECTIOUS DISEASES:

MOSQUITOS OF THE *Anopheles* GENDER,
transmitting of **malaria**.

TRIATOMINE BUGS,
Chagas disease vector.

SANDFLIES,
transmitting of visceral, cutaneous and mucocutaneous **leishmaniasis**.

TSE TSE FLY,
vector of **African trypanosomiasis**.

TICKS,
Rickettsiosis vector.

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