

BITHOR[®] DUAL ACTION

INSECTICIDE



THE SILENT ASSASSINS
TWO DIFFERENT MODES OF ACTION COMBINE
INTO THE UNSTOPPABLE INSECTICIDE



Dual mode of action

using the intensified effects of two actives with completely different properties



Non-repellent

through the two actives working together to become undetectable



Competitive

Priced so you can use indoors or outdoors any time you need



Long term

Continues to protect your property through the effects of two well known residual actives

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In 1985, a **Japanese visionary** discovered neonicotinoid insecticides and **revolutionized pest control**. Ensystem have taken his foundation and melded it with **another discipline**, pyrethroid chemistry, creating an **unstoppable synergy BITHOR DUAL ACTION**.

KETSUGO BUKI

def: forge a combination weapon

TWO ACTIVES, 45 g/L bifenthrin (pyrethroid) and 55 g/L imidacloprid (neonicotinoid), each with a totally different mode of attack combine into an unstoppable synergy stronger than its individual components.

KAKUSHI BUKI

def: art of hidden weapons

NON-REPELLENT, odourless, water-based micro-suspension concentrate, meaning the insect will remain in contact with the treated surface longer - unaware it is acquiring its lethal dose.

ANSATSUNIN

def: power of an assassin

LONG TERM, residual action is provided through the intensified effects of two well known and trusted actives, magnifying the potency of the other, even after a prolonged period.

BUJINKAN

def: the divine warrior academy

COMPETITIVELY PRICED, so you can harness the power. Available for both indoor and outdoor use, the magnifying effect means BITHOR DUAL ACTION is more effective, even at lower concentrations.

THE PROVEN POWER OF BIFENTHRIN
COMBINES WITH NON-REPELLENT IMIDACLOPRID

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Two actives from **two totally different chemical groups** combine together to create a **synergistic effect** with **each active intensifying the effects of the other**, to kill even the toughest pests.

HOW THE DUAL ACTION EFFECT WORKS

Bifenthrin is combined with the non-repellent imidacloprid, to create a combination product that is effectively non-repellent.

Non-repellent acetylcholine impersonator
Gisojutsu

def:
art of hidden weapons

Ingredients are milled together to create an even distribution



Actives meld into one unique product

Creating a product stronger than its individual actives

Pyrethroid power from the well-trusted and proven bifenthrin
Kakushi geri

def:
kicking open the gates



BITHOR DUAL ACTION

KAGE ARUKI JUTSU

def: *forge a combination weapon*

BITHOR DUAL ACTION blends two actives, bifenthrin and imidacloprid, together to form a micro-suspension concentrate, where the particle size is optimised to penetrate the insect cuticle more readily, whilst providing improved residual performance on a wide range of surfaces and under a wide range of weather conditions.

POWER FROM SYNERGY

By combining two actives from two totally different chemical groups we create a unique product that kills the toughest pests. The two actives combine together to create a synergistic effect with each actively intensifying the effects of the other, to create a more potent solution than either alone.

IMIDACLOPRID

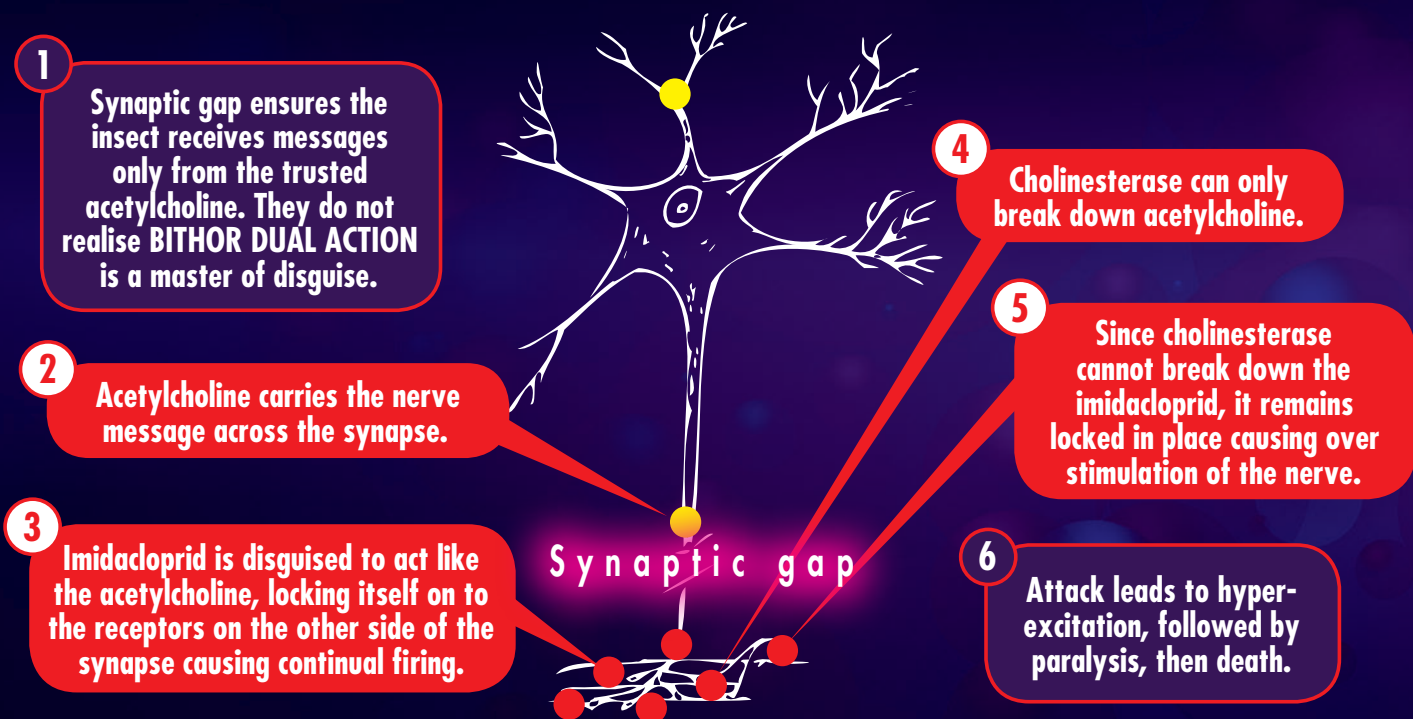
THE ART OF GISOJUTSU

def: *art of hidden weapons*

Japanese visionary Professor Shinzo Kagabu is the principal discoverer and father of the neonicotinoid insecticides. Professor Shinzo first prepared imidacloprid in 1985 when he was a researcher in the pesticide development project in Nihon Tokushu Noyaku Seizo.

Imidacloprid is a neonicotinoid insecticide that acts as **a synaptic toxin**. It mimics the actions of the naturally occurring neurotransmitter, acetylcholine.

Acetylcholine passes the nerve cell message across the synaptic gap. The acetylcholine is then broken down by the enzyme cholinesterase. However, cholinesterase cannot break down imidacloprid, so the nerve cells are continually stimulated, resulting in a neural overdose.



BIFENTHRIN

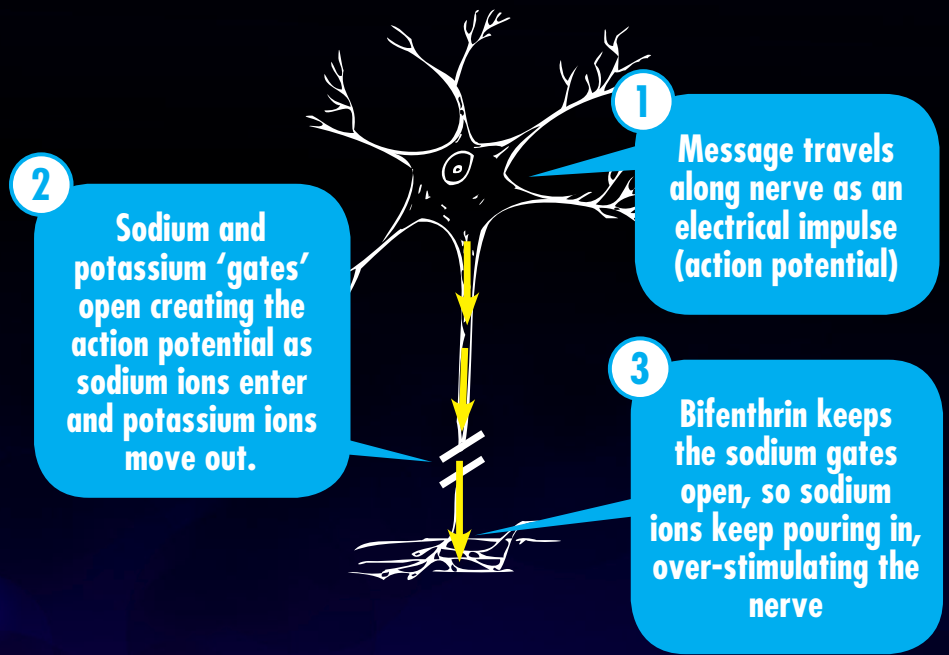
KAKUSHI GERI

def: kicking open the gates

In contrast to imidacloprid, bifenthrin is a pyrethroid insecticide that acts as **an axonic toxin**. The nerve axon is electrically polarised; when a message passes along the axon it does so through the effects of sodium and potassium 'gates'. Pyrethroids affect the polarity of the nerve by keeping the 'sodium gates' open; so the insects go into convulsions.

Unlike most other pyrethroids, bifenthrin contains no alpha-cyano group, and since the combination with imidacloprid allows it to be used at a reduced level, it means that BITHOR DUAL ACTION is essentially non-repellent. This ensures the insect will remain in contact with the treated surface longer providing improved performance over products that use alpha-cyano pyrethroids*. This means BITHOR DUAL ACTION is more effective, even at lower concentrations, which in turn improves the performance of the product.

*Examples of alpha-cyano pyrethroids include beta-cyfluthrin, deltamethrin, cypermethrin, lambda-cyhalothrin.



BITHOR DUAL ACTION FAMILY FRIENDLY NINJAS

While the thought of BITHOR DUAL ACTION is making household insects nervous, it has a different effect on your family members. This is because mammals and insects have structural differences in their nervous systems. A range of toxicology studies were

performed on BITHOR DUAL ACTION Insecticide to confirm the safety of the product with the combination of actives. All studies were performed by Eurofins Product Safety Laboratories in New Jersey, USA; in accord with US EPA and OECD guidelines.

Test	Result	Comments
Acute Oral (rat) LD ₅₀	1,098 mg/Kg	Female rats were selected for the test since they are more sensitive.
Acute Dermal (rat) LD ₅₀	>2,000 mg/Kg	At this dose rate no mortality was observed, all animals continued to gain body weight, and no clinical abnormalities were observed.
Primary Eye Irritation (rabbit)	Mildly irritating	All animals recovered with no ill effects.
Dermal Sensitisation (mouse)	Not a dermal sensitiser	Product was tested at 100% and applied for three consecutive days.
Acute Inhalation (rat) LC ₅₀	>5.11 mg/Kg	All animals survived and appeared active and healthy at the end of the exposure period.
Primary Skin Irritation (rabbit)	Slightly irritating	All symptoms cleared after 48 hours.

UNSTOPPABLE AGAINST HOUSEHOLD INSECTS

In a series of independent trials, BITHOR DUAL ACTION showed significantly improved performance when compared to a bifenthrin positive control formulation, indicating the synergistic effects of the combined actives.

At 90 days BITHOR DUAL ACTION still provided 100% mortality against German cockroaches (*Blattella germanica* Linnaeus) and house flies (*Musca domestica* Linnaeus).

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Product	BITHOR DUAL ACTION Insecticide
Actives	45 g/L bifenthrin (pyrethroid) 55 g/L imidacloprid (neonicotinoid)
Pests	Household pests - cockroaches and flies
Formulation	Water-based micro-suspension concentrate
Benefits	Two actives from two totally different chemical groups combine together to create a synergistic effect with each active intensifying the effects of the other, to kill even the toughest pests.

ENSYSTEX[™]

LEADING INNOVATION IN PEST MANAGEMENT

ENSYSTEX PHILIPPINES INC

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266 ESCOLTA STREET BINONDO,
MANILA, PHILIPPINES



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