

ADVANCED MICRO-ENCAPSULATED **ATTRACT & KILL** LIQUID BAIT TECHNOLOGY
EASY TO APPLY **LIQUID FIPRONIL FILM** ELIMINATES COCKROACHES

Controlled-release Active
Micro-capsules™ of fipronil

Quick-release Insect Attractant
Micro-capsules™

ATTRATHOR™

TARGETED INSECTICIDE

MICRO-ENCAPSULATED ATTRACT & KILL

POWERED BY FIPRONIL

ATTRATHOR™

REVOLUTIONARY COCKROACH CONTROL

Cockroach control historically began with liquids and sprays. Then came gel baits, which are more effective and environmentally friendlier, but labour intensive.

Now ATTRATHOR revolutionises cockroach control again using a targeted film application containing a food (bait) attractant and powered by fipronil. It has the efficacy of a traditional gel bait, but is much less labour intensive to apply, and is approved for use in food preparation areas.

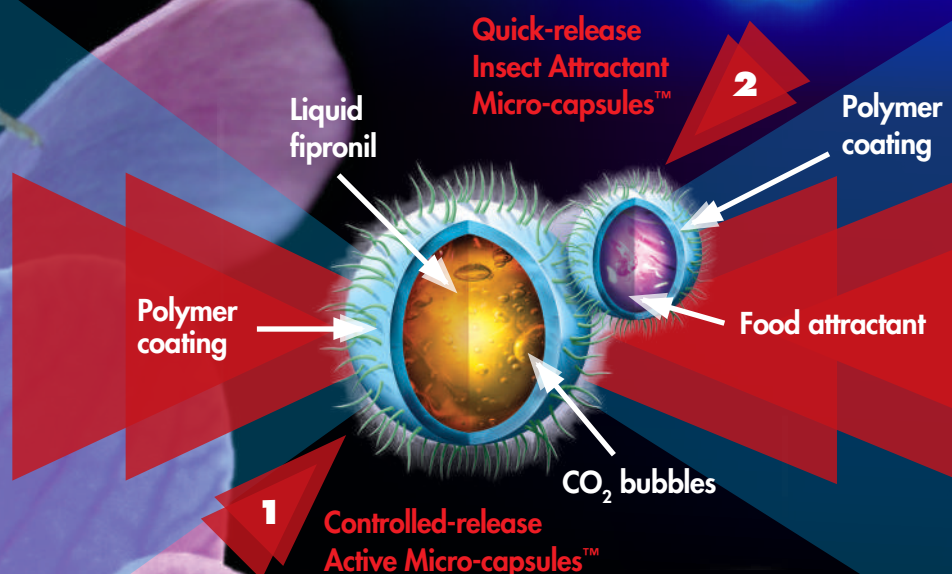
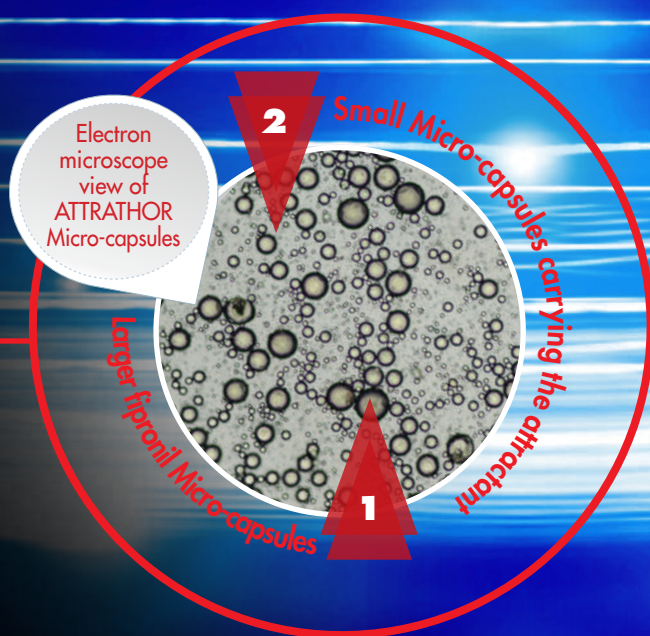
**Within 48 hours,
there will be a
significant reduction
in cockroach numbers**

ATTRATHOR™

ATTRACTIVE YET DEADLY

Just as the **Orchid Mantis** (below left) lures prey with its powers of attraction, ATTRATHOR lures cockroaches to the target zone by the

- 1 **Quick-release Insect Attractant Micro-capsules™**, where they unknowingly pick up the deadly **Controlled-release Active Micro-capsules™**.
- 2 The Active Micro-capsules adhere to their legs and antenna. When the cockroaches groom themselves they remove the Active Micro-capsules which burst, releasing the liquid fipronil within - **Stomach Action**. Alternatively, when the cockroaches tread on the pressurised Active Micro-capsules, they burst, releasing the fipronil which is absorbed directly through the cuticle, **Contact Action**.



A world first: **micro-encapsulated attractant** combined with **micro-encapsulated fipronil**, the active you know and trust.

This micro-encapsulated formulation ensures:

EASY APPLICATION through your traditional spray equipment targeted into cockroach harbourages.

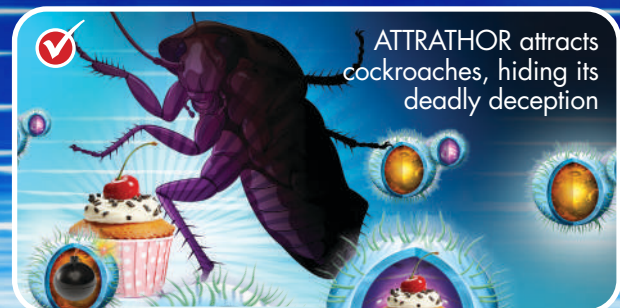
The formulation creates an active encapsulated film on the treated surface. ATTRATHOR TARGETED INSECTICIDE can partner, or replace, gel bait technology.

COCKROACHES ARE LURED TO

the treated zone and drawn in by the food attractant. The insects are attracted to the food source unaware of the deadly deception they are approaching, since alongside their attractive food source, totally undetectable, lie the deadly Micro-capsules of fipronil.



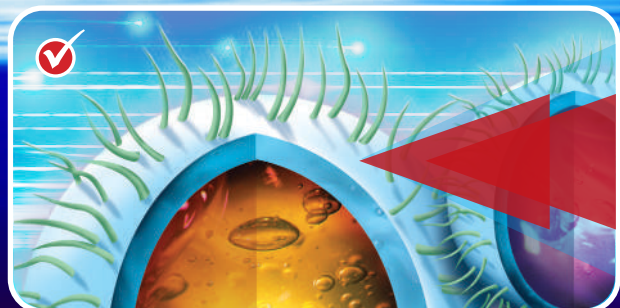
ATTRATHOR applied as a targeted film



ATTRATHOR attracts cockroaches, hiding its deadly deception



ATTRATHOR affected cockroaches unknowingly pass the toxicant to their nest mates.



KILLS MORE COCKROACHES

Cockroaches passing over the film pick-up the Active Micro-capsules, loaded with fipronil. When they later socialise, they unknowingly pass the toxicant on. This creates the **Viral Transfer Effect™** leading to the kill of more cockroaches.

LONG LASTING PROTECTION

through the micro-encapsulated fipronil, the active ingredient that kills the cockroaches. The encapsulation protects the fipronil from damage, releasing the fipronil when the cockroaches pass over the Micro-capsules. Thus improving the longevity of the product, even in harsh kitchen environments.

ATTRATHOR TARGETED INSECTICIDE - POWERED BY FIPRONIL

ATTRATHOR™

ACTIVE AND PASSIVE CONTROL™

ATTRATHOR is unique since it provides both active and passive control of cockroaches.

ACTIVE CONTROL is achieved through the liquid bait effect of ATTRATHOR where the smaller (2 µm) Quick-release Insect Attractant Micro-capsules™ lure the cockroaches to the residual film. Once the cockroaches traverse the film to seek out this food source, they break the larger (35 – 55 µm) Controlled-release Active Micro-capsules™ containing the deadly fipronil. Due to fipronil's non-repellent chemistry, with its presence further concealed by the polymer coating of the Micro-capsules, the cockroaches remain totally unaware of the presence of the fipronil.



They are therefore actively lured to their death. Death occurs through either **Contact Action** - as the fipronil passes into the cockroach through the cuticle; **Stomach Action** - as the cockroach grooms itself and breaks or removes the Active Micro-capsules laced with fipronil; or through the **Viral Transfer Effect™** - where the cockroaches pass the Active Micro-capsules onto other cockroaches.

PASSIVE CONTROL is achieved through the effects of the liquid film forming a residual defence zone. ATTRATHOR is applied as a targeted surface spray into cockroach harbourages and areas where cockroaches frequent. Here it works like any other residual surface spray, except there is a very big benefit because ATTRATHOR is powered by fipronil's non-repellent insecticidal chemistry. The cockroaches cannot detect the presence of the fipronil, so they readily cross the treated target zone. Plus the micro-encapsulation protects the fipronil, slowly releasing it over time; providing up to three months of passive control.

ATTRATHOR™

PROVEN TO KILL WHERE OTHERS FAIL

A large industrial kitchen in a significant entertainment complex had posed an ongoing control problem with regular sightings of German cockroaches. Both liquid sprays and cockroach gel baits had been employed with limited success.

A monitoring program was first performed with the strategic placement of 21 BLATTATHOR™ Cockroach Monitor Traps throughout the kitchens. Traps were left out overnight and monitored the next morning, to get a pre-treatment count of cockroach activity. 22 cockroaches were trapped overnight.



The premises were then treated with ATTRATHOR. The application focused on the treatment of cracks and crevices as a targeted spray to likely points of cockroach harbourage. The treatment was not applied to the entire harbourage but was applied in 15 cm long strips to minimise application. The premises were left for one week after which a further twenty one BLATTATHOR Cockroach Monitor Traps were placed throughout the kitchen. No cockroach activity was recorded.

ATTRATHOR™

TARGETED INSECTICIDE

A revolutionary new cockroach control technology combining the world's first **Quick-release Insect Attractant Micro-capsules™**, together with **Controlled-release Active Micro-capsules™** of fipronil, the active you know and trust.

Quick-release Insect Attractant Micro-capsules™

are tiny, 2 µm, solid-core capsules which contain the food attractant in a matrix within the polymer shell. These smaller Micro-capsules have a large surface area relative to their volume, which allows for the quick-release of the attractant. The attractant diffuses out through the shell, quickly luring the cockroaches to the target zone.

Polymer shell encapsulating the solid core food attractant

Attractant encased in the solid core matrix diffuses out through the shell

Controlled-release Active Micro-capsules™

are larger, 35 – 55 µm, liquid-core capsules which contain the active fipronil. These capsules have a finer polymer shell and, trapped between the liquid fipronil core and the shell, are tiny bubbles of CO₂. These bubbles pressurise the Micro-capsules, ensuring that when the insect treads on them, or makes contact with them, the Micro-capsules burst open, releasing the deadly fipronil within. Thus these Micro-capsules control the release of the fipronil to ensure maximum residual performance. The larger size of these Micro-capsules also ensures improved performance on porous surfaces.

Tiny bubbles of CO₂ act like land mines ready to break the fine polymer shell

liquid fipronil encapsulated within the fine polymer shell

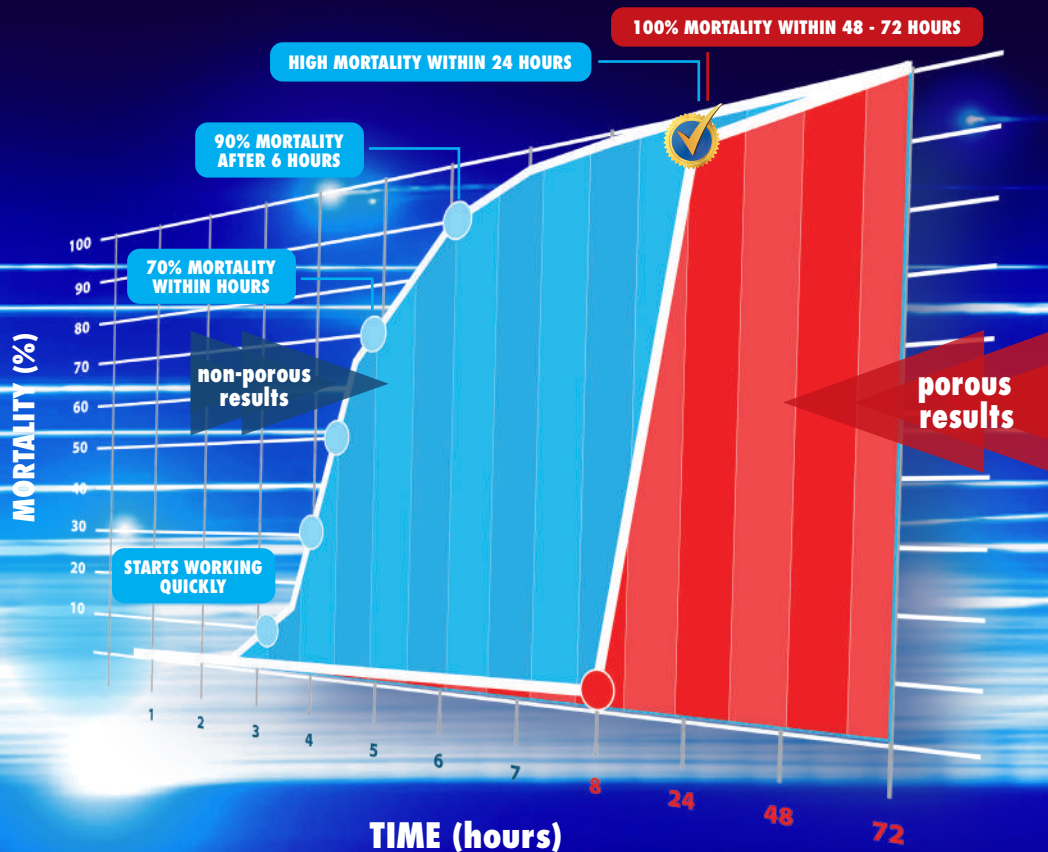
MICRO-ENCAPSULATED ATTRACT & KILL

POWERED BY FIPRONIL

ATTRATHOR™

TARGETED INSECTICIDE

Mortality of German Cockroaches on 90 Day Aged Surfaces



In independent laboratory trials ATTRATHOR provided 100% mortality on both timber and glass surfaces for 90 days.

Reg. No. L10020 Act No. 36 of 1947

Active Ingredient: Fipronil 26 g/L

Ensystem South Africa (Pty) Ltd

Building 3, The Burns Office Park

12A Jet Park Road, Jet Park,

Boksburg, 1469

Phone: 080-367-978

www.Ensystem.co.za

™ ATTRATHOR is a trademark of Ensystem, Inc. used by licence to Ensystem South Africa (Pty) Ltd.

BROA4003 1.02 01.22