

JOIN THE **MAGNETIC** REVOLUTION

MAGNATHOR™

MAGNETIC COCKROACH BAIT

with **MAGTHANITE®**

ACTIVE CONSTITUENT: 0.5 G/KG FIPRONIL

MAGNETIC ATTRACTION - **OUTSTANDING** RESULTS



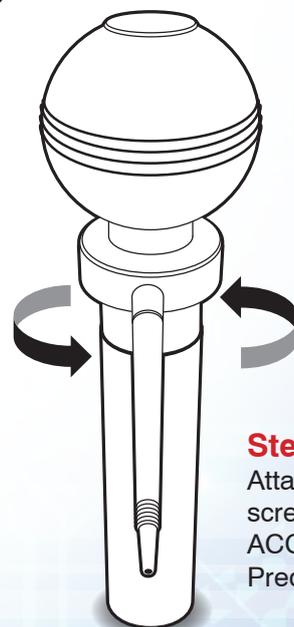
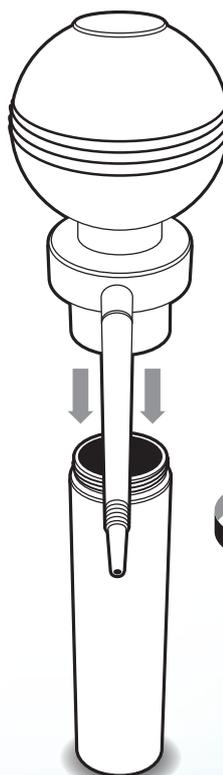
ENSYSTEX®
LEADING INNOVATION IN PEST MANAGEMENT

The **ACCUTHOR**
Precision Blower
for the accurate dispensing
of **MAGNATHOR**



So easy to use!

Step One:
Unscrew and
remove the lid
from the
MAGNATHOR vial.



Step Two:
Attach and
screw on the
ACCUTHOR
Precision Blower.

Simple and mess free!



PARAMAGNETISM - MAGNETIC ATTRACTION THAT LEADS TO DESTRUCTION

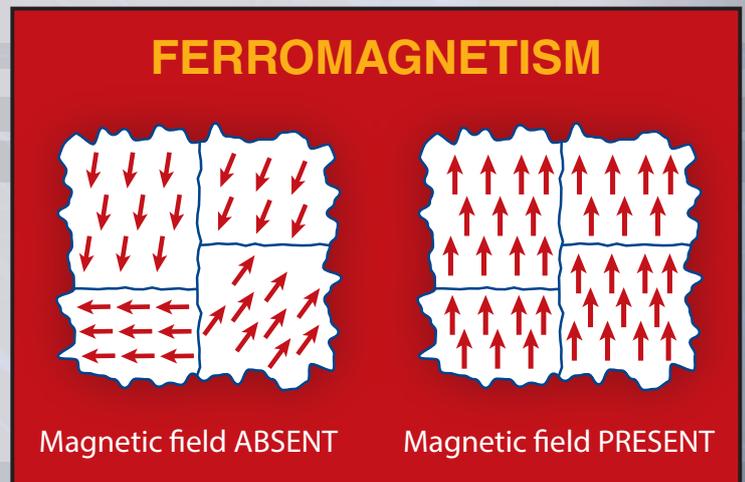
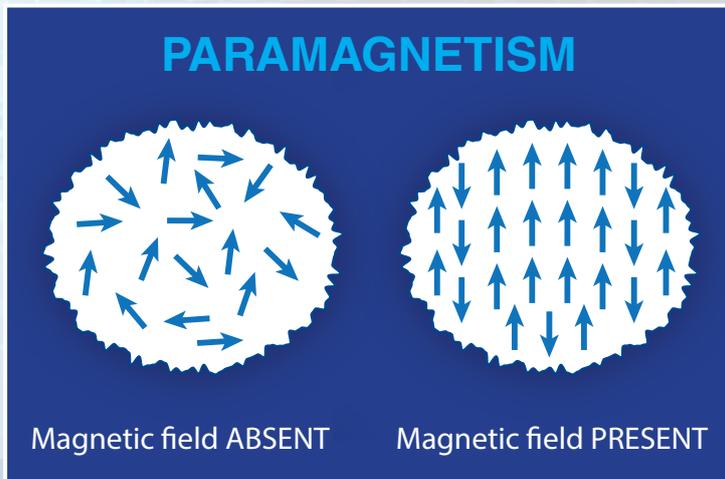
MAGNATHOR employs the power of paramagnetism. This is the weak magnetic attraction shown by most elements and some compounds in the presence of a magnetic field. Paramagnetic substances are not permanently magnetised by exposure to the field and revert to an un-magnetised state in its absence.

Cockroaches use the earth's magnetic field to help them to orientate and navigate whilst foraging, migrating and building their nests.¹ The cockroach cuticle has also been shown to be negatively charged in the presence of paramagnetic materials.² This appears to be linked to the presence of particles of magnetite in their bodies.

Magnetite is a ferromagnetic substance, generating its own magnetic field, just like a compass needle. Consequently insect chitin shows a clear attraction to ferromagnetic particles that is exploited by MAGNATHOR through the use of the proprietary compound, MAGTHANITE®.

MAGTHANITE itself is not chemically active and is classified as a non-hazardous oxide powder. It is a proprietary blend of Myranite and strontium ferrite. Myranite is a specialist ferro-silicate powder developed for the modern electronics industry that is itself a proprietary blend of iron oxide, silicon dioxide, aluminium oxide, zinc oxide, and calcium oxide. MAGTHANITE is a non-sensitising, low toxic carrier with dermal and oral LD₅₀ values >5,000 mg/kg.³ MAGTHANITE provides the magnetic power behind MAGNATHOR.

Independent research has supported the attraction between MAGTHANITE and insect cuticles.



MAGNATHOR™ MAGNETIC COCKROACH BAIT represents another generational step forward in cockroach management using a totally innovative concept to give improved results.

1. Ferreira et al, 2005. Comparative magnetic measurements on social insects. Journal of Magnetism & Magnetic Materials 289, 442-444

2. Entwistle J, 2011. Magnetic insect control – a novel application for specialist magnetic powders. International Pest Control, 53:1.

3. All studies were completed by Product Safety Labs, Dayton, NJ, USA in accord with US EPA Health Effects Test Guidelines. Studies included Acute Dermal Toxicity in Rats, Acute Oral Toxicity in Rats, Primary Eye Irritation Study in Rabbits, Primary Skin Irritation Study in Rabbits, Acute Inhalation Toxicity in Rats, Local Lymph Node Assay (LLNA) in Mice and Reverse Mutation Assay using Bacteria (*Salmonella typhimurium* and *Escherichia coli*).

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MAGNETIC COCKROACH BAIT with MAGTHANITE®

The cockroaches are lured to the MAGNATHOR Kill Zone by the food attractant. When they approach the Kill Zone, through the power of magnetism, the cockroach draws the MAGNATHOR particles with the fipronil to them.



Negative charge to the exoskeleton

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A TOTALLY NOVEL APPROACH TO COCKROACH CONTROL.

MAGNATHOR MAGNETIC Cockroach Bait is a dry, flowable powder bait that contains a desirable blend of food attractants that lure the foraging cockroaches towards the **MAGNATHOR Kill Zone™**. As they approach the Kill Zone the cockroaches literally act like a magnet and draw the MAGNATHOR particles to their exoskeletons resulting in their death.

This is because MAGNATHOR employs the power of *paramagnetism*. The magnetic properties of the constituent powders of MAGNATHOR cause the powder to adhere to the cockroach's exoskeleton upon contact.

The powder enters the cockroaches' bodies through the soft membranes in the exoskeleton. When compared with conventional gel baits, dusts and powders, MAGNATHOR's magnetic properties deliver superior results in the two critical areas of adhesion and transferability resulting in accelerated kill!

A key benefit of MAGNATHOR is that, since it is a dry flowable powder bait, it will travel deep into cracks, crevices and other cockroach harbourages. So it will get to places you simply cannot reach with other baits.



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ACCELERATED MULTIPLE CASCADE EFFECT™

MAGTHANITE's magnetic powder technology, powers MAGNATHOR's Accelerated Multiple Cascade Effect™ which provides a three-level mortality chain, with the transfer of the fipronil occurring faster than with any other cockroach bait.

LEVEL 1 - Accelerated Primary Kill arises since a foraging cockroach only has to approach the MAGNATHOR Kill Zone. As it draws close, the MAGNATHOR powder is drawn to the cockroach due to the magnetic attraction between the MAGTHANITE magnetic component and the negatively charged exoskeleton of the cockroach. Thus the cockroach is targeted by the fipronil before it even starts to feed on the bait!

The fipronil enters the cockroach through the soft membranes of the exoskeleton, Passive Accelerated Primary Kill, or when the MAGNATHOR is ingested, Active Accelerated Primary Kill.

This was confirmed in studies by Smith and Moores at Rothamsted Experimental Station, UK, which showed that cockroaches passing over a residual deposit of MAGTHANITE picked up an average of 56% more particulate material than those passing over a deposit of inert powder.

LEVEL 2 Accelerated Secondary Kill arises when the MAGNATHOR is transferred to other cockroaches in the harbourage, through grooming. In further trials performed by Smith and Moores, they found that 250% more MAGTHANITE was transferred between cockroaches.

LEVEL 3 Accelerated Viral Transfer provides for faster cockroach mortality through coprophagy (faecal consumption) and more particularly through emetophagy (consumption of vomitus). Both these processes are especially important for the control of nymphal stages.

Buczowski and Schal have shown that fipronil induces vomiting in cockroaches about 4 hours after ingestion. This vomitus is extremely attractive to nymphal cockroaches.

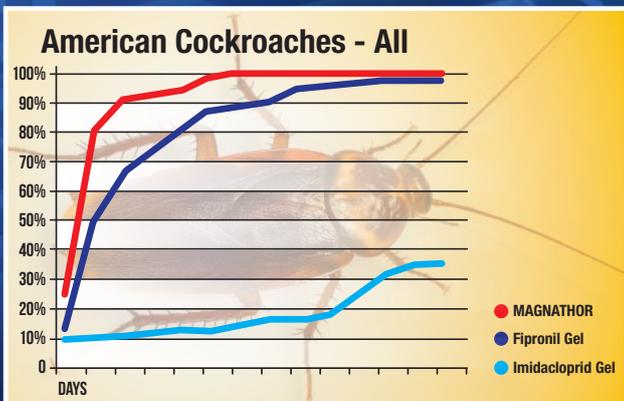
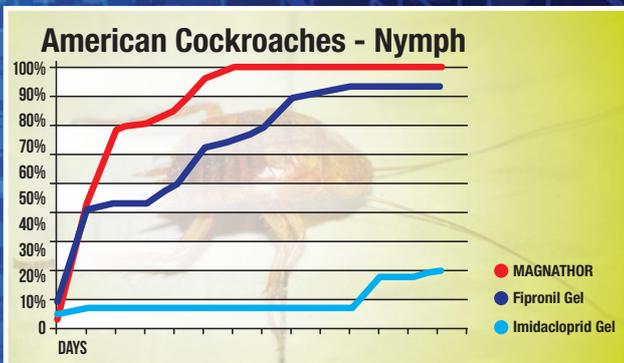
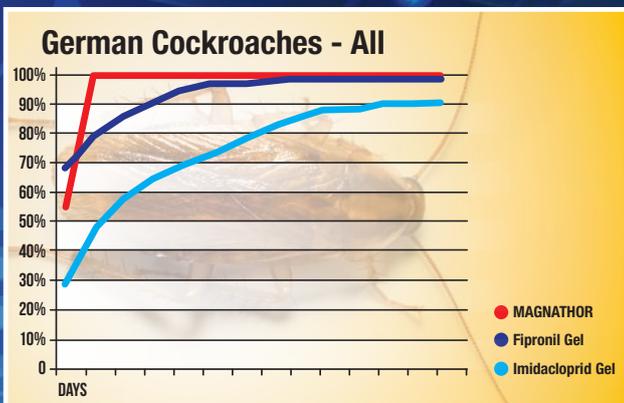
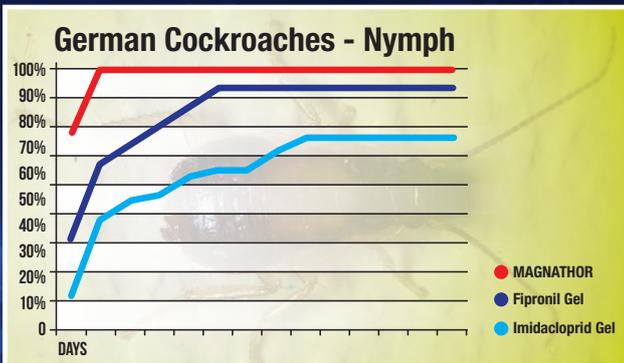
Newly hatched nymphs also partake in coprophagy to greatly increase their survival. This natural behaviour is further well exploited by MAGNATHOR.

So the paramagnetic properties of MAGNATHOR accelerate the kill of the cockroaches with more fipronil passed to other cockroaches, more quickly than with any other bait on the market.

Consequently MAGNATHOR is equally effective on German and American cockroaches, as well as in the control of their nymphal stages.

¹ Entwistle J, 2011. Magnetic insect control – a novel application for specialist magnetic powders. International Pest Control, 53:1.

² Buczowski & Schal, 2001. Emetophagy: Fipronil induced regurgitation of bait & its dissemination German Cockroach Adults to Nymphs. Pesticide Biochem. & Physiol. 71.



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