

THOR'S THUNDER

News & Views from Ensysstex ISSUE FOUR



drumMUSTER

Ensysstex has proudly joined the drumMUSTER program. drumMUSTER is the national program that has been set up for the collection and recycling of cleaned, eligible non-returnable agricultural, public health and animal health chemical containers. Eligible containers are any metal or plastic drum of 1L pack size or greater.

As a chemical user, drumMUSTER provides you with a defined route to safely dispose of your used chemical containers. All you are required to do is clean your containers so they are free of any chemical residue then deliver them to one of over 700 receival sites across Australia.

drumMUSTER is the single biggest environmental program ever undertaken jointly by end-users of chemicals, Local Government and the Chemical Industries. It is our belief that the responsible use of chemicals, and waste management initiatives means a cleaner environment for the community as a whole and adds to Australia's clean and green image.

For more details of the drumMUSTER program please visit www.drummuster.com.au. For listings of approved waste disposal /drum collection sites, see the link at <http://drummuster.com.au/collection/php>.

With this initiative you need never have another problem disposing of your Ensysstex used containers.



drumMUSTER
Keeping Australia Clean..



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ENSYSTEX - GOING TO THE BIRDS?

The Avithor™ range of bird management products is the latest innovation brought to you by Ensysstex, in partnership with SEL of France. SEL are the largest manufacturer in Europe, producing the world's finest and most innovative range of bird management systems. Consequently Avithor brings you a tremendous amount of hands-on experience and technical expertise, together with a unique range of bird management systems. "Avithor gives you leading edge solutions and provides significant benefits over other systems," advises Ensysstex Technical Director, Steve Broadbent.

"The Avithor range has been used to protect some of the world's finest buildings; and of course Avithor products leave your buildings protected and the birds safe and unharmed. The Avithor systems also make bird control simple. With Avithor and the support of your Ensysstex team, we aim to de-mystify bird control."

The Avithor range consists of the Ecopic® range of bird spikes; made of the finest materials for extra longevity and effectiveness. In fact they come with a TEN (10) Year manufacturer's guarantee!

Cable Bird®, an innovative, patented system that does not require the wire to be kept taut or under pressure. This means it can be simply mounted and secured with natural silicone to ensure effective protection and no damage to substrates. And, because it is not secured under pressure, it is quicker and easier to install.

Bird-Out® is the most effective electrical deterrent system for birds. Compared with other systems Bird-Out is faster to set up, 100% safe, and more effective. Clever design makes it unobtrusive and provides better electrical conduction. Bird-Out is effective against all bird species in the highest pressure situations.

And completing the Avithor range is **Avithor Net** which is made of UV stabilised polyethylene so it is chemically inert, rot proof, and highly resistant to weathering and a wide range of chemicals.





PROTECTING AUSTRALIA'S NATURAL ENVIRONMENT

A partnership with Australian Wildlife Conservancy

Exterra is the leading environmentally friendly termite control product on the market. Requiem Termite Bait, is not harmful to animals or the environment, in fact it is considered less toxic than salt to warm-blooded animals.

Ensystem believes in corporate social responsibility and via the Exterra brand has partnered with Australian Wildlife Conservancy to take their environment message into a wider arena- into the heart of Australia itself.

Few people realise, but Australia has one of the worst mammal extinction rates in the world. Australian Wildlife Conservancy was formed with a mandate to acquire and manage unique Australian ecosystems to protect their endangered native flora and fauna.

The mission of the Australian Wildlife Conservancy is the effective conservation of all Australian animal species and the habitats in which they live.

Exterra and our pest manager network will work with consumers to raise much needed funds as well as awareness for this important initiative. Steve Broadbent Exterra's International Technical director said today,

"AWC has struck a chord with individual Australians whose support has helped secure 15 sanctuaries covering over 1.1 million hectares (2.7 million acres) in places such as North Queensland, the Kimberley, Western NSW and the forests of south-western Australia. In total, AWC sanctuaries protect over 55 percent of all Australian mammal species and more than 60 percent of its bird species. With Exterra's pest managers on board and the general public's support of our product offering many more hectares of land and threatened wildlife will be saved"



Requiem – New, Improved

Ensystem has always lead the way with termite bait palatability. And now we're pleased to advise that the World's most palatable termite bait, just got better!

Whilst continuing to use the same source timber for Requiem Termite Bait, we have made a number of important improvements to make Requiem better than ever. One of the most important changes has been to bring the whole cellulose grinding process under our direct control.

We now purchase specially processed timber pulp directly from the timber mill and have it custom ground to just the right size and density. This gives us complete control over fibre size and helps avoid the introduction of any impurities...

You see all other baits are simply supplied as ready bleached alpha-cellulose. By controlling the entire process we are able to make sure the natural timber feeding attractants remain in the Requiem Termite Bait, making it even more palatable to our termites.

In addition to the above we have made a number of improvements to the level of hygiene observed in the bait making process all of which serve to give you a bait that is better than ever.

Field studies over the last six months have confirmed the benefits of upgraded Requiem.



ADMIRING IMIDACLOPRID!

Imidacloprid is the active ingredient in Ensystem's latest innovative non-repellent termiticide, Prothor. Prothor is now marketed in Australia, USA, Middle East and SE Asia and we are continually impressed by the favourable comparisons our clients make when comparing it to the other products.

Looking at imidacloprid, it has been touted as the synthetic version of the botanical product nicotine. Actually it is the first commercial pesticide in a family of chemicals originally known as nitromethylene heterocycles but now called neonicotinoids. Whilst chemically dissimilar to nicotine, the association of imidacloprid with nicotine sticks because they act in a similar manner on the nervous system.

Briefly, both imidacloprid and nicotine bind to nerve receptors called nicotinic acetylcholine receptors (nAChRs). These are embedded in nerve endings in the brain and at the muscle synapses. Acetylcholine is released by the nerve membranes and crosses a microscopic space (the synapse) separating two nerve endings. When acetylcholine binds to the receptor, the membrane becomes porous to sodium and potassium ions, thereby beginning a nervous impulse called the action potential. The action potential is like a wave of electricity that travels down the length of the nerve until it gets to the end where acetylcholine is released. Acetylcholine crosses the synapse, and repeats the cycle by binding to the next receptor and starting the next action potential.

So, imidacloprid, like nicotine, is a nerve toxin that mimics the action of acetylcholine, and thereby heightens nerve firing with increasing doses.

But, unlike nicotine which is extremely toxic in very small doses (smokers, beware!), imidacloprid toxicity to vertebrates is extremely low. Fortunately for mammals, birds, and fish, imidacloprid in contrast to nicotine hardly binds to their nAChRs. Termites are not so lucky. Their nervous systems are not only rich with nAChRs, but imidacloprid is particularly "sticky." The end result is essentially a termite nervous breakdown. This is why it is such a great soil termiticide, low toxicity to non-targets, and strong specificity to insects.

Perhaps the most studied aspect of its ecological effects is aquatic toxicity. Just like mammals, fish and invertebrates seem pretty resistant to imidacloprid. For most of the aquatic species tested, imidacloprid falls into the US EPA's category of practically non-toxic (LC50 greater than 100,000 ppb) to slightly toxic (LC50 between 10,000 and 100,000 ppb).

Water solubility and vapour pressure are two of the most important properties driving environmental distribution of a compound and thus exposure potential. Exposure potential is also strongly influenced by the biodegradation rate (speed of breakdown by soil bacteria, plants, and animals), which determines how long pesticide residues are likely to stick around. Imidacloprid has a comparatively high water solubility (510 mg/L) and very low vapour pressure (1.9 x 10⁻⁹ mm Hg), so it is unlikely to evaporate from soil or other surfaces and become an air contaminant. On the other hand, its biodegradation rate in soil has been characterized as moderately slow. Just what we need for a soil termiticide.

Although imidacloprid has a comparatively low potential to cause adverse effects in mammals, birds, and fish, its high water solubility combined with its persistence in soil initially raised a few concerns about groundwater contamination. Indeed, in early studies of imidacloprid's potential for sorption (the measure of its ability to adhere to soil particles), the compound looked like it would leach, a fact that has been misconstrued by competitors. In fact, studies in the United States and France have shown that the sorption potential for imidacloprid increases as the imidacloprid concentration decreases and as its residues "aged" in soil. This is termed its hysteretic binding potential.

No wonder we proclaim that the Prothor Termite Defence Zone™ is the professional standard for protecting against termites.



"Termites are not so lucky. The end result is a termite nervous breakdown."