



Garrards

www.garrards.com.au

ALWAYS REFER TO THE PRODUCT LABEL BEFORE USE.

This reference guide is not intended as a substitute for the product label for the products referenced herein. Product labels for the above products contain important precautions, directions for use and product warranty and liability limitations that must be read before using the product. Applicators must be in possession of the product label(s) at the time of application. Always read and follow all label directions and precautions for use when using any pesticide.

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The miracles of science®

DuPont™ Arilon®

INSECTICIDE

Innovative technology with outstanding performance



RE
THINK
PEST
CONTROL



The miracles of science®

Upgrade Your Results: Indoors and Out

DuPont™ Arilon® insecticide is the progressive way to control a diverse range of insect pests in both interior and exterior application situations. Arilon® is the latest non-repellent chemistry, with a mode of action like no other. Studies show that Arilon® provides excellent control of ants, cockroaches and other key insect pest species on a variety of interior and exterior surfaces - and the active ingredient converts to its MetaActive™ form using internal insect enzymes, making Arilon® an environmentally smart product too.

Because of its label versatility and favourable toxicological and environmental profile, Arilon® can be used in a variety of use sites - in and around both household and commercial/ industrial locations for more versatile application with fewer treatment limitations. Unlike pyrethroid products which have a fast knockdown effect, Arilon® takes several hours to activate. This is actually beneficial as it allows the insecticide to be passed to other ants/cockroaches. Arilon® provides more comprehensive control because it reaches beyond the insects that initially come in contact with it.

Arilon® offers strong residual performance: Tests have proven that Arilon® remains effective in exterior, partly sheltered conditions for up to three months and for up to 6 months in indoor conditions, providing an ideal residual for quarterly services. Its formulation was developed for ease of use and with the express purpose of giving pest management professionals a powerful product they can use in a variety of situations.

DuPont™ Arilon® Insecticide Profile

- Studies demonstrate excellent performance against a wide variety of ants, cockroaches, houseflies and other nuisance pests.
- Proven efficacy on a wide range of residential and commercial surfaces
- Proven non-repellent residual insect control in exterior environments for up to three months, and in interior situations for up to six months
- Active ingredient converts to its MetaActive™ form using insect enzymes for targeted insect control
- Developed and approved for both interior and exterior applications
- Available in convenient packs with non-spill measuring device.



Versatility and Flexibility in Application

DuPont™ Arilon® gives you all the performance benefits you expect in one, easy-to-use formulation. Whether insect pest invasions require interior or exterior treatments, residential or commercial usage, or even crack and crevice applications in food-handling establishments, Arilon® offers non-repellent insect pest control across all these use patterns - and more.

For Control of Multiple Pests

Arilon® effectively controls not just one or two species of insects, but a diverse range of pest species. Laboratory and field testing have shown that Arilon® provides excellent control of ants, (including Argentine, Black House ant, Big Headed ant, and Pharaoh ant) cockroaches, houseflies and other nuisance pests. With Arilon®, you can use one product to control all these insect pests rather than having to treat for different pests with different products - saving time, effort and cost.

Excellent Control on a Wide Variety of Surfaces

The active ingredient in Arilon® has been proven effective, both short term and long term, on many common structural surfaces that require pest control, including stainless steel, ceramic tile, painted surfaces, vinyl siding, weathered wood, concrete and brick. In addition, Arilon® continues to provide effective residual control in exterior, weathered situations for weeks and months after the initial treatment.



Specifically Designed Formulation

The 20 WG (water-dispersible granule) formulation of Arilon® was designed specifically for the pest management industry and offers several benefits to pest control professionals. Arilon® is a dry concentrate that is diluted with water and then sprayed. This low-odour, non-clogging, non-staining formulation is convenient to store, carry, prepare, use and clean up after. It has a strong affinity to attach itself to insects for excellent performance, yet leaves minimal visible residue on treated surfaces. While Arilon® offers excellent residual control over extended periods of time, the formulation does not bind to concrete or wood surfaces, making it available to be picked up by crawling insects.



Pest Species	Surface	DAT	Mortality
Argentine ant	Stainless Steel	1	100%
German cockroach	Vinyl	1	100%
American cockroach	Vinyl	1	100%
Black House ant	Unglazed Tile	1	100%
Coastal Brown ant	Unglazed Tile	1	100%
Housefly	Unglazed Tile	1	100%
Pharaoh ant	Wood	1	100%
Smokybrown cockroach	Concrete	2	100%
Oriental cockroach	Concrete	2	100%

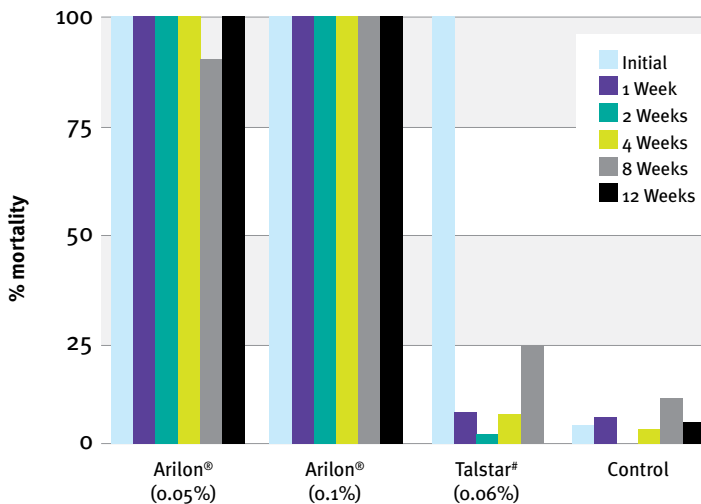
Multi - Pest summary

Multiple States and Countries 2008 - 2009

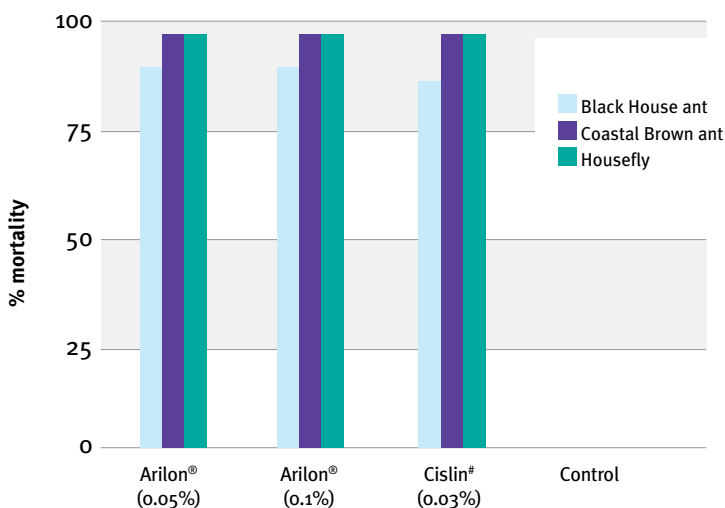
Results: The surfaces in this chart are arranged in order from the least to most porous of structural surfaces. Irrespective of the surface tested or the insect evaluated, DuPont™ Arilon® provides 100% control for many key insect pest species in fewer than 2 days.

Sources: BioResearch; Purdue University; Stine-Haskell Research; Universiti Sains Malaysia; and University of Technology Sydney.

**3 month indoor data on concrete
German cockroaches**



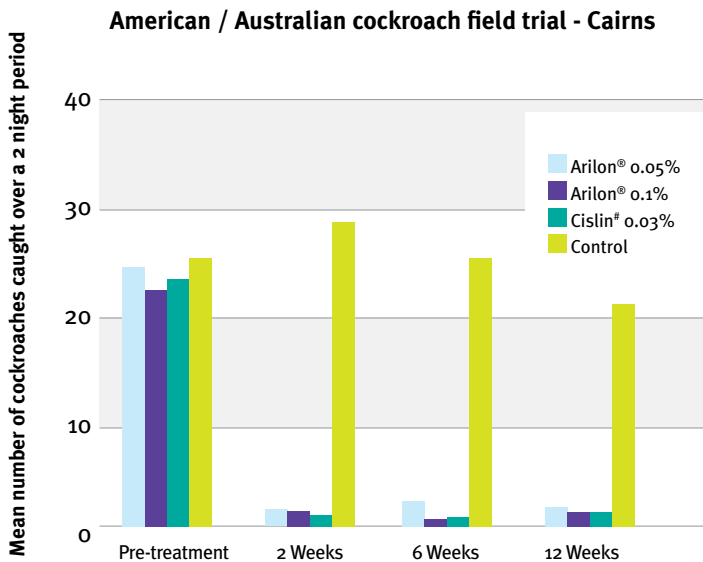
**6 month indoor data on unglazed tiles
Ants and Houseflies**



Multi - Pest residual surface trial:

Results: Arilon® is designed to control a diverse spectrum of cockroaches, ants and other nuisance pests on a wide range of porous and non - porous surfaces. Even on tough surfaces such as concrete, which tend to degrade pyrethroids quickly, Arilon® continues to perform. Arilon® provided nearly 100% over a 3 month period on German cockroaches on a concrete surface aged under indoor conditions, whereas the performance of a Bifenthrin product dropped off quickly after only 1 week. On an alternative porous surface (unglazed tile), Arilon® demonstrated nearly 100% control of houseflies and ants over a 6 month period under indoor conditions - performance in line with deltamethrin.

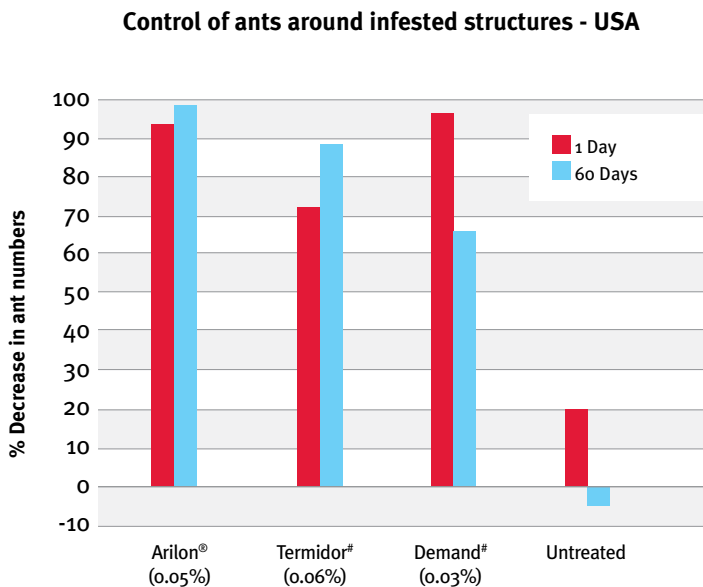
Source: Stine-Haskell Research and University of Technology Sydney.



Control of large cockroaches in infested houses:

Results: Applications to houses as an indoor crack and crevice treatment and outdoor spot treatment against large cockroach species (American and Australian cockroaches) in Cairns, Australia and has shown the excellent performance of Arilon®, delivering at least 3 months control under field conditions.

Source: University of Technology Sydney.

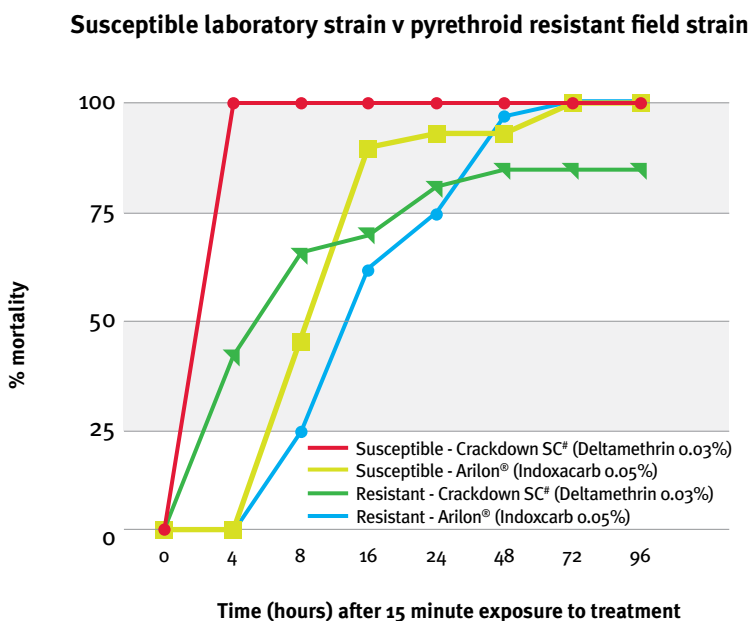


Control of ants around infested structures:

Virginia, USA 2009

Results: Field studies conducted on large ant populations around infested structures and composed mostly of odorous house ants showed both speed of control and residual performance. Within one day, Arilon® provided over 90% control and, despite the increasing ant pressure as reflected in the untreated area, Arilon® continued to deliver residual control. Even 60 days after the treatment, Arilon® provided 99% control.

Source: Virginia Tech University, Blacksburg, VA

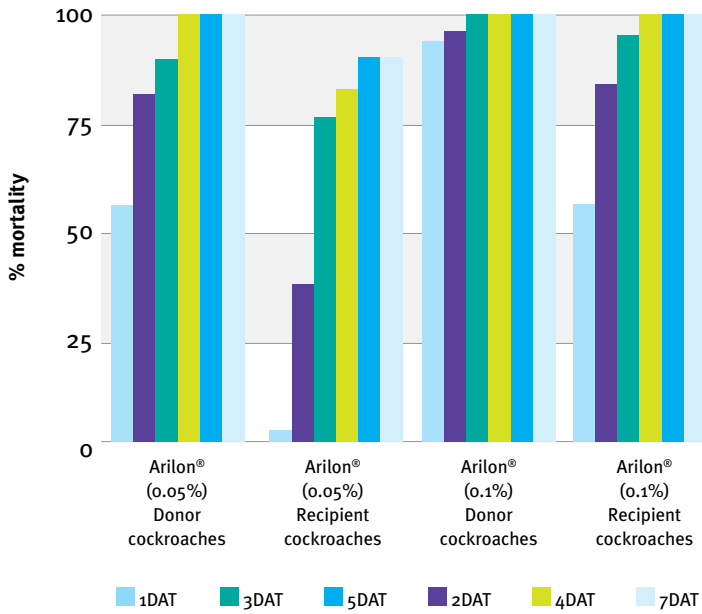


Control of Pyrethroid resistant cockroaches:

Results: Resistance to pyrethroid sprays is well documented. The data in this chart demonstrates that Arilon® delivers 100% control against both susceptible and pyrethroid resistant strains of German cockroaches (collected from the field in Singapore). In comparison, although Deltamethrin gives fast 100% control of susceptible cockroaches, against the pyrethroid resistant strains, the performance of deltamethrin is significantly slower and never actually delivers even 90% control. This demonstrates the benefits of using products with a different mode of action.

Source: Universiti Sains Malaysia.

German cockroach transfer test. Mortality of donor and recipient cockroaches 5:5 Donor:Recipient Ratio

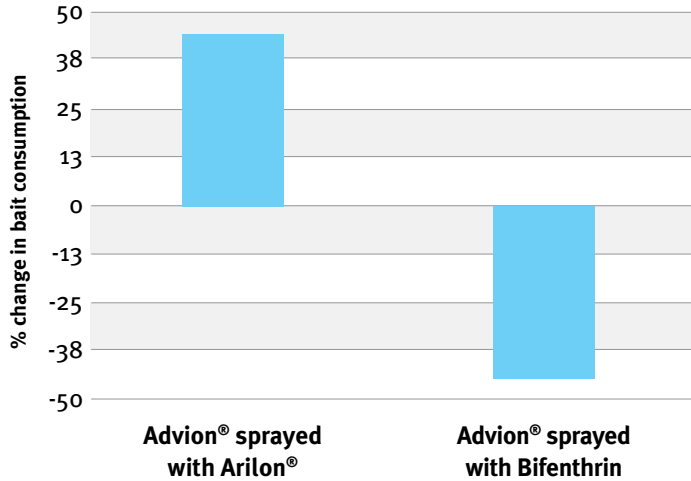


Arilon® is transferred between insects:

Results: This chart shows the transfer of Arilon® from cockroaches that have walked across a treated surface (donor cockroaches) to cockroaches that have not been exposed (recipient cockroaches)..... resulting in the death of both donor and recipient cockroaches. Being a non-repellent insecticide, insects readily walk across Arilon® treated surfaces. This, coupled with the unique Arilon® formulation, allows insects to pick up insecticide particles and transfer the insecticide to other insects through normal behaviour. With insects that live in close proximity to one another (ants in nests, cockroaches in harbourages), Arilon® can deliver secondary kill, thus enhancing product performance and achieving better population control.

Source: Stine-Haskell Research.

Consumption of bait sprayed with insecticide, by German cockroaches



Use in combination with cockroach baits:

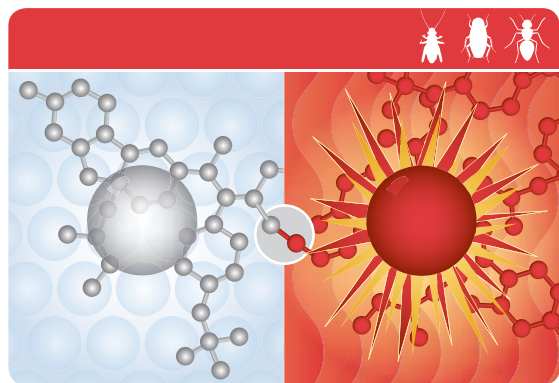
Results: Until now, it has been difficult to use sprays in the same area as bait products, as pyrethroid sprays tend to be repellent. As such, using sprays and baits in the same area can be counterproductive. However, since Arilon® is a non-repellent insecticide, it can be used in conjunction with bait products (such as DuPont™ Advion®), to achieve improved control in a more integrated cockroach or ant control program. Although it is not recommended to spray Arilon® directly over bait products, this chart shows that if it happened to occur, it is unlikely to impact bait performance..... unlike a pyrethroid spray.

Source: Stine-Haskell Research.

Winning Chemistry

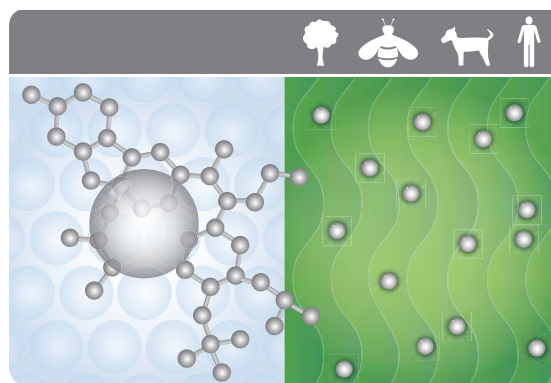
DuPont™ Arilon® is another example of our commitment to creating more environmentally sustainable products. In 1989, DuPont became one of the first companies to publicly establish environmental goals. Since then we've broadened our sustainability commitments, with an eye toward developing environmentally improved products for key global markets.

Arilon® insecticide contains a proprietary active ingredient that is the only current member of its class of chemistry, the oxadiazines, so it performs like no other insecticide. Based on its favourable environmental and toxicological profile, this active ingredient from DuPont Professional Products is in a select group of insecticides to have earned the Award for Team Innovation from the American Chemical Society (ACS).



Target Organisms

Through chemical optimisation methods, DuPont scientists engineered the active ingredient in Arilon® to be bioactivated and utilise the insect pests' own enzymes for metabolic conversion to its MetaActive™ form.



Non-Target Organisms

Because natural enzymes found in insect pests are the key to its biological effectiveness, Arilon® can effectively differentiate between target insect pests and non-target species.

*2003 ACS Award for Team Innovation; in recognition of the discovery of indoxacarb.

Balance: Performance and the Environment

The active ingredient in DuPont™ Arilon® insecticide offers a mode of action for residual spray insect control that presents a benefit to pest management professionals - reliance on the target insect pests' metabolic activation process. This process is significant because metabolic activation allows the active ingredient in Arilon® to effectively differentiate between target insect pests and non-target organisms, like mammals.

Few insecticides utilise natural enzymes found in insect pests to aid in changing their molecular structure for enhanced biological effectiveness. Through chemical optimisation methods, DuPont scientists specifically engineered the active ingredient in Arilon® to be bioactivated by target insects. The bioactivation process utilises internal insect enzymes once the compound is ingested or absorbed by the target pest. Because of this mode of action, the active ingredient can be bioactivated through this insect pest metabolism-driven process to its form we call MetaActive™. This means the active ingredient becomes MetaActive™ inside the target insect pest. And because this conversion process to the MetaActive™ form occurs inside insect pests, pest management professionals can better balance targeted insect pest control and its impact on the environment.



A test surface sprayed with Arilon® was “tagged” for special photography. Here you can see the result: the light spots on the body of the cockroach show where it unknowingly came into contact with minute particles of Arilon®. Shortly afterward this cockroach experienced paralysis, then death. These particles are easily transferred to other cockroaches, resulting in increased population control.