Product Name: ANTAGONIST PRO RESIDUAL INSECTICIDE
Approval No: 67858/141439



Label Name:	ANTAGONIST PRO RESIDUAL INSECTICIDE

Signal Headings:	POISON KEEP OUT OF REACH OF CHILDREN READ SAFETY DIRECTIONS BEFORE OPENING OR USING

Constituent Statements:	80 g/L BIFENTHRIN

Mode of Action:	GROUP 3A INSECTICIDE

Statement of Claims:	For the control of ants, including red imported fire ants and yellow crazy ants, and a range of other urban pests, and for the control of a range of pests in ornamental plants and turf as specified in the directions for use

Net Contents:	1-1000 litres

Restraints:	DO NOT use in situations where predatory mites are established and providing effective mite control. DO NOT apply if rainfall is expected before spray deposits dry on leaf surfaces. DO NOT apply to mud, sand, mangrove or aquatic habitat. DO NOT apply to soils if excessively wet or immediately after heavy rain to avoid run-off of the chemical. DO NOT apply as an Ultra Low Volume (ULV) or via thermal fogging treatment. DO NOT apply by aircraft.

Directions for Use:	This section contains file attachment.

Other Limitations:	

Withholding Periods:	WITHHOLDING PERIOD: DO NOT graze treated turf or feed turf clippings from any treated area to poultry or livestock.

Trade Advice:	

General Instructions:	This section contains file attachment.

Resistance Warning:	Insecticide Resistance Warning GROUP 3A INSECTICIDE For insecticide resistance management Antagonist® is a Group 3A insecticide. Some naturally occurring insect biotypes resistant to Antagonist® Pro and other Group 3A insecticides may exist through normal genetic variability in any insect population. The resistant individuals can eventually dominate the insect population if Antagonist® Pro or other Group 3A insecticides are used repeatedly. The effectiveness of Antagonist® Pro on resistant individuals could be significantly reduced. Since occurrence of resistant individuals is difficult to detect prior to use, Sundew Solutions Pty Ltd accepts no liability for any losses that may result from failure of Antagonist® Pro to control resistant insects. Antagonist® Pro may be subject to specific resistance management strategies. For further information contact your local supplier or Sundew Solutions representative.

Precautions:	PRECAUTIONS Do not spray into the atmosphere using foggers or other devices designed to create an aerosol. Avoid contact of spray with timber to which a stain or other finish is subsequently to be applied, unless the owner is notified that the timber will need additional preparation, consistent with that if water alone had contacted the timber. Evidence of water contact on timber is sometimes only evident once the stain has been applied. Take care not to allow spray to drift onto windows. If spray has dried, clean spray deposit using a solvent such as turpentine or kerosene. DO NOT spray directly on humans, pets or animals. Avoid contact with food, food utensils or preparation surfaces. Re-entry period Vector control and urban pest management: Allow treated areas to completely dry (normally 3-4 hours) before re-occupying. Worker entry to treated areas should be restricted until the spray has dried. When prior entry is necessary, wear cotton overalls, over normal clothing, buttoned to the neck and wrist, elbow–length PVC, neoprene or nitrile gloves and chemical resistant footwear. Clothing must be laundered after each day's use. Turf and ornamental applications: Do not allow entry into treated areas until the spray deposits have dried or been watered in after treatment. When prior entry is necessary, wear suitable protective clothing (ie. waterproof boots, overalls and gloves). Clothing must be laundered after each day's use.

Protections:	PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT Dangerous to fish and aquatic organisms. DO NOT contaminate dams, rivers, streams, watercourses or drains with product or used container. DO NOT apply to mud, sand, mangrove or aquatic habitats. Drift from treated areas may be hazardous to organisms in adjacent aquatic sites. Extreme caution must be used to avoid aquatic contamination.

	PROTECTION OF HONEY BEES AND OTHER INSECT POLLINATORS Dangerous to bees. Avoid spraying flowers that attract and harbour bees. DO NOT spray any plants in flower when bees are foraging. Spray in the night or early morning when bees are not actively foraging. PROTECTION OF PETS AND LIVESTOCK Before spraying, remove animals and pets from the areas to be treated. Cover or remove any open food and water containers. Cover or remove fish ponds, aquariums etc before spraying. Do not allow re-entry until spray has dried.

Storage and Disposal:	STORAGE, SPILLAGE AND DISPOSAL Store in closed original container, in a cool, well-ventilated area away from children, animals, food and feedstuffs. DO NOT store for prolonged periods in direct sunlight. In case of spillage, confine and absorb spilled product with absorbent material such as sand, clay or cat litter. Dispose of waste as indicated below or according to the Australian Standard AS 2507 – Storage and Handling of Pesticides. DO NOT allow spilled product to enter sewers, drains, creeks or any other waterways. Triple-rinse containers before disposal. Add rinsings to spray tank. DO NOT dispose of undiluted chemicals on-site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush or puncture and deliver empty packaging to an approved waste management facility. If an approved waste management facility is not available, bury the containers and empty packaging 500 mm below the surface in a disposal pit specifically marked and set up for this purpose clear of waterways, vegetation and tree roots, incompliance with relevant local, state or territory government regulations. Do not burn empty containers or product. DO NOT bury waste or surplus product. Dispose of undiluted waste by either dilution and use according to the Directions for Use, or returning to the point of purchase in the original container for controlled disposal. DO NOT re-use empty container.

Safety Directions:	SAFETY DIRECTIONS Poisonous if swallowed. May irritate the eyes and skin. Repeated exposure may cause allergic reactions. Avoid contact with eyes and skin. When opening the containers, preparing and using prepared spray, wear cotton overalls buttoned to the neck and wrist, a washable hat and elbow-length PVC/nitrile gloves. If applying by hand, wear cotton overalls buttoned to the neck and wrist, a washable hat, elbow length PVC or nitrile gloves, protective waterproof clothing and water resistant footwear. After each day’s use, wash gloves, contaminated clothing. Wash hands after use.

First Aid Instructions:	FIRST AID If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 131126; New Zealand 0800 764 766.

First Aid Warnings:	

GENERAL INSTRUCTIONS

Ant Control
Antagonist® Pro forms a residual barrier for control of a variety of ant species. It is suitable for use in all areas e.g. paths, driveways, lawns, gardens, bark, soil, concrete, asphalt, walls around dwellings, industrial sites and public areas including roadside curbing and footpaths.

Urban Pest Control
Antagonist® Pro is a powerful knockdown and residual pesticide. Ants, cockroaches, fleas, flies, mosquitoes, spiders, ticks and wasps are controlled by direct contact with spray and also by residual action as they come into contact with treated surfaces.

Vehicles and Shipping Containers (red imported fire ant and yellow crazy ant)
Vehicles (including but not limited to cars, buses, earth moving equipment, trucks, rail cars and recreational vehicles). Shipping containers (including but not limited to those containing pallets, machinery and plant nursery related goods). Apply treatment to areas where ants are likely to trail, cracks, crevices and entry points.

Mixing
Prior to pouring, shake container vigorously, then add the required quantity of Antagonist® Pro to water while stirring.
Do not store diluted insecticide. Prepare a fresh solution as necessary. Do not spray the moving parts of any machinery, electric motors or switchgear with the water-based product.

For maximum performance of Antagonist® Pro it is recommended that a dedicated tank be utilised, or **ensure sprayer is residue** free before use.

Sprayer must be cleaned after use. Rinse lines, tank and nozzles thoroughly.

Product must be continuously agitated in the spray tank. Use a COARSE nozzle size.

NOTE REGARDING PHYTOTOXICITY: Not all plants varieties have been tested and it is recommended that you patch test before applying this product.

DIRECTIONS FOR USE

SITUATION	PEST	RATE	CRITICAL COMMENTS
Domestic, commercial, industrial and public buildings: - including roadside curbing, footpaths, lawns, gardens, bark, soil, concrete, asphalt, pavers and exterior walls	Nuisance ants including but not limited to black house ants, white footed house ants, odorous garden ants, pavement ants	75 mL per 5 L water	Spray trails, ant swarms and large areas surrounding nest sites. Apply to nest sites and trails outdoors. Also to exterior walls where ants are trailing. Repeat as necessary. Ensure a minimum of 5 L of spray liquid is applied per 100 sq m of surface area. On some surfaces a higher spray volume will be required to obtain good coverage.
Domestic, commercial, industrial and public buildings: - including turf, roadside curbing, footpaths, lawns, gardens, bark, soil, concrete, asphalt, pavers and exterior walls; vehicles, earth moving equipment, shipping containers	Red imported fire ants, yellow crazy ants	75 mL per 5 L water or 7.5 L/ha	Mix in water and apply evenly over the area to be treated using spray application equipment. Spray trails, ant swarms and large areas surrounding nest sites. Apply to nest sites and trails outdoors. Also to exterior walls where ants are trailing. Repeat as necessary. Ensure a minimum of 5 L of spray liquid is applied per 100 sq m of surface area. On some surfaces a higher spray volume will be required to obtain good coverage. On grassed areas, apply after mowing to minimise loss of insecticide in clippings. For areas where sprays are not suitable (for example around electrical boxes) the use of Sundew AttractANT PRO Ant Gel is recommended. **VEHICLES**: Pay particular attention to apply to areas where ants can trail (eg tires), the undersides of vehicles, inside wheel arches, points where soil and other organic matter collect. Vehicles used in red imported fire ant or yellow crazy ant regions should be thoroughly washed to restrict organic material movement before application of ANTagonistPRO as a surface treatment. **SHIPPING CONTAINERS**: Apply to general surfaces where ants can trail from contact on the ground, around inside entry points to containers, onto and around pallets, machinery and plant nursery related goods.
Internal and external areas and surrounds of domestic, commercial, public and industrial buildings and structures	Spiders	30 – 65 mL/10 L	Use the higher rate in situations where pest pressure is high, when rapid knockdown and/or maximum residual protection is desired. Pay particular attention to protected dark areas such as cracks and crevices, under floors, eaves and other known hiding or resting places. For crack and crevice treatment use an appropriate solid stream nozzle. As a surface spray; apply as a coarse, low pressure spray to areas where spiders hide, frequent and rest. Spray to the point of run-off using around 5 L of spray per 100 m^2 and ensuring thorough coverage of the treated surfaces. For maximum spider protection use a two part treatment. 1. Treatment of cracks and crevices. 2. Overall surface spray.
	Papernest wasps	65 mL/10 L	Apply prepared spray to the point of run-off directly to the papernest ensuring thorough and even coverage. When all adult wasps have been knocked down, the nest may be safely removed from the structure.

Internal and external areas and surrounds of domestic, commercial, public and industrial buildings and structures	Ants, cockroaches, mosquitoes, biting midges, fleas, flies, ticks (excluding the paralysis tick *Ixodes holocyclus*) - (adults and nymphs)	65 – 125 mL/10 L	**To form Residual Surface Treatments**, apply prepared spray to indoor and outdoor surfaces where insects rest or harbour. Internal harbourage sites include (but are not restricted to) areas such as walls, fly screens, behind and under sinks, under furniture and indoor plants. External harbourage sites include (but are not restricted to) areas such as building exteriors, eaves ,walls, fences, also garages, sheds, gazebos, ornamental plants, bushes, shrubs, hedges, shady or damp areas around buildings. Reapply as necessary. When applying to vegetation, ensure that spray penetrates entire plant or hedge and covers both leaf surfaces. **For perimeter or harbourage treatments**, apply prepared spray to a band of soil or vegetation two to three metres wide around and adjacent to the structure. Also treat the foundation of the structure to a height of approximately one metre. Use a spray volume of 5 to 10 L per 100 m^2. Higher volumes of spray may be needed if organic matter is present or foliage is dense. **On non-porous surfaces** apply as a coarse spray at the rate of 1 L spray per 20 m^2. When treating non-porous surfaces do not exceed the point of run-off. **On porous surfaces or use through power equipment**, spray at the rate of 1 L of spray per 10 m^2. When treating porous surfaces do not exceed the point of run-off. Use the higher rate in situations where pest pressure is high, when rapid knockdown and/or maximum residual protection is desired. The lower rate may be used for follow-up treatments. For indoor use, pay particular attention to dark protected areas such as cracks and crevices, behind and under sinks, stoves, refrigerators, furniture, pipes, cornices, skirting boards and other known hiding or resting places. Do not use as a space spray. **Ants:** To control ants, apply to trails and nests. Repeat as necessary. **Fleas and ticks:** To control fleas and ticks, apply prepared spray to outside surfaces of buildings and surrounds including but not limited to foundations, verandahs, window frames, eaves, patios, garages, pet housing, soil, turf, trunks or woody ornamentals or other areas where pests congregate or have been seen. **Flies, mosquitoes, biting midges:** To control flies, mosquitoes and biting midges, apply prepared spray to surfaces where insects rest or harbour. Reapply as necessary.

PEST/ SITUATION	All areas SOUTH of the Tropic of Capricorn (except Tasmania)	All areas NORTH of the Tropic Capricorn	CRITICAL COMMENTS
	RATE	RATE	
Protection of service poles and fence posts from termites	625 mL/100 L	1.9 L/100 L	Create a continuous termiticide barrier 450 mm deep and 150 mm wide around the pole or post by soil injection or rodding. For new poles and posts, treat backfill and the bottom of the hole. Use 100 L of emulsion per m^3 of soil. Regular inspections should be undertaken to determine when and if retreatment is necessary. If disturbance of the barrier has occurred, retreatment of the area affected will be required. Posts and poles may also be drilled and injected with spray solution. Note: For existing poles and posts, it is impractical to treat the full depth and underneath of such poles and posts and therefore the possibility of future termite attack from below the treated area cannot be ruled out.
Eradication of termite nests	625 mL/100 L	625 mL/100 L	Locate nest and flood with diluted Antagonist Pro. Trees, poles, posts and stumps containing nests may require drilling prior to treatment with diluted Antagonist Pro. The purpose of drilling is to ensure the termiticide emulsion is distributed throughout the entire nest. Drill holes in live trees should be sealed with an appropriate caulking compound after injection.
Regular, competent inspections by a licensed pest control operator are recommended as part of an overall termite management program to determine the prevailing termite pressure and environmental conditions and consequent requirement for further termite management options. Inspections should be performed at least on an annual basis, but more frequent inspections are strongly recommended. Several factors contribute to longevity of the termite treatment and must be considered when evaluating the need for retreatment. The actual protection period will depend on the climate, soil conditions and rate of termiticide used.			

SITUATION/CROP	PEST	RATE	CRITICAL COMMENTS
Turf (eg. lawns, commercial turf farms, parks, recreational areas, bowling greens, ports fields)	Lawn armyworm Sod webworm	1.5 L/ha (15 mL/100 m^2)	Mix in water and apply evenly over the area to be treated using spray application equipment. Use a minimum total volume of at least 200 L/ha (2 L/100 m^2). To ensure optimum control, irrigate the treated areas with up to 4 mm of water soon after application. Inspect areas for continuing activity. Re-apply as required. Where a rate range is indicated, use lower rates under low insect pressure and higher rates under higher insect pressure. Apply after mowing to minimise loss of insecticide in clippings.
	Argentine stem weevil adults Billbug adults	1.5 - 3 L/ha (15 - 30 mL/100 m^2)	
	African black beetle adults	1.5 – 4.5 L/ha (15 - 45 mL/100 m^2)	
	Black ant, coastal brown ant, funnel ant, meat ant, sugar ant, stinging ant	1.5 – 5.5 L/ha (15 -55 mL/100 m^2)	Mix in water and apply evenly over the area to be treated using spray application equipment. Apply to areas where ants are active. Where possible, spray directly into the nests. Use the lower rate for maintenance treatments or to control light infestations and the high rate for heavy infestations and maximum residual control. The elimination of funnel ants from a particular site will generally require more than one application. Initial applications should be broadcast over affected areas. As the initial numbers of active colonies is reduced, applications should shift to targeting active mounds. Apply spray directly to the mound and in the area immediately surrounding active mounds (300 mm radius). To aid in even coverage, a minimum spray volume of 200 L/ha (2 L/100 m^2) is recommended.
Roses, carnations and other ornamental plants	Two spotted mite	35 or 50 mL/100 L	Apply at the first sign of pest infestation and before pest populations build up to damaging levels. Repeat as necessary on a 10-14 day interval. Best results are obtained from preventive rather than curative applications. Where indicated, use the higher rate for knockdown of established pest infestations or where longer residual activity is required. Spray to run-off using a spray volume of 1000 – 1500 L/ha (10-15 L/100 m^2) covering both leaf surfaces.
	Aphids	25 mL/100 L	
	Caterpillars and loopers including corn earworm, native budworm, lightbrown apple moth	25 mL/100 L	
	Whitefly, poinsettia white fly	25 - 100 mL/100 L	Apply at first sign of pest activity and repeat at 7-10 day intervals while pest pressure exists. More than 3 sprays may be required to control an existing infestation. Spray to run-off covering both leaf surfaces. Use the higher rate when pest pressure is high, when conditions favour pest development or when increased residual protection is required.
	Mealybug	25 mL/100 L	Apply at first sign of pest activity and repeat at 7-10 day intervals while pest pressure exists. Spray to run-off covering both leaf surfaces.
	Plague thrips	25 mL/100 L	Apply at first sign of pest activity and repeat at 7-10 day intervals while pest pressure exists. Ensure that flowers and buds are sprayed. Spray to run-off covering both leaf surfaces. When buds are opening rapidly and pest pressure is high, reducing the spray interval to 3-4 days will give better results. Monitor the population by regular inspection.
	Cutworm in beds, containers and pots	1.5 L/ha (15 mL/100 m^2	Spray evenly over the areas to be treated. After application apply approximately 5 mm of sprinkler irrigation.
		25 mL/100 L	Apply as a drench at the rate of 2 L of prepared spray per square metre of pot area.

NOT TO BE USED FOR ANY PURPOSE, OR IN ANY MANNER, CONTRARY TO THIS LABEL UNLESS AUTHORISED UNDER APPROPRIATE LEGISLATION