



Product Name: KINGDOXA INSECTICIDE
APVMA approval No: 83552/ 120002

Label Name:	KINGDOXA INSECTICIDE
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Signal Headings:	POISON KEEP OUT OF REACH OF CHILDREN READ SAFETY DIRECTIONS BEFORE OPENING OR USING
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Constituent Statements:	200 g/L indoxacarb (3:1), sufficient to give 150 g/L of the active S-indoxacarb isomer
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Mode of Action:	GROUP 22A INSECTICIDE
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Statement of Claims:	For the control of various species of insect pests in Adzuki beans, Chickpeas, Cotton, Faba beans, Mung beans and Soybeans and Lepidopteran species of insect pests in certain vegetable crops as per the Directions for Use.
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Net Contents:	10L 1L 5L
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Restrains:	DO NOT apply if rain is expected within 2 hours of application, or if heavy dew is present on crops. DO NOT apply when wind speed is less than 3 and greater than 20 kilometres an hour or during weather conditions when surface temperature inversions can develop. DO NOT use on container, hydroponic, greenhouse or glasshouse grown crops. DO NOT apply within 50 m (aerial application) or 20 m (ground application) when there are livestock, pasture or any land that is producing feed for livestock downwind from the application area. DO NOT apply within 20 m upwind of water bodies. DO NOT apply by aircraft – Brussels' sprouts, cabbage only. COTTON DO NOT apply more than three (3) applications per field in any one cotton growing season and no more than two (2) consecutive sprays per field per season. Applications must be a minimum of seven days apart. DO NOT treat cotton plants with greater than 30% open bolls. DO NOT apply within 600m (aerial) or 200m (ground), of neighbouring arable land.
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	ADZUKI BEANS, CHICKPEAS, FABA BEANS, MUNG BEANS, SOYBEANS DO NOT apply more than one (1 application per field for the crop's entire growth cycle. ENSURE YOU READ THE PROTECTION STATEMENTS BEFORE APPLYING THE PRODUCT.
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Directions for Use:	This section contains file attachment.
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Other Limitations:	
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Withholding Periods:	<p>HARVEST BRUSSELS SPROUTS, CABBAGE: DO NOT APPLY LATER THAN 7 DAYS BEFORE HARVEST. COTTON: DO NOT HARVEST FOR 28 DAYS AFTER APPLICATION. ADZUKI BEANS, CHICKPEAS, FABA BEANS, MUNG BEANS, SOYBEANS: DO NOT HARVEST FOR 21 DAYS AFTER APPLICATION.</p> <p>GRAZING BRUSSELS SPROUTS, CABBAGE: DO NOT ALLOW LIVESTOCK TO GRAZE CROPS OR VEGETABLE WASTE THAT HAS BEEN TREATED WITH KINGDOXA INSECTICIDE. COTTON: DO NOT ALLOW LIVESTOCK TO GRAZE CROPS, COTTON STUBBLE OR GIN TRASH TREATED WITH KINGDOXA INSECTICIDE. ADZUKI BEANS, CHICKPEAS, FABA BEANS, MUNG BEANS, SOYBEANS: DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 21 DAYS AFTER APPLICATION.</p>
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Trade Advice:	<p>LIVESTOCK DESTINED FOR EXPORT MARKETS: The label withholding period for grazing only applies to stock slaughtered for the domestic market. Some export markets apply different standards. To meet these standards, ensure that the Export Slaughter Interval or the Export Grazing Intervals is observed before stock are sold or slaughtered. EXPORT SLAUGHTER INTERVAL (ESI): 28 DAYS Livestock that have been grazing on or fed treated crops and/or over-sprayed should be placed on clean feed for 28 days (4 weeks) prior to export slaughter.</p>
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General Instructions:	This section contains file attachment.
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Resistance Warning:	<p>INSECTICIDE RESISTANCE WARNING GROUP 22A INSECTICIDE For insecticide resistance management, Kingdoxa Insecticide is a Group 22A insecticide. Some naturally occurring insect biotypes resistant to Kingdoxa Insecticide and other Group 22A insecticides may exist through normal genetic variability in any insect population. The resistant individuals can eventually dominate the insect population if Kingdoxa Insecticide or other Group 22A insecticides are used repeatedly. The effectiveness of Kingdoxa Insecticide on resistant individuals could be significantly reduced. Since occurrence of resistant individuals is difficult to detect prior to use, Gharda Chemicals Ltd accepts no liability for any losses that may result from the failure of Kingdoxa Insecticide to control resistant insects.</p> <p>Strategies to minimise the risk of insecticide resistance are available. To help prevent the development of resistance to Kingdoxa Insecticide observe the following instructions:</p> <ul style="list-style-type: none"> • Use Kingdoxa Insecticide in accordance with the current Insecticide Resistance Management (RM) strategy for your region. • Cultivate all cotton fields as soon as possible after picking to destroy overwintering pupae
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	<p>of <i>Helicoverpa armigera</i>. For further information contact your local supplier, Gharda Chemicals Ltd representative or local agricultural department agronomist or refer to current management strategies provided by CropLife Australia.</p>
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Precautions:	<p>DO NOT use human flaggers/markers unless they are protected by engineering controls such as vehicles with enclosed cabs. RE-ENTRY PERIOD DO NOT allow entry into treated areas until spray has dried. When prior entry is necessary, wear cotton overalls buttoned to the neck and wrists, a washable hat and chemical resistant gloves. Clothing must be laundered after each day's use.</p>
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Protections:	<p>PROTECTION OF LIVESTOCK Dangerous to bees. DO NOT apply when bees are actively foraging. Avoid direct application or drift of the spray mix onto beehives. After the spray has dried, bees can safely forage flowering crops. AVOID SPRAY DRIFT ONTO ADJOINING PROPERTIES OR STOCK AREAS. Assess the treatment area before application to identify animal exposure risks. Avoid aerial application where possible. Observe the buffer zones for aerial and ground application. If unexpected conditions cause spray drift onto pasture or fodder crops that livestock may potentially graze or may be cut for livestock feed, seek advice from Gharda Chemicals Ltd. PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT DO NOT contaminate streams, rivers or waterways with the chemical or used containers. Retain irrigation water and DO NOT allow the chemical to enter adjacent paddocks, crops or water supplies. PROTECTION OF NON-TARGET BENEFICIAL INSECTS Beneficial insects contribute to control of secondary pest outbreaks. Kingdoxa Insecticide applications are unlikely to affect spiders and lacewings. Applications MAY temporarily reduce populations of predatory beetles, transverse ladybirds, ants and pirate bugs, but populations quickly recover. PROTECTION OF CROPS, NATIVE AND OTHER NON-TARGET PLANTS DO NOT apply under weather conditions, or from spraying equipment, that may cause spray to drift onto nearby non-target plants/crops, cropping lands or pastures. Refer to the Product Use section above and the cotton industry's Best Management Practice Manual to manage spray drift during application.</p>
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Storage and Disposal:	<p>Store in the closed, original container in a cool, well-ventilated area. Do not store for prolonged periods in direct sunlight. Empty contents fully into application equipment. Close all valves and return to point of supply for refill or storage. 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 empty packaging 500 mm below the surface in a disposal pit specifically marked and set up for this purpose, clear of waterways, desirable vegetation and tree roots, in compliance with relevant local, state or territory government regulations. Do not burn empty containers or product.</p>
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Safety Directions:	<p>Harmful if swallowed. When opening the container, preparing spray and using the prepared spray, wear cotton overalls buttoned to the neck and wrists (or equivalent clothing) and, a washable hat and elbow-length chemical resistant gloves. Wash hands after use. After each day's use, wash gloves and contaminated clothing.</p>
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First Aid Instructions:	If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 13 11 26, New Zealand 0800 764 766.
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First Aid Warnings:	
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Directions for Use

CROP	PEST	STATE	RATE	CRITICAL COMMENTS
Brussels sprouts Cabbage (closed head varieties only)	Cabbage white butterfly (<i>Pieris rapae</i>) Cotton Bollworm (<i>Helicoverpa armigera</i>) Native budworm (<i>Helicoverpa punctigera</i>)	All States	340 mL/ha	Use in accordance with AIRAC Insecticide Resistance Management Strategy guidelines. Apply as egg and larvae reach threshold numbers. Contact the local Department of Agriculture or consultant for further information on management of Diamondback moth. Thorough coverage is essential. Adjust water volumes to crop stage (200 – 1000 L/ha). Refer to Surfactant/Wetting agent section. For Cabbage Centre grub time sprays early to ensure larvae are exposed to treatment before they become entrenched in protected feeding sites. For best results, it is recommended that up to 3 applications of Kingdoxa Insecticide be made sequentially as thresholds dictate. A maximum of 4 applications can be made to any one crop. DO NOT retreat within seven (7) days. Further treatment should be made with alternative mode of action insecticides.
	Cluster caterpillar (<i>Spodoptera litura</i>) Cabbage center grub (<i>Hellula hydralis</i>) Diamondback moth (<i>Plutella xylostella</i>)		500 mL/ha	
Cotton	Cotton bollworm (<i>Helicoverpa armigera</i>) Native budworm (<i>H. punctigera</i>)	NSW, NT, Qld and WA only	650 mL/ha or 850 mL/ha	<p>Use the lower rate of Kingdoxa Insecticide when:</p> <ol style="list-style-type: none"> 1. <i>H. armigera</i> specific field levels are less than or equal to 60 % prior to treatment application AND 2. egg and larvae pressure ARE AT 5 – 10 brown eggs and 2 very small (first instar) or small larvae (second instar) per 10 cotton terminals AND 3. where preservation of beneficial insects is desirable.
	Cotton bollworm (<i>Helicoverpa armigera</i>) Native budworm (<i>H. punctigera</i>)			<p>Use the higher rate of Kingdoxa Insecticide when:</p> <ol style="list-style-type: none"> 1. <i>H. armigera</i> specific field levels are greater than 60 % prior to treatment application AND 2. egg and larvae pressure ARE AT 5 – 15 brown eggs and 2 very small (first instar) or small larvae (second instar) per 10 cotton terminals AND 3. where preservation of beneficial insects is desirable.
	Cotton bollworm (<i>Helicoverpa armigera</i>) Native budworm (<i>H. punctigera</i>)		650 mL/ha + 2 L/ha 200 g/L amitraz EC formulation)	<p>Use Kingdoxa Insecticide + 200 g/L amitraz EC when:</p> <ol style="list-style-type: none"> 1. egg and larvae pressure ARE AT 15 – 20 brown eggs and 2 very small (first instar) or small larvae (second instar) per 10 cotton terminals AND 2. where limited preservation of beneficial insects is required.

CROP	PEST	STATE	RATE	CRITICAL COMMENTS
	Green mirid [<i>Creontiades dilutus</i>]		650 mL/ha or 850 mL/ha or 300 or 400 mL/ha + salt (NaCl) at 5 g/L spray volume by ground (100 L/ha) or 10 g/L spray volume by air (30 L/ha).	Target nymphs and/or adults when they reach the economic spray threshold. Use 650 or 850 mL/ha when controlling <i>Helicoverpa</i> spp. AND green mirid. Refer Heliothis recommendations. Use 300 or 400 mL/ha + salt when controlling green mirid ONLY. Use the higher rate on infestations exceeding economic spray threshold levels and/or large canopy crops. Under high populations suppression only may be observed. Note: Kingdoxa Insecticide has limited residual activity in controlling new infestations of green mirid (either new hatchings of nymphs or influx of adults) post-spray.
Chickpeas Faba beans	Cotton bollworm (<i>Helicoverpa armigera</i>) Native budworm (<i>H. punctigera</i>)	All States	300 mL/ha	Target brown eggs and hatchling (neonates or fist instar) to small larvae (second instar) when they reach the economic spray threshold and before they become entrenched in flowers (particularly relevant to faba beans) or pods.
Adzuki beans Mung beans Soybeans	Cotton bollworm (<i>Helicoverpa armigera</i>) Native budworm (<i>H. punctigera</i>)		400 mL/ha	Target brown eggs and hatchling (neonates or fist instar) to small larvae (second instar) when they reach the economic spray threshold and before they become entrenched in flowers or pods.
	Mirid complex: Green mirid (<i>C. dilutes</i>) Brown mirid (<i>C. pacifus</i>) Crop mirid (<i>Sidnia kingbergii</i>) Yellow mirid (<i>Campylomma liebknechti</i>)		400 mL/ha + salt (NaCl) at 5 g/L spray volume by ground (100 L/ha) or 10 g/L spray volume by air (30 L/ha).	Target nymphs and/or adults when they reach the economic spray threshold. Under high populations suppression only may be observed. Note: Kingdoxa Insecticide has limited residual activity in controlling new infestations of mirid (either new hatchings of nymphs or influx of adults) post-spray.
	Soybean looper (<i>Thysanoplusia orichalcea</i>)		200 mL/ha	Target hatchling (neonates or fist instar) to small larvae (second instar) when they reach the economic spray threshold.
	Red shouldered leaf or Monolepta beetle (<i>Monolepta australis</i>) Soybeans only		200 mL/ha	Target adult beetles when they reach the economic spray threshold. Ensure thorough spray coverage.

<p>General Instructions</p>	<p>Kingdoxa Insecticide is an oil-based suspension concentrate formulation.</p> <p>Kingdoxa Insecticide should be applied after careful field monitoring of pest populations of eggs and larvae to determine the need for application, the correct timing of the initial application and of any subsequent applications. For cotton only, subsequent applications are dependent on economic thresholds, as well as the growth rate of new unprotected cotton terminals.</p> <p>For <i>Helicoverpa</i> species, spray applications should be timed to coincide with egg hatching and before larvae are entrenched in protected feeding sites.</p> <p>Kingdoxa Insecticide is particularly active on Lepidopteran insect pests, primarily as a larvicide. Before application, monitor insect populations to determine whether or not there is a need for application of Kingdoxa Insecticide based on locally determined economic thresholds. More than one treatment of Kingdoxa Insecticide may be required to control a population of pests.</p> <p>Kingdoxa Insecticide has been specifically designed for use in Integrated Pest Management schemes. The active ingredient, Indoxacarb, enters larvae primarily by ingestion of treated foliage, or through penetration of the insect cuticle. After ingesting Kingdoxa Insecticide, the larvae cease feeding and die three to five days later. Kingdoxa Insecticide does not give traditional larval 'knockdown' control but controls nominated larvae species giving superior:</p> <ul style="list-style-type: none"> • square, flower and boll protection in cotton OR • foliage, flower and pod protection in chickpeas, faba beans, mung beans or soybeans <p>PRODUCT USE</p> <p>The interaction of many equipment and weather-related factors determines the potential for spray drift. The applicator must consider all these factors when making application decisions and determining off-target drift risks near the application. A spray drift minimisation strategy should be employed at all times when applying this product.</p> <p>APPLYING LARGER DROPLETS (volume median diameter (VMD) 150 – 250 microns) REDUCES DRIFT POTENTIAL, BUT WILL NOT MINIMISE DRIFT IF APPLICATIONS ARE MADE IMPROPERLY OR UNDER UNFAVOURABLE ENVIRONMENTAL CONDITIONS. Larger droplets may reduce the effects of evaporation.</p> <p>Mixing</p> <p>Use only clean water. Half fill the spray tank with water and add the appropriate amount of Kingdoxa Insecticide directly to the spray tank. Agitate and add amitraz 200 g/L EC (if applicable), then completely fill the tank with water. Mix thoroughly and continue mechanical or hydraulic agitation.</p> <p>Surfactant/Wetting Agent</p> <p>Brussels' sprouts, cabbage: Use a non-ionic surfactant/wetting agent at 75 g active/100 L, (eg Agral 600 @ 125 mL/100 L or Citowett @ 75 mL/100 L).</p> <p>Storage of spray mixture</p> <p>Use the prepared spray immediately. If unforeseen conditions prevent immediate use of the Kingdoxa Insecticide spray mix, the mix may be stored up to 72 hours. Before use, thoroughly agitate the spray mix until fully resuspended. Mixtures of Kingdoxa Insecticide plus amitraz 200 g/L EC should not be stored.</p> <p>Application</p> <p>Application equipment should be calibrated to apply at least sixty (60) droplets per cm² of target foliage. Droplet VMD should be of medium spray quality according to ASAE S572 definition for standard nozzles.</p> <p>Ground application</p> <p>Apply as a blanket spray or as a banded spray to all crops. Ensure thorough spray coverage on the foliage, using appropriate fan nozzles. Apply in a minimum spray volume of 100 L/ha and keep the boom low to avoid spray drift. A minimum spray pressure of 275 kPa (40 psi) should be used with fan nozzles applying insecticides. Higher pressure reduces droplet size, DOES NOT improve canopy penetration and may increase drift potential. WHEN HIGHER FLOW RATES ARE NEEDED,</p>
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USE A HIGHER-CAPACITY NOZZLE INSTEAD OF INCREASING PRESSURE. For band spraying, increase the number of fan nozzles per crop row as the plant size increases.

Aerial application

Kingdoxa Insecticide must only be applied with aircraft fitted with accurately calibrated equipment. Apply a minimum total spray volume of 30 L/ha with nozzles (eg Micronaire rotary atomisers, CP nozzles or conventional hydraulic nozzles) set to medium spray quality according to ASAE S572 definition for standard nozzles. A spray drift minimisation strategy should be employed at all times when applying this product. DO NOT apply Kingdoxa Insecticide using Ultra Low Volume (ULV) methods.

Compatibility – label instructions for all products must be observed.

Kingdoxa Insecticide is compatible with amitraz 200 g/L EC formulations and mepiquat chloride. Kingdoxa Insecticide is not compatible with ultra low volume (ULV) formulations or certain fertilisers. Since formulations may be changed and new ones introduced, it is recommended that users pre-mix a small quantity of the desired tankmix and observe possible adverse changes (settling out, flocculation etc).

Salt

When the addition of salt is indicated in the Directions for Use table, Gharda Chemicals Ltd recommends the use of salt from the following sources: Table or cooking salt, Pool salt, or salt approved for use in livestock feed eg Cheetham RAM (No.2) Dried Fine Salt, Olsson's Kiln Dried Course Refined Salt.

Spray Equipment Cleanout

Only apply product using clean, well-maintained equipment. Immediately following application, thoroughly clean all spray equipment to reduce risk of deposits forming that might become difficult to remove.

Drain spray equipment into a disposal pit designed for this purpose. Thoroughly rinse sprayer and flush hoses, boom and nozzles with clean water. Fill the sprayer with clean water and household ammonia (one litre of 3 % active for every 100 L of water). Flush hoses, boom and nozzles. Turn off boom and top off the tank with clean water. Circulate through the spraying system for at least 15 minutes. Flush the hoses, boom and nozzles and drain the tank. Remove and clean nozzles, screens and strainers in a bucket of fresh ammonia and water. Thoroughly rinse the sprayer, hoses, boom and nozzles with clean water several times. Clean all other associated contaminated application equipment.