# **CAUTION**

KEEP OUT OF REACH OF CHILDREN
READ SAFETY DIRECTIONS BEFORE OPENING OR USING



# **IMIFORCE UTILITY**

# Insecticide

**ACTIVE CONSTITUENT: 200 g/L IMIDACLOPRID** 

GROUP 4A INSECTICIDE

For the use in the management of Subterranean Termites as specified in the Directions for Use table;
For the control of various insect pests of cotton, fruit, vegetables and ornamentals as specified in the Directions for Use table.

IMPORTANT: READ THE ATTACHED LEAFLET BEFORE USING THE PRODUCT

Contents: 20L

(1L, 5L, 10L, 60L, 110L)

**Sherwood Chemicals Australasia Pty Ltd** 

ABN: 351 369 936 30 Level 3, 1060 Hay Street

WEST PERTH 6005 AUSTRALIA

Tel: 08 9219 4683 Fax: 08 9219 4672

### STORAGE & DISPOSAL

Store in the closed, original containers in a cool, well-ventilated area. Do not store for prolonged periods in direct sunlight.

Triple or preferably pressure rinse containers before disposal. Add rinsing to spray tank. DO NOT dispose of undiluted chemicals on site.

If recycling, replace cap and return clean containers to recycler of designated collection point. If not recycling, break, crush, or puncture and deliver empty packaging for appropriate disposal to an approved waste management facility. If an approved waste management facility is not available bury the empty packaging 500mm 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.

# **SAFETY DIRECTIONS**

Harmful if swallowed. May irritate the eyes and skin. Repeated exposure may cause allergic disorders. Avoid contact with eyes and skin. When using the product, wear cotton overalls buttoned to the neck and wrist and a washable hat and elbow-length PVC gloves. If clothing becomes contaminated with product or wet with spray, remove clothing immediately. If product or spray on skin, immediately wash area with soap and water. Wash hands after use.

After each day's use, wash gloves and contaminated clothing.

#### **FIRST AID**

If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 13 11 26.

### **MATERIAL SAFETY DATA SHEET**

For further information, refer to the Material Safety Data Sheet (MSDS), which is available from the supplier or from our web site, <a href="https://www.sherwoodchemicals.com.au">www.sherwoodchemicals.com.au</a>

### **NOTICE TO BUYER**

Sherwood Chemicals Australasia Pty Ltd (Sherwood Chemicals) warrants that this product conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with the Directions for Use under normal conditions of use. No warranty of merchantability or fitness for a particular purpose, express of implied, extends to the use of the product contrary to label instructions or under off-label permits not endorsed by Sherwood Chemicals, or under abnormal conditions.

APVMA Approval No. 64198/53502

In a Transport Emergency Dial 000 Police or Fire Brigade

Batch No:

Date of Manufacture:

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# A. DIRECTIONS FOR USE (TERMITICIDE APPLICATIONS) (all States except Tasmania)

# **RESTRAINTS**

DO NOT apply to soils if excessively wet or immediately after heavy rain to avoid run-off of chemical.

DO NOT disturb the treated soil barrier with subsequent construction of additions or alterations, paths, steps, flower beds, etc.

DO NOT use at less than indicated label rates.

DO NOT use in cavity walls (except for direct treatment of a nest).

SITUATION	PEST	RATE	CRITICAL COMMENTS
Existing buildings: Barrier treatments for existing buildings including domestic, industrial, government and commercial premises  Also applicable to external barriers (only) around new	Subterranean termites (Except Mastotermes darwiniensis)  Mastotermes darwiniensis	Spray solution:  250 mL per 100 litres of water  500 mL per 100 litres of water	(See also general instructions) Mix the required quantity of IMIFORCE UTILITY Insecticide in water and apply using suitable application equipment to form a complete and continues barrier around and under the structure. The barrier may be created using a combination of conventional spraying and trenching along with soil rodding. Concrete foundation slabs and paths around the structure should be drilled and injected with IMIFORCE UTILITY Insecticide solution including along the expansion joints, edges and cracks.  In some cases the use of wetting agents or foaming agents may be useful in overcoming non-wetting soils getting a more even application in areas of difficult access or soil subsidence.  If the barrier is disturbed by earthworks, construction or severe
buildings			drainage problems it will have to be restored by reapplication.
Service poles and fence posts			For new posts treat the bottom of the hole and the backfill using a minimum of 10 L of solution per hole. For existing posts create a continuous barrier 150 mm wide by soil rodding or spraying the backfilled soil to a depth of 450 mm. Infested posts may also be drilled and injected with spray solution. Note that it is impossible to treat the soil at the bottom of a sound post so future attack via this route cannot be ruled out.

Nests in wall cavities, poles and trees			Locate the nest by drilling into the wall, pole or tree. Make sure that the full size of the nest is identified especially the highest point. Apply at least 20 litres of IMIFORCE UTILITY Insecticide dilution into the nest through the drill holes. Drill holes should be sealed after application. Note: application to wall cavities behind plasterboard may result in water/mud staining of the plasterboard. Use of a dry foam application can reduce this risk and improve distribution within the wall cavity.
Reticulation Systems:	Subterranean termites (except <i>Mastotermes</i> <i>darwiniensis</i> )	Spray solution: 250 mL per 100 litres of water	The system (refer to the general instructions) must be installed according to the manufacturer's specifications. IMIFORCE UTILITY Insecticide must only be applied via a reticulation system that has been installed with a prepared sand/soil bed of a minimum depth of 100 mm and even compaction. If not possible alternative termite protection needs to be arranged for the areas omitted (see General Instructions for further system requirements).
Perimeter and/or service penetration treatment	Mastotermes darwiniensis	500 mL per 100 litres of water	The system installer must ensure that the installation will result in the application of not less than 250 mL (500 mL for <i>Mastotermes darwiniensis</i> ) of product per m³ of soil applied in a continuous treated and diluted solution applied by a system is dependent on the parameters of the particular system and the type of soil type being present respectively. Guidelines should be sought from the manufacturer. For a barrier with dimensions of 300 mm deep x 150 mm wide, 5 L per linear metre is suitable for perimeter and/or service penetration only systems. This will be different for systems treating a different volume of soil.
Complete under slab installations			For the horizontal barrier under the slab not less than 50 mL (100 mL for <i>Mastotermes darwiniensis</i> ) of product is required per m <sup>2</sup> . In addition, the system installer must also ensure that a prepared sand/soil bed of 100 mm depth is provided across the whole of the under slab installation to ensure complete horizontal coverage of the product.

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

# **GENERAL INSTRUCTIONS (TERMITICIDE APPLICATIONS)**

(All States except Tasmania)

### IMIFORCE Utility Insecticide should be considered as part of a program involving the following steps:

- 1. locate nest and treat where possible;
- 2. repair or recommended repairs to leaks and drainage as a condition of warranty;
- 3. improve or recommended improvements to ventilation underneath structures;
- 4. ensure or recommended subfloor areas be kept free of stored or waste timber;
- application of soil barrier treatment;
- 6. advice to property owner or manager, that disturbing the treated soil barrier e.g. with subsequent additions, alterations or landscaping etc may render the treatment ineffective unless re-applied or other actions undertaken.
- 7. continuing efforts to locate and treat the colony in the nest if not eradicated before application of soil barrier.
- 8. Post-treatment inspection to confirm success.
- 9. ongoing inspections, at least annually, as recommended by AS 3660 Series.

The purpose of chemical soil treatment for termite control is to establish a continuous chemical barrier (horizontal and/or vertical as required) between the structure and termite colonies in the soil. The barrier impedes and discourages concealed termite entry for the service period of the barrier. A great deal of care needs to be taken to understand the construction of the building and to apply the spray solution in a manner, which ensures a complete chemical barrier. If a barrier is not complete or breached, then concealed termite entry may occur. It is sometimes not possible to form a complete barrier around an existing structure in which case other termite management options and/or more frequent inspections will also need to be undertaken.

### Alteration to building to increase effectiveness of treatment

Alterations include improvements to drainage and sub-floor ventilation, the removal of soil timber contact (e.g. railway sleeper retaining walls) and the provision of access to areas for regular inspection. Poor drainage including rainwater flowing around structure perimeter may compromise IMIFORCE UTILITY Insecticide the chemical barrier. Drainage, ventilation and timber/soil contact problems need to be addressed before treatment.

### Mixing

### To ensure good mixing:

- 1. Thoroughly clean the spray equipment to remove residues of other formulations from the equipment before using IMIFORCE UTILITY Insecticide for the first time; and
- 2. Prior to pouring, shake container vigorously. Then premix the required quantity of IMIFORCE UTILITY Insecticide with water in a clean bucket before adding it to the half filled spray tank then top up to full volume. Allow the contents of the tank to be recirculated.
  - Note that at the recommended dilution rate IMIFORCE UTILITY Insecticide will usually dissolve to a clear solution with only a faint odour.

### Soil preparation

In soils where wetting is difficult, it will be necessary to loosen the soil prior to treatment (to a depth of at least 80 mm for horizontal barriers and to below the top of the footing for vertical barriers), creating a trench to confine the spray solution to the area to be treated and it may be necessary to add a wetting agent to the spray solution. These actions will help to avoid the spray solution running off before it can soak into the soil.

It is recommended that application volumes given in the directions for use table be used wherever possible. However where soil conditions will not accept application of 100 L/m³, the concentration of IMIFORCE UTILITY Insecticide in the solution should be doubled to 500-1000 mL per 100 L and then apply 50 L/m³ spray solution. When applying by injection through concrete to such soils, drill hole spacings should be reduced to 150 mm (1.5 litres per hole) before resorting to the application of higher concentrations in lower volumes.

### Treatment of existing buildings

Authorized persons applying IMIFORCE UTILITY Insecticide should be familiar with Australian Standard AS 3660 Series especially the section which specifies the procedures to provide a chemical soil barrier, and/or the appendix which shows the areas where barrier treatments should be applied to ensure no gaps in treatment.

### Treatment of new buildings

IMIFORCE UTILITY Insecticide cannot be used for the application of horizontal barriers prior to pouring a slab unless used in a reticulation system certified for that purpose. The initial underslab treatment shall be applied through the reticulation system as soon as possible after a 28-day period following the placement of the slab, but not more than 60 days after placement.

### **Reticulation systems**

The reticulation systems used must be capable of establishing and maintaining complete and continuous treated zones around building perimeters, service penetrations and other possible termite entry points between the structure and the termite colonies in the soil (in accordance with the Australian Standard AS 3660 series).

Reticulation systems suitable for this purpose are certified as meeting AS3660 by suitable persons or organizations with the relevant expertise in the area of termite management and engineering construction. The system must allow the application of a minimum 100 mm thick treated zone.

It is strongly recommended that the product user communicate with the builder and sub-contractor to ensure that the reticulation system is, or has been, installed according to the systems manufacturer's specifications and Australian Standard AS 3660 series. Reticulation systems, which have been incorrectly installed, are likely to increase the chances of a breach of the chemical barrier by termites.

#### Thickness of barrier

It is recommended that the minimum thickness of any treated soil barrier is 100 mm.

#### **Horizontal barriers**

At the perimeter, loosen soil to depth of at least 80 mm and 150 mm wide and apply at least 1.5 L of spray solution per lineal metre. Treatment volumes of up to 5 litres per metre are recommended, as the spray solution will penetrate deeper into the soil. Greater volumes are also required where deeper barriers are needed as part of the termite management system. The use of a maker dye may assist in identifying soils that have been treated. NB The use of horizontal barriers is limited to the faces of solid building elements through which termites cannot gain concealed access (eg concrete slab or solid concrete piers). In all other vertical barriers should be employed.

Where access to sub floor areas is restricted by a clearance of less than 400 mm, the whole sub-floor soil surface should be treated at the rate of at least 5 litres of spray solution per m<sup>2</sup>. Care must be taken to avoid spray shadows, e.g. behind piers.

Treatment beneath concrete slabs and paths. Horizontal barriers can also be applied by drilling through existing slabs. As uneven distribution is possible under the slab, increase the application rate to at least 10 litres of spray solution during application to ensure even distribution. If soil subsidence has occurred beneath the concrete, the use of a foam carrier may assist in treating critical areas.

**Foam carriers** may be useful in ensuring that a more even distribution is achieved. However it is important that the foam application be calibrated to ensure that the rate of IMIFORCE UTILITY Insecticide formulation does not fall below 12.5 mL of IMIFORCE UTILITY Insecticide 200 SC/m<sup>2</sup>. Mix the appropriate concentration of IMIFORCE UTILITY Insecticide in water and add the manufacturer's recommended quantity of foam agent (see table for foaming recommendations). Apply sufficient volume of IMIFORCE UTILITY Insecticide foam alone or in combination with liquid solution to provide a continuous treated zone at the recommended rate.

Mixing table to prepare foam to treat 1 m <sup>2</sup>					
IMIFORCE UTILITY Insecticide (mL)*	Litres of water	Foam expansion ratio	Volume of finished foam/m <sup>2</sup>	Foam consistency	
	5	1:1 (i.e. not foamed)	5 L	Standard solution	
12.5	2.5 5	5:1 5:1	12.5 L 25 L	Wet foam	
	2.5 5	10:1 10:1	25 L 50 L		
	2.5 5	20:1 20:1	50 L 100 L	Very dry foam	
* Add the manufacturer's recommended quantity of foam agent to the IMIFORCE_UTILITY					

Insecticide solution

Drilling along cracks in slabs, expansion joints, walls and around service penetrations (e.g. plumbing/electrical). Holes should be drilled no further than 150 mm from the crack, wall, expansion joint or service penetration and should be between 150-300 mm apart.

The following table shows the recommended volume of spray solution required per hole at various drill hole spacings.

Hole spacing (mm)	Litres per hole	Soil type
150	1.5	Heavy clay
200	2.0	Clay loams
250	2.5	Loams
300	3.0	Sands

Drill holes must be resealed after application.

#### **Vertical barriers**

Vertical barriers require the application of at least 100 litres of spray solution per m<sup>3</sup> of soil. Vertical barriers can be applied by either trenching or treating soil, as it is backfilled or by a combination of trenching and soil rodding at the bottom of the trench. Vertical barriers must extend down to 100 mm below the top of the solid footing if they are to be complete.

Note that termites may gain access behind engaged piers against single brick walls unless the soil is treated on both sides of the wall down to the footing.

Vertical barriers should be at least 150 mm wide with 1.5 litres of spray solution applied per linear metre per 100 mm depth of barrier. In most cases the product will soak into the soil below this depth so a minimum rate of 5 L per linear metre is recommended. When using soil rodding equipment the distance between each rod insertion should be no greater than 150 mm.

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# Colonies not in contact with ground

Occasionally, subterranean termites establish a colony in a building without having contact with the soil because they have access to a continuous supply of moisture (eg faulty plumbing or leaky roof). Such colonies may not be affected by a soil treatment alone and should be treated by direct nest application or by other procedures (eg use of a colony eradicant dust or baiting system).

### Re-inspection

Re-inspection within 3 months of treatment is recommended.

### **Service Period**

Correctly applied IMIFORCE UTILITY Insecticide treatment will prevent concealed termite entry by subterranean termites (except *Mastotermes*) for at least two years and *Mastotermes* for at least one year. Regular competent inspection is recommended as part of an ongoing termite management programme. Inspections should be carried out at least annually and concurrently, efforts are made to eradicate termite colonies in the area.

# B. DIRECTIONS FOR USE (AGRICULTURAL APPLICATIONS) FOLIAR SPRAY APLICATIONS

Crop	Insect	Rate	WHP	Critical Comments
Cotton	Aphids	250mL/ha + Pulse Penetrant at 0.2% v/v	13 weeks	The addition of Pulse Penetrant or equivalent is critical for the performance of IMIFORCE UTILITY Insecticide.
		(2mL/L water)		Apply early in the establishment of an aphid infestation when numbers are low (i.e. no more than 1 or 2 leaves per plant with honeydew present). Applications made later than this may result in reduced control.
				Shorter residual control may be evident and a repeat application of a registered aphicide (follow the Cotton Insecticide Resistance management strategy for cotton aphid may be required to achieve complete control:
				If application of IMIFORCE UTILITY Insecticide plus Pulse or equivalent are timed too late (see above); or
				If existing high density aphid colonies (hotspots) are present; or
				If aphids have established throughout the plant canopy (especially lower in the canopy); or
				If there is high re-infestation; or
				If there is rapid crop growth; or
				<ul> <li>If IMIFORCE UTILITY Insecticide plus Pulse or equivalent is used following a spray-failure (eg resistance to organophosphates or carbamate insecticides). Note: Where resistance to carbamates or organophosphates is suspected, IMIFORCE UTILITY Insecticide plus Pulse or equivalent should be used first so as not to delay control of the aphids present.</li> </ul>
				Aphids treated with IMIFORCE UTILITY Insecticide plus Pulse or equivalent may still be present on the plant but will not be feeding. Control of aphids should initially be assessed by a reduction in fresh honeydew and not on the presence of aphids on the plant. After ingesting IMIFORCE UTILITY Insecticide aphids may take up to 5 days to die.
	Mirids			Apply when pest numbers reach treatment threshold levels as determined by field checks.
	Brown flea beetle			
Stone fruit	Green Peach aphid	Dilute Spraying	21 days	Apply at first sign of aphid infestation. Apply as a full cover spray, ensuring thorough coverage. Apply by dilute or concentrate spraying equipment. Apply the same total amount of product to the target
	Black peach aphid	25mL/100L		crop whether applying this product by dilute or concentrate methods. Do not use in equipment that requires rates greater than 125mL/100L of water (i.e. greater than 5 X concentrate).
		Concentrate Spraying Refer to		
		Mixing/Application section		
Cucurbits	Green Peach Aphid	25mL/100L	1 days	Apply at first sign of aphid infestation.
Capsicum		or	7 days	
Eggplant		300mL/ha		
Potato				4
Tomato			3 days	

Crop	Insect	Rate	WHP	Critical Comments
Brassicas	Grey cabbage Aphid Turnip Aphid		7 days	Apply at first sign of aphid infestation. Add a wetting agent.
Sweet potato	Silverleaf Whitefly including type	25mL/100L	7 days	Apply at first sign of whitefly or melon thrips infestation. Apply dilute sprays (25mL/100L) to run off.
Cucumber	В	or	1 day	Ensure thorough coverage of underside of leaves. Use of droppers will improve coverage of
Egg-plant	Melon Thrips	250mL/ha	7 days	underside of leaves.
Roses	Aphids	25mL/100L	-	Apply as a thorough spray at first sign of insect infestation.
Ornamental plants	Aphids Azalea Lace Bug Bronze Orange Bug Harlequin Bug Citrus mealy Bug Greenhouse Thrips Fullers Rose Weevil Hibiscus Flower Beetle	50mL/100L		Spray buds and flowers as needed.
		50mL/100L + surfactant		
	Longtailed Mealybug  Pysllids	25mL/100L + surfactant		Apply 3 sprays 2 weeks apart. Use a non-ionic surfactant at label rate.  Spray at first sign and then a week later.
	Soft Scales	25mL/100L		Spray in late spring or when small scales are first seen. Apply 3 sprays 2 weeks apart. Use a non-ionic surfactant at label rate.
Turf	First instar larvae of: African Black Beetle, Argentinian Scarab, Pruinose Scarab  Larvae of Billbug	2.5L/ha or 25mL/100L Spray with at least 400 L water per hectare to ensure even coverage. Preferably spray on to wet or dewy grass. Irrigate with 12 mm of water commencing within one hour of application.		Apply at peak egg hatch that is mid Spring to mid Sumer depending on species.  Monitor adult activity through late Spring and early Summer. Spray when numbers peak, or when small larvae (4mm) are found in the thatch or surface soil. Early application is essential to minimise grass damage due to feeding.
Duboisia	Green Peach Aphid	25mL/100L		Apply when aphid numbers reach spay threshold as determined by regular monitoring. Ensure thorough coverage of all leaves.
Pananus trees	Flatid (Jamella australiae)	Spot Spray 875mL/100L of water Stem Injection 1.75L/1L of water		Spot Spray: Spray 100mL of mixture directly into the leafy throat of each head.  Stem Injection: Drill holes 0.5 to 1cm in diameter and 10cm deep at an angle of 30°, 1 to 1.5 m above ground level. Drill one hole per limb (or trunk in single trunked trees). Apply 5mL of mixture in each hole and seal the hole. Do not re-apply in the same holes. Uptake of IMIFORCE UTILITY Insecticide, and therefore control of the pest in heavily infested heads already showing severe damage, will be slow and may be incomplete.

# C. DIRECTIONS FOR USE (AGRICULTURAL APPLICATIONS) SOIL DRENCHED APPLICATIONS

Crop	Insect	Rate	Critical Comments		
Apples	Woolly aphid	Chemical control 12mL/1L of water/tree  Beneficial insect plus chemical control (eg Aphelinus mali plus IMIFORCE UTILITY Insecticide) 3mL/1L of water/tree	For trees up to 7 years of age. During late summer or autumn, apple trees with woolly aphid colonies or damage should be identified and marked for treatment the following season. At green tip to petal fall, apply 1 litre of the prepared IMIFORCE UTILITY Insecticide mixture to moist soil immediately around the base of the tree trunk. Ensure the mixture infiltrates the soil around the trunk and does not run-off the soil. Control weeds before application. Do not remove or disturb soil around the trunk during the season. If aerial colonies are present at application, maximum effectiveness may not be achieved until the following season. Do not treat more than once in any 3 year period.		
Elm	Elm leaf beetle	7mL/25mm of tree diameter at breast height	Mix the required dose in sufficient water to adequately treat each tree. Use at least 50L of mix per tree up to a tree diameter of 400-500mm and then add 100L per tree for larger trees. Inject mix to a depth of 20-30cm in a minimum of 4 injection sites per tree 0.75 to 1.5m apart, arranged in an evenly spaced grid to just beyond the dripline.		
			Ensure root zone is adequately moist with active root growth. Keep treated area moist for 7-10 days after treatment. Treat at least 6-10 weeks prior to pest attack in the late winter or early spring when roots are active. DO NOT treat if the soil is waterlogged.		
Seedling	Chrysomelid Beetle	2.5mL/plant	Mix in water up to 0.5L per 3 L pot and apply to soil. Use less water for smaller pots.		
Eucalyptus (to 1 m high) in pots	larvae, Psyllids		DO NOT dilute to the point where mix runs out the bottom of pots.		
Azaleas in pots	Azalea Lace Bug	3.5 mL/250mL water per pot	Use as a soil drench for pots up to 20L capacity. Prior to application remove mulch and dead vegetation, and moisten the soil surface. Apply the IMIFORCE UTILITY mixture, and then water it in well immediately after application.		
Ornamentals in pots	Scarab Beetle larvae	3.5 mL/5L water	Use as a soil drench, 5L of mixture will treat twenty 6L pots. Prior to application remove mulch and dead vegetation, and moisten the soil surface. Apply the IMIFORCE UTILITY mixture, and then water it in well immediately after application.		
Roses	Aphids	3.5 mL/2L water per plant	Use as a soil drench by pouring mixture evenly around drip zone. Use this rate for plants up to 1m high. For each additional metre of plant height, add 2mL extra of IMIFORCE UTILITY to 2L of water. Prior to application remove mulch and dead vegetation, and moisten the soil surface. Apply the IMIFORCE UTILITY Insecticide mixture, and then water it in well immediately after application.		
For soil drench trea	For soil drench treatments, remove mulch and dead vegetation, and moisten the soil surface first. Apply IMIFORCE UTILITY Insecticide mixture, then water it in well immediately after application.				

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

### WITHHOLDING PERIODS

Apples: NOT required when used as directed

Cotton: DO NOT harvest for 13 weeks after application

DO NOT graze or cut for stockfood

Cucurbits: DO NOT harvest for 1 day after application Tomatoes: DO NOT harvest for 3 days after application Brassicas, Capsicum, Egg Plant, Potatoes, Sweet potatoes:

DO NOT harvest for 7 days after application

Stone fruit: DO NOT harvest for 21 days after application

DO NOT graze any treated area, or cut for stock food.

DO NOT feed produce harvested from treated area to animals, including poultry.

# **GENERAL INSTRUCTIONS (AGRICULTURAL APPLICATIONS)**

# INSECTICIDE RESISTANCE WARNING

GROUP 4A INSECTICIDE

For insect resistance management IMIFORCE UTILITY Insecticide is a Group 4A Insecticide. Some naturally occurring insect biotypes resistant to IMIFORCE UTILITY Insecticide and other group 4A insecticides may exist through normal genetic variability in any insect population. The resistant individuals can eventually dominate the insect population if IMIFORCE UTILITY Insecticide or other Group 4A insecticides are used repeatedly. The effectiveness of IMIFORCE UTILITY Insecticide on resistant individuals could be significantly reduced. Since occurrence of resistant individuals is difficult to detect prior to use, Sherwood Chemicals Australasia Pty Ltd accepts no liability for any losses that may result from the failure of IMIFORCE UTILITY Insecticide to control resistant insects IMIFORCE UTILITY Insecticide may be subject to specific resistance management strategies. For further information contact your local supplier, Sherwood Chemicals Australasia Pty Ltd representative or local agricultural department agronomist.

# **INSECTICIDE RESISTANCE MANAGEMENT STRATEGY**

# **Cotton Aphid in cotton**

Observe the cotton industry Insecticide Resistance Management Strategy (IRMS).

# Aphids, whitefly and melon thrips in various crops

Do not apply IMIFORCE UTILITY Insecticide (or other Group 4A insecticides) in consecutive sprays within and between seasons. Rotate with registered insecticides from other mode of action groups.

# Confined Environments such as glasshouses

Annuals - Do not apply more than one spray of IMIFORCE UTILITY Insecticide (or other Group 4A insecticides) to any one crop.

Perennials – Rotate with registered insecticides from other groups. Use a maximum of three IMIFORCE UTILITY Insecticide (or other Group 4A insecticides) sprays in any 12 month period.

# **MIXING/APPLICATION**

Prior to pouring, shake container vigorously, then add the required amount of IMIFORCE UTILITY Insecticide to water in the spray vat while stirring or with agitators in motion.

# **Special instructions for Stone Fruit**

# **Dilute Spraying (Stone fruit)**

- Use a sprayer designed to apply high volumes of water up to the point of run-off and matched to the crop being sprayed.
- Set up and operate the sprayer to achieve even coverage throughout the crop canopy. Apply sufficient water to cover the crop to the point of run-off. Avoid excessive run-off.
- The required water volume may be determined by applying different test volumes, using different settings on the sprayer, from industry guidelines or expert advice.
- Add the amount of product specified in the Directions for Use table for each 100L of water. Spray to the point of run-off.
- The required dilute spray volume will change and the sprayer set up and operation may also need to be changed as the crop grows.

# **Concentrate Spraying (Stone fruit)**

- Use a sprayer designed and set up for concentrate spraying (that is a sprayer which applies water volumes less than those required to reach the point of run-off) and matched to the crop being sprayed
- Set up and operate the sprayer to achieve even coverage throughout the crop canopy using your chosen volume.
- Determine the appropriate dilute spray volume (see Dilute Spraying above) for the crop canopy. This is needed to calculate the concentrate mixing rate.
- The mixing rate for concentrate can then be calculated in the following way:

# **Example Only**

- 1. Dilute spray volume as determined above: For example 1,500L/ha.
- 2. Your chosen spray volume: For example 500L/ha.
- 3. The concentrate factor in this example is:
  - $3 \times (i.e. 1,500L \text{ divided by } 500L = 3)$
- 4. If the dilute label rate is 10mL/100L, then the concentrate rate becomes 3 x 10, that is 30mL/100L of concentrate spraying.

- The chosen spray volume, amount of product per 100L of water, and the sprayer set up and operation may need to be changed as the crop grows.
- Do not use a concentrate rate higher than that specified in the Critical Comments.
- For further information on concentrate spraying, users are advised to consult relevant industry guidelines, undertake appropriate competency training and follow industry Best Practices.

# **APPLICATION (Cotton)**

Thorough coverage of cotton plants is essential to achieve maximum performance from IMIFORCE UTILITY Insecticide plus Gullf Ag Pulse Penetrant. Equipment should be calibrated to achieve a minimum of 60 droplets/cm² on the target foliage. A droplet Volume Median Diameter (VMD) for optimum performance from IMIFORCE UTILITY Insecticide plus Pulse is dependent on equipment and s defined below. Do not apply when unfavourable environmental conditions may reduce the quality of spray coverage.

# **Ground Application (Cotton)**

Application using ground equipment should be made using **hollow cone nozzles** with a **minimum spray volume of 100L/ha.** Hollow cone nozzles are recommended but if flat fan nozzles are used, higher water volumes will be required and nozzles should be configured to ensure thorough coverage. A droplet VMD of 150-180 microns must be used. Where multiple nozzles per row are used, they should be of the same specification to ensure that each nozzle contributes an equal proportion of the required dose. Where multiple nozzles per row are used (particularly for banded application) ensure the correct nozzle overlap pattern is achieved on the target foliage. **Banded applications less than 100% are not recommended beyond the 15-node stage.** 

# **Aerial Application (Cotton)**

Apply in a minimum spray volume of 25L/ha. A droplet VMD of 120-150 microns must be used. Do not exaggerate swath width or exceed a swath of 20 to 22 m. Do not apply IMIFORCE UTILITY Insecticide plus Pulse using Ultra Low Volume (ULV) methods. The use of large droplet placement equipment is not recommended.

# **EXPORT OF TREATED PRODUCE**

Growers' should note that MRLs or import tolerances do not exist in all markets for edible produce treated with IMIFORCE UTILITY Insecticide. If you are growing produce for export, please check with Sherwood Chemicals Australasia Pty Ltd for the latest information on MRLs and import tolerances before using IMIFORCE UTILITY Insecticide.

# **NOTE ON ORNAMENTALS**

IMIFORCE UTILITY Insecticide has been used on a wide range of ornamental plant species without damage. However, some species and varieties are particularly sensitive to chemical sprays and as this is often related to local conditions it is advisable to treat only a small number of plants first, in order to ascertain their reaction before treating the whole crop.

# **COMPATIBILITY**

IMIFORCE UTILITY Insecticide is compatible with propineb, bitertanol or methamidophos. Do not mix concentrates together but add each to the spray tank separately, As formulations of other manufactures' products are beyond the control of Sherwood Chemicals Australasia Pty Ltd, all mixtures should be tested prior to mixing commercial quantities. As changes in climatic conditions can alter the sensitivity of plants to mixtures of sprays, Sherwood Chemicals Australasia Pty Ltd cannot be responsible for the behaviour of such mixtures.

# PROTECTION OF LIVESTOCK

Dangerous to bees. DO NOT spray any plants in flower while bees are foraging. DO NOT graze any treated area, or cut for stock food. DO NOT feed produce harvested from treated area to animals, including poultry. DO NOT graze treated turf of feed turf clippings from any treated area to poultry or livestock.

# PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

DO NOT contaminate streams, rivers or waterways and drains with this chemical or used containers. A spray-drift minimisation strategy should be employed at all times when aerially applying sprays. The strategy envisaged is exemplified by the cotton industry's Best Management Practices Manual.

### STORAGE & DISPOSAL

Store in the closed, original containers in a cool, well-ventilated area. Do not store for prolonged periods in direct sunlight.

Triple or preferably pressure rinse containers before disposal. Add rinsing to spray tank. DO NOT dispose of undiluted chemicals on site.

If recycling, replace cap and return clean containers to recycler of designated collection point. If not recycling, break, crush, or puncture and deliver empty packaging for appropriate disposal to an approved waste management facility. If an approved waste management facility is not available bury the empty packaging 500mm 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

# **SAFETY DIRECTIONS**

Harmful if swallowed. May irritate the eyes and skin. Repeated exposure may cause allergic disorders. Avoid contact with eyes and skin. When using the product, wear cotton overalls buttoned to the neck and wrist and a washable hat and elbow-length PVC gloves. If clothing becomes contaminated with product or wet with spray, remove clothing immediately. If product or spray on skin, immediately wash area with soap and water. Wash hands after use.

After each day's use, wash gloves and contaminated clothing.

#### **FIRST AID**

If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 13 11 26.

### **MATERIAL SAFETY DATA SHEET**

For further information, refer to the Material Safety Data Sheet (MSDS), which is available from the supplier or from our web site, <a href="https://www.sherwoodchemicals.com.au">www.sherwoodchemicals.com.au</a>

### **NOTICE TO BUYER**

Sherwood Chemicals Australasia Pty Ltd (Sherwood Chemicals) warrants that this product conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with the Directions for Use under normal conditions of use. No warranty of merchantability or fitness for a particular purpose, express of implied, extends to the use of the product contrary to label instructions or under off-label permits not endorsed by Sherwood Chemicals, or under abnormal conditions.