

**CAUTION**

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

**SureFire**

**ENSIGN 100\***

**INSECT GROWTH REGULATOR**

**ACTIVE CONSTITUENT: 100 g/L PYRIPROXYFEN**

**SOLVENT: 450 g/L LIQUID HYDROCARBONS**

**GROUP 7C INSECTICIDE**

For the control of silverleaf whitefly (*Bemisia tabaci* Biotype B) in cotton, rockmelon and capsicum, the control of silverleaf whitefly (*Bemisia tabaci* Biotype B) and greenhouse whitefly in tomatoes, and the control of various scale in citrus, mangoes and olives.

**IMPORTANT: READ THIS BOOKLET BEFORE USE**



**HOLDINGS PTY LTD**

APVMA Approval No: 86921/117061

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(PCT Holdings Pty Ltd ABN 11 099 023 962)

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CUSTOMER SERVICE FREECALL 1800 630 877 EMERGENCY RESPONSE (ALL HOURS) FREECALL 1800 630 877

## DIRECTIONS FOR USE RESTRAINTS

DO NOT apply if rain is forecast within 48 hours.

DO NOT apply to soils where surface water is evident.

DO NOT apply Surefire Ensign more than twice per growing season. Surefire Ensign should be alternated with other suitable products, the choice of which will depend on the need to maintain beneficial insects in the field or orchard.

CROP	INSECT	RATE	CRITICAL COMMENTS
Cotton	Silverleaf whitefly ( <i>Bemisia tabaci</i> Biotype B)	500 mL/ha	<p><b>Ensure thorough coverage (See APPLICATION).</b> Apply when industry recommended thresholds of silverleaf whitefly (SLW) are exceeded. If a second spray is required, a minimum re-treatment interval of two weeks must be observed. DO NOT apply more than twice in any one season. Apply as per current Cotton Industry Insecticide Resistance Management Strategy.</p> <p><b>Ensure thorough coverage (See APPLICATION).</b> Apply in 100 – 150 L water per hectare. Use high water volume 500 – 1000 L/ha for dense crops. If applying more than 1000 L/ha use a rate of 50 mL/100 L water. Apply at first appearance of whitefly. If a second spray is required, a minimum re-treatment interval of two weeks must be observed. DO NOT apply more than twice in any one season. To avoid the resistance build-up, the product must be rotated with other approved products. Apply in accordance with the SLW Resistance Management Strategy.</p>
Rockmelon, Tomato, Capsicum (field and greenhouse)	Silverleaf whitefly ( <i>Bemisia tabaci</i> Biotype B) Greenhouse whitefly ( <i>Trialeurodes vaporariorum</i> )		
Citrus	Red scale ( <i>Aonidiella aurantii</i> ) Black scale ( <i>Saissetia oleae</i> )	50 mL/100 L water	<p><b>Ensure thorough coverage (See APPLICATION).</b> <b>Red scale:</b> Apply at the time of crawler release. There are usually multiple periods of crawler release from spring through to autumn. Ideally Surefire Ensign should be applied to control the first generation but if the infestation persists and there is significant crawler release later in the season then Surefire Ensign can be applied again. DO NOT apply more than twice in any one season on tree crops.</p> <p><b>Black scale:</b> Apply at the time of crawler release which is usually December to January but also may occur in autumn. DO NOT apply more than twice in any one season.</p> <p><b>Mango scale:</b> Apply at the time of crawler release. There are usually multiple periods of crawler release from spring through to autumn. Ideally Surefire Ensign should be applied to control the first generation but if the infestation persists and there is significant crawler release later in the season then Surefire Ensign can be applied again. DO NOT apply more than twice in any one season.</p> <p><b>Pink wax scale:</b> Apply at the time of crawler release in early spring to early summer. There are usually two periods of crawler release in Queensland, with crawlers of the second generation emerging in mid summer to mid autumn. Ideally Surefire Ensign should be applied to control the first generation but if the infestation persists and there is significant second generation crawler release then Surefire Ensign can be applied again. DO NOT apply more than twice in any one season.</p>
Mango	Mango scale ( <i>Aulacaspis tubercularis</i> ) Pink wax scale ( <i>Ceroplastes rubens</i> )		
Olives	Black scale		

**SAFETY DIRECTIONS**

Harmful if inhaled or swallowed. Will irritate the eyes and skin. Avoid contact with eyes and skin. Do not inhale vapour. When opening the container and preparing spray, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing) and a washable hat, elbow-length nitrile or PVC gloves, goggles, half facepiece respirator with organic vapour cartridge or canister. If product is on skin, immediately wash area with soap and water. If product is in eyes, wash it out immediately with water. After each day's use, wash gloves, goggles and respirator and if rubber wash with detergent and warm water.

**FIRST AID**

If poisoning occurs contact a doctor or Poisons Information Centre. Phone Australia 13 11 26, New Zealand 0800 764 766. If swallowed, do NOT induce vomiting.

**SAFETY DATA SHEET**

Additional information is listed on the Safety Data Sheet which is available from PCT Holdings Pty Ltd on request. Call Customer Service Toll Free on 1800 630 877 or visit our web site at <http://pctrural.com.au>

**MANUFACTURER'S WARRANTY AND EXCLUSION OF LIABILITY**

This product must be used strictly as directed, and in accordance with all instructions appearing on the label. PCT Holdings Pty Ltd accepts no liability or responsibility for loss or damage arising from incorrect storage, handling or use.

Surefire Ensign is a trademark of PCT Holdings Pty Ltd.

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

**WITHHOLDING PERIODS:**

**COTTON: DO NOT HARVEST FOR 28 DAYS AFTER APPLICATION.**

**DO NOT GRAZE TREATED CROP OR CUT FOR STOCK FEED.**

**DO NOT FEED TREATED COTTON TRASH TO LIVESTOCK.**

**ROCKMELON, TOMATO**

**AND CAPSICUM:**

**DO NOT HARVEST FOR 1 DAY AFTER APPLICATION.**

**DO NOT GRAZE TREATED CROP FOR STOCKFEED.**

**CITRUS: DO NOT HARVEST FOR 7 DAYS AFTER APPLICATION.**

**OLIVES: DO NOT HARVEST FOR 7 DAYS AFTER APPLICATION.**

**DO NOT FEED TREATED OLIVE CROPS OR BY-PRODUCTS OF TREATED CROPS (E.G. OLIVE POMACE) TO LIVESTOCK.**

**MANGOES: DO NOT HARVEST FOR 4 WEEKS AFTER APPLICATION.**

**TRADE ADVICE INFORMATION:**

Treated citrus fruit, mangoes, melons, tomatoes and olives destined for export may require extra time being allowed between application and harvest, to be accepted in some export markets. Before you use this product, you are advised to contact PCT Holdings Pty Ltd and/or your industry body about any potential trade issues and their management.

## GENERAL INSTRUCTIONS

Surefire Ensign acts by suppressing embryogenesis with the insect egg and by inhibiting metamorphosis and adult emergence of target insects. Surefire Ensign has no activity on adult insects, but hatching of eggs laid by treated adults will be suppressed. Since activity depends on the insect's development, evidence of activity will be slower than typical contact insecticides.

## MIXING

Measure the required amount of Surefire Ensign, add to the spray tank partly filled with water and then add the remainder of the water.

## APPLICATION

### COTTON:

Ensure thorough coverage. Apply in 100 – 150 L water/ha (ground rig boom spray) OR 20 – 30 L water/ha (aerial). Ground application must be first option undertaken. Aerial application may only be applied in cases where canopy closure prevents ground access. Apply when industry recommended thresholds of silverleaf whitefly (SLW) are exceeded. DO NOT apply more than two applications per crop. DO NOT apply consecutive applications, apply the product as part of a SLW management strategy with other approved chemistry for SLW in particular a non Insect Growth Regulator (IGR) product. The minimum Surefire Ensign re-treatment interval permitted between the first and second Surefire Ensign spray is 14 days. A strategy to minimize spray drift should be employed at all times when aerially applying sprays to, or near, sensitive areas. Such a strategy is illustrated by the cotton industry's Best Management Practice Manual.

### ROCKMELON, TOMATO AND CAPSICUM:

Ensure thorough coverage. Apply by foliar spray with ground rig in 100 – 150 L water per hectare. Use high water volume 500 – 1000 L/ha for dense crops. If applying more than 1000 L/ha use a rate of 50 mL/100 L water. Apply when whiteflies first appear. DO NOT apply more than two applications per crop. DO NOT apply consecutive applications, apply the product as part of a SLW management strategy with other approved chemistry for SLW in particular a non Insect Growth Regulator (IGR) product. The minimum re-treatment interval permitted between the first and second Surefire Ensign spray is 14 days. Apply in accordance with the SLW Resistance Management Strategy.

### CITRUS, MANGOES AND OLIVES:

It is essential to apply in sufficient water to ensure thorough coverage. For young trees this will be approximately 1000 L/ha. DO NOT apply less than 1000 L/ha to bearing trees.

## INSECTICIDE RESISTANCE WARNING

GROUP	7C	INSECTICIDE
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For insecticide resistance management Surefire Ensign 100 Insect Growth Regulator is a Group 7C insecticide. Some naturally occurring insect biotypes resistant to Surefire Ensign and other Group 7C insecticides may exist through normal genetic variability in any insect population. The resistant individuals can eventually dominate the insect population if Surefire Ensign or other Group 7C insecticides are used repeatedly. The effectiveness of Surefire Ensign on resistant individuals could be significantly reduced. Since the occurrence of resistant individuals is difficult to detect prior to use, PCT Holdings Pty Ltd accepts no liability for any losses that may result from the failure of Surefire Ensign to control resistant insects. Surefire Ensign may be subject to specific resistance strategies. For further information contact your local supplier, PCT Holdings Pty Ltd representative or local department of agriculture agronomist. To ensure Surefire Ensign remains effective DO NOT use more than twice per season.

## RE-ENTRY PERIOD

DO NOT allow re-entry into treated areas until the spray has dried unless wearing cotton overalls buttoned to the neck and wrist (or equivalent clothing) and chemical resistant gloves. Clothing must be laundered after each day's use.

## PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

Very highly toxic to aquatic organisms. DO NOT contaminate streams, rivers, waterways or dams with the chemical or used container. DO NOT apply if waterbodies, watercourses or wetlands are within 50 m downwind of the application area for tree crops when applied by ground equipment. DO NOT apply under weather conditions, or from spraying equipment, that may cause off-target spray drift, particularly to wetlands, waterbodies or watercourses. DO NOT spray across open bodies of water. DO NOT apply by air to crops other than cotton. DO NOT apply if waterbodies, watercourses or wetlands are within 200 m downwind of the application area for cotton where applied aerially. For aerial application ensure a spray with a droplet size distribution of ASAE Fine (VMD 179 µm) or larger is used. A strategy to minimise spray drift should be employed at all times when aerially applying sprays to, or near, sensitive areas. Such a strategy is illustrated by the cotton industry's Best Management Practice Manual.

## STORAGE AND DISPOSAL

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

### Refillable containers

Empty contents fully into application equipment. Close all valves and return to designated collection point for refill or storage.