

POISON

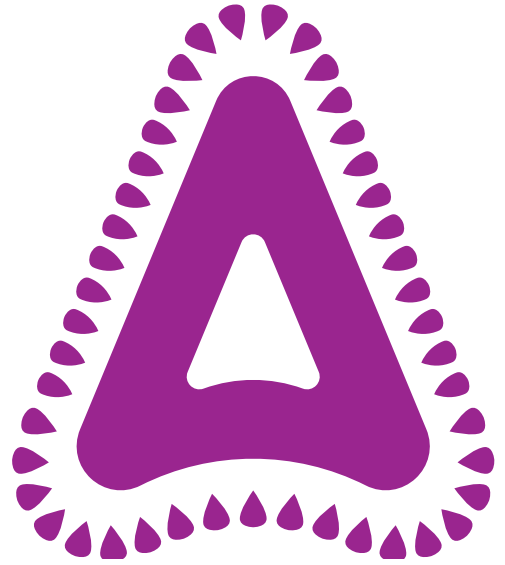
KEEP OUT OF REACH OF CHILDREN
READ SAFETY DIRECTIONS BEFORE OPENING OR USING

Sorcerer® 18 Insecticide

ACTIVE CONSTITUENT: 18 g/L ABAMECTIN
SOLVENTS: 265 g/L N-METHYL-2-PYRROLIDONE
58 g/L LIQUID HYDROCARBON

GROUP 6 INSECTICIDE

For the control of certain mites and insect pests on apples, capsicums, citrus, hops, ornamentals, pears, tomatoes and strawberries as specified in the Directions for Use table.



ADAMA
ESSENTIALS

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CONTENTS: 500 mL, 1 L, 5 L, 10 L, 20 L

DIRECTIONS FOR USE

RESTRAINTS: DO NOT use if rainfall is expected before spray has dried as reduced efficacy may result.

SITUATION	PEST	RATE	WHP (days)	CRITICAL COMMENTS
Apples, Pears	Two Spotted Mite (<i>Tetranychus urticae</i>), European Red Mite (<i>Panonychus ulmi</i>)	750 mL/ha plus 5 L/ha summer oil (See General Instructions for mixing rates)	14	For best results, apply the product using dilute applications (spraying to point of run-off). If applying with concentrate applications-efficacy may be compromised. DO NOT apply at more than two times concentrate (ie. half the dilute water volume). Apply the same total amount of SORCERER 18 to the target crop whether applying SORCERER 18 by dilute or concentrate spraying methods. Use a high quality summer spraying oil only and follow label instructions. In apples, apply SORCERER 18 from 2 to 6 weeks after petal fall if monitoring shows high numbers of over-wintering European red mite eggs are present, or if mites are a problem early in the season. In pears, timing is not as critical and the application should be made soon after mite numbers have reached the threshold for your area. Generally SORCERER 18 takes about 7 days to reach maximum mite control. SORCERER 18 will control moderate to high mite populations, but in the absence of predatory mites (see Integrated Pest Control below), retreatment with another miticide may be necessary. If retreatment is required, use an approved miticide from a different chemical group. Refer to notes on Resistance and Crop Safety under General Instructions section of this label. Integrated Pest Control: The effects of SORCERER 18 on parasitic wasps and other beneficial insects in Australian orchards are not fully known. Studies have shown that after application of SORCERER 18, predatory mite populations may not increase for a number of weeks, due to a lack of suitable pest mite prey. Predatory mite numbers will increase with any increase in pest mite numbers allowing the continuation of biological mite control. DO NOT use in IPM programmes unless the pest mite threshold has been reached and predators are unlikely to achieve effective control.

SITUATION	PEST	RATE	WHP (days)	CRITICAL COMMENTS
Capsicums	Two Spotted Mite (<i>Tetranychus urticae</i>)	300 mL/ha	3	Thorough coverage and penetration into the plant canopy is essential. Preferably apply before the build-up of mite numbers. Re-apply as pest numbers indicate. Alternate with other chemical groups. Allow at least 28 days between applications with SORCERER 18 and DO NOT use more than 2 sprays of SORCERER 18 per crop. Refer to notes on resistance under General Instructions section of this label.
Citrus	Brown Citrus Rust Mite (<i>Tegolophus australis</i>), Citrus Rust Mite (<i>Phyllocoptera oleivora</i>), Broad Mite (<i>Polythogotar sonemus latus</i>)	Dilute Spraying: 15-25 mL /100 L plus 250 mL/100 L summer oil. Concentrate Spraying: Refer to Application Instructions.	7	Apply by dilute spraying equipment in 3000 L to 6000 L water/ha. Apply the same total amount of product to the target crop whether applying this product by dilute or concentrate spraying methods. Use the higher rate under conditions of high pest pressure. Make no more than one application per season.
Hops	Two Spotted Mite (<i>Tetranychus urticae</i>)	1 L/ha	28	Apply as pest pressure indicates as a dilute spray in 1000 to 2000 L water/ha depending on crop size. Make no more than one application per season.
Strawberries	Two Spotted Mite (<i>Tetranychus urticae</i>)	100 mL/100 L If spray volume is less than 600 L/ha, use a minimum of 600 mL SORCERER 18/ha DO NOT exceed 1200 mL SORCERER 18/ha per application	3	Spray to wet foliage to near the point of run-off. Thorough coverage and penetration into plants is essential. Preferably apply on first appearance of mites. When applied early, one application may be sufficient to give effective control however, if mite numbers exceed 3-5 mites per leaflet, apply two applications spaced 7-10 days apart. Re-apply as pest numbers indicate to a maximum of 2 sprays of SORCERER 18 per season. If retreatment is required after 2 consecutive sprays with SORCERER 18, use an approved miticide from a different chemical group. Integrated Pest Control: see comments in the apple and pear section. Refer to notes on Resistance under General Instruction section of this label.
Tomatoes - Field grown (not trellised)	Two Spotted Mite (<i>Tetranychus urticae</i>)	300-450 mL/ha		Apply in sufficient volume to obtain even coverage and penetration of plants. Use droppers to direct spray onto plants and away from the inter-row. Preferably apply before the build-up of mite numbers. If mite numbers exceed 5 mites per compound leaf, use the higher rate. Re-apply as pest numbers indicate. Allow at least 28 days between applications with SORCERER 18 and DO NOT use more than 2 sprays of SORCERER 18 per crop. Refer to notes on Resistance under General Instructions section of this label.
	Tomato Russet Mite (<i>Aculops lycopersici</i>)			Apply as for Two Spotted Mite. The lower rate will control Tomato Russet Mite not apparent at spraying. Use the higher rate when Tomato Russet Mite is present at spraying or is the main pest.
	Tobacco Leafminer (Potato moth) (<i>Phthorimaea operculella</i>)	600 mL/ha		Apply in sufficient volume to obtain even coverage and penetration of plants. Use droppers to direct spray onto plants away from the inter-row. Apply on the first sign of pests. Re-apply as pest numbers indicate or every 7-10 days with a maximum of 5 applications to the crop. If mites are also a problem DO NOT use more than 2 sprays of SORCERER 18 per crop. Refer to notes on Resistance under General Instructions section of this label. Note: Other IPM strategies to reduce leafminer populations should be employed.
Tomatoes - Trellised or Staked Tomatoes	Two Spotted Mite (<i>Tetranychus urticae</i>)	High volume spraying: 300 mL-450 mL SORCERER 18/ha using concentrations of 60-90 mL/100 L	3	Wet foliage to near the point of run-off. Thorough coverage and penetration into bushes is essential. Preferably apply before the build-up of mite numbers. If mite numbers exceed 5-6 mites per compound leaf, use the higher rate. Re-apply as pest numbers indicate. Allow at least 28 days between applications with SORCERER 18 and do not use more than 2 sprays of SORCERER 18 per crop. Refer to notes on resistance under General Instructions section of this label.
	Tomato Russet Mite (<i>Aculops lycopersici</i>)			Apply as for Two Spotted Mite. The lower rate will control Tomato Russet Mite not apparent at spraying. Use the higher rate when Tomato Russet Mite is present at spraying or is the main pest.
	Tobacco Leafminer (Potato moth) (<i>Phthorimaea operculella</i>)	High volume spraying: 600 mL SORCERER 18/ha using concentrations of 120 mL/100 L		Wet foliage to near the point of run-off. Thorough coverage and penetration into bushes is essential. Apply on the first sign of pests. Re-apply as pest numbers indicate or every 7-10 days with a maximum of 5 applications to the crop. If mites are also a problem DO NOT use more than 2 sprays of SORCERER 18 per crop. Refer to notes on Resistance under General Instructions section of this label. Note: Other IPM strategies to reduce leafminer populations should be employed.

SITUATION	PEST	RATE	WHP (days)	CRITICAL COMMENTS
Ornamentals including Roses, Chrysanthemums, Carnations and Indoor Foliage Plants	Two Spotted Mite (<i>Tetranychus urticae</i>)	50 mL/100 L to a maximum of 1.5 L SORCERER 18/ ha per application	Not required	Spray to wet foliage to near the point of run-off using at least 2,000 litres per hectare (100 litres per 500 square metres). Thorough coverage and penetration into plants is essential. Preferably apply on first appearance of mites. If applied when pest numbers are low to moderate, one application will be sufficient to give effective control, however if mites are numerous, apply a second application 7-10 days later. DO NOT use overhead irrigation within 24 hours after application. DO NOT use on Ferns and Shasta. For ornamentals not listed on the label, small test applications to assess for unexpected phytotoxicity should be made before spraying the whole crop. DO NOT use more than 2 times per season. Refer to notes on Resistance under GENERAL INSTRUCTIONS section of this label.

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

WITHHOLDING PERIOD:

APPLES AND PEARS:

DO NOT HARVEST FOR 14 DAYS AFTER APPLICATION.

DO NOT FEED TREATED PRODUCE TO LIVESTOCK FOR 14 DAYS AFTER APPLICATION.

CITRUS:

DO NOT HARVEST FOR 7 DAYS AFTER APPLICATION.

HOPS:

DO NOT HARVEST, GRAZE OR CUT FOR STOCKFOOD FOR 4 WEEKS AFTER APPLICATION.

CAPSICUMS, STRAWBERRIES AND TOMATOES:

DO NOT HARVEST FOR 3 DAYS AFTER APPLICATION.

DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 3 DAYS AFTER APPLICATION.

ORNAMENTALS:

NOT REQUIRED WHEN USED AS DIRECTED.

DO NOT GRAZE OR CUT FOR STOCK FOOD.

GENERAL INSTRUCTIONS

SORCERER® 18 is an insecticide and acaricide with contact and stomach action. SORCERER 18 has limited plant systemic activity but exhibits translaminar movement. Good spray coverage is essential. SORCERER 18 is translocated into leaves and remains for several weeks offering limited residual control of sucking mites.

MIXING

Measure the required amount of SORCERER 18, add to the partly filled spray tank and then add the remainder of the water. Wetting agent is not required.

Mixing Instructions

For Apple and Pear Applications: SORCERER is not systemic making good coverage essential. To achieve 750 mL SORCERER 18 + 5 L summer oil/ha apply spray at the following mixing rates:

	SORCERER 18 (Rate/100 L required)	Summer Oil (Rate/100 L required)
1000 L/ha (minimum)	75 mL	500 mL
1500 L/ha	50 mL	335 mL
2000 L/ha	37.5 mL	250 mL
2500 L/ha	30 mL	200 mL

Crop Safety: SORCERER 18 plus summer oil has very occasionally caused slight fruit russetting on some pear varieties particularly ANJOU and other sensitive varieties when used alone or when other products are applied sequentially. A very small amount of temporary apple fruit blemishing has been associated with low water volume applications. The Directions for Use and Precautions on summer oil labels should be followed carefully. Certain conditions may play a part in the occurrence of this damage. DO NOT make applications (1) when unusually hot conditions are present or expected within 24 hours after application, (2) under poor or slow drying conditions or (3) with equipment that may leave large droplets on fruit after application. SORCERER 18 plus summer oil has caused more severe fruit russetting on sensitive apple varieties. DO NOT apply SORCERER 18 to apples or pears before or after applications of Delan* or Captan*.

For Citrus Applications: To be effective SORCERER 18 requires thorough spray coverage. Ensure that equipment is properly calibrated to give an even distribution at the correct volume. The same quantity of SORCERER 18 per hectare should be used when spraying either the dilute or concentrate method.

Dilute Spraying

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 SORCERER 18 specified in the Directions for Use table for each 100 L 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

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 water volume. Determine an 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 spraying can then be calculated in the following way:

EXAMPLE ONLY

1. Dilute spray volume as determined above: for example 1500 L/ha
2. Your chosen concentrate spray volume: for example 500 L/ha
3. The concentrate factor in this example is 3 X (ie. $1500 \text{ L} \div 500 \text{ L} = 3$)
4. If the dilute label rate is 125 mL/100 L, then the concentrate rate becomes 3 x 125, that is 375 mL/100 L of concentrate spray.

The chosen spray volume, amount of product per 100 L of water, and the sprayer set and operation may need to be changed as the crop grows. For further information of concentrate spraying, users are advised to consult relevant industry guidelines, undertake appropriate competency training and follow industry Best Practices.

COMPATIBILITY

SORCERER 18 is compatible with Caltex Summer Spray Oil, BP Summer Spray Oil, Codacide and with most commonly used insecticides and fungicides. However, as formulations of other manufacturer's products are beyond the control of Adama, all mixtures should be tested prior to mixing commercial quantities.

INSECTICIDE RESISTANCE WARNING

For insecticide resistance management SORCERER® 18 is a Group 6 insecticide.

GROUP 6 INSECTICIDE

Some naturally occurring insect biotypes resistant to SORCERER 18 and other Group 6 insecticides may exist through normal genetic variability in any insect population. The resistant individuals can eventually dominate the insect population if SORCERER 18 or other Group 6 insecticides are used repeatedly. The effectiveness of SORCERER 18 on resistant individuals could be significantly reduced.

Since the occurrence of resistant insects is difficult to detect prior to use, Adama Australia Pty. Ltd. accepts no liability for any losses that may result from the failure of SORCERER 18 to control resistant insects. SORCERER 18 may be subject to specific resistance management strategies. For further information contact your local supplier, Adama representative or local agricultural department agronomist.

RESISTANCE

Experience has shown that repeated use of one particular miticide or miticides from the same chemical group can lead to the early development of mite resistance to that miticide or chemical group. Therefore SORCERER 18 should not be applied more than the following number of times per season/crop:

Apples/Pears, Citrus, Hops: One spray per season
Tomatoes: Two sprays per crop if mites are present,
five sprays if mites are not present

Capsicums, Strawberries: Two sprays per season

In addition, SORCERER 18 should not be applied in two consecutive seasons without an unrelated chemical being used in between. Alternate SORCERER 18 with approved miticides from other chemical groups. Consult your chemical supplier or technical consultant for advice on chemical groups.

PRECAUTION

RE-ENTRY PERIOD

Under field conditions the spray should be allowed to dry on the foliage before re-entry into treated areas.

DO NOT allow entry into treated areas in glasshouses for 24 hours after treatment. When prior entry is necessary, wear cotton overalls buttoned to the neck and wrist and elbow-length PVC gloves.

CROP MONITORING

Effective mite control depends upon regular monitoring of crops. Check crops regularly (every 3-5 days) during the season.

PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

DO NOT apply under weather conditions or from spraying equipment that may cause spray to drift from the target area. Dangerous to fish and other water-borne organisms. DO NOT contaminate streams, rivers or waterways with the chemical or used containers. Dangerous to bees. DO NOT spray any plants in flower while bees are foraging. Studies indicate that when abamectin comes into contact with soil it readily and tightly binds to the soil and becomes inactive over time.

STORAGE AND DISPOSAL

Store in the closed, original container in a dry, cool, well-ventilated area. DO NOT store for prolonged periods in direct sunlight. DO NOT use this container for any other purpose. Triple or preferably pressure 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 bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.

SAFETY DIRECTIONS

Poisonous if absorbed by skin contact or swallowed. Will damage eyes. Will irritate the skin. Avoid contact with eyes and skin. DO NOT inhale spray mist. When opening the container, preparing spray and using prepared spray, wear cotton overalls buttoned to the neck and wrist and a washable hat, elbow-length PVC gloves and goggles. For space applications wear cotton overalls buttoned to the neck and wrist and a washable hat, elbow length PVC gloves, goggles, half face-piece respirator with dust cartridge or canister. If product in eyes, wash it out immediately with water. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves, goggles, respirator and if rubber wash with detergent and warm water and contaminated clothing.

FIRST AID

If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 131126. If swallowed, DO NOT induce vomiting. Give a glass of water. **If skin contact occurs**, remove contaminated clothing and wash skin thoroughly. **If in eyes hold eyes open**, flood with water for at least 15 minutes and see a doctor.

MATERIAL SAFETY DATA SHEET

Additional information is listed in the material safety data sheet (MSDS). A material safety data sheet for SORCERER 18 is available from Adama on request. Call Customer Service on (02) 9431 7800.

CONDITIONS OF SALE: The use of SORCERER® 18 Insecticide being beyond the control of the manufacturer, no warranty expressed or implied is given by Adama Australia Pty. Ltd. regarding its suitability, fitness or efficiency for any purpose for which it is used by the buyer, whether in accordance with the directions or not and Adama Australia Pty. Ltd. accepts no responsibility for any consequence whatsoever resulting from the use of this product.

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UN No. 2902
PESTICIDES, LIQUID, TOXIC, N.O.S.
(CONTAINS ABAMECTIN)
PACKING GROUP: III
HAZCHEM CODE: 2XE



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Batch No.

Date of Manufacture