

Read the label before opening the container.

For full particulars, see enclosed leaflet.

KEEP OUT OF REACH OF CHILDREN AND ANIMALS

ABAMEC PLUS™

South Africa Reg. No: L5888 Act No. 36 of 1947

IRAC INSECTICIDE GROUP CODE: 6

An emulsifiable concentrate translaminar insecticide/acaricide acting as a stomach and direct contact pesticide for the control of thrips, leaf miners and mites on crops as listed.

ACTIVE INGREDIENT:

Abamectin (avermectin) 18g/l

Product Information: 072 678 8226
In case of poisoning: 082 446 8946

HAZARD STATEMENTS

- Harmful if swallowed.
- May be fatal if swallowed and enters airways.
- Causes skin irritation.
- Causes serious eye damage.
- May cause respiratory irritation.
- May cause drowsiness or dizziness.
- May cause damage to organs through prolonged and repeated exposure.
- Suspected of damaging unborn child.
- Extremely flammable liquid and vapour.
- Very toxic to aquatic life with long lasting effects.



PRECAUTIONARY STATEMENTS

- Wash hands, forearms and face thoroughly after handling.
- Use only outdoors or in a well-ventilated area.

enviro™
— bio-chem

Registration holder: RT Chemicals C.C.

Co. Reg. No: CK87/21925/23

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Expiry Date:

Batch No:

Date of Manufacture:

UN No. 2903

WARNINGS:

- Allow the following number of days between last application and harvesting:

Cotton	21 days	Pears	7 days
Apples	14 days	Strawberries	3 days
Tomatoes	3 days	Citrus	7 days
Potatoes	14 days	Tuber vegetables	14 days
Avocados	14 days	Tree nuts	14 days
Stone fruit	21 days	Onions	30 days
Maize	Refer below to Warnings		

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- May be fatal if swallowed and enters airways.
- Causes skin irritation.
- Causes serious eye damage.
- May cause respiratory irritation.
- May cause drowsiness or dizziness.
- May cause damage to organs through prolonged and repeated exposure.
- Suspected of damaging unborn child.
- Extremely flammable liquid and vapour.
- Do not allow animals to feed on treated foliage.
- Do not allow animals to graze or feed on maize before grain.
- Very toxic to aquatic life with long lasting effects.
- Toxic to bees when exposed to direct spray contact – do not spray during high bee activity.
- Do not allow animals to feed on treated foliage.
- Re-entry: Do not enter treated area within 2 days after treatment unless wearing protective clothing.
- Unprotected workers must vacate the area before it is treated.
- Do not use in orchards interplanted with other crops.
- Store under lock and key in a cool place, away from food, feedstuffs and seed.
- **FLAMMABLE** – do not store or handle ABAMEC PLUS™ near heat or open flame.
- Keep out of reach of children, uninformed persons and animals.
- In case of poisoning call a doctor and make this label available to him.
- Aerial application: Notify all inhabitants in the area to be sprayed and issue the necessary warnings.

Although this remedy has been extensively tested under a large variety of conditions the registration holder does not warrant that it will be efficacious under all conditions because the action and effect thereof may be affected by factors such as abnormal soil, climatic and storage conditions; quality of dilution water, compatibility with other substances not indicated on the label and the occurrence of resistance of the pest to the remedy concerned as well as by the method, time and accuracy of application. The registration holder further does not accept responsibility for damage to crops, vegetation, the environment or harm to man or animal or for lack of performance of the remedy concerned due to failure of the user to follow the label instructions or to the occurrence of conditions which could not have been foreseen in terms of the registration. Consult the supplier in event of any uncertainty.

PRECAUTIONS:

- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Wash hands, forearms, and face thoroughly after handling
- Avoid breathing dust/fumes and mist spray.

- If exposed: Call a POISON CENTER or doctor/physician.
- Do not eat, drink, or smoke when using this product.
- Use only outdoors or in a well-ventilated area.
- Avoid release to the environment.
- Wash contaminated clothing daily.
- Prevent drift of spray mist onto other crops, grazing, rivers, dams or areas not under treatment.
- Clean spray equipment thoroughly after use and dispose of wash water where it will not contaminate crops, grazing, rivers or dams.
- Triple rinse empty container in the following manner: Invert the empty container over the spray or mixing tank and allow to drain for at least 30 seconds after the flow has slowed down to a drip. Thereafter, rinse the empty container three times with a volume of water equal to a minimum of 10% of that of the container. Add the rinsings to the content of the spray tank.
- Empty containers should be taken for local recycling or waste disposal.
- Do not re-use empty containers.
- Prevent contamination of food, feeds, eating utensils and drinking water.

RELEVANT SUBSTANCES:

Abamectin 1.8%

Butyl alcohol <70%

Surfactant 02024 <20%

Isopentane <25%

SYMPTOMS OF HUMAN POISONING:

Initially dilation of pupils, slow breathing and sedation. More severe poisoning may cause lethargy, muscle tremors and convulsions.

FIRST AID TREATMENT:

Remove patient from source of poisoning and keep him quiet and reassured.

IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician

IF ON SKIN: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

NOTE TO PHYSICIAN:

There is no known specific antidote for acute abamectin poisoning. Provide supportive treatment depending on symptomatology to maintain life functions.

RESISTANCE WARNING:

For resistance management, ABAMEC PLUS™ is a group code 6 insecticide. Any insect population may contain individuals naturally resistant to ABAMEC PLUS™ and other group code 6 insecticides. The resistant individuals can eventually dominate the insect population if these insecticides are used repeatedly. These resistant insects may not be controlled by ABAMEC PLUS™ or any other group code 6 insecticide.

To delay insecticide resistance:

- Avoid exclusive repeated use of insecticides from the same insecticide group code.
- Alternate or tank mix with products from different insecticide group codes.
- Integrate other control methods (chemical, cultural, biological) into insect control programmes.

For specific information on resistance management contact the registration holder of this product.

Abamectin and emamectin benzoate are IRAC mode of action group 6 insecticides. These active ingredients are registered for the control of pests on various crops, including tree nuts, citrus fruit, pome fruit, stone fruit, grapevine, and various vegetables. Although these active ingredients have the same mode of action, they target different pests whose life cycles often overlap. To delay the onset of resistance, these insecticides may not be applied within 30 days of each other. If an application of abamectin is made, an application of emamectin benzoate can only be made 30 days thereafter, and vice versa. This waiting period should be increased in the case of target insects with a longer lifecycle to ensure insects from consecutive generations are not exposed to the same mode of action group insecticide. Apply registered insecticides with a different mode of action within the 30-day period following an application or block applications of abamectin or emamectin benzoate. Always conform to all label recommendations and only use registered dosages.

AERIAL APPLICATION:

Aerial application of ABAMEC PLUS™ may only be done by a registered Aerial Application Operator using a correctly calibrated, registered aircraft according to the instructions of SANS 10118 (Aerial Application of Agricultural Pesticides). Ensure that the spray mixture is distributed evenly over the target area and that the loss of spray material during application is restricted to a minimum. It is therefore essential that the following criteria be met:

- Volume: A spray mixture volume of 30ℓ per hectare is recommended. As this product has not been evaluated at a reduced volume rate, the registration holder cannot guarantee efficacy, or be held responsible for any adverse effects if this product is applied aerially at a lower volume rate than recommended above.
- Droplet coverage: 30 to 40 droplets per cm² must be recovered at the target area.
- Droplet size: A droplet spectrum with a VMD of 250 to 280 microns is recommended. Limit the production of fine droplets less than 150 microns (high drift and evaporation potential) to a minimum.
- Flying height: Maintain the height of the spray boom at 3 to 4 metres above the target. Do not spray when aircraft dives, is in a climb or when banking.
- Use suitable atomising equipment that will produce the desired droplet size and coverage, but which will ensure the minimum loss of product. The spraying system must produce a droplet spectrum with the lowest possible Relative Span.
- Position all the atomisers within the inner 60 to 75% of the wingspan to prevent droplets from entering the wingtip vortices.
- The difference in temperature between the wet and dry bulb thermometers, of a whirling hygrometer, should not exceed 8°C.
- Stop spraying if the wind speed exceeds 15km/h.
- Stop spraying under turbulent, unstable and dry conditions during the heat of the day.
- Spraying under temperature inversion conditions (spraying in or above the inversion layer) and/or high humidity conditions (relative humidity 80% and above) may lead to the following:
 - reduced efficacy due to suspension and evaporation of small droplets in the air (inadequate coverage).
 - damage to other sensitive crops and/or non-target areas through drifting of the suspended spray cloud away from the target field.
- Ensure that the Aerial Spray Operator knows exactly which fields to spray.
- Obtain an assurance from the Aerial Spray Operator that the above requirements will be met and that relevant data will be compiled in a logbook and kept for future reference.

DIRECTIONS FOR USE: Use only as directed.

ABAMEC PLUS™ controls immature and adult mites, larval American leaf miner and thrips. It is slow acting and may require 3 to 5 days for mortality.

Do not apply more than:

- 2 consecutive sprays of ABAMEC PLUS™ to citrus or
- 3 sprays per season to cotton or

- 4 sprays of the recommended rate per season on apples and pears or
- 4 sprays per growing season on strawberries or
- 5 sprays per season on tomatoes.

Use suitable spray equipment correctly calibrated. Do not overspray.

ABAMEC PLUS™ can be used as a preventive and corrective treatment for spider mite control in cotton and tomatoes.

On apples and pears it is most suited for use in an Integrated Pest Management (IPM) programme.

NOTE: (i) At all recommended rates some mites will survive to encourage buildup of predatory mites.
(ii) Due to the inherent risk of resistance development to any product, it is strongly recommended that

ABAMEC PLUS™ be used in a sound resistance management programme that includes the use of products with a different mode of action and applications are made only when necessary and based on sound IPM programmes.

Compatibility:

ABAMEC PLUS™ must be mixed with a registered light mineral oil for use on apples and pears.

ABAMEC PLUS™ does not require the addition of surfactants/adjuvants to spray mixture.

NOTE: Since all combinations and sequences of sprays used have not been fully evaluated, it is recommended not to tank mix with ABAMEC PLUS™ until greater experience is gained.

General directions:

1. Cotton:

(i) Ground application: Apply up to 200ℓ spray mixture per hectare depending on plant size and equipment used.

(ii) Tramline application: Apply 50 to 100ℓ spray mixture per hectare depending on plant size. Position at least five

(5) hollow cone

nozzles of suitable size over the tramlines, one nozzle over each row, one between the two rows and two pointing at 45 degrees

upwards mounted on drop arms on the outside of each of the two rows.

(iii) Aerial application: Apply in 30ℓ water per hectare and cease when wind speed exceeds 15km per hour or wet and dry bulb

thermometer variance exceeds 8°C.

2. Tomatoes:

Use fine spray at high pressure and apply to the point of run off.

3. Apples and Pears:

Apply as a high volume, high pressure spray to the point of run off. Add 0.25% by volume light mineral oil in the diluted spray mixture.

Thorough coverage is essential.

4. Strawberries:

Apply a high volume high pressure cover spray. Thorough coverage of both the upper and undersides of leaves is required for control of red spider mite.

5. Citrus:

ABAMEC PLUS™ is most effective after ingestion (2 to 3 days after application) by pest. It should not be used for control of high numbers of citrus thrip (more than 40% fruit infestation) where a knockdown treatment is required.

Mixing instructions:

- Half fill the spray tank with clean water.

- Measure out the required quantity of ABAMEC PLUS™ and premix this with at least 10ℓ of clean water. If any other product is also to be added to the tank mixture, measure out the required amount and also premix it.
- Agitate the spray tank water and add the premixed product(s) to the tank.
- Fill the tank to the required volume with water and constantly agitate.
- Maintain agitation during spraying.
- Use prepared mixture immediately and do not allow to stand overnight.
- ABAMEC PLUS™ can be used with varying water pH's and hardness normally encountered in agricultural conditions.

CROP/PEST	DOSAGE	REMARKS
APPLES & PEARS Red Spider Mite (Tetranychus Urticae) & European Red Mite (Panonychus Ulmi)	35mℓ plus 250mℓ light mineral oil/100ℓ water (750 - 1 500mℓ/ha plus 0.25% light mineral oil)	Apply ABAMEC PLUS™ when red spider mite population reaches the economic threshold level and repeat when necessary. Apply a high volume full cover spray (2 150 to 4 300ℓ per hectare spray mixture) to the point of run off. If less than 2 150ℓ per hectare spray mixture is used, then use a minimum of 750mℓ ABAMEC PLUS™, plus 0.25% mineral oil per hectare in sufficient water and ensure good coverage. Do not exceed 1 500mℓ per hectare per application or 3 000mℓ ABAMEC PLUS™ per hectare in one growing season. Apples: Apply only to orchards where the IPM programme is not maintaining effective control of mites.
AVOCADOS Greenhouse Thrips (Heliothrips haemorrhoidalis) Red-banded Thrips (Selenothrips rubrocinctus)	746.7 – 1493.3 mℓ/ha + 1 % v/v spray oil	To avoid illegal residues ABAMEC PLUS™ must be mixed with 1.0% v/v of non-ionic activator type spray oil. For best results, apply ABAMEC PLUS™ when immature thrips are first observed but before numbers exceed 5 immature thrips per leaf/fruit. Apply 746.7 – 1120.0 mℓ/ha ABAMEC PLUS™ for low to moderate infestations and 1120.0 – 1493.3 mℓ/ha for severe infestations. Ground Application: If spray volume is more than 4000 ℓ/ha apply ABAMEC PLUS™ at a rate of 186.7 mℓ/ha per 1000 ℓ water plus 1.0% oil (not a dormant oil) approved for use on avocados. Do not apply in less than 1000 ℓ water. Aerial Application: Apply with 30 - 40 ℓ/ha water. For control of thrips, however, a ground application is more effective. Do not make more than 2 applications of ABAMEC PLUS™ per season and wait at least 30 days before repeating application. Do not use more than 1493.3 mℓ/ha for an application. Do not use more than 2986.7 mℓ/ha ABAMEC PLUS™ per growing season.
CITRUS Citrus thrips (Scirtothrips Aurantii)	10mℓ plus 300mℓ light or medium narrow range mineral oil/100ℓ water	Apply ABAMEC PLUS™ when thrip numbers start to increase. Apply as a light cover spray and avoid run off. Do not apply more than two consecutive applications or three times in one season. ABAMEC PLUS™ should be alternated with other registered thripcides to retard resistance development. Do not use when more than 40% fruit are infested.

COTTON Red Spider Mite (Tetranychus Urticae)		Can be used for preventive and/or corrective control. Ensure thorough coverage of plants and repeat application when necessary to keep red spider mite population below economic threshold level. Do not use less than 3mℓ ABAMEC PLUS™ per 100 metre row.
	300 - 600mℓ/ha	<u>Ground application:</u> Apply in 100 to 200ℓ water/ha. Do not use less than 300mℓ/ha ABAMEC PLUS™. <u>Aerial application:</u> Apply in 30ℓ water/ha and do not use less than 300mℓ/ha ABAMEC PLUS™.
COTTON Red Spider Mite (Tetranychus Urticae)	300mℓ/100ℓ water (3 - 6mℓ/100m row)	<u>Tramline application:</u> Apply 50 to 100ℓ/ha spray mixture to dryland cotton depending on plant size. Do not use less than 3mℓ/100 metre row. <u>Preventative control measure:</u> Apply at 300mℓ/ha ABAMEC PLUS™ when spider mite population shows a sudden weekly increase but before the economic threshold level is reached. (See 'Scouting Techniques'). <u>Corrective control measure:</u> Apply at 300mℓ/ha ABAMEC PLUS™ when the economic threshold if red spider mite population has been reached or exceeded for a given stage of the crop based on weekly scouting results. <u>Emergency control measures:</u> Apply 600mℓ/ha ABAMEC PLUS™ under conditions of very severe red spider mite infestation or when climatic conditions favour the rapid increase of red spider mite populations (very hot dry weather). NOTE: A 600mℓ/ha ABAMEC PLUS™ application near harvest may delay normal plant defoliation caused by the red spider mite.
MAIZE Red spider mite (tetranychus Urticae)	746.7 mℓ/ha + 100 mℓ/ha Non-ionic wetter / spreader / penetrant surfactant or 0.25% light or medium grade mineral oil	ABAMEC PLUS™ can be used preventively or correctively. Apply ABAMEC PLUS™ as a high-pressure, full cover spray to wet the underside of the leaves. Apply at first signs of infestation or as soon as the maize has canopied (approximately 5 weeks after emergence). Follow up at 10 days before tassel emergence (approximately 60 days after emergence). (Ground or aerial application is recommended and not centre pivot application).

ONIONS leafminers (Liriomyza spp.) Thrips (Thrips tabaci)	606.7 – 1213.3 mL/ha	To avoid illegal residues ABAMEC PLUS™ must be mixed with non-ionic activator type spray oil. Do not use any other type of adjuvants. Use 606.7 – 840.0 mL/ha ABAMEC PLUS™ for low to moderate infestations and 1213.3 mL/ha for severe infestations. Leafminers: Apply ABAMEC PLUS™ when adult flies are first observed. Thrips: Apply when thrips reach the economic threshold level. Do not use ABAMEC PLUS™ as a rescue treatment for thrips control. Aerial application: Apply with 30 - 40 l water/ha. Ground application: Do not apply with less than 200 l water/ha. Do not apply more than 1213.3 mL/ha ABAMEC PLUS™ per application. Do not make more than 2 sequential applications of ABAMEC PLUS™ or other similar product. Wait at least 7 days before repeating application. Do not apply more than 3500.0 mL/ha ABAMEC PLUS™ per growing season.
POTATOES Leafminer (Lyriomyza spp.)	500mL/ha PLUS 500mL medium grade mineral oil/ha OR 2L/ha light parafin oil	Apply ABAMEC PLUS™ 20 to 30 days after crop emergence, as high volume spray, using 600 litres spray mixture per hectare. A minimum of 300 litres spray mixture per hectare must be applied, to provide full cover spray. Thoroughly wet all foliage surfaces to run off point.
STONE FRUIT (Includes apricots, cherries, nectarines, peaches and plums) European Red Mite (Panonychus ulmi) Red Spider Mite (Tetranychus urticae)	606.7 – 1493.3 mL/ha + non-ionic activator type spray oil (0.25%)	To avoid illegal residues ABAMEC PLUS™ must be mixed with non-ionic activator type spray oil. Do not use any other type of adjuvants. Apply when mites first appear. Apply ABAMEC PLUS™ in combination with light mineral spray oil. ABAMEC PLUS™ has been tested in combination with a non-ionic surfactant for safety to stone fruit, but not on all stone fruit varieties and under different conditions that may cause crop injury. Therefore it is important to follow the Directions for use and Precautions on the non-ionic surfactant label. Do not apply ABAMEC PLUS™ with less than 375 l water/ha. Do not apply more than 1493.3 mL/ha ABAMEC PLUS™ per application. Do not make more than 2 sequential applications of ABAMEC PLUS™ or other similar product. If a second application is necessary for control, wait at least 21 days before the application is repeated. Do not apply more than 2986.7 mL/ha ABAMEC PLUS™ per growing season.
STRAWBERRIES Red Spider Mite (Tetranychus Urticae)	1 200mL/ha	Apply a high volume, high pressure, full cover spray at first signs of infestation. Apply initially 2 sprays 7 to 10 days apart and repeat if necessary. Use in a minimum of 500L water per hectare and ensure thorough coverage of all plant surfaces. Do not exceed 4 800mL ABAMEC PLUS™ per hectare per growing season.

TOMATOES Red Spider Mite (Tetranychus Urticae) & American Leaf Miner (Liriomyza Trifolii)	60mℓ/100ℓ water (300 - 1 200mℓ/ha)	Apply as a high volume, high pressure, full cover spray at first signs of infestation. Spray to point of run off using up to 2 000ℓ spray mixture per hectare. For young plants use a minimum of 300mℓ per hectare of ABAMEC PLUS™ in 500ℓ water. Spray volume to provide full cover spray to run-off point. Do not exceed 1 200mℓ ABAMEC PLUS™ per hectare. NOTE: For red spider mite - repeat application as necessary. For American leaf miner – repeat application every 7 days or as needed to maintain control.
TREE NUTS (Includes almonds, macadamias and pecans) European Red Mite (Panonychus ulmi) Red Spider Mite (Tetranychus urticae)	606.7 – 1493.3 mℓ/ha + light mineral spray oil (0.25%)	To avoid illegal residues ABAMEC PLUS™ must be mixed with non-ionic activator type spray oil. Do not use any other type of adjuvants. Apply ABAMEC PLUS™ when mites first appear. Do not apply with less than 375 ℓ water/ha. Do not apply more than 1493.3 mℓ/ha ABAMEC PLUS™ per application. If a second application is necessary wait at least 21 days before repeating application. Do not apply more than 2986.7 mℓ/ha ABAMEC PLUS™ per growing season.
TUBER VEGE-TABLES (Includes cassava, artichokes, ginger and sweet potato) Leafminers (Liriomyza spp.) Red Spider Mite (Tetranychus urticae)	606.7 – 1213.3 mℓ/ha	To avoid illegal residues ABAMEC PLUS™ must be mixed with non-ionic activator type spray oil. Do not use any other type of adjuvants. Use 606.7 – 840.0 mℓ/ha ABAMEC PLUS™ for low to moderate infestations and 1213.3 mℓ/ha for severe infestations. Leafminers: Apply ABAMEC PLUS™ when adult flies are first observed. Red Spider Mites: Apply ABAMEC PLUS™ when mites first appear. Insect and spider mite control can be reduced if ABAMEC PLUS™ is used in combination with a sticker or binder type product such as Chlorothalonil 720 g/ℓ. Aerial application: Apply with 30 - 40 ℓ water/ha. Ground application: Do not apply with less than 200 ℓ water/ha. Do not apply more than 1213.3 mℓ/ha ABAMEC PLUS™ per application. Do not make more than 2 sequential applications of ABAMEC PLUS™ or other similar product. If a second application is necessary for control, wait at least 7 days before the application is repeated. Do not apply more than 3500.0 mℓ/ha ABAMEC PLUS™ per growing season for leafminers and 2520.0 mℓ/ha for red spider mites.

Red spider mite Scouting Techniques for Cotton:

Randomly inspect 48 plants in fields up to 15 ha every week after the third week after germination until boll split (about week 20). Sample 3 leaves from each plant, 2 from the top and 1 from the middle. Count the number of adult female mites present. The red spider mite population index per plant is determined as follows:

Total number of female mites/3 leaves/plant	Red spider mite population index
0	0
1 - 10	1
11 - 30	2
30+	3

Calculate the average index value per field (total of 48 individual index values and dividing by 48).
 Apply ABAMEC PLUS™ as recommended depending on scouting results for a given growth stage of the cotton crop.

Economic Threshold Levels for Cotton:

Weeks after germination	3 - 10	12	14	16	18	20
Red spider mite population index	0.5	0.8	1.1	1.4	1.7	2.0

Economic Threshold Levels for Apples and Pears:
 Apples: 2 females per leaf up to the end of March and thereafter 1 female per leaf.
 Pears: 1 female per leaf throughout the season.