

Spiro-Mat

South Africa Reg. No: L 10017 Act/Wet No. 36 of/van 1947

A suspension concentrate systemic insecticide for the control of red scale and mites on citrus and mealybug on grapes.

ACTIVE INGREDIENT

Spirotetramat (tetramic acid) 240 g/ℓ

IRAC INSECTICIDE GROUP CODE 23



WARNING

HAZARD STATEMENTS:

- May cause an allergic skin reaction.
- Causes serious eye irritation.
- May cause respiratory irritation.
- Suspected of damaging fertility or the unborn child.
- Toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS:

- Avoid breathing mist, vapours and spray.
- Wash hands thoroughly after handling.
- Do not touch eyes.
- Wear impervious rubber gloves and boots, protective clothing and chemical safety goggles.
- Avoid release into the environment.

Registration holder: **Green Island Investments (Pty) Ltd.**

Co. Reg. No.: 2013/043963/07

P.O. Box 1822, Heidelberg 1438, South Africa

Tel: 078 737 9236

24 HR EMERGENCY NUMBERS

Griffon Poison Information Centre: +27 82 446 8946

24 Hr Transport / Spill emergency no:

(Hazcall24) +27 86 044 4411 (Typhoon Plant Protection)

Distributed by: **Typhoon Plant Protection (Pty) Ltd.**

Co. Reg. No.: 1998/006156/07, C/O Farm Vlakfontein
Corner of the R23 Benoni Road & R550 Nigel Road
Brakpan District, Heidelberg 1438, Gauteng, South Africa
Tel: 078 737 9236

Net Volume:

ℓ

Expiry Date:

Batch No:

Date of Manufacture:

U.N. No. 3082

 **Typhoon**
PLANT PROTECTION

READ LABEL IN DETAIL BEFORE OPENING THE CONTAINER. FOR FULL PARTICULARS, SEE ENCLOSED LEAFLET.
KEEP OUT OF REACH OF CHILDREN AND ANIMALS.



WITHHOLDING PERIODS:

Allow the following number of days between last application and harvest of the following crops:

Minimum time between the last application and harvest:	
Citrus	60 days
Table and Wine Grapes	Do not apply later than pea-size berry stage of the crop.

IN THE CASE OF CROPS INTENDED FOR EXPORT, CONFIRM WITHHOLDING PERIODS WITH THE RELEVANT EXPORT ORGANISATION. IF THIS PRODUCT IS USED ACCORDING TO THE RECOMMENDATIONS ON THIS LABEL, LOCAL MRL VALUES WILL NOT BE EXCEEDED. HOWEVER, GREEN ISLAND INVESTMENTS (PTY) LTD. CANNOT ACCEPT RESPONSIBILITY FOR EXPORTED CROPS EXCEEDING THE IMPORT TOLERANCES OF OTHER COUNTRIES.

WARNINGS:**HAZARD STATEMENTS:**

- May cause an allergic skin reaction.
- Causes serious eye irritation.
- May cause respiratory irritation.
- Suspected of damaging fertility or the unborn child.
- Toxic to aquatic life with long lasting effects.

- Store in a cool, dry place away from food and animal feedstuffs.
- Keep out of the reach of children, uninformed persons and animals.
- **Re-entry Period: Do not** enter the treated area until the spray deposit as dried unless wearing protective clothing.

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. The action and effect thereof may be effected by factors such as abnormal soil, climatic and storage conditions, quality of dilution water, compatibility with other substances not indicated on the label, the occurrence of resistance of the pest against the remedy concerned, as well as by the method, time and accuracy of application. The registration holder furthermore does not accept responsibility for damage to crops, vegetation, and 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 the event of any uncertainty.

PRECAUTIONS:

PRECAUTIONARY STATEMENTS:

- Obtain, read and follow all safety instructions before use.
 - Avoid breathing mist, vapours and spray.
 - Wash hands thoroughly after handling. **Do not** touch eyes.
 - Use only outdoors in a well-ventilated area.
 - Contaminated work clothing should not be allowed out of the workplace.
 - Avoid release into the environment.
 - Wear impervious rubber gloves and boots, protective clothing and chemical safety goggles.
 - **IF ON SKIN:** Wash with plenty of water and non-abrasive soap.
 - **IF INHALED:** Remove person to fresh air and keep comfortable for breathing.
 - **IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 - If exposed or concerned, get medical advice.
 - Get medical help if you feel unwell.
 - If skin irritation or rash occurs or if eye irritation persists: Get medical help.
 - Collect spillage.
 - Store in a well-ventilated place. Keep container tightly closed.
 - Store locked up.
 - Dispose of contents/container in accordance with local regulations.
-
- Prevent contamination of food, feedstuffs, drinking water and eating utensils.
 - Wear protective clothing when handling and applying (overall, gloves, boots, eye protection).
 - Wash contaminated skin thoroughly with soap and water after use. If irritation occurs, get medical attention.
 - **Do not** allow spray drift on to other crops, grazing, rivers, dams and areas not under treatment.
 - Clean spray equipment thoroughly after use.
 - **TRIPLE RINSE:** empty containers in the following manner: Invert the empty container over the spray or mixing tank and drain for at least 30 seconds after the flow has slowed down to dripping. Thereafter rinse the empty container three (3) times in succession with one quarter of the container volume fresh water and decant the rinsate into the spray or mixing tank. Puncture the triple rinsed container and dispose of via an approved collector or recycler (www.croplife.co.za).
 - Destroy empty container by perforation and flattening.
 - **Never re-use** it for any other purpose.
 - Prevent contamination of food, feeds, drinking water and eating utensils.

Related ingredients:

Substance name (IUPAC)	CAS - No.	Concentration % By weight
Spirotetramat (Active Ingredient)	203313-25-1	24%
Alkylaryl polyglycol ether	104376-75-2	>25%
Mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one	55965-84-9	<5%

Symptoms of human poisoning:

In severe cases of poisoning the patient may experience an apathetic state, depressed muscular tone, respiratory disturbances and trembling and muscular cramps.

If swallowed: If swallowed, immediately contact a poison control centre, doctor or nearest hospital for treatment advice. Rinse mouth with water. **Do not** give anything by mouth to an unconscious person. Do not induce vomiting unless directed by a physician or a poison control centre. If spontaneous vomiting occur, avoid contamination of respiratory passages.

If in eyes: Hold eye open and rinse slowly and gently with water for 15 – 20 minutes. After the first 5 minutes check for and remove contact lenses. Call a Poison Information Centre or doctor for treatment advice.

If on skin or clothing: Remove contaminated clothing. Rinse skin immediately with plenty of water and soap for 15 – 20 minutes. If available wash with polyethyleneglycol 400 and rinse with water. Wash clothing thoroughly before re-use.

If inhaled: Move patient to fresh air and keep at rest. Call a doctor immediately.

Notes to Physician: Treatment should include elementary aid, decontamination and symptomatic treatment. Monitor the respiratory and cardiac functions. Gastric lavage is not normally required. If more than a mouthful of **SPIRO-MAT** has been ingested, administer activated charcoal and sodium sulphate.

Medical Condition Likely to be aggravated by Exposure: None known.

RESISTANCE WARNING

SPIRO-MAT is a **group code 23 insecticide**. Any insect population may contain individuals naturally resistant to **SPIRO-MAT** and other **group code 23 insecticides**. The resistant individuals can eventually dominate the insect population if these insecticides are used repeatedly. These resistant insects may not be controlled by **SPIRO-MAT** or any other **group code 23 insecticide**.

To delay insecticide resistance:

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

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

GENERAL INFORMATION

Mode of Action:

SPIRO-MAT contains **Spirotetramat**, which is a lipid biosynthesis inhibitor that acts by inhibiting the enzyme acetyl CoA carboxylase. It affects lipid biosynthesis mainly after ingestion but also on contact, affecting eggs and larvae, with additional effects on adult fecundity. The compound has translaminar activity and, after penetrating the leaves, it is de-esterified and transported within both the xylem and phloem of the plant (systemic insecticide). It is mostly used for the control of sucking insects, and due to its mobility in the plant, it is especially useful in controlling hidden pests and protects new shoots appearing after foliar application.

- **Effect on Beneficial Insects in citrus**

Chilocorus nigritus – harmless.

Coccidoxenoides peregrinus – harmless.

Trichogrammatoidea cryptophlebiae – harmless.

Aphytis lingnanensis – slightly harmful.

Euseius citri – harmful.

- Bees – There is no risk to honeybees when the maximum recommended rate is used.

DIRECTIONS FOR USE: Use only as directed.

Compatibility:

- **SPIRO-MAT** is compatible with light to medium narrow range mineral oil that is registered for use in citrus. Read and apply label directions when using mineral oil.
- **Do not** spray **SPIRO-MAT** in combination with any fungicides in citrus.

Mixing Instructions:

- Half fill the spray tank with clean water and add the required volume of **SPIRO-MAT**, then fill the spray tank to the required volume.
- Agitate the water while mixing and spraying.
- Apply the mixture immediately and **do not** allow to stand for any length of time.

Application Instructions:

Ground application:

- It is important that all applications must be performed with suitable equipment that is in good working order and correctly calibrated, to give the desired coverage for that particular method of application.
- It is important to ensure complete coverage of the fruit and foliage to obtain maximum long lasting efficacy.
- Application rates specified within this label are based on full-size mature trees.

APPLICATION RATES

CROP / PEST	DOSAGE RATE	REMARKS
CITRUS Red Scale <i>(Aonidiella aurantii)</i> Citrus Red Mite <i>(Panonychus citri)</i> Citrus rust mite <i>(Phyllocoptura oleivora)</i> Lowveld citrus mite <i>(Eutetranychus orientalis)</i>	10 to 20 ml / 100 l water PLUS 300 ml light to medium narrow range mineral oil	Early preventive treatment: Two treatments spray programme*: Apply the 1 st treatment when first crawler movement is observed (normally at 80 to 100 % petal fall or shortly thereafter). Repeat 4 weeks later. Apply as full cover sprays and ensure thorough coverage of all parts of the trees.
	OR	OR
	20 ml PLUS 300 ml light to medium narrow range mineral oil	Single treatment: Apply when first crawler movement is observed (normally at 80 to 100 % petal fall or shortly thereafter). Apply as full cover sprays and ensure thorough coverage of all parts of the trees.
NOTE * The “ Two treatments program ” is recommended under conditions of extended or sequential periods of crawler movement, or during uneven flowering. Refer “ RESISTANCE WARNING ”.		
CITRUS Mealybugs (Suppression only) Citrus mealybug <i>(Planococcus citri)</i> Long-tailed mealybug, <i>(Pseudococcus longispinus)</i> Oleander mealybug, <i>(Paracoccus burnerae)</i>	30 to 40 ml / 100 l water PLUS 300 ml light to medium narrow range mineral oil	Monitor orchards and start with application after flowering at the onset of crawler movement. Repeat the application after four (4) weeks. Apply as full cover sprays to ensure that all parts of the trees are thoroughly covered.

(Continued on next page)

APPLICATION DOSAGE RATES: (Continued)

CROP / PEST	DOSAGE RATE ml/100 l	REMARKS
Thrips Citrus thrips (<i>Scirtothrips aurantii</i>)	30 to 40 ml / 100 l water	Monitor orchards from flowering onwards for presence of Thrips. Apply after flowering. A single treatment may be sufficient under low infestation pressure. Under higher pressure, a second treatment can be applied two (2) weeks after the first, before calyx closure. Use the higher rate in case of high infestation pressure or to obtain longer residual control.
Woolly whitefly (<i>Aleurothrixus floccosus</i>)	20 ml / 100 l water PLUS 20 ml Registered Adjuvant	Single treatment per season ONLY: Apply as a medium cover spray when adults are active on leaves and/or nymphs are noticed on the underside of leaves. Ensure thorough wetting of the ventral leaf surfaces.
NOTE In citrus, the use of SPIRO-MAT in combination with fungicide applications is not advisable. Reduced efficacy may be experienced under these conditions. If unavoidable, the higher dosage rate should be used.		
GRAPES Mealy bug (<i>Planococcus species</i>)	10 to 20 ml (65 to 150 ml/ha)	High-volume application as a full cover spray to ensure a thorough spray droplet distribution on the vines. Two application programme: Apply the first treatment at the BBCH growth stages 53 to 57 (inflorescences clearly visible to fully developed) in 650 to 1500 litres spray mix per hectare. Apply the second treatment at BBCH growth stage 75 (pea-berry size) at approximately six (6) weeks after the first treatment.
POTATOES Aphids (<i>Myzus persicae</i>)	30 ml / 100 l water (150 ml/ha)	Apply SPIRO-MAT when aphids are noticed, repeating at 10 – 14 day intervals with a maximum of 3 applications. Apply 500 L spray mixture / ha. The SPIRO-MAT applications should be preceded or followed up with registered insecticides with other modes of action if more than three sprays per season are necessary.