

STROPER

South Africa Reg. No: L 10793 Act/Wet No. 36 of/van 1947



STROPER is a non-selective post-emergence herbicide solution for the control of annual and perennial weeds as indicated on the label.

ACTIVE INGREDIENT

Glyphosate (glycine) 540 g a.e./ℓ
(glyphosate potassium salt) 662 g/ℓ

GROUP

9

HERBICIDE



WARNING

HAZARD STATEMENTS:

- Harmful if swallowed.
- Causes serious skin and eye irritation.
- May be harmful if inhaled.
- Very toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS:

- Obtain special instruction before use.
- Do not handle until all safety precautions have been read and understood.
- Avoid breathing mist, vapours and spray.
- Use only outdoors or in a well-ventilated area.
- 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.



WARNINGS

Withholding periods:

Allow the following number of days between the last application and harvest or grazing:	
Maize (Grazing)	28 days
Maize (Green mealies)	42 days
Soybeans	14 days

WARNINGS:

HAZARD STATEMENTS:

- Harmful if swallowed.
- Causes serious skin and eye irritation.
- May be harmful if inhaled.
- Very toxic to aquatic life with long lasting effects
- Handle product with caution.
- **Do not** mix, store or apply **STROPER** solutions in galvanised steel or unlined steel (except stainless steel containers or spray tanks, as a reaction will cause hydrogen gas to form, which is highly combustible.
- Store in a cool, dry, well-ventilated place.
- Store away from food, feeds, seed, fertilizers and other agricultural chemicals.
- Keep out of reach of children, uninformed persons and animals.
- Re-entry: **Do not** enter treated area until spray deposit has dried unless wearing protective clothing.
- **STROPER** is a highly active herbicide, which in small quantities, when used incorrectly can cause serious damage to crop seedlings, deciduous fruit trees and grape vines during the budding and early season growth stages. Under the following conditions it can cause serious damage as far as 3 to 5 km from the area under treatment: Cloudy weather with relative humidity above 80 % and low air movement of less than 5 km per hour. When such conditions prevail, **STROPER** must not be applied where sensitive crop seedlings, deciduous fruit trees and grape vines in budding or early development stages are present within 5 km from the area under treatment.

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 weed 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, 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:

- Avoid breathing mist, vapours and spray.
- Wash hands and face thoroughly after handling.
- Wash hands thoroughly after handling. **Do not** touch eyes.
- **Do not** eat, drink or smoke when using this product.
- Use only outdoors or in a well-ventilated area.
- Avoid release into the environment.
- Wear impervious rubber gloves and boots, protective clothing and chemical safety goggles.
- In case of inadequate ventilation wear respiratory protection.
- **IF SWALLOWED:** Immediately call a **POISON CENTER**.
- **IF SWALLOWED:** Get emergency medical help immediately.
- **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.
- Immediately call a **POISON CENTER**.
- Collect spillage.
- Store in a well-ventilated place. Keep container tightly closed.
- Store locked up.
- Dispose of content/container to suitable landfill in accordance with local regulations.

- Direct or spray drift contact by **STROPER** onto leaves and/or immature bark of desired plants can result in serious localised or translocated damage.
- Clean application equipment after use and **do not** dispose of wash water where it can contaminate other crops, grazing, boreholes, rivers or dams.
- **TRIPLE RINSE** empty containers in the following manner: Invert the empty container over the spray or mixing tank and allow draining for at least 30 seconds after the flow has slowed down to a drip.
Thereafter rinse the container three times with a volume of water equal to a minimum of 10 % of that of the container. Add the rinsing to the contents of the spray tank before destroying the container in the prescribed manner.
- **Do not** re-use the empty container for any other purpose.
- **Do not** add foliar fertilisers to **STROPER**.

Related ingredients:

Substance name (IUPAC)	CAS - No.	Concentration % By weight
	EC - No.	
Glyphosate Potassium salt	70901-12-1	62%
Ammonium Quaternary Compound		10-15%

FIRST AID TREATMENT:

- Inhalation:** Remove source of contamination or move patient to fresh air. Keep patient under observation and obtain medical attention if necessary.
- Skin contact:** If irritation occurs, remove contaminated clothing, shoes and leather goods. Gently wipe off excess chemical. Wash skin gently and thoroughly with water and non-abrasive soap. If irritation persists, obtain medical assistance.
- Eye contact:** Immediately flush the contaminated eyes with gently flowing clean water for 20 minutes, holding the eyelid(s) open until no evidence of chemical remains. If irritation persists, obtain medical assistance.
- Ingestion:** Have patient rinse mouth thoroughly with water. **Do not** induce vomiting. In severe cases, obtain medical advice immediately.

RESISTANCE WARNING

For resistance management, **STROPER** is a **Group Code 9 Herbicide**. Any weed population may contain individual weeds naturally resistant to **STROPER** and other **Group Code 9 Herbicides**. The resistant individuals can eventually dominate the weed population if these herbicides are used repeatedly. These resistant weeds may not be controlled by **STROPER** or any other **Group Code 9 Herbicide**.

In order to delay herbicide resistance:

- Avoid the exclusive and repeated use of herbicides from the same herbicide group code.
- Alternate or tank mix with products from different herbicide group codes.
- Integrate chemical and cultural control methods into weed control programmes.

WEED RESISTANCE MANAGEMENT

- Inconsistent control of certain grass populations and other weeds such as *Lolium* species, *Phalaris* species, *Avena* species (reported known resistance), *Chenopodium* species (plants with waxy leaves), *Conyza bonariensis* (Flax-leaf fleabane), *Commelina benghalensis* (Benghal wandering Jew), *Ipomoea* species (natural resistance) occur, due to resistance against **Glyphosate**.
- Some populations might be resistant to products containing the aryloxyphenoxy propionates, cyclohexanediones and sulfonyleureas, but might also have resistance against the **Glyphosate-containing** products, e.g. **STROPER**.
- Due to the fact that these resistance populations vary in size and localities and are difficult to ascertain, it is essential that each land must be inspected annually to identify possible resistance early.
- If the above-mentioned preventative measures are not strictly adhered to, the registration holder cannot be held responsible for the failure of **STROPER** to control resistant weeds.

For more information on resistance management, contact the registration holder.

DIRECTIONS FOR USE: use only as indicated.

General information and Use Restrictions:

NOTES

Use of **STROPER** according to label instructions should result in normal development and growth of **Glyphosate** tolerant soybean or **Glyphosate** tolerant maize varieties. Various environmental conditions, agronomic practices and other diverse factors make it impossible to eliminate all risks associated with this product, even when applications are done according to label specifications. In certain cases, these factors can result in unforeseen results including yield loss.

STROPER must only be used for post-emergence, over the top or directed application on to genetically improved soybean maize varieties that have been developed as containing the **Pioneer Glyphosate tolerant** gene. Severe crop injury or total killing of the maize or soybean crop will result if any variety or hybrid, not properly indicated as containing the **Glyphosate tolerant** gene, is sprayed with this product.

- Herbicidal action of **STROPER** may become visible from five (5) days after application depending on weed species, growth stage and environmental conditions.
- Apply **STROPER** post-emergence on to vigorously growing weeds, directed to the foliage and immature bark. For difficult to control perennial weeds, application in autumn is recommended when weeds are actively translocating nutrients into their roots, bulbs, rhizomes and stolons. Any re-growth should be spot sprayed.
- **Do not** spray whilst weeds are wet, dormant or under stress nor when covered in a layer of dust or when damaged by frost.
- Application with low volume sprayers (e.g. self-drive “high boy” sprayers) at high speeds (> 10 km per hour) may produce dust clouds that will affect the activity of the active ingredient adversely due to adsorption onto dust particles on the weeds’ leaf surfaces.
- **STROPER** is rain fast within one (1) hour after application. Rain or irrigation within 1 hour after application can have an adverse effect on efficacy.
- Allow 6 hours after application before planting operation.
- In mixed weed situations (annuals in amongst problem perennials), control annuals by mowing or chemical control. Wait for vigorous re-growth of perennials and then spray or spot spray re-growth.
- When **STROPER** is used in conjunction with any other agricultural remedy, adhere to all **WARNINGS**, **PRECAUTIONS** and **DIRECTIONS FOR USE** mentioned on that label.
- There are no crop rotation restrictions following application of this product.

Mixing instructions

Note: Always use clean good quality water for mixing and spraying. Avoid the use of brackish or muddy water, or water with a high colloid content derived from soils high in organic matter.

Analysis of the water source is recommended to confirm the levels of sodium, calcium and magnesium salts, as well as carbonate and bicarbonate fractions, as too high levels of these compounds may cause antagonism with the **Glyphosate** active ingredient.

The use of high quality ammonium sulphate source is recommended at the rate of 2% added to the spray solution before adding **STROPER**.

Spray water Ph must be in the range of 5 to 6.5. Add a buffering agent if necessary.

Sequence of tank mixture: 1. Add ammonium sulphate to the spray water; **2.** Buffer (if needed) and add the **STROPER** followed by the tank mix product.

- Half fill the spray tank with clean water (always and add the required quantity of **STROPER**).
- Then fill the tank to the required volume with clean water, ensuring thorough agitation.
- When using tank mixes, the additional herbicide should be added after **STROPER** and agitation must be continuous before and during spraying.

Application Information

Correctly calibrate all sprayers under field conditions and ensure that the spraying equipment is in good working order. Apply **STROPER** at a maximum volume rate of 200 litres spray mixture per hectare.

Where the volume rate is less than 120 litres per, the application must be done with purpose designed low volume spray equipment (e.g. self-drive “high boy” sprayers).

The application speed of low volume sprayers must not exceed 25 km per hour on an even soil bed. Where the soil bed is more uneven (e.g. due to clods) a maximum application speed of 15 km per hour must be used.

Ensure that the spray equipment is clean and free of rust, dust and sediment from other chemicals.

In situations where drift may be hazardous, use low pressures of 100 to 200 kPa or low drift nozzles or add a drift retardant adjuvant when spraying.

Do not spray when wind speed exceeds 10 km per hour.

Ensure a fine (**NOT** a mist spray), even droplet distribution and thorough coverage of the target weeds. Thoroughly clean the entire sprayer after application.

CROP RECOMMENDATIONS

1. GLYPHOSATE TOLERANT CROPS

1.1 Glyphosate tolerant maize:

Broadcast (over the top) application:

Broadcast application of **STROPER** can only be done after the ground cracking stage up to the V8 stage (V8 stage = when the first plants in the field have 8 leaves with closed collars around the main stem; however, the actual number of leaves may be more). **Do not** apply broadcast applications if the spray equipment will cause mechanical crop damage. **Broadcast application after the V8 stage may cause yield loss or delayed maturity.** Flat fan or twin jet nozzles, suitable for low water volume deliveries, are recommended. If follow-up applications are required to control specific weed species, e.g. *Cyperus esculentus*, the second application should not be made within 10 days of the first application. If the maize has grown beyond the V8 stage at this time, a directed follow-up application will be necessary (refer below).

Directed application:

Directed **STROPER** applications can be made after the V8 stage, if row spacing permits the movement of the sprayer without causing mechanical damage to the crop. Row spacing of 1.5 and 2.1 metres are recommended for conventional tractor mounted spray rigs.

1.2 Glyphosate tolerant soybeans (broadcast application):

STROPER may be applied post-emergent to Glyphosate tolerant soybeans from the ground cracking stage through to flowering. Allow a minimum of 2 weeks between application and harvest of the crop. **Do not** exceed the following **STROPER** application volumes per hectare:

- Cumulative total per season for all applications: 6.7 litres per hectare
- Pre-plant, pre-emergent applications: 2.0 litres per hectare
- Total in-crop applications from cracking to flowering: 4.7 litres per hectare
- Maximum pre-harvest application rate: 1.3 litres per hectare

Refer recommendations under “**APPLICATION DOSAGES**”.

Application rates

Weed spectra in crops are variable according to region, soil type and climatic factors that change seasonally. Therefore, varied and uneven emergence of various weed species may occur at any specific site, where one or more species may dominate.

The dosages recommended, aim to cover a broad spectrum of weeds if they are sprayed before upright growing weeds reach 10 cm in height (e.g. Khaki weed), or flat growing weeds reach the 6 to 8 leaf stage (e.g. Common purslane).

TABLE 1.

CROP & WEED TYPE	DOSAGE RATE	STAGE OF WEED GROWTH
Glyphosate tolerant Maize & Soybeans: General post emergence weed control		
Annual grasses and broad leaf Weeds:	1,3 ℓ/ha 1,7 ℓ/ha	Apply before 100 mm height or 8-leaf stage. Apply between 100 and 200 mm or up to the 12-leaf stage.
Difficult to control species requiring a follow-up spray (variable control*): Wandering Jew* <i>Commelina benghalensis</i> Morning glory* <i>Ipomoea purpurea</i> Common purslane* <i>Portulaca oleracea</i> Devil's thorn <i>Tribulus terrestris</i>	2.0 ℓ/ha	Apply at the 3-leaf stage; follow up with 2.0 litres per hectare 10 to 20 days later. Apply at the 4- to 5- leaf stage; follow up with 2.0 litres per hectare 10 to 20 days later. Apply before flowering. Apply before first flowers appear.
Difficult to control biennial and perennial weed species: Yellow nutsedge (<i>Cyperus esculentus</i>) <i>Conyza</i> spp.	20. ℓ/ha	Apply at the 3- to 4-leaf stage follow up with 2.0 litres per hectare, 10 to 20 days later. Apply before 8-leaf stage.

NOTE

Carefully read “**Broadcast**” and “**Directed application**” above for application spray instructions in maize.

The following weed species will NOT be controlled at these recommended rates:

Cynodon dactylon - Common quick grass

Convolvulus arvensis - Field bind weed

Oenothera stricta - Evening primrose

Panicum maximum - Common buffalo grass

Paspalum spp. – Paspalum species

2. PRE-PLANT APPLICATION OF STROPER IN CEREALS IN WINTER RAINFALL AREA

TABLE 2.

STROPER 0.7 to 1.3 l/ha OR 1.0 % solution		STROPER 1.5 l/ha OR 1.5 % solution	
1 to 8-leaf		8-leaf to pre-flower	
<i>Arctotheca calendula</i>	Cape marigold	<i>Hypochoeris radicata</i>	Hairy wild lettuce
<i>Avena</i> spp.	Wild oats	<i>Lolium</i> spp.*	Ryegrass
<i>Bromus diandrus</i>	Ripgut brome	<i>Medicago polymorpha</i>	Clover
<i>Chenopodium album</i>	White goosefoot	<i>Raphanus raphanistrum</i>	Wild radish
<i>Conyza floribunda</i> *	Tall fleabane	<i>Sonchus oleraceus</i>	Sow thistle
<i>Erodium moschatum</i>	Musk heron's bill		

Difficult to control / variably controlled annual weeds:

Inconsistent control of certain difficult to control species (refer also “**WEED RESISTANCE MANAGEMENT**”) may be experienced. Avoid resistance by alternating the use of **STROPER** with products from different chemical classes (refer to “**RESISTANCE WARNING**”).

* - **Inconsistent control** and resistance may occur with *Conyza* & *Lolium* species. Use the higher dosage rate on difficult to control species or on established weeds.

Add 0.5 litre per hectare maximum 2,4-D Amine to control broadleaf weeds that are normally difficult to control.

3. SPECIFIC RECOMMENDATIONS

TABLE 3. Dosage rates for weed control in forestry.

CROP	REMARKS
3.1 Almonds, aloes, apples, apricots, avocados, bananas, blackberry, cherries, citrus, coffee, granadilla, guava, hops, kiwi fruit, litchies, macadamia nuts, mangoes, nectarines, olives, pawpaw, peaches, pears, pecan nuts, pineapples, plums, cactus pear, prunes, quince, tea.	1. See weed tables for dosage rates of STROPER . 2. Protect young trees with green bark from direct spray.
3.2 Vines and fruit trees.	Apply before bud burst to vines older than 2 years. Younger vines with green bark should be shielded. Spray should be directed onto weeds. Do not spray onto pruned vines or fruit trees until wounds have sealed properly. Crop cover destruction in grapevines. Apply GLYPHOS 540 SL at 1,0–2,0 l/ha. Apply 10 days or more after pruning and before bud burst.
3.3 Sisal	Applications can be made to nursery and mature plants.
3.4 Arable land	Use STROPER after harvesting of previous crop. Do not disturb target plants before 6 hours after application (before planting of crops) and prior to emergence of new crop.

4. FORESTRY AND INDUSTRIAL WEED CONTROL

TABLE 4.1. Dosage rates for weed control in forestry.

SITUATION	WEED SPECIES	DOSAGE RATE			REMARKS
		ℓ/ha	% Solution (ℓ 100 ℓ WATER)*	Spot spraying (ℓ in 100 ℓ water)**	
MAINTENANCE IN ESTABLISHED FORESTS	<i>Acacia mearnsii</i> (Black wattle)	2.0	0.8	1.0 to 1.3	Apply to young trees up to 1 m high.
	<i>Solanum mauritanum</i> (Bugweed)	1.3	0.5	1.0	Large trees: Cut to 50 cm, allow new growth of at least 50 cm before application. Saplings: Apply directly to foliage.
	<i>Rubus</i> spp (American bramble)	4.0	1.6	1.0	Slash rank growth in winter. Apply when new growth is more than 0,5 m high. If regrowth occurs, spray with 1,5 % solution.
1. Firebreaks Firebreak preparation (tracer belts or total area). 2. Band preparation for tree seedlings Situations suitable for such treatments include: a) Virgin veld b) Clear felled forests.	In both situations (1 and 2) weed population would include perennials and annuals. Refer to list of some of the weeds controlled.	2.8	1.2	1.5	A minimum of 200 ℓ spray mixture/ha must be applied when using the 2 % solution. A follow-up treatment may be necessary to control some hardy perennials using a 2 % solution on a spot spray basis.

SITUATION	DOSAGE	REMARKS
<i>Eucalyptus grandis</i> (bluegum)	3.3 % solution. 4.6 % solution.	Single stem stumps. Apply 50 ml solution to a clean cambium area immediately after felling. Multistem stumps. Apply 100 ml solution to a clean, fully exposed cambium layer immediately after felling. If regrowth occurs, spray with 1.5 % solution.

* Based on knapsack application delivering 250 litres spray mixture per hectare.

Application of a % solution with a knapsack sprayer must be calibrated such that it will equal the delivery of the corresponding litres per hectare dosage rate.

** Where spot spraying is done using a percentage solution, apply as a full cover application (but not to the point of run-off).

TABLE 4.2. Dosage rates for Industrial weed control.

Perennial grasses:		DOSAGE RATE		REMARKS
BOTANICAL NAME	COMMON NAME	ℓ/ha	% Soln	
<i>Cynodon dactylon</i>	common couch	4.0	1.6	Apply to vigorously growing plants in autumn or summer. If re-growth occurs, spray with 1.7 % solution and 2.8liters per hectare.
<i>Cynodon nlemfuensis</i>	East African grass	4.0	1.6	
<i>Paspalum dilatatum</i>	common Paspalum	4.0	1.6	Apply on active growing plants.
<i>Paspalum paspalodes</i>	couch Paspalum	4.0	1.6	If re-growth occurs, spray with half the recommended dosage rate
<i>Pennisetum clandestinum</i>	kikuyu	2.8	1.2	Apply in summer to actively growing plants. If regrowth occurs, spray with 2.0 liters per hectare or a 1.0 % solution.
Nutsedges:				
<i>Cyperus esculentus</i>	yellow nutsedge	4.0	4.0	Apply in summer at flowering stage. If regrowth occurs, spray with 1.0 % solution or 2,0 ℓ/ha (best results in Feb/March).
<i>Cyperus rotundus</i>	purple nutsedge	4.0	4.0	
Annual broadleaf weeds:				
<i>Amaranthus hybridus</i>	Cape Pigweed	2.8 to 4	1.0 to 1.6	Use 2.8 litres per hectare (a 1.0 % solution) when weeds are in the early growth stages.
<i>Amaranthus spinosus</i>	Thorny pigweed			
<i>Argemone subfusiformis</i>	White flowered Mexican poppy			Use 3.5 litres per hectare (a 1.4 % solution) when weeds are in the early flowering stage.
<i>Bidens bipinnata</i>	Spanish black jack			
<i>Bidens pilosa</i>	Black jack			
<i>Chenopodium album</i>	White goosefoot			Use 4.0 litres per hectare (a 1.6 % solution) when weeds are in the seeding stage, but still actively growing.
<i>Conyza floribunda *</i>	Tall fleabane			
<i>Datura ferox</i>	Large thorn apple			
<i>Datura stramonium</i>	Thorne apple			Do not apply onto matured weeds that are in a stage of desiccation.
<i>Oxalis pes-caprae</i>	Yellow sorrel			
<i>Polygonum aviculare</i>	Prostrate knotweed			
<i>Richardia brasiliensis</i>	Tropical richardia			
<i>Senecio ilicifolius</i>	Ragwort			
<i>Schkuhria pinnata</i>	Dwarf marigold			
<i>Tagetes minuta</i>	Khaki weed			

- * Even at higher rates, the control of *Conyza* species may be variable, necessitating a follow-up application.
- ** Based on knapsack application delivering 250 litres spray mixture per hectare.
Application of a % solution with a knapsack sprayer must be calibrated such that it will be equal to the corresponding litres per hectare dosage rate (**NOTE** - where spot spraying is done, using a percentage solution, apply as a full cover application (but not to the point of run-off)).