

Website: www.villacrop.co.za

24 HB EMERGENCY NUMBERS: Griffon Poison Centre: +27 82 446 8946 24 HR Transport / Spill Emergency no: (Hazcall24) +27 86 044 4411 (Client: Villa Crop Protection)

DIRECTIONS FOR USE ENCLOSED

Batch Number:

UN Number: 3265

#### SLASH PLUS 540 SL Reg. No. L 8819 Act No. 36 of 1947 W1301444 HRAC HERBICIDE GROUP CODE: 9

#### ACTIVE INGREDIENT:

glyphosate (glycine)	540 g ae/ℓ
(glyphosate potassium salt)	… 665 g/ℓ

Registration holder: UNIVERSAL CROP PROTECTION (PTY) LTD. Co. Reg. No. 1983/008184/07 P.O. Box 801, KEMPTON PARK, 1620 Tel. (011) 396 2233

#### WARNINGS

#### Withholding periods:

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

#### Hazard statements:

Harmful if swallowed.
Causes severe skin burns and eye damage.
Causes serious eye damage.
Toxic to aquatic life with long lasting effects.

- Handle product with caution.
- SLASH PLUS 540 SL is a corrosive product.
- Irritating to eyes and skin.
- Do not mix, store or apply **SLASH PLUS 540 SL** 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.
- <u>Re-entry</u>: Do not enter treated area until spray deposit has dried unless wearing protective clothing.
- SLASH PLUS 540 SL 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, SLASH PLUS 540 SL 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 weeds 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

#### Precautionary statements:

Do not breath dusts or mists.

Wash hands and face thoroughly after handling. Do not touch eyes. Do not eat, drink or smoke when using this product. Avoid release to the environment. Wear impervious rubber gloves and boots, protective clothing and chemical safety goggles. IF SWALLOWED: Get medical help. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN: Take off immediately all contaminated clothing. Immediately rinse with water for several minutes. 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. Get emergency medical help immediately. Get medical help. Rinse mouth. Wash contaminated clothing before use. Collect spillage.

Store locked up.

Dispose of content/container to suitable landfill in accordance with local regulations

- Avoid skin and eye contact.
- Wash with soap and water immediately after use and accidental skin contact.
- Wash contaminated clothing after use.
- Prevent drift of spray onto other crops, grazing, rivers, dams or areas not under treatment as this may cause serious crop damage.
- Direct or spray drift contact by SLASH PLUS 540 SL 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 THE EMPTY CONTAINER AS FOLLOWS: 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 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 <u>www.croplife.co.za</u>. Do not bury, burn, or donate the container to any other parties that may use it as a container for food or beverages.
- Prevent contamination of food, feeds, drinking water and eating utensils.
- Do not add foliar fertilisers to SLASH PLUS 540 SL.

## **RESISTANCE WARNING**

SLASH PLUS 540 SL is a group code 9 herbicide. Any weed population may contain individuals naturally resistant to SLASH PLUS 540 SL 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 SLASH PLUS 540 SL or any other group code 9 herbicide. To delay herbicide resistance:

- avoid exclusive repeated use of herbicides from the same herbicide group code. Alternate or tank mix with products from different herbicide group codes,
- integrate other control methods (chemical, cultural, biological) into weed control programmes.

Mode of action: non-selective herbicide, absorbed by the folate with rapid translocation throughout the plant.

Relevant hazardous components		
Glyphosate	540 g ae/ℓ	
КОН	<400 g/ℓ	
Blend of Ammonium Quaternary derivatives	< 200 g/ℓ	

## FIRST AID TREATMENT

Remove the victim from the area of exposure. Wash off remaining material with plenty of water. In the event of any complaints or symptoms, avoid further exposure and consult a doctor.

- Inhalation: If vapours or mists have been inhaled, move victim to fresh air and remove source of contamination if safe to do so. The patient should be kept under observation. Only qualified personnel should perform administration of oxygen. Get medical attention immediately if condition persists
- **Skin:** Move the victim to fresh air and remove all contaminated clothing, shoes and leather goods. Wash skin gently and thoroughly with cold water and non-abrasive soap. Do not rub the skin. Obtain medical attention if irritation persists.
- Eyes: Flush eyes with clean, lukewarm water for at least 15 minutes or until the product is removed, holding the eyelid(s) open. Lift eyelids to facilitate irrigation. Take care not to rinse contaminated water into the unaffected eye or onto the face. If present, remove contact lenses after 5 minutes and continue rinsing. Seek medical attention immediately.
- **Ingestion:** Do not induce vomiting unless instructed to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person. Have victim rinse mouth thoroughly with water. **Seek medical attention immediately showing container and label.**

# 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 sulfonylureas, but might also have resistance against the **Glyphosate**-containing products, e.g., **SLASH PLUS 540 SL**.
- 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 **SLASH PLUS 540 SL** to control resistant weeds.

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

# DIRECTIONS FOR USE: Use only as directed.

# General information and Use Restrictions:

NOTES

- Use of SLASH PLUS 540 SL 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.
- SLASH PLUS 540 SL 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 **SLASH PLUS 540 SL** may become visible from five (5) days after application depending on weed species, growth stage and environmental conditions.
- Apply **SLASH PLUS 540 SL** 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 regrowth 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.
- **SLASH PLUS 540 SL** is rain fast within one (1) hour after application. Rain or irrigation within one (1) hour after application can have an adverse effect on efficacy.
- Allow six (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 SLASH PLUS 540 SL 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:

- Always use clean water. 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.
- For hard and brackish water correction, add Velocity<sup>®</sup>-Super or Velocity<sup>®</sup>-DryMax, Ams-Super or Ams-Granule ammonium sulphate to the spray water before adding SLASH PLUS 540 SL.
- Add the **Ammonium sulphate** to the water first; then add the **SLASH PLUS 540 SL**, followed by the recommended tank mixture product.
- Ensure agitation during mixing and spraying.

# Compatibility:

- SLASH PLUS 540 SL can be tank mixed with Premium 840 EC/Leap 840 EC, ALACHLOR 480 CS (L 7674), Astron<sup>®</sup> 480 SC/Cantron<sup>®</sup> 480 SC, Metolachlor 960 EC/Platinum 960 EC, Metolachlor 915EC/Platinum Plus 915 EC, Premium 900 EC/Acetochlor 900 EC, 2,4-D AMINE 480 SL (L 4505 / W 130459 / N-AR 1096), Halo 750 WDG/Crown 750 WDG, MCPA 400 SL, Terbucide 600 WDG/Terbuweed 600 WDG, Elegance Super 750 WDG\Style 750 WDG, Flumetsulam 800 WDG/Laurel 800 WDG and Villa 51. Ensure compatibility by preparing a small-scale test mixture before a large-scale field application. Observe all label recommendations.
- SLASH PLUS 540 SL can also be tank mixed with ammonium sulphate adjuvants, e.g., Velocity<sup>®</sup>-Super or Velocity<sup>®</sup>-DryMax, Ams-Super or Ams-Granule.
- Do not use in tank mixtures with SC formulations, except Astron<sup>®</sup> 480 SC/Cantron<sup>®</sup> 480 SC.

## Surfactants / Additives:

- For optimum results, a minimum of 1.0 % **SLASH PLUS 540 SL** concentration in the total spray volume is recommended. Where the application is based on a percentage solution rather than a dosage per hectare rate, apply as a full cover application (but not to the point of run-off).
- For improved control of Wandering Jew, Field bind weed, Morning glory and Common purslane, SLASH
   PLUS 540 SL can be mixed with 2,4-D Amine 480 SL or MCPA 400 SL at a maximum of 500 m/ per hectare. Do not add a buffering agent when preparing tank mixtures with any of these 2 products.
- Always add ammonium sulphate (e.g., Velocity<sup>®</sup>-Super / Velocity<sup>®</sup>-DryMax) to the spray mixture.

# Application information:

- Correctly calibrate all sprayers under field conditions and ensure that the spraying equipment is in good working order.
- Apply **SLASH PLUS 540 SL** 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. <u>GLYPHOSATE TOLERANT CROPS</u>

1.1 <u>Glyphosate tolerant maize:</u>

# Broadcast (over the top) application:

Broadcast application of SLASH PLUS 540 SL 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 SLASH PLUS 540 SL 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.

For the control of certain broadleaf weeds mentioned above, SLASH PLUS 540 SL can be mixed with either 2,4-D Amine 480 SL or MCPA 400 SL at 0.5 litre per hectare. Refer to the 2,4-D Amine 480 SL or MCPA 400 SL labels for "USE RESTRICTIONS".

# 1.2 Glyphosate tolerant soybeans (broadcast application):

SLASH PLUS 540 SL 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 SLASH PLUS 540 SL application volumes per hectare:

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

Refer recommendations under "APPLICATION DOSAGES".

# **1.3 Application Dosages:**

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	1.3 <i>d</i> /ha	Apply before 100 mm height or 8-leaf stage.		
weeds:	1.7 <i>ℓ</i> /ha	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>		Apply at the 3-leaf stage; follow up with 2.0 litres per hectare 10 to 20 days later.		
Morning glory* <i>Ipomoea purpurea</i>	2.0 <i>(</i> /ha	Apply at the 4- to 5- leaf stage; follow up with 2.0 litres per hectare 10 to 20 days later.		
Common purslane* Portulaca oleracea		Apply before flowering.		
Devil's thorn <i>Tribulus terrestris</i>		Apply before first flowers appear.		
Difficult to control biennial and perennial weed species: Yellow nutsedge ( <i>Cyperus esculentus</i> )	2.0 <i>d</i> /ha	Apply at the 3- to 4-leaf stage follow up with 2.0 litres per hectare, 10 to 20 days later.		
Conyza spp.		Apply before 8-leaf stage.		
Glyphosate tolerant Maize only:				

6.7 litres per hectare 2.0 litres per hectare

- 4.7 litres per hectare
- 1.3 litres per hectare

Crop & Weed type	Dosage rate	Stage of weed growth		
Improved residual control of broadleaf weeds. Above-mentioned General post-emergence weed control dosage rates PLUS 0.8 to 1.6 kg per				
hectare Terbucide 600 WDG. Consult the Terbucide 600 WDG lat DIRECTIONS FOR USE.	oel for WARNING	SS, PRECAUTIONS, USE RESTRICTIONS and		
Improved control of Yellow nutsed Above-mentioned General post-eme Crown 750 WDG.		oadleaf weeds. ntrol dosage rates PLUS 50 grams per hectare		
Consult the Crown 750 WDG labe DIRECTIONS FOR USE.		S, PRECAUTIONS, USE RESTRICTIONS and		
Glyphosate tolerant Soybeans only Improved control of Yellow nutsed Above-mentioned General post-em Elegance Super 750 WDG.	ge and certain br	oadleaf weeds. control dosage rates PLUS 14 g per hectare		
	DG label for WAR	NINGS, PRECAUTIONS, USE RESTRICTIONS		
hectare Flumetsulam 800 WDG, as p	ergence weed co per recommended	ontrol dosage rates PLUS 18 to 36 grams per		
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

- 1.4 <u>Pre- and post-emergence tank mixture combinations with SLASH PLUS 540 SL at planting in</u> <u>minimum / no-tillage practices in Maize:</u>
- SLASH PLUS 540 SL may be tank mixed with Premium 840 EC, Metolachlor 800 EC or Metolachlor 915 EC or Alachlor 480 CS and with Astron<sup>®</sup> 480 SC/Cantron<sup>®</sup> 480 SC at planting for pre-emergence weed control.
- **2,4-D Amine 480 SL** or **MCPA 400 SL** can be added to above-mentioned mixtures for improved control of certain difficult to control broadleaf weed species.
- Refer to **Table 1** above for **SLASH PLUS 540 SL** dosage rates. Use the higher dosage rate for more difficult weeds or higher weed pressure situations. Apply to young actively growing weeds.
- Follow the registration holder's recommendations on these labels, except **2,4-D Amine 480 SL** and **MCPA 400 SL**, where a maximum of 0.5 litres per hectare should be applied.
- Refer to the Premium 840 EC, Metolachlor 800 EC, Metolachlor 915 EC or Alachlor 480 CS and Astron<sup>®</sup> 480 SC/Cantron<sup>®</sup> 480 SC labels for USE RESTRICTIONS and DIRECTIONS FOR USE and weed species controlled.
- 1.5 <u>Post-plant, post-emergence tank mixture combinations in GLYPHOSATE TOLERANT Maize:</u>
- SLASH PLUS 540 SL may be tank mixed with Astron<sup>®</sup> 480 SC/Cantron<sup>®</sup> 480 SC plus Metolachlor 960 EC or Premium 900 EC or Alachlor 480 CS or 2,4-D Amine 480 SL or MCPA 400 SL for postemergence weed control applications (before the V8-stage).
- This treatment can be applied as a stand-alone post-emergence application or as a follow up to a preemergence application of Astron<sup>®</sup> 480 SC/Cantron<sup>®</sup> 480 SC in tank mixture with Metolachlor 800 EC or Metolachlor 915 EC or Premium 840 EC, as indicated on the registered labels.
- Refer to **Table 1** above for **SLASH PLUS 540 SL** dosage rates. Use the higher dosage rate for more difficult weeds or higher weed pressure situations. Apply to young actively growing weeds.
- Follow the registration holder's recommendations on these labels, except **2,4-D Amine 480 SL** and **MCPA 400 SL**, where a <u>maximum of 0.5 litres per hectare should be applied</u>.

• Refer to the Astron<sup>®</sup> 480 SC/Cantron<sup>®</sup> 480 SC and Metolachlor 915 EC or Premium 900 EC or Alachlor 480 CS or 2,4-D Amine 480 SL or MCPA 400 SL labels for USE RESTRICTIONS and DIRECTIONS FOR USE and weed species controlled.

# • IMPORTANT NOTES

- This tank mixture of SLASH PLUS 540 SL plus Astron<sup>®</sup> 480 SC/Cantron<sup>®</sup> 480 SC plus Metolachlor 960 EC or Premium 900 EC or Alachlor 480 CS or 2,4-D Amine 480 SL or MCPA 400 SL may only be applied on certified maize cultivars containing Glyphosate tolerant genetic material.
- SLASH PLUS 540 SL must NOT be tank mixed with products containing Atrazine.

# 1.6 <u>Improved consistency of Yellow nutsedge (*Cyperus esculentus*) control in Glyphosate tolerant maize with a tank mixture with Crown 750 WDG:</u>

- Apply 1.7 to 2 litres per hectare **PLUS** 50 g per hectare **Crown 750 WDG**.
- Add 2 % Velocity<sup>®</sup>-Super and 0.05 % Villa 51 to the tank mixture.
- To obtain best results, apply **Crown 750 WDG** on actively growing Nutsedge under moist conditions 3 to 5 weeks after planting, after the majority of the Nutsedges have germinated but before flowering. New germination of Nutsedge may occur if application was performed too early. Later applications when the Nutsedge is in flower, will also give suboptimal results.
- The optimal time of application is determined by the development stage of the Nutsedges. Broadleaf weeds, however, should not exceed the 4-leaf stage or 100 mm in height.
- Refer to the Crown 750 WDG label for USE RESTRICTIONS and DIRECTIONS FOR USE.

# 2. PRE-PLANT APPLICATION OF SLASH PLUS 540 SL IN CEREALS IN WINTER RAINFALL AREA

# Table 2.

SLASH PLUS 540 SL			
0.7 to 1.3 //ha OR 1.0 % solution	1.5 t/ha OR 1.5 % solution		
1 to 8-leaf	8-leaf to pre-flower		
Arctotheca calendula	Cape marigold		
Avena spp.	Wild oats		
Bromus diandrus	Ripgut brome		
Chenopodium album	White goosefoot		
Conyza floribunda*	Tall fleabane		
Erodium moschatum	Musk heron's bill		
Hypochoeris radicata	Hairy wild lettuce		
Lolium spp.*	Ryegrass		
Medicago polymorpha	Clover		
Raphanus raphanistrum	Wild radish		
Sonchus oleraceus	Sow thistle		

# Difficult to control / variably controlled annual weeds:

- Inconsistant control of certain difficult to control species (refer also "WEED RESISTANCE MANAGEMENT") may be experienced. Avoid resistance by alternating the use of SLASH PLUS 540 SL 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 MCPA 400 SL or 2,4-D Amine 480 SL to control broadleaf weeds that are normally difficult to control.

# 3. FORESTRY AND INDUSTRIAL WEED CONTROL

		Dosage rate		e	
Situation	Weed species	t / ha	% Solution* (ℓ in 100 ℓ water)*	Spot spraying (ℓ in 100 ℓ water)**	Remarks
	Acacia mearnsii (Black wattle)	2.0	0.8	1.0 to 1.3	Apply to young trees from 0.1 to 1.5 m high. Apply the lower dosage rate on trees up to 1.0 m height.
Maintenance weed control in established forests	Solanum mauritianum (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.
1010313	<i>Rubus</i> spp. (Bramble)	4.0	1.6	1.0	Cut and remove lush growth in winter. Apply when new growth is more than 0.5 m high. If re-growth occurs, spray with a 1.0 % solution.
Firebreaks Firebreaks preparation, either tracer belts or total area. Band preparation for tree seedlings Situations suitable for such treatments include: a) Virgin veld b) Clear felled forests	In both situations the weed population would include perennials and annuals. For some of the weeds controlled refer to the list under Industrial weed control.	2.8	1.2	1.5	A minimum of 250 litres spray mixture per hectare must be applied when using the 1.2 % solution. A follow-up treatment may be necessary to control some hardy perennials using a 1.5 % solution on a spot spray basis.
Eucalyptus	Single stem stumps	3.3 % solution		'n	Apply a 50 mℓ solution to a clean cambium area immediately after felling.
grandis (Blue gum)	Multi-stem stumps	4.6 % solution		'n	Apply a 100 m/ solution to a clean, fully exposed cambium layer immediately after felling. If re-growth occurs, spray with a 1.3 % solution.

# Table 3.1. Dosage rates for weed control in forestry.

\* 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).

	Common	Dosage rate		
Botanical name	name	ℓ/ha	% Solution**	Remarks
Perennial grasses:				
Cynodon dactylon	Common couch grass	4	1.6	Apply to vigorously growing plants in summer or autumn when nutrients are
Cynodon nlemfuensis	East African grass	4	1.6	actively translocated to roots, rhizomes and stolons. Follow-up with 2.8 litres per hectare (a 1.7 % solution) if any re-growth occurs.
Pennisetum clandestinum	Kikuyu	2.8	2.6	Spray on active growth in summer. Spray re-growth with 2.0 litres per hectare or a 1.0 % solution.
Paspalum paspalodes	Couch Paspalum	4	4	Apply on active growing plants.
Paspalum dilatatum	Common Paspalum	4	4	Follow-up with half the recommended dosage rate if re-growth occurs.
Nutsedges:				
Cyperus esculentus	Yellow nutsedge	4	4	Apply during flowering stage. Spray re-growth with 2.0 litres per hectare
Cyperus rotundus	Purple nutsedge	4	4	or a 1.0 % solution.
Annual broadleaf we	eds:			
Amaranthus	Cape			
hybridus	pigweed			
Amaranthus	Thorny			
spinosus	pigweed			
Argemone	White			
subfusiformis	flowered			
	mexican			$1 \log 2.9$ litrop per bestere (s. 1.0.% solution)
	рорру			Use 2.8 litres per hectare (a 1.0 % solution) when weeds are in the early growth stages.
Bidens bipinnata	Spanish			when weeds are in the early growth stages.
	black jack			Use 3.5 litres per hectare (a 1.4 % solution)
Bidens pilosa	Black jack			when weeds are in the early flowering
Chenopodium	White			stage.
album	goosefoot	2.8 to 4	1.0 to 1.6	
Conyza floribunda*	Tall fleabane			Use 4.0 litres per hectare (a 1.6 % solution)
Datura ferox	Large thorn apple			when weeds are in the seeding stage, but
Datura stramonium	Thorn apple			still actively growing.
Oxalis pes-caprae	Yellow sorrel			
Polygonum	Prostrate			Do not apply on to matured weeds that are
aviculare	knotweed			in a stage of desiccation.
Richardia	Tropical			
brasiliensis	richardia			
Senecio ilicifolius	Ragwort			
Schkuhria pinnata	Dwarf			
r	marigold			
Tagetes minuta	Khaki weed	1		
		Convza sp	ecies may he v	variable, necessitating a follow-up application.

Table 3.2. Dosage rates for Industrial weed control.

\* 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 (<u>NOTE</u> - where spot spraying is done, using a percentage solution, apply as a full cover application (but not to the point of run-off).

# 4. WEED CONTROL IN GRAPE VINES

Сгор	Dosage rates	Remarks
	1.0 <i>d</i> /ha	
	PLUS	Early winter: (Weeds under 15 cm height). <b>Not</b> for Small mallow ( <i>Malva parviflora</i> ), Cape marigold ( <i>Arctotheca calendula</i> ), Oat seed grass ( <i>Erharta</i> spp.), Blue
	3.0 <i>ℓ</i> /ha	echium ( <i>Echium vulgare</i> ), Ryegrass ( <i>Lolium</i> spp.), Sow thistle ( <i>Sonchus oleraceus</i> ) and Brome spp. ( <i>Bromus</i> spp.)
Grape	MCPA 400 SL	
vines	1.3 <i>ℓ</i> /ha	
	PLUS	Late winter: (Weeds under 30 cm height). Use the higher rates for Bur clover ( <i>Medicago polymorpha</i> ), Prostrate knotweed ( <i>Polygonum aviculare</i> ) and Sheep
	4.0 <i>d</i> /ha	sorrel, (Rumex angiocarpus).
	MCPA 400 SL	

### Table 4. Dosage rates for weed control in grape vines.

## **IMPORTANT**

- Prevent contact of spray droplets/mist with leaves, green and young bark of stems as well as fruit.
- Allow 10 days after pruning, or the removal of low branches and/or suckers before spraying weeds.

The following products mentioned in this label may be replaced with the following equivalent products:

- PREMIUM 840 EC (L 8066) = LEAP 840 EC (L 8064 / N-AR 1103 / W1301419) (Acetochlor),
- ASTRON<sup>®</sup> 480 SC (L 8366) = CANTRON<sup>®</sup> 480 SC (L 8365 / N-AR 1323 / W 130651) = CANONNE 480 SC (L 8735) (Mesotrione),
- METOLACHLOR 960 EC (L 7136 / W 130057 / N-AR 1362) = PLATINUM 960 EC (L 7434),
- METOLACHLOR 915EC (L 7841 / N-AR 1361 / W 1301418) = PLATINUM PLUS 915 EC (L 7844),
- METOLACHLOR 800 EC (L 7137) = METOLACHLOR 800 EC (L 7433),
- PREMIUM 900 EC (L 7637) = ACETOCHLOR 900 EC (L 7633 / N-AR 1101 / W1301407),
- MCPA 400 SL (L 5795 / W 130452) = MCPA 400 SL (L 5793 / N-AR 1092 / W1301410),
- CROWN 750 WDG (L 8282) = HALO 750 WDG (L 8283 / N-AR 1337 / W1301403),
- ELEGANCE SUPER 750 WDG (L 9158) = STYLE 750 WDG (L 9157) (Chlorimuron-ethyl),
- VELOCITY<sup>®</sup>-SUPER (L 9603 / W 130996) = AMS-SUPER (L 9758) = GLYPHO-BOOST (L 7757),
- VELOCITY®-DRYMAX (L 9454 / W 130995 / N-AR 1528) = AMS-GRANULE (L 9610),
- VILLA 51 (L 8050 / W130454 / N-AR 1090) = WEN 51 (L 8315),
- TERBUCIDE 600 WDG (L 8799 / W 1301046) = TERBUWEED 600 WDG (L 8800) = TERBUMAIS 600 WDG (L 8798) (Terbuthylazine) and
- FLUMETSULAM 800 WDG (L 8062 / W1301369) = LAUREL 800 WDG (L 8061 / N-AR 1339 / W 1301422).

VILLA 51, WEN 51, VELOCITY<sup>®</sup>-SUPER, AMS-SUPER, GLYPHO-BOOST, PREMIUM 840 EC, ASTRON<sup>®</sup> 480 SC, METOLACHLOR 960 EC, METOLACHLOR 800 EC, PREMIUM 900 EC, MCPA 400 SL, 2,4-D AMINE 480 SL, TERBUCIDE 600 WDG, CROWN 750 WDG, STYLE 750 WDG, ALACHLOR 480 CS, METOLACHLOR 915EC, VELOCITY<sup>®</sup>-DRYMAX, AMS-GRANULE and/en FLUMETSULAM 800 WDG are registered products of Universal Crop Protection (Pty) Ltd.

LEAP 840 EC, CANTRON<sup>®</sup> 480 SC, PLATINUM 960 EC, METOLACHLOR 800 EC, ACETOCHLOR 900 EC, MCPA 400 SL, ELEGANCE SUPER 750 WDG, TERBUWEED 600 WDG, HALO 750 WDG, PLATINUM PLUS 915 EC and LAUREL 800 WDG are registered products Villa Crop Protection (Pty) Ltd.

> CANONNE 480 SC and TERBUMAIS 600 EDG are registered products of Cropasure (Pty) Ltd.

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