

Two Step SC

Reg. No.: L9401Act /Wet No. 36 of/van 1947

A suspension concentrate systemical and residual herbicide for pre- and post-emergence control of a wide spectrum of annual and perennial broadleaf weeds and grasses in urban areas and other industrial sites.

HRAC HERBICIDE GROUP CODE: G + C1

ACTIVE INGREDIENTS:

| | | | |
|-------------------------------------|---------|--------------------------------|---------|
| Glyphosate isopropylamine salt..... | 167 g/ℓ | Simazine (Triazine)..... | 175 g/ℓ |
| Glyphosate acid..... | 125 g/ℓ | Terbuthylazine (triazine)..... | 175 g/ℓ |

REGISTRATION HOLDER:

Volcano Agrosience (Pty) Ltd trading as ARYSTA LifeScience South Africa (Pty) Ltd

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DISTRIBUTOR:

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WARNINGS:

- Handle with care.
- Poisonous if swallowed.
- Avoid contact with eyes since product may cause eye irritation.
- Store unused **TWO-STEP SC** tightly closed in this container in a cool, well-ventilated place away from food, feed, fertilizers and other chemicals.
- Keep behind lock and key and out of reach of children, uninformed persons and animals.

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 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

- Avoid contact with skin and eyes and do not inhale fumes or spray mist.
- Wear protective clothing when handling the concentrate, preparing the spray mixture and when applying the prepared spray mixture.
- Wash and change protective clothing daily.
- Wash with soap and water after handling and application or after accidental contact with the skin.
- In the event of accidental eye contact, flush the eyes immediately with clean running water for at least 15 minutes and seek medical attention if necessary.
- Do not eat, drink or smoke whilst mixing or applying the remedy but wash hands and face thoroughly before doing so.
- Prevent contamination of food, feed, eating utensils and drinking water.
- Do not allow spray to drift onto susceptible crops, grazing, rivers, dams and areas not to be treated.
- Clean all measuring utensils and application equipment thoroughly after use. Dispose of such wash water responsibly to prevent contamination of the environment and water sources.
- **Container disposal:**
Invert the empty container over the spray 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 at least 10 % of that of the container. Add this rinsing water to the contents of the spray tank before destroying the container in the prescribed manner.
- Destroy the rinsed empty container by perforating and flattening it.
- Dispose of the empty rinsed container at an approved landfill or preferably in a pesticide incinerator.
- Never re-use the empty container for any other purpose.

RESISTANCE WARNING:

For resistance management, **TWO-STEP SC** is a group code G+C1 herbicide. Any weed population may contain individual weeds naturally resistant to **TWO-STEP SC** and other group code G+C1 herbicides. The resistant individuals can eventually dominate the weed population if these herbicides are used repeatedly. These resistant weeds may not be controlled by **TWO-STEP SC** or any other group code G+C1 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.

For more information on resistance management, contact the registration holder

DIRECTIONS FOR USE Use only as directed

It is a violation of Government Notices R.1716 of 26 July 1991 and R.181 of 7 February 2003 issued in terms of the Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act, 1947 (Act No. 36 of 1947), to use this product in a manner inconsistent with its labelling, or to decant this product into another container.

- **TWO-STEP SC is relatively safe around trees and shrubs, provided that foliage (green shoots and leaves) does not come into contact with the spray. TWO-STEP SC is therefore particularly useful in urban and other areas where a certain degree of selectivity is essential.**

- **TWO-STEP SC** can be used for industrial vegetation management (IVM) and controlled species substitution (CSS) on non-crop land and industrial sites where it will control established grasses and broadleaf weeds, while providing limited (seasonal) soil action. **TWO-STEP SC** can be used on sidewalks and along kerbs, on road shoulders, railway lines, at intersections and crossings, under power lines and security fences and on storage yards.
- Once diluted with water as prescribed, **TWO-STEP SC** can be applied by means of suitably calibrated spray equipment such as knapsack sprayers or boom sprayers.
- An evenly applied spray, covering the complete target area, including all weeds as well as any bare ground, is essential.
- Effective agitation of the spray mix, throughout the application process, is essential.
- When mixing, ensure that the concentration of **TWO-STEP SC** in the spray mixture is always equal to or higher than 2,5 % (12,5 ℓ **TWO-STEP SC** per 500 ℓ water = 2,5 %).
- Optimum results and effective knock-down can be expected when **TWO-STEP SC** is applied during a period when target weeds are growing actively – free of environmental stress factors such as drought, unusual temperature fluctuations or any other factor which may impair weed metabolism.
- Avoid applying **TWO-STEP SC** either too early (target weeds not sufficiently developed to ensure adequate absorption) or too late (metabolic processes within mature plants slow down towards the end of the growing season, causing systemic herbicides to become less effective as weeds approach dormancy) in season.
- Do not spray **TWO-STEP SC** on weeds that are wet with dew or recent rain. Wait for the target to dry off before application. If weeds are covered by silt residues or dust, delay application till after rain has washed away the offending matter.
- Do not apply **TWO-STEP SC** if rain is expected within 6 hours of application.
- During application, taller weeds may act as a canopy by intercepting a large portion of the spray. In such cases, the control of smaller or flat growing weeds may be less than optimal. Mowing weeds and removing the debris before application, is recommended in such cases.
- The soil action of **TWO-STEP SC** is affected by rainfall and soil factors such as soil clay, organic matter (OM), or ash content. Rain within 10 to 14 days after application, to leach the product

into the topsoil where germination usually occurs, is beneficial. If the soil clay, ash or OM content of the soil is known to be high, add additional **Volcano Simazine** or **Volcano Terbuthylazine** to the spray mixture prior to application (refer to the respective labels for particulars).

- Adding a suitable colourant to the spray mixture can enhance control over the application process.
- For mixing purposes, use only water from a reliable source, free of visible impurities.
- The addition of an ammonium sulphate based additive helps to modify spray water, but adding a volume equal to 2 % of the spray volume (2 ℓ / 100 ℓ water) may enhance results even further.

DOSAGE RATES

| Problem | TWO-STEP SC Dosage Rate (mℓ/100 m²) | Comments |
|--|-------------------------------------|--|
| Annual weeds (broadleaf weeds and grasses) | 50 – 100 mℓ | Apply during a period of active growth when a sufficient amount foliage to enable proper absorption, has developed. Use the higher rate when target weeds are already well established. |
| Perennial grasses: Kikuyu (<i>Pennisetum clandestinum</i>) Love grass (<i>Eragrostis curvula</i>) Common buffalo grass (<i>Panicum maximum</i>) Natal Red Top (<i>Rhynchelytrum repens</i>) | 100 - 150 mℓ | Apply during a period of active growth when a sufficient amount foliage to enable proper absorption, has developed. Use the higher rate when target weeds are already well established. In some cases, an additional treatment may be needed to provide acceptable control of hardy perennial grasses. Depending on the development stage of re-growth, re-treat weeds during the same season or if too late, wait for the following season before re-treating. |
| Perennial grasses: Thatch grass (<i>Hyparrhenia hirta</i>) Red grass (<i>Themeda triandra</i>) Common paspalum (<i>Paspalum dilatatum</i>) | 150 – 200 mℓ | |
| Kweek grass (<i>Cynodon dactylon</i>) | 200 - 250 mℓ | |
| Controlled species substitution (CSS) | 100 - 150 mℓ | Hardy perennial grasses like Thatch grass (<i>H. hirta</i>), Redgrass (<i>Themeda triandra</i>), Love grass (<i>E. curvula</i>), etc. should be treated with the higher rate. The weeds should be mowed to an average height of 200 - 300 mm. Remove all cuttings and debris before applying TWO-STEP SC . Even if <i>C. dactylon</i> comprises 25 % or more of the weed population, complete specie substitution (replacement of tall bunch grasses with <i>C. dactylon</i>) is unlikely to be affected within one growing season and the process must be repeated over several seasons, until the desired effect is achieved. |

Partial list of weeds normally controlled by **TWO-STEP SC**:

| Scientific name | Common name |
|--|---|
| Broadleaf weeds: <i>Acanthospermum australe</i> <i>Acanthospermum glabratum</i> <i>Amaranthus hybridus</i> <i>Amaranthus thunbergii</i> <i>Anagallis arvensis</i> <i>Arctotheca calendula</i> <i>Bidens bipinnata</i> <i>Bidens pilosa</i> <i>Chenopodium album</i> <i>Chenopodium carinatum</i> <i>Commelina benghalensis</i> <i>Conyza sumatrensis</i> <i>Echium lycopsis</i> <i>Erodium moschatum</i> <i>Galinsoga parviflora</i> <i>Gisekia pharmaceoides</i> <i>Hibiscus trionum</i> <i>Hypophoeis radicata</i> <i>Ipomoea purpurea</i> <i>Lactuca serinola</i> <i>Medicago polymorpha</i> <i>Nicandra physaloides</i> <i>Oenothera spp</i> <i>Physalis angulata</i> <i>Picris echioides</i> <i>Plantago lanceolata</i> <i>Portulaca oleracea</i> <i>Raphanus raphanistrum</i> <i>Schkuhria pinnata</i> <i>Senecio consanguineus</i> <i>Sonchus oleraceus</i> <i>Tagetes minuta</i> <i>Triumfetta spp</i> | Eight-seeded prostrate starbur Five-seeded prostrate starbur Common pigweed Red pigweed Pimpernel Cape marigold Spanish blackjack Blackjack White goosefoot Green goosefoot Benghal wandering Jew Tall fieabane Patterson's curse Musk heron's bill Gallant soldier Gisekia Bladderweed Hairy wild lettuce Common morning glory Wild lettuce Bur clover Apple of Peru Evening Primrose Wild gooseberry Bristly ox-tongue Narrow-leaved ribwort Purslane Wild radish Dwarf marigold Starvation senecio Sowthistle Khaki weed Klitsbossie |
| Grasses: <i>Briza maxima</i> <i>Bromus diandrus</i> <i>Bromus unioloides</i> <i>Cynodon dactylon</i> <i>Digitaria sanguinalis</i> <i>Eleusine indica</i> <i>Eragrostis chloromelas</i> <i>Hyparrhenia hirta</i> <i>Lolium temulentum</i> <i>Panicum maximum</i> <i>Paspalum dilatatum</i> <i>Poa annua</i> <i>Themeda triandra</i> | Big quaking grass Ripgut brome Rescue grass Couch grass Crabfinger-grass Goose grass Blue love grass Thatching grass Rye grass Common buffalo grass Common Paspalum Annual blue grass Redgrass |

