


# LINAGAN® SC

Reg. no. L6294 Act/Wet 36 of/van 1947  
N-AR 0492, W1031279

**ONLY FOR AGRICULTURAL USE – SLEGS VIR LANDBOUGEBRUIK**

**READ THE LABEL BEFORE USE**

**KEEP OUT OF REACH OF CHILDREN AND ANIMALS**

GROUP	C2	HERBICIDE
A suspension concentrate: root- and foliar-absorbed herbicide for the control of the weeds mentioned in the crops listed.		'n Suspensiekonsentraat: wortel- en blaar-opneembare onkruidodder vir die beheer van die onkruid vermeld in die genoemde gewasse.
 <p><b>DANGER</b></p>		<p><b>Hazard statements</b> Suspected of causing cancer. May damage fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure. Very toxic to aquatic life with long lasting effects.</p> <p><b>Precautionary statements</b> Wear protective gloves, protective clothing, eye protection and face protection. Avoid release to the environment.</p>

## ACTIVE INGREDIENT/AKTIEWE BESTANDDEEL

linuron (urea) ..... 500 g/L ..... linuron (ureum)

## NET VOLUME/NETTO VOLUME

..... L

### REGISTRATION HOLDER/REGISTRASIEHOUER

ADAMA South Africa (Pty) Ltd;  
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### IN CASE OF POISONING, CALL THE FOLLOWING NUMBERS:

Griffon Poison Information Centre:  
+27 82 446 8946 or  
Tygerberg Poison Information Centre:  
+27 861 555 777

### EMERGENCY NUMBER:

SPILL TECH: +27 86 100 6366 or +27 83 253 6618

UN no.:3082

Batch number .....  
Date of manufacture .....  
Expiry date .....

Lotnommer .....  
Datum van vervaardiging .....  
Vervaldatum .....



GHS information

## WARNINGS

- Suspected of causing cancer.
  - May damage fertility or the unborn child.
  - May cause damage to organs through prolonged or repeated exposure.
  - Very toxic to aquatic life with long lasting effects.
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- May be poisonous if swallowed.
  - May irritate eyes, nose, throat and skin.
  - Store in a cool place away from fertilizers, food and feeds.
  - **LINAGAN® SC is registered strictly for agricultural use only, and NOT for any other use, such as residential gardens or other uses.**
  - Although **LINAGAN® SC** has been tested on most important cultivars and no significant effect has been recorded, this does not mean that a more susceptible cultivar cannot be commercialized in the future. Where new cultivars are encountered large areas should not be sprayed without prior testing of **LINAGAN® SC** on that cultivar.
  - Re-entry: **Do not enter treated area within 1 day after application 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 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 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

- Keep out of reach of children.
- Obtain, read and follow all safety instructions before reuse.
- Do not breathe dust/fume/gas/mist/vapours/spray.
- Avoid release to the environment.
- Wear protective gloves, protective clothing, eye protection and face protection.
- If exposed or concerned get medical advice.
- Get medical help if you feel unwell.

- Collect spillage.
- Store locked up.
- Dispose of contents/container to an approved waste disposal plant.

- Prepare the spray mixture strictly in accordance with the instructions on the label.
- Wash immediately after accidental skin contact with soap and cold water.
- Wash hands, forearms and face thoroughly after handling.
- Always wear personal protective equipment and clothing (double-layered clothing, chemical-resistant gloves and shoes) when mixing or applying the product.
- PREVENT DRIFT ONTO OTHER EDIBLE CROPS, GRAZING, RIVERS, DAMS AND AREAS NOT UNDER TREATMENT.
- Clean applicator thoroughly before re-using with other materials. Invert the empty container over the spray – or mixing tank 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 and add the rinsing to the contents of the spray tank before disposing of the container in the prescribed manner.
- Destroy empty container by perforation and flattening and never use for another purpose.
- Dispose of wash water where it will not contaminate grazing, food or water.
- Ensure that the spray does not drift over grazing, crops not under treatment or water sources.
- Keep animals and children away from stacked and spilt material.
- No worker should be engaged in handling or marking operations while suffering from any major complaint or from certain minor complaints such as bronchitis or stomach trouble.

## RELEVANT SUBSTANCES

Chemical name	w/w %	CAS no.
Linuron	30–60%	330-55-2
Monoethylene glycol	<10%	107-21-1

## FIRST AID

In case of accident or unwellness, seek medical advice immediately. Provide this label and SDS to medical personnel for treatment. Emergency personnel should wear protective clothing appropriate to the type and degree of contamination.

Immediately remove contaminated clothing and remove the affected person from the contamination area. Keep the person warm, calm and covered up. First Aid personnel should pay attention to their own safety.

Take the container label or product name with you when seeking medical attention.

**Eye contact:** Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.

**Skin contact:** Remove all contaminated clothing and shoes. Wash the skin immediately with plenty of water for 15 to 20 minutes under the safety shower. Consult a physician if necessary.

**Inhalation:** Immediately remove the affected victim from exposure to an area with fresh air. If breathing is difficult have qualified personnel administer oxygen. If breathing has stopped, administer artificial respiration. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician.

**Ingestion:** Call a poison control center or medical practitioner immediately for treatment advice. If conscious, rinse mouth thoroughly with water. Drink plenty of water. Never give anything by mouth to an unconscious or convulsing person. If spontaneous vomiting occurs, have victim lean forward with head down to avoid breathing in of vomit, rinse mouth and administer more water. Get medical attention immediately if symptoms occur.

## TOXICOLOGICAL INFORMATION

### Antidotes

None known. Treat symptomatically.

### Symptoms of human poisoning

None known.

## RESISTANCE WARNING

For the purpose of resistance management **LINAGAN® SC** is classified as a group code C2 herbicide. Any weed population may contain individuals naturally resistant to **LINAGAN® SC** and other group code C herbicides. The resistant individuals can eventually dominate the weed population if these herbicides are used repeatedly. These resistant weeds may not be controlled by **LINAGAN® SC** or any other group code C herbicides. To delay herbicide resistance:

- Avoid exclusive repeated use of herbicides of the same herbicide group code. Alternate or tank mix with products from different herbicide group codes.
- Integrate control methods (chemical and cultural) into weed control programs or specific information on resistance management contact the registration holder of this product.

## MODE OF ACTION

C2: Inhibition of photosynthesis at PSII – Serine264 binders.

**The product has both contact and residual activity and controls a range of annual broad-leaved and grass weeds.**

## USE RESTRICTIONS

- Apply **LINAGAN® SC** for agricultural use ONLY, and NOT for any other use, such as residential gardens or other uses.

- Do not apply **LINAGAN® SC** by using backpack sprayers.
- The recommended 1-day post-application restricted-entry interval must lapse before crop re-entry for the purpose of hand-setting of irrigation pipes in sprayed pre-emergence carrot and potato fields.
- In the case of sprayed post-emergence carrots, the restricted-entry interval is 13 days for hand-setting of irrigation pipes. During this period, workers entering the fields for irrigation purposes must wear double-layered clothing, that is, a coverall over basic clothing and water-resistant gloves and shoes (e.g., rubber boots).
- Double-layered clothing must be worn when mixing/loading or applying the product; that is, a coverall over basic clothing and chemical-resistant gloves and shoes (e.g., rubber boots).

## DIRECTIONS FOR USE

Use only as directed.

**NOTICE TO THE USER:** This agricultural remedy is to be used only according to the directions of this label. It is an offense under the Act to use this product inconsistent with the directions on the label.

## APPLICATION RATES

CROP AND TARGET	APPLICATION AND SOIL TYPE	DOSAGE/HA
<b>Carrots</b>	<b>Pre emergence of seed</b> Loamy sand 11–15 % clay Sandy loam 16–20 % clay Sandy clay loam 21–35 % clay	1.0 L in 300 L water 1.5 L in 300 L water 2.0 L in 300 L water
	<b>Post emergence of seed</b>	1–1.5 L in 300–500 L water. Dosage depends upon growth stage of the weeds
<b>Potatoes</b> (under irrigation)	<b>Pre emergence</b> (of crop) Loamy sand 11–15 % clay Sandy loam 16–20 % clay Sandy clay loam 21–35 % clay	2.0 L in 300–500 L water 2.5 L in 300–500 L water 3.0 L in 300–500 L water
<b>Sweet potato transplants</b> (Cuttings)	<b>Pre emergence</b> (of weeds): Loamy sand 11–15 % clay Sandy loam 16–20 % clay Sandy clay loam 21–35 % clay	1.5 L in 300 L water 1.75 L in 300 L water 2.0 L in 300 L water

## APPLICATION

### CROPS

#### Carrots

**Pre emergence:** Seed should be sown no less than 1.25 cm deep in a fine seedbed. (See General.)

**Post emergence:** When spraying do not apply before the carrots have reached the 4-leaf stage. The best time to spray is when the weeds are in the 2- to 3-leaf stage and do not exceed 50 mm in height. Use 300 L spray mixture/ha. Use 500 L mixture/ha on weeds which are in the 3- to 5-leaf stage, but are not taller than 75 mm. Do not apply when temperature exceeds 30 °C. Do not exceed 3 bars pressure as crop injury may result. The addition of full concentration wetter/spreader can result in crop injury.

**Respraying:** Respraying is permissible for both pre-and post-emergence applications as long as the total dosage is not more than 2 x the prescribed dosage for the situation for which it has been recommended and should in no instance exceed 4 L/ha. ADAMA South Africa (Pty.) Ltd. is not in a position to continuously test **LINAGAN® SC** on all new cultivars. If phytotoxic symptoms such as leaf tip burn should be noticed on any cultivar after a spray it would not be advisable to use this chemical for a second time on that cultivar during the same growing season.

#### Irrigated potatoes

May be sprayed after planting until prior to emergence of first leaves of crop. Seed should be planted at least 5 cm deep and seedbed should be free of clods. Where no weed growth is yet present, or when weeds are in the 2- to 3-leaf stage, and do not exceed 50 mm in height and the potatoes have not yet emerged, use 300 L mixture/ha. Where potatoes have not yet emerged, but weeds are in the 2- to 5- leaf stage but not taller than 75 mm, use 500 L mixture/ha. Grasses should not be allowed to exceed 50 mm in height. Where a band treatment is used proportionally fewer chemicals than for the overall treatment must be used. If weeds have already germinated, it is advisable to ADD A WETTER.

#### Sweet potatoes

Apply immediately after transplanting before active growth starts. Give light sprinkle irrigation after application to wash herbicide off the leaves of the cuttings. Alternatively, spray first and transplant directly thereafter, ensuring that soil is not unduly disturbed, and that the minimum amount of trampling takes place. The first option is the better one.

## EQUIPMENT

Use a tractor-mounted fixed-boom power sprayer properly calibrated to a constant speed and rate of delivery. Openings in filters should be equal to or larger than 50 mesh. Continuous agitation in the spray tank is required to keep the material in suspension. Agitate by mechanical or hydraulic means. If a by-pass or return line is used, it should terminate at the bottom of the tank to minimize foaming. Do not use air agitation. Avoid over-lapping and shut off booms while starting, turning, slowing or stopping, or injury to the crop may result. 8004 flat fan nozzles for both pre-and post-emergence sprays on crops other than maize are recommended and a spray pressure of 2.5–3 bars in the case of the former, while using 1.5–2 bars in the case of the latter application method. ~~For~~

## APPLICATION

**GENERAL:** Do not use LINAGAN on calcific or newly limed soils.

### Pre-emergence sprays

- Sprays should be applied either to a moist soil surface or a light irrigation to activate the herbicide should follow shortly after application.
- A good seedbed must be prepared before application of **LINAGAN® SC**. Crop injury may result if application is made to ground, which is cloddy, or compacted resulting in improperly planted seed. Plant seed at depth specified.
- Surface of the soil should not be cultivated or disturbed after application of **LINAGAN® SC** and before emergence of the crop as weed control may be reduced and crop injury may be possible. If soil moisture is insufficient to activate the herbicide, a shallow cultivation should be made after emergence of row crops while weeds are small enough to be controlled by mechanical means.
- Do not use **LINAGAN® SC** pre-emergence where water logging may occur.
- Do not use **LINAGAN® SC** pre-emergence on gravelly soils or exposed subsoil.
- Certain weeds which are able to germinate from lower soil depths, such as *Datura*, (thorn apple) and cosmos are not always effectively controlled by pre-emergence applications of.
- It is recommended that soil treated with **LINAGAN® SC** should not be sown or planted with **LINAGAN® SC** sensitive crops within 4 months of initial treatment. Lettuce is particularly sensitive and problems may be encountered if it is sown during the same season that the initial treatment with **LINAGAN® SC** took place.
- The pre-emergence control of deep and/or late germinating weeds may sometimes be erratic.

### Post-emergence sprays

Optimum results are obtained with post-emergence application under conditions of high humidity and temperatures of 16–25 °C when weeds are growing vigorously.

## BROADLEAF WEEDS CONTROLLED BY LINAGAN® SC

Botanical name	Common name
<i>Acanthospermum hispidum</i>	upright starbur
<i>Amaranthus deflexus</i>	perennial pigweed
<i>A. spinosus</i>	thorny pigweed
<i>A. hybridus</i>	common pigweed
<i>Amsinckia calycina</i>	fiddleneck
<i>Arctotheca calendula</i>	Cape marigold
<i>Bidens bipinnata</i>	Spanish blackjack
<i>Bidens pilosa</i>	common blackjack
<i>Bilderdykia convolvulus</i>	wild buckwheat
<i>Capsella bursa-pastoris</i>	sheperd's purse
<i>Cenia turbinata</i>	Mayweed
<i>Chenopodium album</i>	white goosefoot
<i>Cosmos bipinnatus</i>	cosmos
<i>Datura spp.</i>	thorn apple
<i>Emex australis</i>	spiny emex
<i>Euphorbia hirta</i>	red euphorbia
<i>Galingsoga parviflora</i>	small flowered quick weed
<i>Lactuca serriola</i>	wild lettuce
<i>Lepidum africanum</i>	pepper weed
<i>Physalis angulata</i>	wild gooseberry
<i>Polygonum aviculare</i>	prostrate knotweed
<i>Portulaca oleracea</i>	common purslane
<i>Raphanus raphanistrum</i>	wild radish
<i>Schkuhria pinnata</i>	dwarf marigold
<i>Scleranthus annuus</i>	annual scleranthus



Botanical name	Common name
<i>Sisymbrium thellungii</i>	wild mustard
<i>Sonchus oleraceus</i>	common sowthistle
<i>Spergula arvensis</i>	corn spurry
<i>Stellaria media</i>	chickweed
<i>Tagetes minuta</i>	tall khakiweed
<i>Veronica persica</i>	ironweed
<i>Vicia sativa</i>	common vetch

#### GRAS WEEDS CONTROLLED BY LINAGAN® SC

Botanical name	Common name
<i>Chloris pycnothrix</i>	spiderweb chloris
<i>Echinochloa crusgalli</i>	barnyard grass
<i>Eleusine indica</i>	goosegrass
* <i>Lolium multiflorum</i>	Italian ryegrass
* <i>Lolium temulentum</i>	darnel
<i>Panicum schinzii</i>	vlei panicum
<i>Phalaris canariensis</i>	canary-seed grass
<i>Poa annua</i>	annual bluegrass
<i>Setaria pallide-fusca</i>	garden bristle-grass
<i>Tragus berteronianus</i>	spike carrot-seed grass
<i>Tragus racemosus</i>	carrot-seed grass

#### NOTE

- **Post emergence:** *Cyperus esculentus* – yellow nutsedge – control in carrots is variable, but can be enhanced by allowing an acceptable leaf area to develop and then adding a wetter at 50% the recommended concentration. Slight scorching of the carrot leaves may occur, but this disappears with time. *Digitaria sanguinalis* – crab fingergrass – is only controlled by **LINAGAN® SC** under very favourable conditions.

\*Variable results are sometimes obtained on *Lolium spp.* – ryegrass and darnel. *Medicago polymorpha* – burr-clover – is not controlled by **LINAGAN® SC**.