

HERBICIDE GROUP B(2) ONKRUIDDODERGROEP

Aktiewe bestanddeel / Active ingredient:

halosulfuron (sulfonielureum) / halosulfuron (sulfonyleurea) 750 g/kg
UN: nie geklassifiseerd / not classified
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'n Waterdispergeerbare korrelonkruidoder in 'n aluminium sakkie vir die selektiewe na-opkomsbeheer van uittjies en sekere breëblaaronkruides in graansorghum, mielies, suikerriet, avokados, sitrus, mangoes, tabak, koring en grasperke (kikoojoe (*Pennisetum clandestinum*) en Cape Royal (*Cynodon dactylon*)).

A water dispersible granular herbicide in an aluminium bag for selective post-emergence control of nut sedge and certain broadleaf weeds in grain sorghum, maize, sugarcane, avocados, citrus, mangoes, tobacco, wheat and lawns (kikuyu (*Pennisetum clandestinum*) and Cape Royal (*Cynodon dactylon*)).

Batch No
Date of Manufacture
EMERGENCY TEL. / NOOD TEL. ++27 (0) 8312 33 911 (Bateleur 911)
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 Registration holder / Registrasiehouer: **Syngenta SA (Pty) Ltd. / (Edms) Bpk.** (Co./Mpy Reg. No. 1998/013761/07) Private Bag / Private Sak X 60 HALFWAY HOUSE, 1685 RSA. Tel. (011) 541-4000

 Manufactured by: **Nissan Chemical Ind Ltd** Kowa Hitotsubashi Bldg 7-1 3-CHOME KANDA-NISHIKI-CHO CHIYODA-KU TOKYO JAPAN 101

1. WARNINGS

- Handle with care.
- Poisonous if swallowed.
- Store in a cool place.
- Store away from sun and damp, in original tightly closed containers in a well-ventilated place.
- Store away from food and feed, under lock and key.
- Keep out of reach of children, uninformed persons and animals.
- Avoid storage above 35 °C.
- **Re-entry:** Do not enter treated area until spray deposit has dried unless wearing protective clothing.

Although this remedy has been extensively tested under a large variety of conditions, the registration holder does not guarantee that it will be effective under all conditions. The activity and effect 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, 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 by 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.

2. PRECAUTIONS

- Do not inhale the spray mist.
- Avoid skin and eye contact.
- Wash contaminated clothing after use.
- Wash with soap and water after use.
- Do not eat, drink or smoke while mixing or applying the product or before washing hands and face.
- Avoid drift of spray onto other crops, grazing, rivers, dams and areas not under treatment.
- Clean applicator thoroughly after use and ensure that all traces of **SERVIAN** are removed. (Read sprayer cleanup).
- Prevent contamination of food, feed, drinking water and eating utensils.
- Destroy empty container and do not use it for any other purpose.

3. RESISTANCE MANAGEMENT

For resistance management, **SERVIAN** is a group code B(2) herbicide. Any weed population may contain individuals naturally resistant to **SERVIAN** and other group code B(2) herbicides. The resistant individuals can eventually dominate the weed population if these herbicides are used repeatedly and exclusively in programs. These resistant weeds may not be controlled by **SERVIAN** or any other group code B(2) herbicides.

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 programs.

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

4. USE RESTRICTIONS

- Do not apply **SERVIAN** to crops, which are stressed by severe weather conditions, drought, water logging, disease or insect damage.
- Do not apply **SERVIAN** to inbred parent plants or experimental or newly released cultivars without first consulting the manufacturer or seed supplier.
- Do not apply **SERVIAN** to crops not listed on this label as severe damage may be suffered.
- Although **SERVIAN** is registered for use on maize it should not be used on any of the sweetcorn or supersweet corn varieties.
- Do not use **SERVIAN** on soils where the pH (H₂O) is equal or greater than 7 and/or soils containing free lime, as the residual activity may be extended and crop rotation options adversely affected beyond normal intervals.
- Yellowing of the funnel leaves and slight stunting of grain sorghum and maize plants may occur if cool, wet weather conditions prevail for some time after application. Plants will however, outgrow these symptoms as these symptoms are of a cosmetic nature, and will have no effect on yield.
- **SERVIAN** is not recommended for the control of *Cyperus rotundus* (purple nut sedge) in the dry conditions in the North Western Province.
- **SERVIAN** and combinations of **SERVIAN** with other herbicides must be applied directed between the rows in avocados, citrus and mangoes.
- **SERVIAN** is recommended as a directed, inter-row application, after transplanting and establishment of tobacco. Leaves that are contacted may appear yellow and deformed. This will however have no effect on the remainder of the plant. Prolonged periods of cool, wet weather can intensify the degree of yellowing and deformation of the contacted leaves.
- Do not use any other herbicide in tank mixture with **SERVIAN** on tobacco.
- Harvesting of tobacco leaves can commence 7 days after application of **SERVIAN**.
- The efficacy of **SERVIAN** may be influenced by the quality of application water. If the sum total of calcium and magnesium in the water exceeds 150 ppm, ammonium sulphate must be added at 500 g/100 ℓ water.

- The efficacy of **SERVIAN** may be influenced by the quality of application water. Ammonium sulphate, e.g. Velocity-Glifo (L7768) must be added at 1 ℓ/100 ℓ water in hard water (Ca²⁺ + Mg²⁺ >150 dpm).

Warning: Possible damage to triazine sensitive crops

- Where soils have been treated with lime to correct the soil pH, the possibility of crop damage increases dramatically in fields where triazines were previously applied. This is due to the triazine molecules being replaced on the clay complex with calcium cations and the triazine thus becoming more available in the soil-water complex.
- No triazine sensitive crops should be planted in the season after the soil pH adjustment has been done with lime. This applies even if triazines were used at crop rotation rates in previous years.
- Triazine sensitive crops include all broadleaf crops e.g. different bean crops, sunflowers and all cereals e.g. wheat.
- These warnings however do not guarantee that no damage would be experienced to even the following maize crop as large volumes of previously applied triazines might now be available depending on the volume of lime applied and the rainfall experienced.

Warning: Possible increased efficacy, phytotoxicity and residual action

- Increasing the soil pH levels above 7 could produce conditions for increased efficacy and reduced selectivity. This increased pH may also result in increased soil residual action by certain herbicides influencing the choice of following crops especially under irrigation.
- In situations where pH adjustments has been done, take care when sulphonyl urea herbicides, triazolopyrimidine sulfonanilide herbicides and imidazolinone herbicides, which are all sensitive to soil pH fluctuations, have been used or are about to be used.

Contact your local SYNGENTA representative to discuss crop rotation and crop protection programmes to follow before embarking on any pH adjustment programme.

MINIMUM RECROPPING INTERVALS AND CROP ROTATION GUIDELINES

Other crops may be very sensitive to low concentrations of **SERVIAN** in the soil. Therefore, careful consideration should be given to crop rotation plans prior to using **SERVIAN**.

The minimum-recropping interval is the time between the last application of **SERVIAN** and the anticipated date of planting a subsequent crop.

To avoid injury to subsequent crops, the following recropping intervals should be observed:

- Avocado, citrus, mangoes, maize, sorghum and wheat - 1 month.
- Dry beans - 3 months.
- Potatoes - 6 months.
- Sunflower - 13 months.
- For all other crops a replanting interval of at least 24 months must be observed preceded by a test planting.

The recropping interval where additional SORGOMIL GOLD 600 SC (L6221) or GESAPRIM SUPER (L3914) or GARDOMIL GOLD (L6246) is added to **SERVIAN** is as follows:

- Maize - 1 month
- Grain sorghum, wheat, dry beans and potatoes - 9 months
- Sunflower - 13 months.
- For all other crops a replanting interval of at least 24 months must be observed preceded by a test planting.

On soils with 0 - 10% clay in the North West Province and North Western Free State as well as soils with a high lime content, the recommended GARDOMIL GOLD, GESAPRIM SUPER and SORGOMIL GOLD 600 SC rates could have the potential to damage follow-up crops.

Important

The above mentioned waiting periods are valid only if the correct dosage rate of **SERVIAN** was applied on soil with a pH (H₂O) of less than 7 and normal or above average rainfall fell during and following the season in which the application was made.

5. WEEDS CONTROLLED

SERVIAN normally controls the following weed species at the dosage rates recommended below:

SERVIAN (50 g):	
<i>Bidens pilosa</i>	black jack
<i>Cleome monophylla</i>	spindlepod
<i>Cyperus esculentus</i>	yellow nutsedge
<i>Cyperus rotundus</i>	purple nutsedge
<i>Galinsoga parviflora</i>	gallant soldier
<i>Tagetes minuta</i>	khaki weed

SERVIAN (50 g) + GESAPRIM SUPER (1 ℓ/ha)	
or	
SERVIAN (50 g) + GARDOMIL GOLD (1,5 - 2,9 ℓ/ha)	
control the above mentioned weeds as well as:	
* <i>Amaranthus hybridus</i>	common pigweed
* <i>Datura ferox</i>	large thorn apple
* <i>Tribulus terrestris</i>	dubbeltjie
* <i>Xanthium strumarium</i>	cocklebur

SERVIAN + GESAPRIM SUPER (1 ℓ/ha) + SORGOMIL GOLD 600 SC (1 ℓ/ha)	
or	
SERVIAN + GESAPRIM SUPER (1 ℓ/ha) + GARDOMIL GOLD (1 ℓ/ha)	
or	
SERVIAN + GARDOMIL GOLD (2,9 ℓ/ha)	
control the above mentioned weeds as well as:	
<i>Crotalaria sphaerocarpa</i>	mealie crotalaria
<i>Ipomoea purpurea</i>	common morning glory

* Factors such as high rainfall after application, cultivation, heavy soils and high weed pressure may detrimentally effect the residual control of dicot weeds with **SERVIAN**. Under these conditions it may be necessary to add 1 ℓ/ha SORGOMIL GOLD 600 SC **or** 1 ℓ/ha GESAPRIM SUPER **or** 1 ℓ/ha GARDOMIL GOLD additionally.

SERVIAN does not control *Cyperus spp.* pre-emergence and poor control of late germinating weeds can therefore be expected. Under these conditions a second application may be necessary before the crop canopies.

SERVIAN has only a limited dicot activity and must, for this reason, be tankmixed with other dicot herbicides for a complete dicot spectrum.

SERVIAN has no activity on grasses. Grasses must therefore be controlled pre-emergence with DUAL GOLD (L5749), METAGAN GOLD (L5748), or FALCON GOLD (L5750). Consult the applicable labels for details.

6. DIRECTIONS FOR USE

Use only as directed

General information

- **SERVIAN** rapidly inhibits growth of susceptible weeds. However, visible symptoms of dying weeds may not be noticeable for 1 to 3 weeks after application depending on growing conditions and weed susceptibility.
- Rainfall within 6 hours after a **SERVIAN** application may reduce weed control.
- If **SERVIAN** applications are followed by a dry period and then a wet period later in the season, regrowth of nut sedge may occur.

6.1 COMPATIBILITY

The compatibility of **SERVIAN** with other products may be influenced by the formulation of the products involved as well as the quality of the water. Since the formulation of other products may change without the knowledge of Syngenta and the quality of water may vary from farm to farm, a physical compatibility test should always be carried out prior to application.

SERVIAN is compatible with COMPLEMENT SUPER (L8169), BREAK-THRU (L5895), GARDOMIL GOLD (L6264), METAGAN GOLD (L5748), TOPIK (L4250), SORGOMIL GOLD 600 SC (L5897), TRALATE (L5100), GESAPRIM SUPER (L3914), SENCOR 480 SC (L3034), GESAPAX 500 SC (L2784), FALCON GOLD (L5750) and VELPAR 240 SL (L3696).

Do not apply **SERVIAN** in combination with **atrazine, paraquat, 2,4-D or bromoxynil**.

The application water in which **SERVIAN** is tank mixed should never be allowed to be below a pH of 6. The solubility of **SERVIAN** increases more than 100 times at pH 7 versus at a pH of 5. Do not add surfactants, acidifiers or buffers which reduce the pH below 6 when applying **SERVIAN**. The use of ammonium sulphate e.g. Velocity-Glifo (L7768) at rates ranging between 1% and 2% is recommended. Velocity-Glifo contains only ammonium sulphate which does not decrease the pH significantly.

SERVIAN should not be applied in mixtures with other herbicides, fungicides, insecticides, fertilisers or any other chemicals not recommended on this label.

6.2 MIXING INSTRUCTIONS

SERVIAN is water dispersible granular formulation, which mixes easily with water, provided the following mixing procedures are observed:

- Quarter to half fill the spray tank with water.
- Start the agitation.
- Add the appropriate amount of a surfactant.
- Add the required quantity of **SERVIAN** bags directly to the tank without prior creaming.
- Continue agitation while topping up the tank with water and while spraying.
- Use **SERVIAN** spray preparations within 24 hours as the effectiveness may be reduced due to product degradation. Thoroughly re-agitate before re-using.

6.3 APPLICATION RATES

6.3.1 Ground Application

SERVIAN can be applied with any medium or high volume sprayer equipped with an efficient agitation mechanism and which is capable of adequate coverage and even distribution. Best results are obtained using flat fan-type spray nozzles and applying a minimum spray volume of 200 - 400 ℓ/ha water.

TABLE 1: Application rate of SERVIAN

Crop and weed target	Application rates product / ha (always add an adjuvant as registered to the SERVIAN spray mixture)
<i>Cyperus</i> spp. in grain sorghum maize sugarcane avocados citrus mangoes tobacco wheat kikuyu lawns Cynodon lawns	50 g SERVIAN
<i>Cyperus</i> spp. plus dicot weeds in maize only	50 g SERVIAN plus either GESAPRIM SUPER (1 ℓ/ha) or GESAPRIM SUPER (1 ℓ/ha) + SORGOMIL GOLD 600 SC (1 ℓ/ha) or GESAPRIM SUPER (1 ℓ/ha) + GARDOMIL GOLD (1 ℓ/ha) or 1,5 - 2,9 ℓ/ha GARDOMIL GOLD

- Consult the **SORGOMIL GOLD 600 SC, GESAPRIM SUPER and GARDOMIL GOLD** labels for further details.
- Use the products in crops as registered on the labels of **SORGOMIL GOLD, GESAPRIM SUPER and GARDOMIL GOLD**.
- Add COMPLEMENT SUPER (100 mℓ/ha) or BREAK-THRU (0,05% v/v) to the spray mixture. Addition of other adjuvants to **SERVIAN** may result in 5 - 10 % less control of *Cyperus* spp.
- Apply **SERVIAN** alone or in a mixture 3 - 5 weeks after planting of the maize.
- Two applications of **SERVIAN** may be necessary to control late germinating nut sedge.
- For best results apply **SERVIAN** on actively growing **nut sedge** under moist conditions 3 - 5 weeks after planting. (After most of the nut sedges have germinated but before flowering.) New germination of nut sedge may occur if application was done too early. Inferior results will also be obtained with later applications when the nut sedge is in flower.
- Time of application is determined by the development stage of the nut sedges. However, broadleaf weeds should not exceed the 4 - leaf stage or 100 mm in height.
- If a cultivation is part of the normal practice this must preferably be postponed until 2 - 7 days after application of **SERVIAN**.
- Weeds that are overshadowed by other weeds or the crop may not be controlled due to insufficient coverage. This must be considered in the timing of application.
- The degree and duration of control will depend on weed size, growing conditions at and following the period of application, soil pH (H₂O) and rainfall.
- **Follow-up treatments may be necessary for the control of nut sedges in lawns.**

7. SPRAYER CLEANUP

To avoid injury to other crops, immediately after spraying thoroughly remove all traces of **SERVIAN** from the mixing and spray equipment as follows:

- Drain spray system completely. While agitating, thoroughly rinse spray tank with clean water and spray out the rinsate through the nozzles. Drain system again.
- Refill spray tank with clean water to approximately 15 - 20 % of the tank volume, thoroughly rinsing all inside tank surfaces.

- Add 1 ℓ sodium hypochlorite (5,2 %) per 200 ℓ water while agitating. Rinse nozzles with rinsate for approximately 1 minute. Let remaining rinsate circulate in the spraying system for a minimum of 5 - 10 minutes.
- Completely spray out rinsate through the nozzles and dispose of it in accordance with local regulations.
- To remove traces of the tank cleaner, flush the tank thoroughly with clean water, rinsing all inside tank surfaces. Spray out the remaining rinsate through the nozzles and drain system.

8. PRODUCTS AND CONTAINER DISPOSAL

- Dispose of surplus product in an incinerator or on a landfill site approved for pesticides.
- Do not bury in, or spray onto, any area under agricultural use.
- Dispose of containers made of plastic, cardboard or paper on a landfill site approved for pesticides or burn in a safe place where there is no risk of contamination by smoke and fumes.

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