READ THE LABEL BEFORE USE. KEEP OUT OF REACH OF CHILDREN AND ANIMALS. SHAKE THE BOTTLE WELL BEFORE USE.

REFER TO DETAILS AS PRINTED ON CONTAINER / BAG

DIRECTIONS FOR USE ENCLOSED
Batch Number:
Date of Manufacture:

Herbicide

VIXEN 480 SC

Reg. No. L 9856 Act No. 36 of 1947

2: 31/05/2023-Nov2023

A suspension concentrate herbicide for the control of sedges, broadleaf and annual grass weeds in the crops as listed.

GROUP 14 HERBICIDE

ACTIVE INGREDIENT

sulfentrazone (aryl-triazolinone) 480 g/ℓ

DANGER

Hazard statements:

May be harmful in contact with skin.
Causes mild skin irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause damage to organs through prolonged or repeated exposure.
Toxic to aquatic life with long lasting effects.

Precautionary statements:

Avoid release to the environment.
In case of inadequate ventilation wear respiratory protection.

ℓ

villa

UN Number: 3082

Registration holder: Meridian Agrochemical Company (Pty) Ltd / (Edms) Bpk
Co. Reg. No.2000/010819/07
P.O. Box 801, Kempton Park, 1620
Tel. (011) 396 2233
Website: www.villacrop.co.za

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

VIXEN 480 SC
Reg. No. L 9856 Act No. 36 of 1947
HRAC HERBICIDE GROUP CODE: 14

ACTIVE INGREDIENT:
sulfentrazone (aryl-triazolinone) ……480 g/ℓ

Registration holder:
Meridian Agrochemical Company (Pty.) Ltd.
Reg. No. 2000/010819/07
P.O. Box 801, Kempton Park, 1620, South Africa

WARNINGS

Hazard statements:

May be harmful in contact with skin.
Causes mild skin irritation.
May cause allergy or asthma symptoms
or breathing difficulties if inhaled.
May cause damage to organs through prolonged or repeated exposure.
Toxic to aquatic life with long lasting effects

- Handle with care.
- Store in the original container under lock and key in a cool, dry place away from food, feed, seed or other agricultural remedies.
- Keep out of reach of children, animals and uninformed people.
- In case of poisoning, call a medical doctor and show him/her this label.
- **Re-entry:** Do not enter the treated area within one day after application unless wearing protective clothing.
- **VIXEN 480 SC** has been tested on the most important commercial cultivars and no significant phyto toxic effects in the form of yield reduction have been recorded under normal growing conditions. More susceptible cultivars may be released in the future which need to be tested; for this apply **VIXEN 480 SC** to a limited test area before commercial applications are made.

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

PRECAUTIONS

Precautionary statements:

Do not breathe fume, mist, vapours and spray.
Avoid release to the environment.
In case of inadequate ventilation wear respiratory protection.
IF ON SKIN or skin irritation occurs: get medical help.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P319: Get medical help if you feel unwell.
If experiencing respiratory symptoms: Get emergency medical help immediately.
Collect spillage.
Dispose of content/container to suitable landfill in accordance with local regulations.

- Avoid contact with the eyes.
- Wear suitable protective clothing when handling the concentrate.
- Wash with soap and water directly after use or skin contact.
- In the case or eye contact: rinse the eyes with plenty of clean water for at least 15 minutes. Seek medical assistance if irritation persists.
- Do not smoke, eat or drink whilst handling this product or before washing hands and face and changing clothes.

- Prevent contamination of food, feed, drinking water as well as eating utensils.
- Wash contaminated clothing daily.
- Avoid spray drift onto other crops, rivers, grazing, dams and other areas not under treatment.
- **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 (3) 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 (www.croplife.co.za). Do not bury, burn or donate the container to any other parties that may use it as a container for food or beverages.

SYMPTOMS OF HUMAN POISONING

Effects from overexposure resulting from inhaling this product. Symptoms of overexposure include convulsions, tremors, increased sensitivity to touch and sound, difficulty breathing, decreased locomotion, tearing, nasal discharge and unco-ordination.

Relevant hazardous components	
Sulfentrazone	480 g/ℓ
MEG	<50 g/ℓ
Morwet D-425	<30 g/ℓ
Morwet EFW	<40 g/ℓ

FIRST AID MEASURES

General advice: 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.
Inhalation: Remove person from contaminated area to fresh air and assist breathing as needed. **If experiencing respiratory symptoms: Get emergency medical help immediately.**
Skin: Remove contaminated clothing and shoes. Gently wipe off excess chemical. Wash skin gently and thoroughly with water and non-abrasive soap. **Obtain medical attention if irritation occurs.**
Eyes: Flush eyes with clean water for at least 15 – 20 minutes. Lift eyelids to facilitate irrigation. If present, remove contact lenses after 5 minutes and continue rinsing. Seek medical attention if irritation persists.
Ingestion: Seek medical attention or call a poison control centre for treatment advice. 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. If the person is alert, rinse mouth thoroughly with water

NOTE TO PHYSICIAN

This product has a low oral, dermal and inhalation toxicity. This product is slightly irritating to the skin and eyes. Consideration should be given to gastric lavage with an endotracheal tube in place. The treatment is otherwise controlled by removal of exposure, followed by symptomatic and supportive care.

RESISTANCE WARNING

For resistance management, **VIXEN 480 SC** is a group 14 (aryl-triazolinone) herbicide. Any weed population may contain individuals naturally resistant to **VIXEN** and other Group Code 14 herbicides. The resistant individuals can eventually dominate the weed population if these herbicides are used repeatedly. These resistant weeds may not be controlled by **VIXEN 480 SC** or any other Group Code 14 herbicides.

To delay herbicide resistance:

- Avoid the exclusive repeated use of herbicides from the same herbicide Group Code. Alternate or tank mix with registered products from different herbicide Group Codes.
- Integrate other control methods (chemical, cultural, biological) into weed control programmes.

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

The presence of resistant weeds is difficult to detect prior to use and therefore neither the Registration Holder nor the Distributor can accept responsibility for any losses as a result of **VIXEN 480 SC** not controlling resistant weeds. Do not apply **VIXEN 480 SC** alone in situations where weed resistance has been confirmed. Sub-standard application of **VIXEN 480 SC** will lead to inferior weed control and may assist in development of herbicide resistance. It is of the utmost importance to inspect treated areas at regular intervals in order to identify the occurrence of herbicide resistant weeds timeously.

MODE OF ACTION

Following application of **VIXEN 480 SC** to soil as a pre-emergent herbicide to weeds and crops, the targeted germinating seeds and seedlings take up the sulfentrazone from the soil solution. The amount of sulfentrazone in the soil solution, and the amount of sulfentrazone available for weed up-take is mainly determined by the soil type, organic matter and soil pH. Sulfentrazone adsorbs to the clay and organic matter fractions of soils. This effectively limits the amount of active ingredient which is immediately available to control the weeds.

USE RESTRICTIONS

- Allow the following waiting periods between the last application of **VIXEN 480 SC** and the planting of follow-up crops:

Crop	Waiting period (months)
Barley/wheat	5
Maize, Sorghum, Rice	10
Other cereals, dry beans and groundnuts	12
Cotton, Sweetcorn	18
Sugarcane, Soybeans and Tobacco	0

- Do not apply to any crop or situation not mentioned in this label.
- Do not apply this product in combination or tank mixture with any other product or agricultural remedy which is not specifically listed on this label. Meridian Agrochemical Company (Pty) Ltd accepts no responsibility for any negative effects experienced if the instructions on this label are not adhered to, unless a Meridian representative was consulted beforehand.

INFLUENCE OF SOIL TYPE, ORGANIC MATTER AND PH ON VIXEN 480 SC FIELD PERFORMANCE

The soil pH has an effect on the availability of sulfentrazone in the soil solution. As the soil pH increases, the sulfentrazone availability increases. Irrigation with alkaline water (pH 7.5 and above) following a **VIXEN 480 SC** soil application can also significantly increase the availability of sulfentrazone in soil solution.

The total amount of sulfentrazone available in solution, in any given soil, is determined by the interaction of the soil type (i.e. clay content), pH and organic matter content. The application rate and timing relative to the emergence of the crop and weeds, and the amount of rainfall or irrigation received will determine, in conjunction with the soil parameters and the pH, the amount of sulfentrazone in soil solution.

All **VIXEN 480 SC** applications require sufficient moisture for herbicidal activation. **VIXEN 480 SC** can await activating moisture for extended periods (10-14 days). Once activated, **VIXEN 480 SC** will provide activity on the existing weeds. The level of this activity will depend on the weed species and their size at the time of activation.

DIRECTIONS FOR USE : **Use only as directed.**

COMPATIBILITY

The compatibility of **VIXEN 480 SC** with other products depends on the formulations of the respective products as well as the quality of the spray water to be used. As formulations change from time to time it is recommended that a physical compatibility test be done prior to the tank mixture being made. Do not mix **VIXEN 480 SC** with any products not listed on this label.

When using other products in a spray program with VIXEN 480 SC, always consult the labels of those particular products regarding directions and restrictions for their application and crop rotation recommendations.

MIXING AND APPLICATION INSTRUCTIONS

Half-fill the spray tank with clean water and start agitation. Prepare a premix by carefully measuring out the required amount of **VIXEN 480 SC** and mixing it with a few litres of clean water, and then slowly add the premix to the water in the tank while agitating. Carefully rinse the premix container and add the rinsate to the spray tank. Fill the spray tank to the required volume with clean water. Maintain constant agitation. Ensure that the **VIXEN 480 SC** is thoroughly mixed before adding a surfactant and/or mixing partner. Should tank

mixtures with other herbicides be made, follow the respective manufacturers' label recommendations. **Tank mixtures must be sprayed out immediately and not allowed to stand in the spray tank overnight.** Spraying equipment must be thoroughly flushed out with water plus ammonia at the end of the spraying operation. Thereafter, all spray tips and strainers must be removed and cleaned separately in a bucket of clean water plus ammonia.

Use only clean water with a pH of less than 8.0.

SUGARCANE

Pre-emergence application for *Cyperus rotundus* control in plant and ratoon sugarcane:
Where *Cyperus rotundus* is a problem, it is necessary to take certain measures to control and reduce the future infestation potential of this weed. Lands infested with *Cyperus rotundus* are likely to have a dense and extensive system of rhizomes and nutlets which produce hardy plants over an extended period of time, especially when a good level of moisture is available. More than one treatment is required to control *Cyperus rotundus* in these situations and to significantly reduce the population of nutlets which have the potential to germinate in the subsequent crops. In order to achieve the maximum benefit, control measures should be started in plant cane. Under such circumstances it is recommended that a programme of three sprays of **VIXEN 480 SC** be applied in 200 – 400 ℓ water / ha as a pre-emergent spray. **The first spray should be at planting and then directly after the sugarcane is cut in the following two cycles.**

Pre-emergence application to plant and ratoon sugarcane and weeds:
VIXEN 480 SC, when applied as a pre-emergence herbicide to plant or ratoon cane, should provide residual control of germinating seeds and seedlings (refer to the recommendations table for the list of weeds controlled). **VIXEN 480 SC** is absorbed by the roots and shoots of the germinating seeds and seedlings and applications must be made before the weeds emerge on a clean cultivated surface. Sufficient irrigation or rain is needed for **VIXEN 480 SC** to be taken up by the roots and shoots of the germinating seeds and seedlings.

Soil preparation:
Plant cane: Prepare the soil for planting in accordance with good agricultural practices.
Ratoon cane: Remove any debris covering the soil that will be treated before application.

Application methods
Ensure that the equipment is correctly calibrated and is checked regularly during application to ensure even and accurate application. Ensure that spray drift does not come into contact with the surrounding crops and areas. Avoid the formation of fine droplets, use low pressure flat fan nozzles or equivalent anti-drift type nozzles and do not exceed a spray pressure of 200 kPa and a ground speed of 10 kph. The nozzles should not be more than 50 cm above the target. Do not apply if the wind velocity exceeds 15kph.

Apply **VIXEN 480 SC** as an overall spray on plant cane and as a directed interrow spray on ratoon cane directly after planting or cutting and before emergence of the newly planted or ratoon cane.

Apply the recommended rate of **VIXEN 480 SC** evenly as an overall application in sufficient water (200 – 400 ℓ water / ha) in order to ensure adequate coverage of the soil surface.

Apply **VIXEN 480 SC** in combination with a suitable surfactant / wetter (non-ionic; mineral oil; organosilicone) to yellow nutsedge (*Cyperus esculentus)* from the 6 – 8 leaf growth stage.

The performance of **VIXEN 480 SC** is not affected by light or temperature and the product is not volatile. Therefore an application made to dry soil will remain on the soil surface for an extended period until activated by irrigation or moisture.

VIXEN 480 SC applied at the lower rates may provide control of Yellow nutsedge (*Cyperus esculentus*).

Soil type
Apply **VIXEN 480 SC** as a pre-emergent treatment to soils with a clay content of > 15% The use of a pre-emergent **VIXEN 480 SC** application on soils with a lower clay content may adversely affect the performance of the product.

Increase the rate of **VIXEN 480 SC** within the recommendations as the clay content and the cation exchange rate of the soil increases. Use the higher rate for soils with a pH of less than 7.0 and the lower rates for soils with a pH greater than 7.0 within the recommended rate range.

Late post-emergence application to plant and ratoon cane for yellow nutsedge control:
VIXEN 480 SC, when applied as a post emergent herbicide, should provide control of yellow nutsedge (*Cyperus esculentus*). Apply with a suitable surfactant (non-ionic, mineral oil, organosilicone) at the 6 – 8 leaf stage of the yellow nutsedge.

The rate at which **VIXEN 480 SC** alone is applied as a post emergent treatment provides inadequate control of non-germinated weeds and will only provide short term control of yellow nutsedge with limited soil activity (some suppression of *Cyperus rotundus* may be achieved).

Soil preparation:
Post emergent application
The soil surface should be free of debris / trash as this may adversely affect the penetration of the spray and the uptake of the product.

RECOMMENDATIONS

Table 1: Pre-emergence application in plant- and ratoon sugarcane for the control of purple watergrass (*Cyperus rotundus*):

Timing	Dosage (ℓ / ha)	Soil type	Remarks
Pre-emergence	1.9	• Fine soil • Medium soil	Depending on the soil type and where there is a mixed population of sedges including *Cyperus rotundus* or where *Cyperus rotundus* is dominant. Annual application should result in a reduction of the sedge tuber population. Refer to the "List of weeds controlled by **VIXEN 480 SC** "below.

Table 2: Late Post Emergence applications for short term control close to the canopy:

Timing	Dosage (ℓ / ha)	Sedges	Remarks
Post-emergence (short term: For further detail see the SASRI herbicide guideline)	0.55 ℓ **VIXEN 480 SC +** suitable surfactant	*Cyperus esculentus* (6-8 leaf stage, just before flowering)	Use a non-ionic mineral oil ororganosilicone surfactant.

List of weeds controlled in Sugarcane with the application of VIXEN 480 SC:

Sedges		Broadleaf weeds		Grasses	
Scientific name	**Common name**	**Scientific name**	**Common name**	**Scientific name**	**Common name**
Cyperus rotundus	Purple nutsedge	*Ageratum conyzoides*	Invading ageratum	*Setaria verticillata*	Sticky bristle grass
Cyperus esculentus	Yellow nutsedge	*Amaranthus spp.*	Pigweeds	*Digitaria sanguinalis*	Crab fingergrass
		Bidens pilosa	Common Blackjack	*Paspalum dilatatum*	Common paspalum
		Commelina benghalensis	Benghal Wandering Jew	*Sorghum bicolor*	Wild grain sorghum
		Conyza floribunda	Tall feabane	*Panicum maximum* (from seed only)	Common Buffalo grass
		Ipomoea pupurea	Common Morning glory	*Panicum natalensis*	Natal Buffalo grass
		Plantago lanceolata	Narrow-leaved ribwort		
		Portulaca oleracea	Purslane		
		Schkuhria pinnata	Dwarf marigold		
		Solanum nigrum	Black nightshade		

NOTE

- Refer to the note "**Mode of Action**" above and read it carefully.
- The registration holder does not accept responsibility for any unlisted weeds.
- Soil moisture and rainfall influences the activity of **VIXEN 480 SC**. In general, the rainfall needed to initiate weed germination will be sufficient to activate **VIXEN 480 SC**. However, the performance will be influenced by the level of humidity in the soil: The higher the humidity, the more the product will dissolve and become available for uptake by the weeds.
- The activity of **VIXEN 480 SC** is significantly adversely affected by low rainfall and should not be applied if these conditions are anticipated. High rainfall (> 450 mm) will also cause leaching of the product in coarse soils, which may result in poor weed control and poor residual control.
- The performance of **VIXEN 480 SC** can also be affected by the soil type and texture. Generally, the weed control decreases as the soil texture progresses from coarse to fine. Therefore, the higher rates are indicated in soils with a higher clay content and Cation Exchange Coefficient.
- When using **VIXEN 480 SC** in tank mixtures, follow all label directions for use of that particular product.
- When applied either as a pre-emergence or post emergence application to sugarcane, a slight scorch may appear on the leaves, especially if the crop is subjected to stress conditions (such as drought). These symptoms are temporary and will disappear as the sugarcane plant grows.
- Due to the specific mode of action of **VIXEN 480 SC**, visual symptoms of desiccation, especially on sedges, can be delayed by up to more than 60 days. The speed at which the symptoms appear on the leaves is related to various factors such as the soil humidity, soil type and the speed of development of the sedges.

FLUE CURED TOBACCO

Use the higher rate of **VIXEN 480 SC** for improved broadleaf weed control and on soils with a higher clay content. Apply **Metazachlor 500 SC** for improved broadleaf and grass control as a sequential spray and **not** as a tank mix, immediately after application of **VIXEN 480 SC**. Consult the respective label of **Metazachlor 500 SC**.

VIXEN 480 SC should be applied within 4 days of transplanting onto a good weed-free tilth. The nozzles should be mounted over the interrow and a directed spray aimed to include the top of the ridge and the base of the plants on either side in order to avoid contact with the heart of the plant.

Apply the treatment with flat fan nozzles in a spray volume of up to 200 ℓ / ha.
Irrigation or rainfall is needed to activate the herbicide.
Excessive rainfall and a high soil moisture content may lead to incomplete weed control on the ridges due to leaching of **VIXEN 480 SC.**

RECOMMENDATIONS

Dosage (/ ha)	**Broadleaf weeds**		**Grasses**	
400 – 470 mℓ **VIXEN 480 SC**	**Scientific name**	**Common name**	**Scientific name**	**Common name**
	Acanthospermum hispidum	Upright starbur		
	Amaranthus spp.	Pigweeds		
400 mℓ **VIXEN 480 SC +** 0.8 ℓ **Metazachlor 500 SC**	*Acanthospermum hispidum*	Upright starbur	*Digitaria sanguinalis*	Crab fingergrass
	Amaranthus spp.	Pigweeds	*Echinochloa colona*	Marsh grass
	Chenopodium album	White goosefoot	*Panicum maximum*	Common Buffalo grass
	Galinsoga parviflora	Gallant soldier		
	Nicandra physaloides	Apple-of-Peru		

Consult the Metazachlor 500 SC label for recommendations and dosage rates.