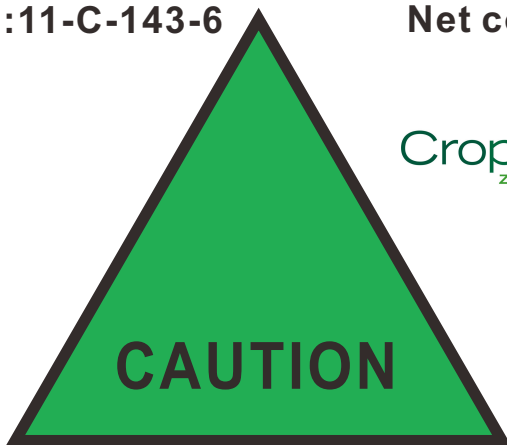


SULFENTRAZONE 480SC

Reg. No.:11-C-143-6

Net content:5L



CAUTION

HARMFUL WHEN SWALLOWED

Composition:	Mass/mass
Sulfentrazone.....	480g/L
Inert ingredients.....	up to 1 litre

Chemical group: Triazolinone

A pre-emergence triazolinone herbicide for use in flue cured tobacco and soya beans to control yellow and purple nutsedge and certain broadleaf weeds.

TO CAUSE A HAZARD IN THE USE, STORAGE OR DISPOSAL OF THIS SUBSTANCE IS AN OFFENCE.

KEEP OUT OF REACH OF CHILDREN



1. Triple rinse clean container after use
2. Punctures holes in bottom
3. Return to Maguires Recycling Facilitator / Return to nearest recycling facility

Registration held by:

MAGCHEM (PVT) LIMITED
2274 TILBURY ROAD,
WORKINGTON, HARARE,
ZIMBABWE

SAFETY PRECAUTIONS

1. Handle with care and avoid any contact with the liquid concentrate.
2. Wear protective clothing, boots, rubber gloves and face shield when handling this product.
3. KEEP OUT OF THE REACH OF CHILDREN.
4. KEEP APART FROM FOOD AND FOODSTUFFS.
5. KEEP UNDER LOCK AND KEY.
6. Poisonous by swallowing, inhalation and contact with the skin.
7. Wear goggles or a face shield when using this product. Mildly irritating to the eyes.
8. On completion of spraying wash hands and face thoroughly with soap and water.
9. Clean applicator thoroughly after use. Dispose of washings in a safe manner.
10. Do not contaminate drinking pools, dams, rivers, waterways and other water bodies.
11. Dispose of wash water in a designated waste area.
12. May be dangerous to wild animals, birds, fish and bees and other animals.
13. Do not eat, drink or smoke while applying this product.
14. Store in original container in a cool, dry place.
15. Triple rinse empty containers and add rinsate to spray tank. Destroy empty containers by crushing and burning – do NOT use for any other purpose.

SYMPTOMS OF POISONING

Causes moderate eye or skin irritation. Symptoms of overexposure include convulsions, tremors, increased sensitivity to touch and sound, laboured breathing, decreased locomotion, tearing, nasal discharge and incoordination.

FIRST AID

Should accidental poisoning occur, remove patient from contaminated area. Call a doctor and show him/her this label. Keep patient still, calm and reassured. Skin contact – wash with plenty of soap and water. Get medical attention if irritation occurs.

Inhalation – Remove to fresh air. If breathing is difficult or discomfort occurs and persists, call a doctor and show him/her this label.

Eye contact – Flush with plenty of water. Get medical attention if irritation occurs and persists.

Ingestion – Rinse mouth with water. Dilute by giving 1-2 glasses of water. DO NOT induce vomiting. Never give anything by mouth to an unconscious person. See a medical doctor immediately.

NOTE TO PHYSICIAN

This product has low oral, dermal and inhalation toxicity. Contains toluene which can cause severe pneumonitis if aspirated during vomiting. Consideration should be given to gastric lavage with an endotracheal tube in place. No known antidote. Treat symptomatically.

DIRECTIONS FOR USE:

Sulfentrazone 480SC should be sprayed uniformly on a good tillth before any weeds emerge with a tractor mounted boom or knapsack sprayer with flat fan nozzles in 200 litres water per hectare at a pressure of 1-2 bars. Rainfall or irrigation is needed to activate the herbicide. Avoid spray drift on to adjacent crops.

APPLICATION RATES:**TOBACCO, Flue cured**

Sulfentrazone 480SC should be applied within 4 days of transplanting onto a weed-free soil of good tillth. Nozzles spraying over the inter-row should be directed to cover the top of the ridge and the base of the plants on either side, so as to avoid contact with the heart of the tobacco plant.

% CLAY	Sedges only	For improved broadleaf control
Up to 20%	425ml/ha	470ml/ha
>20%	520ml/ha	550ml/ha

SOYA BEANS:

Ensure soya seed is planted at least 3.5 to 4cm deep and avoid leaving a furrow in the row after planting. Apply Sulfentrazone 480EC to soil of good tillth, post-planting and pre-emergence of crop and weeds at the following rates:

% CLAY	ml/ha Sulfentrazone
Up to 15%	Not recommended
16 - 35%	700ml/ha
>35%	780ml/ha

The performance of Sulfentrazone 480SC may be affected by factors such as weed species, pH, soil texture and moisture.

MODE OF ACTION:

Sulfentrazone 480SC is taken up by roots and foliage of treated plants but absorption is primarily by the roots.

MIXING:

Fill spray tank with one quarter of the volume of clean water required for spraying. Start agitation system. Then add Sulfentrazone 480SC followed by the remainder of the water. Continuous agitation of spray mix is essential at all times to keep the product in suspension. Make sure Sulfentrazone 480SC is thoroughly mixed BEFORE adding another product to the spray tank. Use immediately.

Weeds controlled by Sulfentrazone 480SC
Cyperus esculentus (Yellow Nutsedge) *Cyperus rotundus* (Purple Nutsedge) *Ageratum conyzoides* (Bilgotto weed) *Amaranthus* sp (Pigweed) *Chenopodium* sp (Fat Hen) *Datura* sp (stinklabar), *Galinsoga parviflora* (Galiant soldier), *Panicum phytolacoides* (Apple of Peru), *Physalis angulata* (Cape Gooseberry), *Richardia brasiliensis* (Mexican clover), *Tagetes minuta* (Mexican Marigold), *Acanthospermum hispidum* (Upright Starbur) and *Commelina benghalensis* (Wandering Jew) are well controlled.
 Control of grass weeds is variable to poor.

SPRAY TANK CLEAN UP:

Drain the spray tank and spray system and completely flush with clean water plus ammonia. Then remove spray nozzles and screens and clean separately in a bucket of clean water.

COMPATIBILITY:

Sulfentrazone 480SC may be combined or tank mixed with a registered pre-emergent grass killing herbicide to improve the spectrum of control. Consult supplier for compatibility.

WARNING - FOLLOWING CROP RESTRICTIONS:

After applying Sulfentrazone 480SC, do not plant the following crops within the stated period of time (in months): Barley / wheat - 5, Maize - 10, Sorghum - 8, Rice - 12, Other cereals - 12, Cotton - 18, Sweetcorn - 18.

ENVIRONMENTAL HAZARDS

This product is toxic to some aquatic invertebrates. Do not apply directly to areas where surface water is present. Drift and runoff may be hazardous to terrestrial and aquatic plants in neighbouring areas. Do not contaminate water when disposing of equipment wash waters or rinsate.

Groundwater Advisory: This chemical is known to leach through soil into groundwater under certain conditions as a result of recommended usage. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination. Do not use on coarse soils classified as sand which have less than 1% organic matter.

Surface Water Advisory:

Sulfentrazone 480SC can contaminate surface water through spray drift. Under some conditions Sulfentrazone 480SC may also have a high potential runoff into surface water (primarily via dissolution in runoff water) for several to many months post application. These include poorly draining or wet soils with readily visible slopes towards adjacent surface waters, frequently flooded areas, areas overlying extremely shallow groundwater, areas with in-field canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips and areas overlying the drainage systems that drain to surface waters.

SAFETY PRECAUTIONS**Empty container disposal**

Invert the empty container over the spray tank or mixing tank and allow to drain for at least 30 seconds after the flow has slowed down to a drip. Thereafter, rinse the container three times with a volume of water equal to a minimum of 10% of the container. Add the rinsings to the contents of the spray tank. Destroy the empty container by perforation and flattening. Return to supplier for recycling. DO NOT use for any other purpose. Dispose of the wash water at a site for the disposal of pesticides.

Decontamination of sprayer

Clean applicator thoroughly after use and ensure that all traces of Sulfentrazone 480SC are removed. Make use of the following method:

- (a) Drain and rinse tank, spray boom and hoses with clean water for at least 10 minutes.
- (b) Fill tank with clean water and add it to 1 litre household bleach (5%) or 1.5 Litres of household bleach (3.5%) per 200 Litres of water. Rinse hoses and spray boom and leave in tank for 15 minutes whilst agitating. Drain through nozzle outlets.
- (c) Repeat step (b) and thereafter, rinse thoroughly with clean water and dispose of the wash water at a site designated for the disposal of pesticides.

WARRANTY

Provided that the recommendations for usage of this product are strictly followed it should give excellent results, but since the performance of crop protection chemicals can be influenced by factors outside the manufacturers control, the manufacturer and seller give no guarantee or warranty, either expressed or implied concerning the use and/or storage of this product and accept no responsibility or liability of any nature whatsoever for any damage, injury or financial loss of any nature from the use thereof.

DATE OF MANUFACTURE: MAR. 2019**BATCH NO:20190301**

Manufactured by:

NOVAAGRO (HK) LTD
 6TH FLOOR, WYNDHAM PLACE,
 44 WYNDHAM STREET,
 CENTRAL HONG KONG

Registration held by:

MAGCHEM (PVT) LIMITED
 2274 TILBURY ROAD,
 WORKINGTON, HARARE,
 ZIMBABWE

1. IDENTIFICATION OF THE SUBSTANCE AND THE COMPANY

Supplier **NOVA AGRO (HK) LTD**
(Reg. No. 1023146)
6th Floor Wyndham Place
44 Wyndham Street
CENTRAL HONG KONG.

2. COMPOSITION / INFORMATION ON INGREDIENTS

Common name: Sulfentrazone
Chemical Name: 2',4'-dichloro-5'-(4-difluoromethyl-4,5-dihydro-3-methyl-5-oxo-1*H*-1,2,4-triazol-1-yl) methanesulfonamide (IUPAC)
CAS No.: [122836-35-5]
Chemical Family: triazolinone
Chemical Formula: C₁₁H₁₀Cl₂F₂N₄O₃S
Molecular weight: 387.2
Use: A pre-emergence herbicide for the control of weeds in various crops.
Formulation: **Sulfentrazone:** 750 g/kg Water dispersible granule
Hazardous ingredients of toxicological concern:
Inert: % present:
Sulfentrazone: 75 %
Inert Ingredients: 25 %
Symbols: T, Xi, Xn
Risk-phrase(s): R20/22, R36/38, R51

3. HAZARDS IDENTIFICATION

Slightly combustible. May support combustion at elevated temperatures. Slightly toxic to fish and aquatic organisms.

Moderate inhalation toxicity.

Mild irritation to eyes and skin.

Toxicity Class: Class III. Slight risk of poisoning.

Likely routes of exposure: Skin contact, ingestion and inhalation.

4. FIRST AID MEASURES AND PRECAUTIONS**Inhalation:**

If dusts or mists have been inhaled and irritation has developed, remove the source of contamination or move victim to fresh air. If breathing difficulty or discomfort occurs and persists, obtain medical attention.



MATERIAL SAFETY DATA SHEET

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Skin contact:

Remove contaminated clothing immediately. Gently wipe off excess chemical. Wash skin gently and thoroughly with non-abrasive soap and large amounts of water for 15 – 20 minutes. If irritation persists, immediately seek medical attention.

Eye contact:

Immediately flush the contaminated eyes slowly and gently with water for 15 - 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Obtain medical attention if irritation persists.

Ingestion:

Do not induce vomiting. Do not give anything by mouth. Never give anything by mouth to an unconscious person. Obtain medical attention immediately.

Advice on treatment:

No specific antidote is available.

This product has moderate inhalation toxicity, and low oral and dermal toxicity. It is mildly irritating to the eyes and slightly irritating to the skin. This product contains a granular material (clay) that may cause mechanical irritation to the eyes.

Treatment is otherwise controlled by removal of exposure followed by symptomatic and supportive care.

5. FIRE FIGHTING MEASURES

Extinguishing agents:

Foam, CO₂ or dry chemicals. Soft stream water fog only if necessary. Contain all runoff.

Fire / Explosion Hazards:

Slightly combustible. This material may support combustion at elevated temperatures.

Fire fighting:

Remove spectators from surrounding area. Isolate the fire area and evacuate downwind. Use a recommended extinguishing agent for the type of surrounding fire.

Avoid inhaling hazardous vapours and fumes from burning materials. Avoid the accumulation of polluted run-off from the site.

Personal protective equipment:

Fire may produce irritating and/or toxic vapours, mists or other products of combustion. Fire fighters and others that may be exposed should wear full protective clothing and self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES (SPILLAGE)

Personal precautions:

Avoid contact with skin and eyes. Do not breathe in spray or fumes. For personal protection see Section 8.

Environmental precautions:

Isolate and post spill area. Do not allow entering of drains or watercourses. Spillage or uncontrolled discharges into water courses (or public waters) to be reported immediately to the Police and to the Department of Water/Environmental Affairs. Considered a Marine Pollutant.



MATERIAL SAFETY DATA SHEET

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Occupational spill:

Do not touch-spilled material; stop leak if you can do it without risk. Keep out unprotected persons and animals.

For spills: Large spills should be covered to prevent dispersal. For dry material, use a wet sweeping compound or water to prevent the formation of dust. If water is used, prevent runoff or dispersion of excess liquid by diking and absorbing with a non-combustible absorbent such as clay, sand or soil. Vacuum, shovel or pump all waste material, including absorbent, into a drum and label content for disposal.

To clean and neutralize spill area, tools and equipment, wash with a suitable solution of caustic or soda ash, and an appropriate alcohol (i.e., methanol, ethanol or isopropanol). Follow this by washing with a strong soap and water solution. Absorb, as above, any excess liquid and add to the drums of waste already collected. Repeat if necessary. Label drums with its content and dispose of it in accordance with local regulations.

7. HANDLING AND STORAGE REQUIREMENTS

Handling:

Avoid contact with eyes, skin and clothing. Avoid inhalation of spray and vapour. Use with adequate ventilation. Do not eat, drink or smoke while working. Wash hands before eating, drinking, chewing gum, smoking, or using the toilet. Operators should change and wash clothing daily. Remove clothing immediately if the pesticide gets inside. Wash skin thoroughly using a non-abrasive soap and put on clean clothing.

Storage:

Keep under lock and key and out of reach of unauthorised persons, children and animals. Do not use or store near heat, open flame or hot surfaces. Store in its original, labelled container in isolated, dry, cool and well-ventilated area. Not to be stored next to feeds, food and water supplies. Local regulations should be complied with.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Use local exhaust at all process locations where dust may be emitted. Ventilate all transport vehicles prior to unloading. It is essential to provide adequate ventilation. The measures appropriate for a particular work site depend on how this material is used and on the extent of exposure. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire, and other applicable regulations.

PERSONAL PROTECTIVE EQUIPMENT:

If engineering controls and work practices are not effective in controlling exposure to this material, then wear suitable personal protective equipment including approved respiratory protection.

Clothing:

Depending on concentrations encountered, employees must wear coveralls or long-sleeved uniform and head covering. For larger exposures as in the case of spills, wear full body cover barrier suit, such as a PVC suit. Leather items such as shoes, belts and watchbands that become contaminated should be removed and destroyed. Wash all work clothing before reuse (separately from household laundry).

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Gloves:

Employee must wear appropriate chemical-resistant gloves made of materials such as butyl rubber, nitrile or neoprene. Thoroughly wash the outside of the gloves with soap and water prior to removal. Inspect regularly for leaks.

Eye protection:

For dust exposure, wear chemical protective safety goggles or a face shield.

Emergency eyewash: Where there is any possibility that an employee's eyes may be exposed to this substance; the employer should provide an eye wash fountain or appropriate alternative within the immediate work area for emergency use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Creamy white to light brown free-flowing granules.
Odour: Slightly musty
Shelf life: 2 years
pH: (1% aqueous dilution) 5 to 8
Explosive properties: Slightly combustible.
Solubility: Dispersible in water
Bulk Density: 0.56 ± 0.03 g/ml

10. STABILITY AND REACTIVITY**Stability:**

Stable under standard and normal storage conditions. Product is stable with a shelf life of 2 years, provided it is stored in its unopened, undamaged original containers in well ventilated and dry conditions, away from sources of heat and spark-generating equipment.

Conditions to avoid:

Excessive temperature and fire.

Incompatibility:

Incompatible with excessive heat and fire.

Thermal decomposition:

Carbon monoxide, carbon dioxide, nitrogen oxides, sulphur oxides, hydrogen chloride, hydrogen fluoride.

11. TOXICOLOGICAL INFORMATION

Acute oral LD₅₀, rats: 2416 mg/kg
Acute dermal LD₅₀, rats: >5000 mg/kg
Inhalation LC₅₀, 4hours, rats: 0.90 mg/□ (4h)
Acute skin irritation: Slightly irritating
Acute eye irritation: Mild irritation.
Sensitization: Not a skin sensitizer.
Teratogenicity/Development: Developmental toxicity was observed in some cases.
Mutagenicity: Available studies indicate that **Sulfentrazone** is not mutagenic.
Carcinogenicity: Not carcinogenic.

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12. ECOLOGICAL INFORMATION

Sulfentrazone is stable in soil (half-life = 18 months). In water, **Sulfentrazone** is stable to hydrolysis over the pH range 5 to 9, however, it will readily undergo photolysis (half-life = < 0.5 day). It has a low affinity for organic matter (Koc = 43), but is mobile only in soils with high sand content. The potential for **Sulfentrazone** to bio-accumulate is very low, having a Log Pow of 1.48, and a bio-concentration factor of 1.1 – 2.0.

ECOTOXICOLOGY:

Birds:

Sulfentrazone: (tech)

LD₅₀: Mallard ducks: > 2250 mg/kg

Fish: Slightly toxic to fish.

Sulfentrazone: (tech)

LC₅₀ (96hrs) Rainbow trout: > 130 mg/L

Bluegill sunfish: 93.8 mg/L

Daphnia:

Sulfentrazone: (tech)

LC₅₀ (48hrs) 60.4 mg/L

13. DISPOSAL CONSIDERATION

Pesticide and container disposal:

Open dumping or burning of this pesticide is prohibited. Never pour untreated waste or surplus products into public sewers or where there is any danger of run-off or seepage into water systems. Do not contaminate rivers, dams or any other water sources with the product or used containers.

Emptied containers/bags/sachets retain vapour and product residues. Observe all labelled safeguards until container/bag/sachet is destroyed.

Empty the container of excess product into the mixing tank or spray tank of the applicator. Destroy the emptied containers/bags/sachets by perforation and flattening. Bury in an approved dumpsite. Do not re-use the empty container/bag/sachet for any other purpose. Comply with any local legislation applying to disposal.

Prevent contamination of food, feedstuffs, drinking water and eating utensils.

14. TRANSPORT INFORMATION

UN NUMBER: 3077

Road Transport ADR/RID:

Class: 9

Packaging group: III

Shipping name: Environmentally Hazardous Substance, Solid, N.O.S (**Sulfentrazone** 750 g/kg)

Maritime Transport IMDG/IMO:

Class: 9

Packaging group: III

Shipping name: Environmentally Hazardous Substance, Solid, N.O.S (**Sulfentrazone** 750 g/kg)

Considered a marine pollutant.

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15. REGULATORY INFORMATION**Symbol:** T, Xi, Xn**Indication of danger:** Harmful**Risk phrases:****R 20/22** Harmful by inhalation and if swallowed.**R 36/38** Irritating to eyes and skin.**R 51** Toxic to aquatic organisms.**Safety phrases:****S 1/2** Keep locked up and out of the reach of children.**S 13** Keep away from food, drink and animal feeding stuffs.**S 20/21** When using do not eat, drink or smoke.**S 23** Do not breathe gas/fumes/vapour/spray**S 36/37/39** Wear suitable protective clothing, gloves and eye/face protection.

16. OTHER INFORMATION**Packaging:**

Packed in 1, 5, 10, 12, 15, 20, 25 & 50 kg plastic containers/bags and labelled according to South African regulations and guidelines.

Disclaimer:

The information on this sheet is not a specification; it does not guarantee specific properties. The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage use of the product. It is not applicable to unusual or non-standard uses of the product, nor where instructions or recommendations are not followed.

All information is given in good faith but without guarantee in respect of accuracy, and no responsibility is accepted for errors and omissions or the consequence thereof.