

**SAFETY PRECAUTIONS:**

1. Handle with care, avoid splashing.
2. Poisonous by swallowing, inhalation and contact with the skin.
3. WEAR PROTECTIVE CLOTHING, i.e. rubber gloves, rubber boots and overalls.
4. On completion of spraying, wash hands and face thoroughly with soap and water.
5. Wash contaminated clothing with soap and hot water before re-use.
6. Dispose of water in a safe manner.
7. KEEP APART FROM FOOD AND FOODSTUFFS. Do not contaminate animal feed.
8. DO NOT eat, drink or smoke while applying this herbicide.
9. KEEP OUT OF REACH OF CHILDREN.
10. DANGEROUS TO FISH AND BEES.
11. DO NOT CONTAMINATE DRINKING POOLS, DAMS, RIVERS, AND WATER-WAYS AND OTHER WATER SUPPLIES.
12. Store in original container and KEEP UNDER LOCK AND KEY.
13. Destroy empty container by triple rinsing and crushing – DO NOT use for any other purpose. Dispose of in a safe manner.
14. Clean applicator thoroughly after use.

**SYMPTOMS OF POISONING:**

There are no definite symptoms of poisoning. When poisoning does occur, it is accompanied by breathing difficulties and sedation.

**FIRST AID:**

In case of accidental poisoning, treat patient symptomatically.  
 If in eyes – immediately flush with plenty of water for at least 15 minutes.  
 If swallowed – induce vomiting by giving one dose of syrup of Ipecac or by sticking finger down the throat. Never give anything by mouth to an unconscious person.

On skin – remove contaminated clothing and wash skin immediately with soap and water.

**NOTE TO PHYSICIAN:** Treat patient symptomatically.

**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 METRIBUZIN 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:**

The excellent results which this chemical should normally yield are not however warranted or guaranteed, as effectiveness can be greatly influenced by factors outside the control of either the manufacturers or the suppliers. No warranty whatsoever, expressed or implied, is therefore given concerning the performance or effectiveness of this chemical and the responsibility is specifically excluded for any damage, injury or loss of any kind during or resulting from its handling, use or storage, whether or not such has been in accordance with directions. This product is warranted to consist of the ingredients shown on the label.

Manufactured by:

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

# METRIBUZIN 480SC

Herbicide

Reg. No.: 10-C-89-33

1 Litre



**HARMFUL IF SWALLOWED**

**Composition**

Metribuzin..... **mass/volume** .....480g/L  
 Inert ingredients.....to 1 Litre

**Chemical group: Triazine**

A herbicide for the control of many annual broadleaf weeds and grasses in Potatoes, Soybeans and Sugar cane.

**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

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

Shake well before use, replace cap after pouring.  
 For best results, apply METRIBUZIN 480SC to a moist soil before weeds emerge (early post-emergence).  
 Mode of action is through the roots and leaves of actively growing weeds.

CROP	SOIL TYPE	% CLAY	RATE/Ha	REMARKS
<b>Potatoes (Pre-emergence)</b>	Light – medium Medium – heavy	Up to 30% 30 – 50%	1.1 litres 1.5 litres	Apply uniformly to the soil directly after planting and ridging until 14 days after planting or before crop emergence.
<b>Soybeans (Pre-emergence)</b>	Light Medium Medium – heavy Heavy	Up to 20% 20 – 30% 30 – 40% 40 – 50%	N.R. 0.6 litres 0.9 litres 1.1 litres	Do not apply to light soils. On medium to heavy soils, use in combination with Alachlor or Metolachlor. Ensure seed is at least 3.5 – 4cm deep and avoid leaving a furrow in the planting row after planting. Irrigate with 12mm water after application if rain is not imminent.
<b>Sugar cane</b>	Medium - heavy	20 – 30%	3,0 litres	Apply over the emerged sugar cane at the 3-4 leaf stage of the weeds or earlier. Use in a programme with a grass herbicide.

**COMPATIBILITY**

METRIBUZIN 480SC is compatible with MCPA, Paraquat and Ametryn.  
 Consult suppliers before mixing with other herbicides.

**METHOD OF APPLICATION**

- Work soils to a fine texture when it is moist but not soggy.
- Always use clean water when mixing. Calibrate spraying equipment i.e. tractor boom sprayer or knapsack fitted with flat fan nozzles with a delivery rate of 200 - 300 litres per hectare at 1 - 2 bar. Keep spray mixture well agitated during spraying.

**WARNINGS / CROP RESTRICTIONS**

Over application of METRIBUZIN 480SC on soybeans may cause stunting. Do not apply to soybeans in lands with pH above 7.5. Observe safety periods in potatoes, soybeans, winter wheat rotation.

- Winter wheat may be planted in lands immediately following a summer soybean crop treated with METRIBUZIN 480SC.

Weed control is severely affected under zero tillage.

- Anytime: Potatoes, sugarcane
- 6 months: Maize, beetroot, carrots, turnips.
- 12 months: Tobacco, Brassica, onions, lettuce, strawberries.
- Do not add a wetter in the spray mixture.

The following weeds are controlled by METRIBUZIN 480SC:

**BROADLEAF WEEDS**

<i>Ageratum conyzoides</i>	Billygoat weed
<i>Amarantus</i> spp.	Pigweed
<i>Bidens pilosa</i>	Blackjack
<i>Chenopodium</i> spp.	Goosefoot
<i>Cleome monophylla</i>	Single leaved cleome
<i>Commelina benghalensis</i>	Wandering Jew
<i>Datura</i> spp.	Thorn apple
<i>Galingosga parviflora</i>	Gallant soldier
<i>Leucas martinicensis</i>	Bobbin weed
<i>Nicandra physaloides</i>	Apple of Peru
<i>Physalis</i> spp.	Wild gooseberry
<i>Portulaca oleracea</i>	Purslane
<i>Richardia scabra</i>	Mexican clover
<i>Schikuhria pinnata</i>	Dwarf marigold
<i>Tagetes minuta</i>	Mexican marigold

**GRASS WEEDS**

<i>Digitaria</i> spp.	Crabfinger grass
<i>Echinochloa</i> spp.	Barnyard grass
<i>Elystina indica</i>	Rapoko Grass
<i>Eragrostis</i> spp.	Love grass
<i>Panicum</i> spp.	Panicum
<i>Urochloa panicoides</i>	Garden Urochloa

**Date of Manufacture: SEP. 2015 Batch Number: 20150909**

Registration held by:

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

## MATERIAL SAFETY DATA SHEET (MSDS)

### METRIBUZIN 480SC

#### SECTION 1. IDENTIFICATION OF THE COMPANY / SUBSTANCE

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

**Date of this document:** February, 2021

**Emergency Telephone Numbers:**

**Poisonings**

**National Poison Centre:** (+27)-21-938 6084 (office hours).

(South Africa): (+27)-21-931 6129 (after hours); (+27)-800 33444 (24 h)

**Product name:** METRIBUZIN 480SC

**Chemical name:** 4-amino-6-tert-butyl-4,5-dihydro-3-methylthio-1,2,4-triazin-5-one

**Chemical type:** Herbicide

**Chemical family:** Triazinone

#### SECTION 2. COMPOSITION / INFORMATION ON INGREDIENTS

**Hazardous Component:** Metribuzin 480g/l

**EEC classification:** Xn, N

**R Phrases:** 22-50/53

#### SECTION 3. HAZARDS IDENTIFICATION

*NOTE: Please refer to Section 11 for detailed toxicological information.*

**Emergency Overview:** Caution! Avoid contact with skin, eyes and clothing. Harmful if swallowed or absorbed through skin.

**Physical State:** Liquid Suspension

**Odour:** Musty

**Appearance:** White

**Routes of Exposure:** Eye contact, Skin contact, Skin Absorption

**Immediate Effects:**

**Eye** Mildly irritating. Avoid contact with eyes.

**Skin** Slightly irritating. Mildly toxic. Do not get on skin or clothing.

**Ingestion** Harmful if swallowed. Mildly toxic. Do not take internally.



## SECTION 4. FIRST AID MEASURES

### **General**

Have the product container or label with you when calling a poison control center or doctor or going for treatment.

### **Eye**

Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

### **Skin**

Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

### **Ingestion**

Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

### **Inhalation**

Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

### **Notes to physician**

### **Signs and Symptoms**

The compound does not cause any definite symptoms that would be diagnostic.

Poisoning is accompanied by breathing difficulties and sedation.

### **Treatment**

Treat symptomatically.

## SECTION 5. FIRE FIGHTING MEASURES

**Flash Point:** Not applicable

**Suitable Extinguishing Media:** Water, Dry chemical

### **Fire Fighting Instructions**

Keep out of smoke. Cool exposed containers with water spray. Fight fire from upwind position. Use self-contained breathing equipment. Contain runoff to prevent entry into sewers or waterways.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

### **General and Disposal**

Keep unnecessary people away, isolate hazard area and deny entry. Avoid contact with spilled product or contaminated surfaces. For personal protection see section 8.



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**Land Spill or Leaks**

Avoid breathing vapors and skin contact. Remove sources of ignition if combustible or flammable vapors may be present and ventilate area. Dike contaminated area with absorbent granules, soil, sand, etc.

**Large Spill:** Material should be recovered. Small spills can be absorbed with absorbent granules, spill control pads, or any absorbent material. Carefully sweep up absorbed spilled material. Place in covered container for reuse or disposal. Scrub contaminated area with soap and water. Rinse with water. Use dry absorbent material such as clay granules to absorb and collect wash solution for proper disposal. Contaminated soil may have to be removed and disposed. Do not allow material to enter streams, sewers or other waterways or contact vegetation.

<b>SECTION 7. HANDLING AND STORAGE</b>
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**Handling Procedures**

Handle and open container in a manner as to prevent spillage.

**Storing Procedures**

Do not contaminate water, food, or feed by storage or disposal.

Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed.

Store in original container and out of the reach of children, preferably in a locked storage area.

**Work/Hygienic Procedures**

Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Remove Personal Protective Equipment (PPE) immediately after handling this product. Wash the outside of gloves before removing. As soon as practical, wash thoroughly and change into clean clothing.

<b>SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION</b>
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**Engineering Controls**

Maintain exposure levels below the applicable exposure limit through the use of general and local exhaust ventilation. When handlers use closed systems, enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

**Eye/Face Protection**

Goggles Safety glasses

**Hand Protection**

Chemical resistant gloves Waterproof gloves.

**Body Protection**

Long-sleeved shirt and long pants. Coveralls shoes plus socks.

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**Respiratory Protection**

When respiratory protection is necessary under the conditions of use, wear a respirator approved for pesticides by the National Institute for Occupational Safety and Health (NIOSH).

**General Protection**

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. Clean water and soap should be available for washing in case of eye or skin contamination. Educate and train employees in safe use of the product. Follow all label instructions.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

**Appearance:** White

**Physical State:** Liquid Suspension

**Odour:** Musty

**pH:** 7.1 (1% in distilled water)

**Specific Gravity:** 1.16 at 20°C

**Melting/Freezing Point:** -10°C

**SECTION 10. STABILITY AND REACTIVITY****Chemical Stability**

This material is stable under normal handling and storage conditions described in Section 7.

**Conditions to Avoid**

Heat

Moisture

Sustained temperatures above 100°F.

**Incompatibility**

Alkalies

Aldehydes

Ketones

**Hazardous Products of Decomposition**

Decomposition Type: thermal

Carbon dioxide (CO<sub>2</sub>)

Sulfur dioxide

Mercaptans

Amines

**Hazardous Polymerization (Conditions to avoid)**

Will not occur.

## SECTION 11. TOXICOLOGICAL INFORMATION

Only acute studies have been performed on this product as formulated. The non-acute information pertains to the active ingredient, metribuzin.

### **Acute Oral Toxicity**

Male Rat: LD50: 1,865 mg/kg

Female Rat: LD50: 1,078 mg/kg

### **Acute Dermal Toxicity**

Male and Female Rat: LD50: > 2,000 mg/kg

### **Acute Inhalation Toxicity**

Male and Female Rat: LC50: 4-hr exposure to liquid aerosol: 3.055 mg/l (analytical)

Male and Female Rat: 1-hr exposure to liquid aerosol (extrapolated from 4-hr LC50): 12.22 mg/l (analytical)

### **Skin Irritation**

Rabbit: Slight dermal irritant.

### **Eye Irritation**

Rabbit: Minimally irritating.

### **Sensitization**

Guinea pig: Not a skin sensitizer.

### **Sub-Chronic Toxicity**

Metribuzin caused increased cholesterol levels, liver enzyme induction and secondary effects on thyroxin levels in a subacute dermal toxicity study in rabbits.

In subacute inhalation studies, rats exposed to aerosol concentrations of metribuzin exhibited behavioral changes, liver enzyme induction and secondary effects on organ weights associated with decreased body weight gains.

### **Chronic Toxicity**

Major effects in rats and dogs from long-term exposure to metribuzin included decreased body weight gains, decreased food consumption, anemia, mortality and/or organ effects (liver, kidney, thyroid, testis).

### **Assessment Carcinogenicity**

In oncogenicity studies in rats and mice, metribuzin was not considered carcinogenic in either species.

### **Reproductive & Developmental Toxicity**

**REPRODUCTION:** There was no evidence of reproductive toxicity in a 2-generation reproductive study in rats treated with metribuzin. Offspring at the highest dose exhibited reduced body weight gains starting a Day-14 lactation, an age correlating with the consumption of treated diets.

**DEVELOPMENTAL TOXICITY:** In developmental toxicity studies in rats and rabbits, there was no evidence of a teratogenic potential for metribuzin. In rats, secondary developmental effects were observed only at the high dose and in conjunction with maternal toxicity.

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**Neurotoxicity**

Transient neurobehavioral symptoms were observed in an acute oral neurotoxicity screening study in rats treated with metribuzin. There were no correlating morphological changes observed in the neural tissues.

There was no evidence of neurotoxicity in a subchronic neurotoxicity screening study in rats treated with dietary concentrations of metribuzin.

**Mutagenicity**

Numerous in vitro and in vivo mutagenicity studies have been conducted with metribuzin. The data, taken collectively, demonstrates that metribuzin is not genotoxic.

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**SECTION 12. ECOLOGICAL INFORMATION**

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**Environmental Precautions**

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment washwater.

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**SECTION 13. DISPOSAL CONSIDERATIONS**

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**General Disposal****Guidance**

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**Container Disposal**

Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration or, if allowed by State and Local authorities, by burning. If burned, stay out of smoke.

**RCRA Classification** Not Regulated under this Statute

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**SECTION 14. TRANSPORT INFORMATION**

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<b>IMDG shipping name:</b>	Environmentally hazardous substance, liquid, n.o.s. (480g/ℓ metribuzin)
<b>IMDG packaging group:</b>	III
<b>IATA shipping name:</b>	Environmentally hazardous substance, liquid, n.o.s. (480g/ℓ metribuzin)
<b>IATA class:</b>	9 3082 III
<b>ADNR class:</b>	9 No. 11C

## SECTION 15. REGULATORY INFORMATION

**EEC Hazard classification:** Labeling in accordance with directive 88/379/EEC (preparations) and its amendments and adaptations.

Symbol: Xn, Harmful.

Contains: 480g/L metribuzin

**Risk phrases:** R22: Harmful if swallowed  
R36: Irritating to eyes

## SECTION 16. OTHER INFORMATION

Suspension concentrate

Application: Herbicide

This information is provided in good faith and based on current knowledge and experience, but without express or implied warranty. Buyer assumes all responsibility for safety and use not in accordance with label instructions. The data does not signify any warranty with regard to the products' properties.

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