

VILLA METRIBUZIN 480 SC

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF PRODUCT AND COMPANY

Product Name: METRIBUZIN 480 SC
 Herbicide
UN No. 2902
Supplier: Villa Crop Protection (Pty) Ltd.
 PO Box 10413
 Aston Manor, 1630, South Africa
Telephone: (011) 3962233
Fax: (011) 3964666
Website: www.villacrop.co.za

Emergency telephone numbers:
24 Hr Transport / Spill emergency no:
 Bateleur: +27 86 199 9071
 (Client: Villa Crop Protection)
Poisoning:
 Griffon Poison Information Centre +27 82 446 8946
 Western Cape Poisons +27 861 555 777
 Tygerberg Hospital +27 21 931 6129

2. COMPOSITION / INFORMATION ON INGREDIENTS

Common name: Metribuzin
Chemical Name: 4-amino-6-*tert*-butyl-4,5-dihydro-3-methylthio-1,2,4-triazin-5-one; 4-amino-6-*tert*-butyl-3-methylthio-1,2,4-triazin-5(4*H*)-one (IUPAC)
CAS No.: [21087-64-9]
Chemical Family: triazine
Chemical Formula: C₈H₁₄N₄OS
Molecular weight: 214.3
Use: A selective systemic herbicide for pre- and post-emergence control of many grasses and broad-leaved weeds in asparagus soybeans, potatoes, tomatoes, and sugar cane.
Formulation: Metribuzin 480 g/l
Symbols: Xn, N
Risk-phrase(s): R 22, R 52

3. HAZARD IDENTIFICATION

Toxicity Class: Class III
Likely routes of exposure: Skin contact, ingestion and inhalation.
Skin: Mild irritant. Minimally toxic.
Eye: Mild irritant. May cause pain, redness or tears.
Inhalation: Minimally toxic if inhaled.
Swallowed: Moderately toxic. No significant effects are expected to develop if only small amounts are swallowed.

4. FIRST AID MEASURES AND PRECAUTIONS

The acute toxicity to technical triazine for man is thought to be low, and no adverse health effect from exposure to these herbicides has been reported.
 It can be absorbed orally, dermally and by inhalation. Symptoms of poisoning include abdominal pain, diarrhoea and vomiting, eye irritation, irritation of mucous membranes, and skin reactions.
Inhalation: If vapours or mists have been inhaled, and irritation has developed, remove the source of contamination or move victim to fresh air. The patient should be kept under observation and obtain medical attention if irritation persists.
Skin contact: Remove contaminated clothing, shoes and leather goods immediately. Gently wipe off excess chemical. Wash skin gently and thoroughly with non-abrasive soap and large amounts of water until no evidence of chemical remains (approximately 15 to 20 minutes). If irritation persists, seek medical advice immediately. Persons who become sensitized may require specialized medical management with anti-inflammatory agents.
Eye contact: Immediately flush the contaminated eyes with gently flowing lukewarm water for 20 minutes, occasionally lifting upper and lower lids, until no evidence of chemical remains (approximately 15 to 20 minutes). Obtain medical attention if irritation persists.
Ingestion: Do not induce vomiting. Do not give anything by mouth. Obtain medical attention immediately. If the person is alert, rinse mouth thoroughly with water.
Advice on treatment: No specific antidote is available. Treat symptomatically and supportively when required. If large amounts have been ingested, perform gastric lavage and administer activated charcoal.

5. FIRE FIGHTING MEASURES

Hazardous products of combustion: Fire may produce irritating and/or toxic vapours, mists or other products of combustion.
Extinguishing agents: Extinguish fires with carbon dioxide, dry powder/dry chemical extinguisher, or alcohol-resistant foam. Water spray can be used, but not direct jet of water. Avoid the accumulation of polluted run-off from the site.
Firefighting: Remove spectators from surrounding area. Isolate the fire area and evacuate downwind. Use a recommended extinguishing agent for the type of surrounding fire.
 Fight fire from maximum distance and use unmanned hose holder or monitor nozzles. Contain fire control agents for later disposal. Avoid inhaling hazardous vapours and fumes from burning materials. Keep upwind.

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Remove container from fire area if possible and without risk. Water can be used to cool unaffected containers but must be contained for later disposal.

Dyke fire control water for later disposal. Do not scatter the material. Avoid pollution of waterways.

Do not use high volume water jet, due to contamination risk. Contain water used for fire fighting for later disposal. Avoid the accumulation of polluted run-off from the site.

Special hazards: The substance decomposes on heating producing toxic fumes including hydrogen chloride and nitrogen oxides.

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: Do not allow entering 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.

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

For spills: Soak up with absorptive material such as damp earth or sand or other suitable non-combustible absorbent material. Place the material into a clean, dry container and cover for subsequent disposal. In situations where product comes in contact with water, contain contaminated water for later disposal. Prevent material from spreading by damming in with absorptive material. Do not flush spilled material into drains. Keep spectators away and upwind.

To decontaminate spill area, tools and equipment, wash with a suitable solution (i.e. organic solvent, detergent bleach or caustic). Add the solution to the drums already collected. Label drums with its content and dispose it in accordance with local regulations.

Open burning or dumping of this material is prohibited. Do not get water inside containers.

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. Then wash skin thoroughly using a non-abrasive soap and put on clean clothing. Do not apply directly to areas where surface water is present, or to intertidal areas below the mean high water mark. Water used to clean equipment must be disposed of correctly to avoid contamination.

Storage: Keep under lock and key and out of reach of unauthorised persons, children and animals. 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

Occupational exposure limits: TLV: 5 mg/m³ (ACGIH)
 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: Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged skin contact with this substance.

Gloves: Employee must wear appropriate chemical-resistant gloves to prevent contact with this substance.

Eye protection: The use of safety goggles is recommended.

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: A smooth, greyish/off-white free-flowing liquid.

Explosive properties: Not explosive.

Oxidizing properties: Not oxidizing.

Corrosiveness: Not corrosive.

Density: Approx. 1.12 g/ml at 20°C

pH: 4.0 to 7.0.

Storage stability: Metribuzin was found to be stable under normal storage conditions.

Flammability: Not flammable.

Flash point: >100°C.

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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.

Storage stability: Stable for up to 2 years when stored in a dry, cool covered warehouse in original, well-labelled containers. Store at low temperature conditions, below 50°C, preferably below 30 °C and not for prolonged periods in direct sunlight.

Incompatibility: Product is compatible with most other pesticides when used at normal rates. However, a compatibility test is required before using with other products. Do not physically mix concentrate directly with other herbicides or pesticide concentrates; always dilute first. The product may flocculate in the presence of **Paraquat**.

The product is relatively stable in neutral, weakly acidic and weakly alkaline media.

The product is rapidly hydrolyzed to the hydroxy derivative in strong acids and alkalis.

Thermal decomposition: Hydrogen chloride and toxic oxides of nitrogen are released when the product decomposes on heating.

11. TOXICOLOGICAL INFORMATION

Acute oral LD₅₀, rats: *technical: 20000 mg/kg*

Acute dermal LD₅₀, rats: *technical: > 20000 mg/kg*

Inhalation LC₅₀, 4hours, rats: *0.65 mg/ℓ air*

Acute skin irritation: Non-irritating to rabbit skin.

Acute eye irritation: May cause irritation.

Teratogenicity: Animal studies did not show any effects.

Mutagenicity: Not mutagenic in a series of tests.

Carcinogenicity: Long-term animal studies did not produce any effects.

12. ECOLOGICAL INFORMATION

Degradability: **Metribuzin** is highly soluble in water and has a low tendency to absorb to moist soils. It has a moderate ability to absorb to soil with high clay and/or organic matter content. In sandy soils that are low in clay and organic matter, the herbicide is readily leached.

Mobility: The EPA considers **Metribuzin** to be one of a group of pesticide compounds that has the greatest potential for leaching into, and contaminating groundwater. It should not be applied where the water-soluble table is close to the surface or where soils are very permeable, such as on well-drained soils or loamy sands.

Accumulation: The half-life of **Metribuzin** varies according to soil type and climatic conditions. Soil half-

lives of less than one month to 6 months have been reported. The half-life of **Metribuzin** in pond water is approximately seven (7) days. The hydrolysis half-life of **Metribuzin** is 9 to 29 weeks.

ECOTOXICOLOGY: *Technical*

Birds: Moderately toxic to birds.

LC₅₀: Bobwhite quail: 168 mg/kg

Fish: Slightly toxic to fish.

LC₅₀ (96hrs): Rainbow trout: 76 mg/ℓ

Bluegill sunfish: 80 mg/ℓ

Daphnia: Slightly toxic to Daphnia.

EC₅₀ (48 hrs): 4.5 mg/ℓ

Bees: Not toxic to bees.

LD₅₀ (oral): 35 µg/bee

Earthworms: Lowly toxic to earthworms

LC₅₀ (14 days): 331.8 mg/kg soil

Algae: Toxic to algae

E_rC₅₀ (72 hrs) *Scenedesmus subspiciatus* 0.021 mg/ℓ

Considered a marine pollutant.

13. DISPOSAL CONSIDERATION

Pesticide disposal: Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this product cannot be reused or reprocessed. 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.

Comply with local legislation applying to waste disposal.

Container disposal: Emptied containers retain vapour and product residues. Observe all labelled safeguards until container is destroyed.

TRIPLE RINSE empty containers in the following manner: Invert the empty container over the spray or mixing tank and allow draining 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 one third of that of the container. Add the rinsing to the contents of the spray tank before destroying the container in the prescribed manner.

Do not re-use the empty container for any other purpose but destroy it by perforation and flattening and bury in an approved dumpsite. Prevent contamination of food, feedstuffs, drinking water and eating utensils.

Comply with local legislation applying to waste disposal.

14. TRANSPORT INFORMATION

UN Number: 2902

Road Transport ADR/IRD:

Class: 6.1

Packaging group: I

UN Proper Shipping Name: Pesticides, liquid, toxic,

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n.o.s. (Metribuzin 480 g/l)

Maritime Transport IMDG/IMO:
 Class: 6.1
 Packaging group: I
 UN Proper Shipping Name: Pesticides, liquid, toxic, n.o.s. (Metribuzin 480 g/l)

Marine Pollutant (Y/N): Yes.

Air Transport IATA/ICAO:
 Class: 6.1
 Packaging group: I
 UN Proper Shipping Name: Pesticides, liquid, toxic, n.o.s. (Metribuzin 480 g/l)

Special/Environmental Precautions: Wedge drums tightly to avoid movement.

Transport in bulk (according to MARPOL 73/78, Annex II and the IBC code): Not available.

END OF DOCUMENT

Compiled: June 2006
Reviewed: October 2018
Revision no: (4)
Next revision: October 2021

For detailed information on revisions, contact the Registration holder.

15. REGULATORY INFORMATION

Symbol: Xn, N
Indication of danger: Harmful, Environmentally hazardous substance.

Risk phrases:
R 22 Harmful if swallowed.
R 52 Harmful to aquatic organisms.

Safety phrases:
S 1/2 Keep locked up and out of the reach of children.
S 36/39 Wear suitable protective clothing and eye/face protection.
S 60 This material and its container must be disposed of as hazardous waste.
S 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

16. OTHER INFORMATION

Packaging: Packed in 1, 5, 10, 20 and 25 litres polyethylene plastic containers 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.