

VILLA ATRAFLO 500 SC

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE

Product Name: ATRAFLO 500 SC
 Herbicide
UN number: 3082
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:

Envirosure. +27 31 205 4918
 (Hazcall24) +27 86 044 4411

(Client: Villa Crop Protection)

Griffon Poison Information Centre +27 82 446 8946

(Client: Villa Crop Protection)

Poisoning Emergency telephone numbers:

Griffon Poison Information Centre +27 82 446 8946

Poisons Information Centre +27 861 555 777

Villa Crop Protection Emergency number:

National Safety, Health and Environmental Manager:

+27 63 698 0668

2. COMPOSITION / INFORMATION ON INGREDIENTS

Common Name: ATRAZINE
Chemical Name: 6-chloro-*N*²-ethyl-*N*⁴-isopropyl-1,3,5-triazine-2,4-diamine (IUPAC)
CAS No.: 1912-24-9
Chemical Family: 1,3,5-triazine
Chemical Formula: C₈H₁₄ClN₅ (Mol. wt.: 215.7)
Use: Selective systemic pre-emergence and early post-emergence herbicides.
Formulation: ATRAZINE: 485 g/l
 other triazines: 15 g/l
 (refer to as 500 g/l formulated product)
 Suspension Concentrate
Active Ingredients: ATRAZINE
SYMBOLS: X_n, X_i
RISK-PHASE(S): R 20/22, R 36, R 43, R 40

3. HAZARDOUS IDENTIFICATION

Toxicity class:

Active ingredient: WHO III (Table 5);

Formulation: EPA III

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

Eye contact: May cause pain, redness or tears.

Skin contact: Minimally toxic and practically non-irritating.

Ingestion: Moderately toxic. No significant effects are expected to develop if only small amounts are swallowed.

Inhalation: Minimally toxic if inhaled.

4. FIRST AID MEASURES AND PRECAUTIONS

The acute toxicity to technical triazines for man is thought to be low, and no adverse health effects from exposure to this herbicides has been reported. In view of the toxicity induced in experimental animals on repeated exposure, proper care should be taken during occupational use to avoid excessive inhalation of dust or spray particles, and to prevent accidental contamination of food products and water.

Inhalation: Remove source of contamination or move victim to fresh air. Obtain medical advice immediately.

Skin contact: If irritation occurs, remove contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Gently wipe off excess chemical. Wash skin gently and thoroughly with water and non-abrasive soap. If irritation persists, seek medical advice immediately. Persons who become sensitised may require specialised medical management with anti-inflammatory agents.

Eye contact: Immediately flush the contaminated eyes with gently flowing lukewarm water for 20 minutes, holding the eyelid(s) open. Severe contamination may require medical attention.

Ingestion: Have victim rinse mouth thoroughly with water. Do not induce vomiting. In serious cases, seek medical advice immediately.

Advice to physician: No signs and symptoms of triazine poisoning are known or expected in humans. An antidote is neither known nor needed. Treat symptomatically when required. When large amounts have been ingested, gastric lavage or the administration of activated charcoal with water may be indicated.

5. FIRE FIGHTING MEASURES

Fire and explosion hazard: There is no fire or explosion hazard.

Extinguishing agents: Extinguish small fires with carbon dioxide, dry powder, or alcohol-resistant foam. Water spray can be used for larger fires or cooling of unaffected stock, but avoid the accumulation of polluted run-off from the site.

Firefighting: Remove container from fire area if possible. Contain fire control water for later disposal. Use a recommended extinguishing agent for the type of surrounding fire. Avoid inhaling hazardous vapours. Keep upwind.

Personal protective equipment: Fire may produce irritating or poisonous vapours (hydrogen chloride and toxic oxides of nitrogen), mists or other products of

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combustion. Fire-fighters and others that may be exposed should wear full protective clothing and self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Avoid contact with skin and eyes. Do not breathe in fumes. For personal protection see Section 8.

Environmental precautions: Do not allow to enter drains or water courses. When the product contaminates public waters, inform appropriate authorities in accordance with local regulations.

Occupational spill: For small dry spills, sweep up with damp earth or sand or other suitable absorbent, taking care not to raise a dust cloud. 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. Do not flush spilled material into drains. Keep unnecessary people away.

7. HANDLING AND STORAGE REQUIREMENTS

Handling: May be harmful by inhalation or if swallowed. Avoid contact with eyes, and prolonged contact with skin. Use with adequate ventilation. Wash hands before eating, drinking, chewing gum, smoking, or using the toilet. Remove clothing immediately if the herbicide 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: Store in its original labelled container in shaded, well-ventilated area, away from heat, sparks and other sources of ignition. Not to be stored next to foodstuffs and water supplies. Keep out of reach of children and animals. Local regulations should be complied with.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

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.

Respirator: An approved respirator suitable for protection from dusts and mists of pesticides is adequate. Limitations

of respirator use specified by the approving agency and the manufacturer must be observed.

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 synthetic protective gloves to prevent contact with this substance.

Eye protection: The use of goggles is recommended.

Emergency eye wash: 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: Homogenous, slightly off-white, moderate viscous water soluble liquid.

Odour: Slight odour.

Explosive properties: None explosive.

Oxidising properties: Not oxidative.

Corrosiveness: Not corrosive.

pH: 6 to 8

Relative density: 1.105 g/cm³ at 20 °C.

Storage stability: ATRAZINE was determined to be stable in the dry state at low and elevated temperatures.

Persistent foaming: No foaming.

Suspensibility: Good. No cementation after 3 months storage at 30 °C.

Dilution stability: Stable at 54 °C ±1 °C after 14 days.

Solubility in water: Soluble – 33 ppm.

Solubility in organic solvents (technical):

n-hexane: 0.11 g/l

toluene: 6 g/l

n-octanol: 8.7 g/l

dichloroethane: 28 g/l

methanol: 15 g/l

acetone: 31 g/l

ethyl acetate: 24 g/l

Partition-coefficient in *n*-octanol / water (technical):

log P_{ow}: 2.54 (25°C)

Flash point: > 60.5 °C – not flammable

10. STABILITY AND REACTIVITY

Stability: Only slightly sensitive to natural light and extreme temperatures. Relatively stable in neutral, weakly acidic and weakly alkaline media, but rapidly hydrolysed to the hydroxy derivative in strong acids and alkalis, and at 70°C in neutral media. The product has 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.

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Incompatibility: Spray solutions containing this product should be mixed, stored or applied using stainless steel, aluminium, fibreglass or plastic-lined containers. Product is relatively stable in neutral, weakly acidic and weakly alkaline media. The product is compatible with most other pesticides and fertilisers 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**.

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

11. TOXICOLOGICAL INFORMATION

Acute oral LD₅₀: > 5000 mg/kg in rats.

Acute dermal LD₅₀: > 5000 mg/kg in rats.

Acute inhalation LC₅₀: 406 mg/ℓ/hour.

Acute skin irritation: The test substance was found to be non-irritating to rabbit skin and not corrosive after exposure for 4 hours (Data for **ATRAZINE**).

Acute eye irritation: Considered to be a moderate irritant to the ocular tissue of the rabbit. The product does not cause any permanent eye damage, or any severe or lasting irritation or corrosion (Data for **ATRAZINE**).

Dermal sensitisation: Does not have any dermal sensitisation properties (Data for **ATRAZINE**).

Carcinogenicity: Long-term animal studies did not show carcinogenic activity. No human information is available.

Teratogenicity: Animal studies did not produce any effects. No human information available.

Mutagenicity: Not mutagenic in a series of tests using bacteria, cultured mammalian cells and whole animals. No human information available.

12. ECOLOGICAL INFORMATION

Degradability: (Data for **ATRAZINE**).

Strongly adsorbed to soil. Microbial degradation is the major cause of loss from soil. Half-life in soil is between 35 and 50 days, but may be longer under cold or dry conditions. The half-life under groundwater conditions is 105 to 200 days.

The main metabolites under all conditions are desethylatrazine and hydroxyatrazine.

Mobility: The product is relatively mobile in sandy soils and can result in the contamination of surface and ground water.

Accumulation: The product shows little or no tendency to bio-accumulate and poses no long term threat to wildlife.

ECOTOXICOLOGY:

Birds: Very low toxicity.

Oral LD₅₀: bobwhite quail: 940 mg/kg
 Mallard duck: > 2000 mg/kg
 Japanese quail: 4237 mg/kg

Fish: May pose a hazard to fish.

LC₅₀: rainbow trout: 4.5 to 11.0 mg/ℓ
 carp: 76 mg/ℓ
 guppies: 4.3 mg/ℓ

Bees: Relatively non-toxic.

Oral LD₅₀: > 97 µg/kg

Daphnia: May pose a hazard to Daphnia.

LC₅₀: 24 hours: 87 mg/ℓ

Earthworms: Low toxicity for earthworms.

LC₅₀: *Eisenia foetida*: 78 mg/kg soil

Soil micro-organisms: With the exception of transient inhibition of bacterial growth during the first week after product application, repeated applications of the product did not affect the number of viable bacteria or fungi, relative abundance of bacteria producing hydrolytic enzymes or soil enzyme levels.

13. DISPOSAL CONSIDERATION

Pesticide disposal: Contaminated absorbents, used containers, surplus product, etc., should be burnt in an incinerator, preferably designed for pesticide disposal. Hydrolysis under alkaline conditions (10% w/v sodium hydroxide) is a suitable method to dispose of small quantities of **ATRAZINE**. Heating speeds up the process. After hydrolysis, dilute and dispose of via the sewage system. **ATRAZINE** is relatively stable and characterised by high mobility in some soils and should not be buried in dump sites, landfills, etc. Comply with any local legislation applying to waste disposal.

Package product wastes: Emptied containers retain vapour and product residues. Observe all labelled safeguards until container is cleaned, reconditioned, or destroyed. Combustible containers should be disposed of in pesticide incinerators. Non-combustible containers must first be triple-rinsed with water. Containers are not to be reused and should be punctured, flattened and transported to a facility for recycling or disposal in approved landfill site. Comply with any local legislation applying to disposal.

14. TRANSPORT INFORMATION

UN NUMBER: 3082

ADR/IRD:

Class: 9

Packing group: III

Shipping name: Environmentally hazardous substance, Liquid, N.O.S. (**ATRAZINE** 485 g/ℓ)

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IMDG/IMO:

Class: 9
 Packing group: III
 Shipping name: Environmentally hazardous substance, Liquid, N.O.S. (ATRAZINE 485 g/l)

ICAO/IATA:

Class: 9
 Packing group: III
 Shipping name: Environmentally hazardous substance, Liquid, N.O.S. (ATRAZINE 485 g/l)

PACKING GROUP: III.

15. REGULATORY INFORMATION

Symbol: X_n, X_i
Indication of danger: Harmful; irritant.
Risk phrases:
 R 20/22 Harmful by inhalation or if swallowed.
 R 36 Irritating to eyes.
 R 43 May cause skin sensitisation (published studies).
Safety phrases:
 S 2 Keep out of reach children.
 S 36 Wear suitable protective clothing.
 S 37 Wear suitable gloves.
 S 46 If swallowed seek medical advice immediately and show this container and label.

16. PACKING AND LABELLING

Packed in fluorinated 5, 20 and 25 litres plastic containers and labelled according to South African regulations and guidelines.

17. OTHER INFORMATION

All information and instructions provided in this Material Safety Data Sheet (MSDS) are based on the current state of scientific and technical knowledge at the date indicated on the present MSDS and are presented in good faith and believed to be correct. This information applies to the PRODUCT AS SUCH. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear.

It is the responsibility of persons in receipt of this MSDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. If the recipient subsequently produces formulations(s) containing this product, it is the recipient's sole

responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS.

18. REFERENCES

- Applicable own physical and chemical, toxicity and ecotoxicity research studies.
- *The Pesticide Manual*; Tenth Edition; Editor Clive Tomlin; Crop Protection Publications, 1994.
- *The Pesticide Manual*; Eleventh Edition; Editor Clive Tomlin; Crop Protection Publications, 1997.
- *Pestline*; Material Safety Data Sheets for Pesticides and Related Chemicals; Volume II; Occupational Health Services Inc., 1991.
- *IPCS*; Health and Safety Guide No. 47; World Health Organisation, 1990.

END OF DOCUMENT

Compiled: March 2000
Reviewed: March 2019
Revision no: (3)
Next revision: March 2024

For detailed information on revisions, contact the Registration holder.