

# ATRAZINE 500SC

Herbicide

A pre-emergent and post-emergent selective herbicide for the control of many broadleaf weeds and some annual grasses in maize and sugarcane.

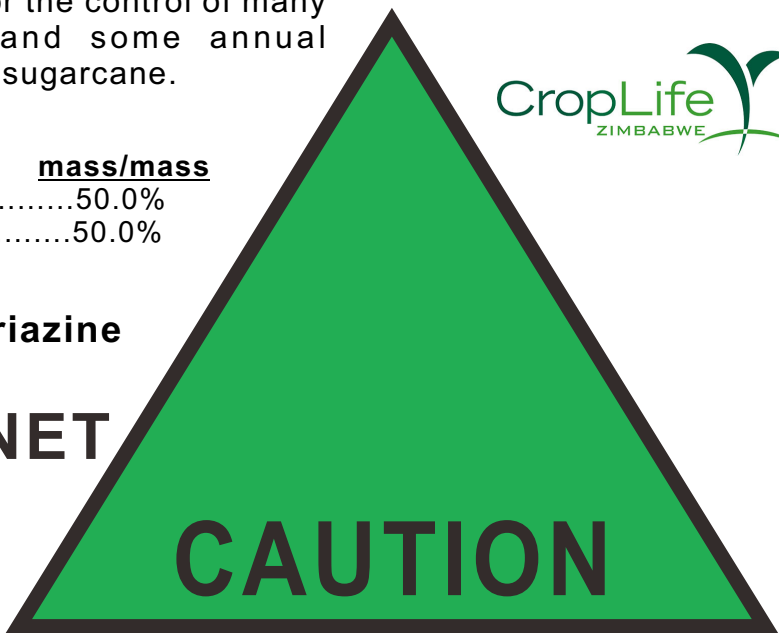
Reg. No.: 10-C-7-55



<u>Composition</u>	<u>mass/mass</u>
Atrazine.....	50.0%
Inert ingredients.....	50.0%

**Group:**                      **Triazine**

**20 Litres NET**



**HARMFUL IF SWALLOWED**

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

**KEEP OUT OF REACH OF CHILDREN**

Registration held by:

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

#### SAFETY PRECAUTIONS

1. Handle with care. Avoid contact/splashing.
2. Wear protective clothing - wear rubber gloves and face shield when handling the concentrate.
3. KEEP OUT OF THE REACH OF CHILDREN.
4. KEEP AWAY FROM FOOD AND FOODSTUFFS.
5. KEEP UNDER LOCK AND KEY.
6. DONOT eat, drink or smoke while handling this product.
7. Invert the empty container over the spray 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 that of the container. Add the rinsings to the contents of the spray tank before destroying the container.
8. While spraying, avoid contact with the spray as much as you can since product may cause eye and skin irritation. Avoid spray drift onto other crops, grazing rivers or dams.
9. Clean applicator thoroughly after use and dispose of wash water where it will not contaminate crops, grazing, rivers or dams. Toxic to fish and harmful to other aquatic life.
10. Destroy empty container and do not use for any other purpose.
11. Change and wash your work clothes. Wash yourself.

#### WARNINGS

1. Certain inbred lines of maize may be susceptible to Atrazine 500SC.
2. Do not plant any crop other than maize or sorghum on lands sprayed with Atrazine 500SC during the previous 12 months as severe damage may result.
3. Should a crop other than maize or sorghum be planted after a period of 12 months on land previously treated with Atrazine 500SC, thorough ploughing and cultivation should precede such planting.
4. Do not plant legumes on sandy or gravelly soils which were treated during the previous 18 months with Atrazine 500SC.
5. Ensure that sufficient fertilizer is applied at planting time to promote vigorous seedling growth. In soils of low fertility band application of the fertilizer is essential.

#### SYMPTOMS OF POISONING:

May cause mild irritation to skin, eyes or mucous membranes. Treat symptomatically.

#### FIRST AID:

Should accidental poisoning occur, call a doctor and show him this label.

In case of contact, wash contaminated skin and hair immediately with soap and water, flush eyes immediately with copious amounts of water.

#### NOTE TO PHYSICIAN:

In case of accidental ingestion: lavage stomach with isotonic saline solution or 5% sodium bicarbonate; instill 30g of activated charcoal in 100 ml of water, sodium sulphate or magnesium sulphate (0,25g/kg) may be used as a cathartic; do not administer fats, oil laxatives or milk products.

#### 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 Atrazine 500SC 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.

#### DIRECTIONS FOR USE:

Shake well before use, replace cap after pouring.

##### Maize:

Atrazine 500SC should be applied either before or after the crop has emerged.

##### Sugarcane:

(i) Plant cane. Atrazine 500SC should be applied after planting and either before or after the crop has emerged.

(ii) Ratoon cane. Atrazine 500SC should be applied either before or after the new growth has commenced.

**Weeds:** Most grasses and broadleaf weeds are controlled. Shamva grass, couch and witchweed are not controlled. Nutgrass or watergrass is not normally controlled and, if conditions are not ideal at the time of and shortly after application, certain species of the following genera of grasses may not be controlled:

*Panicum, Urochloa, Digitaria, Chloris, Brachiaria* and *Dactyloctenium*. Atrazine 500SC is preferably applied before the weeds emerge but may be applied early post-emergence provided all weeds are smaller than the 2-3 leaf stage (35mm in height).

#### Important weeds controlled by Atrazine 500SC

<i>Amarantus</i> spp.	Pigweed
<i>Bidens pilosa</i>	Blackjack
<i>Datura stramonium</i>	Stinkblaar
<i>Nicandra physaloides</i>	Apple of Peru
<i>Portulaca oleracea</i>	Purslane
<i>Richardia</i> spp.	Mexican clover
<i>Tagetes minuta</i>	Mexican Marigold
<i>Eleusine indica</i>	Rapoko Grass
<i>Volunteer cereals</i>	

#### APPLICATIONS RATES:

% CLAY CONTENT OF SOIL	MAIZE AND SUGARCANE
20	3,6 t/ha
21-30	3,6 t/ha
31-40	4,5 t/ha
>40	5,6 t/ha
	Use slightly higher than recommended rates on soils high in organic matter or if weeds have emerged.

If a band spray covering the total ground area is applied, then above dosage rate are halved.

**Soil and Rainfall:** Atrazine 500SC is applied after planting maize. Atrazine 500SC will give best results when applied to a moist, weed-free soil. The soil should have a smooth, firm surface, free from large clods. Where necessary a light cultivation prior to application is recommended to ensure a weed-free soil without a crust.

It is essential for at least 20mm rain to fall within a few days after spraying to ensure good results. Do not use in areas where the average rainfall is less than 400mm per year. If dry weather follows spraying, cultivate lightly as soon as possible by means of a millipede so that Atrazine 500SC is mixed into the top 25mm of soil. Avoid any subsequent deep cultivation whilst the herbicide remains effective (unless it is to break the soil crust, in which case use a millipede). Do not apply to dry planted maize at planting time but delay treatment until good soaking rain has fallen. For use of Atrazine 500SC on the maize ground under minimum tillage techniques – consult your Nova Agro Zimbabwe agronomist.

**Application:** Atrazine 500SC can be applied by the conventional boom and nozzle sprayer fitted with efficient agitation. Overall spraying is best carried out with 200-400 liters of water per hectare. Use proportionately lower quantities for band application.

#### COMPATIBILITY WITH OTHER PRODUCTS

The manufacturers stress that it is preferable to use this product on its own; furthermore, the quality of water in a mixture may adversely affect its compatibility. The suggestions below are therefore guidelines only, and all responsibility is disclaimed for lack of effectiveness, damage or loss of any kind from mixing this product with another. The manufacturers strongly recommend a trial mixture be taken with water for use in the main mixture.

Subject to the above, this product may normally be mixed at those water concentrations common in the use of ground spraying equipment with any ONE of the following: Alachlor EC, (This product should be added to the mixture first), Endosulfan 35EC (This products should be added to the mixture first), Endosulfan 50WP, Carbaryl 85WP, Lambda-cyhalothrin 5EC.

#### 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.

**Date of Manufacture: SEP. 2015**

**Batch Number: 20150908**



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

Manufactured by:

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

Registration held by:

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

## MATERIAL SAFETY DATA SHEET (MSDS)

### ATRAZINE 50SC

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#### 1. PRODUCT AND COMPANY IDENTIFICATION

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**SUPPLIER:** **NOVA AGRO (HK) LTD.**  
6th Floor Wyndham Place  
44 Wyndham Street  
CENTRAL HONG KONG.  
Tel No.: +852 3586 2521

#### EMERGENCY TELEPHONE NUMBERS

#### SPILLAGES:

Emergency telephone (+ 27) 83 676 1998

#### POISONINGS:

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

#### UFS Pharmacology/Toxicology information centre:

(+27) 82 491 0160

**Trade Name:** **ATRAZINE 50SC**

**Use:** Herbicide.

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#### 2. COMPOSITION/INFORMATION ON INGREDIENTS

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**Active ingredients:** Atrazine 500g/L  
**Common Names** Atrazine  
**Chemical Names** 6-chloro-N-ethyl-N<sup>1</sup>-(1-methylethyl)-1,3,5-triazine-2,4-diamine  
(IUPAC)  
**CAS No.** 1912-24-9  
**Chemical Family** Triazine  
**Chemical Formulae** C<sub>8</sub>-H<sub>14</sub>-Cl-N<sub>5</sub> (mol. wt. 212,7)  
**NIOSH/RTECS NO:** XY5600000  
**Risk phrases:** R48/22, R50/53  
**UN No:** 3082

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#### 3. HAZARD IDENTIFICATION

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#### Toxicity class:

**Atrazine** EPA III  
**ADI** 0.005 mg/kg  
**NOEL** 2 years rats – Atrazine- (10mg/kg diet daily);  
**Likely routes of exposure:** Skin contact, ingestion and inhalation.

<b>Eye contact:</b>	May cause irritation.
<b>Skin contact:</b>	Minimally toxic and practically non-irritating.
<b>Ingestion:</b>	Moderately toxic. No significant effects are expected to develop if only small amounts are swallowed.
<b>Inhalation:</b>	Minimally toxic if inhaled.

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#### 4. FIRST AID MEASURES

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**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 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, 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.

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#### 5. FIRE FIGHTING MEASURES

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

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## 6. ACCIDENTAL RELEASE MEASURES

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### **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:**

**Small spills**, sweep up with damp earth or sand or other suitable absorbent, such as sawdust, taking care not to raise a dust cloud. Place the material into a clean, dry container and cover for subsequent disposal.

**Large spills**; evacuate area. Wear appropriate protective clothing. Ventilate area, sweep up and place in an appropriate container. Wash contaminated surfaces to remove any residues. 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.

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## 7. HANDLING AND STORAGE

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### **Handling:**

Toxic if swallowed. Avoid contact with eyes and skin. Use with adequate ventilation. Wash hands before eating, drinking, chewing gum, smoking or using the toilet. Operators should change and wash clothing daily. Remove clothing immediately if the product gets inside. Then wash skin thoroughly using a non-abrasive soap and put on clean clothing.

### **Storage:**

Store in its original container in isolated, dry, cool (avoid temperatures above 40<sup>0</sup>C) and well-ventilated area. Avoid cross contamination with other pesticides and fertilizers. Keep under lock and key out of reach of unauthorized persons, children and animals. Store away from incompatible substances. Not to be stored next to foodstuffs and water supplies. Local regulations should be complied with.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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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.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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**Appearance:** A white viscous free flowing liquid.

**Odour:** Paint like smell.

**Explosive properties:** Non explosive.

**Oxidising properties:** Not oxidative.

**pH:** 6 - 8

**Density:** 1,103 g/ml.

**Storage stability:** 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.

**Solubility in water:** Atrazine will mix with water, forming a suspension

**Flash point:** Not flammable.

**Partition-coefficient in n-octanol / water:**  $K_{ow} (\log P_{ow}) = 2.58$

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## 10. STABILITY AND REACTIVITY

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**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.

**Incompatibility:**

Spray solutions containing this product should be mixed, stored or applied using stainless steel, aluminium, fibreglass or plastic-lined containers. 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.

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## 11. TOXICOLOGICAL INFORMATION

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**Calculated for formulation:** 1492 mg/kg

Atrazine Technical: > 2000 mg/kg

**Acute dermal LD<sub>50</sub>:**

**Calculated for formulation:** >3000 mg/kg

Atrazine Technical: > 2000 mg/kg

**Acute inhalation LC<sub>50</sub>:**

LC<sub>50</sub> (4h) for rats (male and female): >5.8 mg/λ of air.

**Acute skin irritation:**

The substance is expected to be non-irritating to skin.

**Acute eye irritation:**

Product is expected to be a mild eye irritant.

**Dermal sensitisation:**

May cause dermal sensitisation.

**Carcinogenicity:**

There is inadequate evidence in humans for the carcinogenicity of atrazine. There is limited evidence in experimental animals for the carcinogenicity of atrazine.

**Teratogenicity:**

Not teratogenic. At doses below 10 mg/kg/day for rats and 1mg/kg/day for rabbits, no evidence of material toxicity was noted.

**Mutagenicity:**

Atrazine was not mutagenic in 4 Salmonella tester strains (ta98, ta100, ta1535, and ta1538) at up to 100 ug/plate in presence of arochlor-induced S9.

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## 12. ECOLOGICAL INFORMATION

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**ECOTOXICOLOGY:**

**Birds:** Very low toxicity.

**Fish:** Harmful to fish.

Atrazine: 96-h LC<sub>50</sub>: 45,95mg/l (rainbow trout).

**Daphnia:** Toxic to Daphnia.

Atrazine: LC<sub>50</sub> (48 hr): 5,29mg/l

**Algae:** Very toxic to algae.

Atrazine: EC<sub>50</sub> (96-h) 0,116 mg/l (*Selenastrum capricornutum*)

**Bees:** Relatively non-toxic.

**Soil/Environment:** 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.

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## 13. DISPOSAL CONSIDERATIONS

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**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 triazines. 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 dumpsites, landfills, etc. Comply with any local legislation applying to waste disposal.

**Package product wastes:**

Emptied containers retain vapour and product residues. Observe all labeled 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 that are in good condition may be returned to the manufacturer, or to a drum

reconditioner for reuse with the same type of pesticide product. Containers that are not to be reused should be punctured and transported to a scrap metal facility for recycling or disposal.

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#### 14. TRANSPORT INFORMATION

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<b>UN NUMBER</b>	3077
<b>ADR/RID</b>	
Class:	9
Proper shipping name:	Environmentally hazardous substance, solid, n.o.s. (Atrazine 50%)
Classification Code:	M7
Packaging Group:	III
Label:	9
Hazard ID NR:	90
<b>IMDG/IMO</b>	
Proper shipping name:	Environmentally hazardous substance, solid, n.o.s. (Atrazine 50%)
Class:	9
Label:	9 Marine pollutant
Packaging group:	III
<b>AIR/IATA</b>	
Proper shipping name:	Environmentally hazardous substance, solid, n.o.s. (Atrazine 50% g/kg)
Class:	9
Packaging group:	III
Passenger aircraft	Y911(max 30kg); 911 (No limit)
Cargo aircraft:	911 (No limit)
<b>Tremcard number</b>	90GM7-III

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#### 15. REGULATORY INFORMATION

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<b>Symbol:</b>	Xn; N
<b>Indication of danger:</b>	Harmful; Environmentally hazardous.
<b>Risk phrases:</b>	
<b>R40</b>	Limited evidence of carcinogenic effect.
<b>R48/22</b>	Harmful: danger of serious damage to health by prolonged exposure if swallowed.
<b>R50/53</b>	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
<b>Safety phrases:</b>	
<b>S2</b>	Keep out of reach of children
<b>S13</b>	Keep away from food, drink and animal feedstuffs.
<b>S20/21</b>	When using do not eat, drink or smoke.
<b>S22</b>	Do not breathe dust.
<b>S 37</b>	Wear suitable gloves.
<b>S46</b>	If swallowed, seek medical advice immediately and show him the container or label.



- S60** 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 sheet.

**National Legislation:** In accordance with the South African national Road Traffic Act, 1996 (Act 93 of 1996), the Fire Brigade Act, 1987 (Act 99 of 1987) and the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993). It also conforms to basic EU requirements.

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## 16. OTHER INFORMATION

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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.

## REFERENCES

- The Pesticide Manual; Eleventh Thirteenth; Editor Clive Tomlin; Crop Protection Publications, 2003.
  - ADR-VOL I, January 2005.
  - Dangerous Goods Regulations; IATA; International Air Transport Association, 47<sup>TH</sup> Edition, Effective 1 January 2006.
  - IMDG code, Vol. 2, 2005.
  - ECB-ESIS (European chemical Substances Information System).
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