

**FARM-AG INTERNATIONAL (Pty) Ltd**

P.O. Box 1523, Durban 4000

**Head Office : 61 Marshall Dr., Old Mill Industrial Park, Mount Edgecombe South Africa**

Registration Number: 2005/011761/07

Tel + 27 31 003 3486 • Fax + 27 31 502 5825

**SECTION 1: PRODUCT AND COMPANY IDENTIFICATION****Product Name:** FARMAZINE SUPER 600**Creation Date:** June 2014**Revision Date:** August 2017**24 Hr Emergency Number:** 082 771 2712**In case of poisoning:**

Poison Information Centre: 082 446 8946

Tygerberg Hospital: (021) 931 6129

Poison Emergency Enquiries (021) 689 5227

**In case of Spillage:**

HAZMAT: 0800 147 112

**SECTION 2 - COMPOSITION / INFORMATION ON INGREDIENTS****Common name :** 1) Atrazine plus 2) Terbutylazine**Chemical name :** 1) 6-chloro-N<sup>2</sup>-ethyl-N<sup>2</sup>-isopropyl-1,3,5-triazine-2,4-diamine (IUPAC) 2) N<sup>2</sup>-tert-butyl-6-chloro- N<sup>4</sup>-ethyl-1,3,5-triazine-2,4-diamine (IUPAC)**CAS N°.** 1) 1912-24-9

2) 5915-41-3

**Chemical family :** 1,3,5-triazine**Chemical formula :** 1) C<sub>8</sub>H<sub>14</sub>ClN<sub>5</sub> (Mol. Wt. : 215.7).2) C<sub>9</sub>H<sub>16</sub>ClN<sub>5</sub> (Mol. Wt. : 229.7).**Formulation :** Atrazine: 290 g/l

Terbutylazine: 290 g/l

Other triazines: 20 g/l (referred to as 600 g/l formulated product) Suspension Concentrate

**Active Ingredient :** Atrazine plus terbutylazine**SYMBOLS :** Xn, Xi**Indication of danger :** Environmentally dangerous substance, irritant.**RISK-PHRASE(S) :** R 20/22, R 36, R 43, R 40**SECTION 3 - HAZARD IDENTIFICATION****Toxicity Class** : WHO III; EPA III**Likely routes of exposure** : May cause sensitization by skin contact. Moderate irritating to the skin and eyes. Toxic to aquatic animals.**SECTION 4 - FIRST AID MEASURES AND PRECAUTIONS**

The acute toxicity of these herbicides for man is very low, and no adverse health effects from exposure to this combination herbicide have 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 fumes and spray particles, and to prevent accidental contamination of food products and water.

**Inhalation** Remove patient from exposure, keep warm and at rest and move into fresh air. Obtain medical attention immediately.

**Skin contact** Take off immediately all contaminated clothing, shoes and leather goods (e.g. watchbands and belts). Wash skin immediately with cold water, followed by soap and water. Such action is essential to minimise contact with the skin. Contaminated clothing should be washed before re-use. If irritation persists, seek medical advice immediately. Persons who become sensitised may require specialized medical management with anti-inflammatory agents.

**Eye contact** Immediately irrigate with eyewash solution or clear water, holding the eyelids apart, for at least 20 minutes. Obtain immediate medical attention.

**Ingestion** If swallowed seek medical advice immediately and show the container, label, or this Data Sheet, if possible. DO NOT induce vomiting. To limit toxicant absorption, give 30 g of activated charcoal in 100 ml of water. Put the patient in the half up- right position and give plenty of water.

# FARM-AG INTERNATIONAL (Pty) Ltd

P.O. Box 1523, Durban 4000

**Head Office :** 61 Marshall Dr., Old Mill Industrial Park, Mount Edgecombe **South Africa**

Registration Number: 2005/011761/07

**Tel + 27 31 003 3486 • Fax + 27 31 502 5825**

**Further Medical treatment** No signs and symptoms are known or expected in humans. No antidote known. Symptomatic treatment and supportive therapy as indicated. DO NOT give anything by mouth to semi-conscious or unconscious patients.

## SECTION 5 - FIRE-FIGHTING MEASURES

**Fire and explosion hazard** There is no fire or explosion hazard. Keep fire exposed containers cool by spraying with water.

**Extinguishing media** For small fires, use foam, carbon dioxide, dry powder or alcohol-resistant foam. For large fires, use foam or water-fog; avoid use of water jet. Contain run-off water with, for example, temporary earth barriers.

**Fire fighting** 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 maybe exposed should wear full protective clothing and self-contained breathing apparatus.

## SECTION 6 - ACCIDENTAL RELEASE MEASURES (SPILLAGE)

### Personal precautions

Ensure suitable personal protection during removal of spillage. This means wearing a face mask that gives protection against organic vapours, eye protection, chemically resistant gloves, boots, and overalls.

### Methods for cleaning up

Absorb spillage onto sand, earth or any suitable absorbent material. Transfer to a container for disposal. Wash spillage area with water.

### Environmental precautions

Washings must be prevented from entering surface water drains. Spillage or uncontrolled discharges into water courses must be alerted to the Department of Water Affairs/Environment.

### 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.

## SECTION 7 - HANDLING AND STORAGE REQUIREMENTS

**Handling** May be harmful by inhalation or if swallowed. Read the label before use. Avoid contact with skin and eyes. When using do not eat, drink or smoke. Wash face and hands before eating, drinking or smoking. Do not apply directly to areas where surface water is present, or to inter tidal areas below the mean high water mark.. Water used to clean equipment must be disposed of correctly to avoid contamination.

**Storage** Store under lock and key. Keep in original container, tightly sealed. Store in a cool, dry place away from sources of heat and naked flames. Store away from farm feeds and food stuff. Keep out of reach of children and animals. Local regulations should be complied with.

## SECTION 8 - EXPOSURE CONTROL/PERSONAL PROTECTION

When using this product refer to the label for details. 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.

# FARM-AG INTERNATIONAL (Pty) Ltd

P.O. Box 1523, Durban 4000

Head Office : 61 Marshall Dr., Old Mill Industrial Park, Mount Edgecombe **South Africa**

Registration Number: 2005/011761/07

Tel + 27 31 003 3486 • Fax + 27 31 502 5825

## Clothing

Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged skin contact with this substance.

## Gloves

Employees 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 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

## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance :	Homogenous, opaque, slightly off-white, moderate viscous liquid.
Color :	off-white
Odour :	Slight odour
Explosive properties :	Non explosive
Oxidizing properties :	Non oxidative
Corrosiveness :	Not corrosive
pH :	6 to 8
Relative Density :	1.10 + 0.005 g/cm <sup>3</sup> 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 sedimentation after 3 months storage at 30 °C
Dilution stability :	Stable at 54° C ± 1 °C after 14 days.
Flash point :	Not flammable
Solubility in water :	Soluble - 5 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

## SECTION 10 - STABILITY AND REACTIVITY

### Stability

Relatively stable in neutral, weakly acids and alkaline media, but rapidly hydrolysed to the hydroxy derivatives in strong acids and alkaline and at 70 °C 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.

### Reactivity

Spray solutions containing this product should be mixed or applied using stainless steel, aluminium, fibreglass or plastic-lined containers. It is compatible with most herbicides at normal rates. The product may flocculate in the presence of paraquat.

### Hazardous/Thermal decomposition

Combustion or thermal decomposition will evolve toxic and irritant vapours. Hydrogen chloride and toxic oxides of nitrogen are released when the product decomposes on heating.

## SECTION 11 - TOXICOLOGICAL INFORMATION

### Inhalation

# FARM-AG INTERNATIONAL (Pty) Ltd

P.O. Box 1523, Durban 4000

---

**Head Office** : 61 Marshall Dr., Old Mill Industrial Park, Mount Edgecombe **South Africa**

Registration Number: 2005/011761/07

**Tel + 27 31 003 3486 • Fax + 27 31 502 5825**

Unlikely to cause harmful effects under normal conditions of handling and use, but may cause sore throat, headache, nausea, abdominal distress or increased respiration if large quantities are inhaled. Inhalation LC<sub>50</sub>: no data available.

**Skin contact**

May be irritant to skin and cause redness and discomfort. It is moderate skin sensitiser in animal tests. Dermal LD<sub>50</sub>: >7500 mg/kg in rats (male and female).

**Eye contact**

Moderate eye irritant causing redness, pain and blurred vision.

**Ingestion**

Low oral toxicity. Ingestion of large quantities may cause nausea, vomiting, abdominal distress, diarrhea and muscle spasms. Oral LD<sub>50</sub>: >2 000 mg/kg (rat).

**Dermal sensitization**

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.

---

**SECTION 12 - ECOLOGICAL INFORMATION**

---

**Degradability**

Atrazine not strongly adsorbed to soil but terbutylazine is strongly adsorbed. Microbial degradation is the major cause of loss from soil. Half-life in soil is in the region of 50 days, but may be longer under cold or dry conditions. The half-life underground water conditions is 105 to 200 days. The main metabolites under all conditions are desethylatrazine, hydroxyatrazine and 6-hydroxy analogue.

**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

**Fish toxicity**

May pose a hazard to fish.

LC<sub>50</sub> (rainbow trout) (96 hours) : >4,5–11 mg/l (atrazine)

LC<sub>50</sub> (rainbow trout) (96 hours) : 3,5–4,6 mg/l (terbutylazine)

**Bird toxicity**

Very low

Oral LD<sub>50</sub> : bobwhite quail : >940 mg/kg (atrazine)

Mallard duck : >2000 mg/kg (atrazine)

Japanese quail : >1000 mg/kg (terbutylazine)

**Honeybees**

Relative non-toxic Oral LD<sub>50</sub> : > 97 µg/kg

**Daphnia**

May pose a hazard to Daphnia. LC<sub>50</sub> : 24 hours : 87 mg/l (atrazine)

**Earthworms**

Low toxicity for earthworms. LC<sub>50</sub> : Eisenia foetida: >100 mg/kg/soil (terbutylazine)

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 effect the number of viable bacteria or fungi, relative abundance of bacteria producing hydrolytic enzymes or soil enzyme levels.

**FARM-AG INTERNATIONAL (Pty) Ltd**

P.O. Box 1523, Durban 4000

**Head Office : 61 Marshall Dr., Old Mill Industrial Park, Mount Edgecombe South Africa**

Registration Number: 2005/011761/07

Tel + 27 31 003 3486 • Fax + 27 31 502 5825

**SECTION 13 - DISPOSAL CONSIDERATION**

Do not contaminate rivers, dams or any other water source with chemical or used containers. Drain and triple rinse containers and then destroy by perforation and flattening. Bury in an approved dumping site. Do not re-use containers for any other purpose.

**Pesticide disposal**

Contaminated absorbents, used containers, surplus product, etc. should be burned 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 and terbuthylazine. Heating speeds up the process. After hydrolysis, dilute and dispose via the sewage system. Atrazine is relatively stable and characterized by high mobility in some soils and should not be buried in dump sites, landfills, etc. Terbuthylazine is also relatively stable but is much less mobile in soils. Comply with any local legislation applying to waste disposal.

**Container disposal**

Emptied containers retain vapour and product residues. Observe all label safeguards until containers is destroyed. TRIPLE RINSE empty containers in the following manner: 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 3 times with a volume of water equal to a minimum of 10 % 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 dump site. Prevent contamination of food, feedstuffs, drinking water and eating utensils. Comply with local legislation applying to waste disposal.

**14. TRANSPORT INFORMATION****UN No. :3082****Road Transport ADR/ RID:**

Class : 9

Packing group : III

Shipping name: Environmentally hazardous substance, liquid, N.O.S. (atrazine 290g/l and terbuthylazine 290 g/l )

**Air Transport ICAO/IATA:**

Class : 9

Packing group III

Shipping Name: Environmentally hazardous substance, liquid, N.O.S. (atrazine 290g/l and terbuthylazine 290 g/l )

**Maritime Transport IMDG/IMO:**

Class: 9

Packing group: III

Shipping name: Environmentally hazardous substance, liquid, N.O.S. (atrazine 290g/l and terbuthylazine 290 g/l )

**15. REGULATORY INFORMATION**

European information

Symbol : Xn, Xi

Indication of danger: Environmentally dangerous substance, irritant.

Risk phases :

R20/22 Harmful by inhalation or if swallowed.

R36 Irritating to eyes.

R43 May cause skin sensitisation (published studies).

Safety phases:

S 1/2 Keep locked and out of reach of children.

S 36 Wear suitable protective clothing.

S37 Wear suitable gloves.

S 46 If swallowed seek medical advice and show this label.

**South African information**

Registration number L7537, Act No. 36 of 1947. Danger group II

# FARM-AG INTERNATIONAL (Pty) Ltd

P.O. Box 1523, Durban 4000

---

**Head Office** : 61 Marshall Dr., Old Mill Industrial Park, Mount Edgecombe **South Africa**

Registration Number: 2005/011761/07

**Tel + 27 31 003 3486 • Fax + 27 31 502 5825**

---

## 16. OTHER INFORMATION

---

All information and instructions provided in this Material Safety Data Sheet (MSDS) is based on the current state of scientific and technical knowledge at the time of printing and is presented in good faith and believed to be correct. This information applies to the product as such. It is the responsibility of the person obtaining this MSDS to ensure that the information contained herein is properly read and understood by all persons who may use, handle, dispose or in any way come into contact with the product.

Read the label before use or buying: Use pesticides safely.

FARMAZINE SUPER 600 is the property of FARMAG INTERNATIONAL (Pty) Ltd.

**EXCLUSION OF LIABILITY** All information is given in good faith but without guarantee in respect of accuracy, and no responsibility is accepted for errors or omissions or the consequence thereof. This document is intended only as a guide to the appropriate handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for the particular purpose. FARMAG INTERNATIONAL (Pty) Ltd. makes no representation or warranties, either express or implied, including without limitation any warranties of merchant ability, fitness for a particular purpose with respect to the information set forth herein or the product to which the information refers. Accordingly FARMAG INTERNATIONAL (Pty) Ltd will not be responsible for damages resulting from the use of or reliance upon this information.