SECTION 1 | IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: FMC Atrazine 900 WG Herbicide

Other Names: Atrazine, a triazine herbicide, Group C Herbicide.
Use: Agricultural herbicide for control of weeds and grasses.
Company: FMC Crop Protection Pty Ltd.
Address: Unit 26, 8 Metroplex Avenue, Murarrie, Qld 4172
Telephone Number: 07 3908 9222 Fax Number: 07 3908 9221
Emergency Telephone Number: 1800 033 111 (All hours - Australia wide).

SECTION 2 | HAZARDS IDENTIFICATION

Classified as hazardous according to criteria of the Safe Work Australia.
Not Classified as a Dangerous Good according to the ADG Code.

Risk phrases: R43 May cause sensitization by skin contact.
R48/22 Harmful: danger of serious damage to health by prolonged exposure if swallowed.
Safety Phrases: S2 Keep out of reach of children.
S13 Keep away from food, drink and animal feeding stuffs.
S24 Avoid contact with skin.
S36/37 Wear suitable protective clothing and gloves.
S46 If swallowed, seek medical advice immediately and show this container or label.

SECTION 3 | COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients:

<table>
<thead>
<tr>
<th>CHEMICAL</th>
<th>CAS NUMBER</th>
<th>PROPORTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atrazine</td>
<td>1912-24-9</td>
<td>900 g/kg</td>
</tr>
<tr>
<td>Talc</td>
<td>14807-96-6</td>
<td>&lt; 5%</td>
</tr>
<tr>
<td>Dispersants</td>
<td></td>
<td>&lt; 10%</td>
</tr>
</tbody>
</table>

SECTION 4 | FIRST AID MEASURES

FIRST AID

Swallowed: If swallowed do NOT induce vomiting; seek medical advice immediately and show this container or label, or contact the Poisons Information Centre phone Australia 13 11 26. Make every effort to prevent vomit from entering the lungs by careful placement of the patient.

Eye: If in eyes brush granules away and then, hold eyelids open and wash with copious amounts of water. Seek medical advice if irritation develops or persists.

Skin: Brush granules off skin and if necessary wash affected areas thoroughly with soap and water. Remove contaminated clothing and launder before re-use.

Inhaled: Remove affected person to fresh air until recovered. If symptoms develop or persist, seek medical advice. Product is unlikely to be an inhalation hazard

Advice to Doctors: Treat symptomatically.
**SECTION 5 | FIRE FIGHTING MEASURES**

**Specific Hazard:** Combustible solid. Avoid strong water jets - airborne dusts may form a flammable dust cloud.

**Extinguishing media:** CO₂, Foam or dry chemical. Soft stream water fog or fine water spray if no alternatives. Contain all runoff.

**Hazards from combustion products:** There is no risk of an explosion from this product under normal circumstances if involved in a fire. If involved in a fire, it will emit toxic fumes of cyanides, hydrogen chloride and possibly carbon oxides. Firefighters to wear self-contained breathing apparatus and suitable protective clothing if risk to of exposure to vapour or smoke.

**Precautions for fire-fighters and special protective equipment:** Isolate fire area. Evacuate downwind. Wear full protective clothing and self-contained breathing apparatus. Do not breathe or contact smoke, gases or vapours generated.

**SECTION 6 | ACCIDENTAL RELEASE MEASURES**

**Emergency procedures:** Isolate and post spill area. Wear prescribed protective clothing and equipment. Large spills should be dyked or covered to prevent dispersal. Vacuum, shovel or pump spilled material into an approved container and dispose of as listed below. Keep out unprotected persons and animals.

**Material and methods for containment and cleanup procedures:** To decontaminate spill area, tools and equipment, wash with detergent and water and add the solution to the drums of wastes already collected and label contents. Absorb, as above, any excess liquid and add both solutions to the drums of waste already collected. Dispose of drummed wastes, including decontamination solution in accordance with the requirements of Local or State Waste Management Authorities. Do NOT allow spilled product or wash solution to enter sewers, drains, dams, creeks or any other waterways.

**SECTION 7 | HANDLING AND STORAGE**

**Precautions for Safe Handling:** Ensure containers are kept closed until using product. Avoid contact with eyes and skin. Do not inhale dust or spray mist. When preparing the spray and using the prepared spray, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing) and a washable hat, and elbow length PVC gloves. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water.

**Conditions for Safe Storage:** DO NOT store near (or allow to contact) fertilizers, fungicides or pesticides. Store in the closed original container, in a cool well ventilated area, out of direct sunlight. Store in a room or place away from children, animals, food, feed stuffs, seed and fertilizers. Not classified as a Dangerous Good. This product is a Schedule 5 Poison (S5) and must be stored, transported and sold in accordance with the relevant Health Department regulations.

**SECTION 8 | EXPOSURE CONTROLS / PERSONAL PROTECTION**

**National Exposure Standards:**
No exposure guidelines have been established for this product by Safe Work Australia, but exposure guidelines have been established for the active ingredient (Atrazine) and is presented below:

<table>
<thead>
<tr>
<th>Atmospheric Contaminant</th>
<th>Exposure Standard (TWA)</th>
<th>STEL (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atrazine</td>
<td>5 mg/m³</td>
<td>Not set</td>
</tr>
<tr>
<td>Talc</td>
<td>2.5 mg/m³</td>
<td>Not set</td>
</tr>
</tbody>
</table>

**TWA = Time-Weight Average  STEL = Short Term Exposure Limit**

**Biological Limit Values:**
No biological limit allocated.

**Engineering controls:**
Use in ventilated areas only. Use local exhaust at all process locations. Ventilate all transport vehicles prior to unloading. Keep containers closed when not in use.
SECTION 8  EXPOSURE CONTROLS / PERSONAL PROTECTION (Continued)

Personal Protective equipment (PPE):
General: Avoid contact with eyes and skin. When preparing the spray and using the prepared spray, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing) and a washable hat, and elbow length PVC gloves. If using a hand directed sprayer, wear in addition, waterproof trousers and boots. Wash thoroughly before smoking, eating or using toilet facilities. Wash hands after use.

Respiratory Protection: Generally not required. Do not inhale dust or spray mist. Use of a respirator may be required in certain circumstances. If an inhalation risk exists, wear a properly fitted half-face or full-face air-purifying respirator which is approved for pesticides (Australian Standards).

Personal Hygiene: Clean water should be available for washing in case of eye or skin contamination. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each days use wash gloves and contaminated clothing.

SECTION 9  PHYSICAL AND CHEMICAL PROPERTIES

Appearance: White/beige granule.
Odour: Odourless
Melting Point: 169 - 176°C for atrazine
Specific Gravity: Bulk Density 0.90
Solubility in Water: Disperses in water.
Flammability: Combustible.
Volatile Component: <1%
Poisons Schedule: Product is a Schedule 5 (S5) poison.

SECTION 10  STABILITY AND REACTIVITY

Chemical Stability: Product is considered stable in ambient conditions for a period of at least 2 years after manufacture.

Conditions to avoid: Do not store for prolonged periods in direct sunlight.

Incompatible materials: Keep away from strong oxidising agents, may react violently.

Hazardous decomposition products: If involved in a fire, it will emit toxic fumes of cyanides, hydrogen chloride and possibly carbon oxides.

Hazardous reactions: No special considerations. Hazardous polymerisation is not possible.

SECTION 11  TOXICOLOGICAL INFORMATION

Potential Health Effects:
No harmful effects are expected if the precautions on the label and this MSDS are followed.

Acute
Swallowed: Amounts swallowed incidental to normal handling procedures and use are not expected to cause injury. May irritate the skin. May cause sensitisation by prolonged skin contact. May irritate the eyes. LD$_{50}$ (rat) 1869 – 3090 mg/kg for atrazine. LD$_{50}$ (mice) 1332 – 3992 mg/kg for atrazine.

Eye: Granules may physically irritate the eyes.

Skin: May irritate the skin. Prolonged and repeated skin contact may result in skin sensitisation. LD$_{50}$ (rat) > 3100 mg/kg for atrazine.

Inhaled: Respiratory protection while spraying is recommended. Some temporary irritation may be experienced. LC$_{50}$ (rat) > 5.8 mg/L/4 hr for atrazine.

Chronic: Data indicates no reproductive, teratogenic or mutagenic effects.

Carcinogenicity: Atrazine technical has been extensively tested on laboratory mammals and in test-tube systems. After long-term administration (close to two years of continuous feeding) a slight increase in the incidence of mammary tumours was reported in one species (rat), one sex (female) and one strain (Sprague-Dawley) in one study at higher doses.
SECTION 11  TOXICOLOGICAL INFORMATION (Continued)

A more recent study (1992) using Sprague-Dawley rats showed no significant difference between rats fed normal diet and those fed on a diet containing Atrazine with regard to the incidence of tumours. Recent studies with the Fischer rat strain have shown no evidence of tumour producing potential. The relevance of the mammary tumour finding to humans is doubted as epidemiological studies of workers involved in the production of Atrazine for up to 30 years have shown no evidence of health problems associated with Atrazine exposure. Atrazine has been listed by IARC as a Class 3, not classifiable as to carcinogenicity to humans.

SECTION 12  ECOLOGICAL INFORMATION

Environmental Toxicology: Very toxic to aquatic organisms may cause long-term adverse effects to the aquatic environment. Effects on birds: Atrazine is practically nontoxic to birds. Effects on aquatic organisms: Atrazine is slightly toxic to fish and other aquatic life. Atrazine has a low level of bioaccumulation in fish. In whitefish, Atrazine accumulates in the brain, gall bladder, liver, and gut. Effects on other organisms: Atrazine is not toxic to bees..

Environmental Properties: Breakdown in soil and groundwater: Atrazine is highly persistent in soil. Chemical hydrolysis, followed by degradation by soil microorganisms, accounts for most of the breakdown of Atrazine. Hydrolysis is rapid in acidic or basic environments, but is slower at neutral pHs. Addition of organic material increases the rate of hydrolysis. Breakdown in water: Atrazine is moderately soluble in water. Chemical hydrolysis, followed by biodegradation, may be the most important route of disappearance from aquatic environments. Hydrolysis is rapid under acidic or basic conditions, but is slower at neutral pHs. Atrazine is not expected to strongly adsorb to sediments. Breakdown in vegetation: Atrazine is absorbed by plants mainly through the roots, but also through the foliage. Once absorbed, it is translocated upward and accumulates in the growing tips and the new leaves of the plant. In susceptible plant species, Atrazine inhibits photosynthesis. In tolerant plants, it is metabolized.

SECTION 13  DISPOSAL CONSIDERATIONS

Spills & Disposal: Isolate and post spill area. Wear prescribed protective clothing and equipment. Large spills should be dyked and covered to prevent dispersal. Keep out animals and unprotected persons. Keep material out of streams and sewers. Vacuum, shovel or pump waste into an approved drum. To decontaminate spill area, tools and equipment, wash with detergent and water and add the solution to the drums of wastes already collected and label contents. Dispose of drummed wastes, including decontamination solution in accordance with the requirements of Local or State Waste Management Authorities.

Disposal of empty containers: Shake empty bag into spray tank. Single rinse plastic bags before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals onsite. Puncture or shred and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and products not be burnt.

SECTION 14  TRANSPORT INFORMATION

Storage & Transport: FMC Atrazine 900 WG Herbicide is not classified as Dangerous Goods under the Australian Code for the Transport of Dangerous Goods by Road and Rail in containers less than 3000 litres as per ADG7, SP No. AU01. For bulk shipments as Class 9, use UN 3077, Hazchem code 2Z.

Marine and Air Transport: FMC Atrazine 900 WG Herbicide is a Marine Pollutant according to International Maritime Dangerous Goods (IMDG) Code and the International Air Transport Association (IATA). If transporting by sea or air the following Dangerous Goods Classification applies:-

UN 3077, Class 9 (Miscellaneous Dangerous Goods), Packing Group III, Proper Shipping Name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Contains Atrazine). Not to be loaded with explosives (Class1), oxidising agents (Class 5.1), organic peroxides (Class 5.2), however specific exemptions may apply.
SECTION 15  REGULATORY INFORMATION

 Classified as a hazardous substance according to criteria of the Safe Work Australia. (Xn - harmful).
 Under the Standard for Uniform Scheduling of Medicines and Poisons (SUSMP), this product is a schedule 5 (S5) poison.
 This product is registered under the Agricultural and Veterinary Chemicals Code Act 1994. Product Registration No. 67634.
 Product is not classified as a Dangerous Good according to the ADG Code (7th Ed) in packs less than 3000 kg. Considered a Dangerous Good for sea transport

Requirements concerning special training:
Check State or Territory regulations that require people who use pesticides in their job or business to have training in the application of the materials.

SECTION 16  OTHER INFORMATION

Issue Date:  12 October 2012. Valid for 5 years. (First issue).

Key to abbreviations and acronyms used in this MSDS:
ASCC:  Australian Safety & Compensation Council (formally known as the National Occupational Health & Safety Commission (NOHSC)).
Carcinogen:  An agent which is responsible for the formation of a cancer.
Genotoxic:  Capable of causing damage to genetic material, such as DNA.
Lacrimation:  The production, secretion, and shedding of tears.
Lavage:  A general term referring to cleaning or rinsing.
Pneumonitis:  A general term that refers to inflammation of lung tissue.
PPE:  Personal protective equipment.
Teratogen:  An agent capable of causing abnormalities in a developing foetus.
TWA:  The Time Weighted Average airborne concentration over an eight-hour working day, for a five day working week over an entire working life.

Safe Work Australia:  Formally known as Australian Safety & Compensation Council (ASCC) which was formally known as the National Occupational Health & Safety Commission (NOHSC).

References

This MSDS summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this MSDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company.

End of MSDS