

MATERIAL SAFETY DATA SHEET

ATRAZINE 90DF

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1. IDENTIFICATION

Product name: **ATRAZINE 90DF**
Chemical name of active ingredient(s): Atrazine: 2-chloro-4-ethylamino-6-isopropylamino-s-triazine
Manufacturer: Makhteshim Agan of North America, Inc.
3120 Highwoods Blvd., Suite 100
Raleigh, NC 27604
Phone: 919-256-9300
For fire, spill, and/or leak emergencies, contact Infotrac: Phone: 1-800-535-5053
For medical emergencies and health and safety inquiries, contact Prosar: Phone: 1-877-250-9291

2. COMPOSITION/INFORMATION ON INGREDIENTS

| COMMON NAME | CAS NO. | % | OSHA/PEL | ACGIH/TLV | OTHER | NTP/IARC/OSHA |
|-------------|-----------|------|-----------------|---------------------------|-----------------------------|---------------|
| Atrazine | 1912-24-9 | 88.5 | Not established | 5 mg/m ³ (TWA) | 5 mg/m ³ * (TWA) | IARC 3** |

* recommended by NIOSH

**The agent is unclassifiable as to carcinogenicity to humans.

3. HAZARDS IDENTIFICATION

PHYSICAL PROPERTIES

APPEARANCE: Granules

ODOR: Faint

EMERGENCY OVERVIEW: CAUTION Causes moderate eye irritation. Avoid contact with eyes, skin, or clothing. Harmful if swallowed, absorbed through skin, or inhaled. Avoid breathing vapors or spray mist.

ROUTES OF EXPOSURE: Eye, skin, inhalation.

SYMPTOMS OF ACUTE EXPOSURE: Exposure may result in slight, temporary eye or skin irritation.

MEDICAL CONDITIONS LIKELY TO BE AGGRAVATED BY EXPOSURE: Individuals with pre-existing respiratory disorders, allergic history, or pre-existing dermatitis should use extra precautions in handling this product.

4. FIRST AID

FIRST AID

| | |
|--------------------------------|--|
| IF IN EYES: | <ul style="list-style-type: none">• Hold eye open and rinse slowly and gently with water for 15-20 minutes.• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing.• Call a poison control center or doctor for treatment advice. |
| IF SWALLOWED: | <ul style="list-style-type: none">• Call a poison control center or doctor immediately for treatment advice.• Have person sip a glass of water if able to swallow.• Do not induce vomiting unless told to by a poison control center or doctor. |
| IF ON SKIN OR CLOTHING: | <ul style="list-style-type: none">• Take off contaminated clothing.• Rinse skin immediately with plenty of water for 15-20 minutes.• Call a poison control center or doctor for treatment advice. |
| IF INHALED: | <ul style="list-style-type: none">• Move person to fresh air.• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.• Call a poison control center or doctor for further treatment advice. |

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact PROSAR at 1-877-250-9291 for emergency medical treatment information.

NOTE TO PHYSICIAN: There is no specific antidote for atrazine. If this product is ingested, induce emesis or lavage stomach. The use of an aqueous slurry of activated charcoal may be considered.

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5. FIRE FIGHTING MEASURES

FLASH POINT (TEST METHOD): Not Applicable

FLAMMABLE LIMITS (% IN AIR): Not Applicable

AUTOIGNITION TEMPERATURE: 480°C

FLAMMABILITY: Not Flammable (DOT 49 CFR 173.124)

EXTINGUISHING MEDIA: dry chemical, foam, or CO2 extinguishing media.

HAZARDOUS DECOMPOSITION PRODUCTS: None known.

UNUSUAL FIRE, EXPLOSION AND REACTIVITY HAZARDS: Thermal decomposition products may include, but are not limited to, carbon monoxide, hydrogen cyanide, and acetonitrile.

FIRE-FIGHTING PROCEDURES: Wear full protective clothing and self-contained breathing apparatus. Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes, or products of combustion. Prevent use of contaminated buildings, area, and equipment until decontaminated.

6. ACCIDENTAL RELEASE MEASURES

IN CASE OF SPILL OR LEAK: Wear chemical safety glasses with side shields or chemical goggles, rubber gloves, rubber boots, long-sleeved shirt, long pants, head covering, and use a particulate filter, NIOSH-approved per 42 CFR Part 84. Select N or R or P type as appropriate for the oil characteristics of any other air contaminants present. Filter efficiency may range from 95-99.97% as appropriate for the size distribution of dusts present. For small spills, sweep up keeping dust to a minimum, and place in an approved chemical container. Wash the spill area with water containing a strong detergent, absorb with pet litter or other absorbent material, sweep up and place in a chemical container. Seal the container and handle in an approved manner. Flush the area with water to remove any residue. Do not allow wash water to contaminate water supplies.

7. HANDLING AND STORAGE

Do not contaminate water, food, or feed by storage or disposal or cleaning of equipment.

PRECAUTIONS TO BE TAKEN IN STORAGE: Store in a cool, dry place and avoid excess heat. Keep out of reach of children and animals.

PRECAUTIONS TO BE TAKEN IN HANDLING: Avoid contact with skin or eyes. Wash thoroughly with soap and water after handling. Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored. Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet.

STORAGE TEMPERATURE (MIN/MAX): Normal ambient temperatures.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION AND PACKAGING OF THE PRODUCT. FOR COMMERCIAL APPLICATION AND ON-FARM APPLICATIONS, CONSULT THE PRODUCT LABEL.

INGESTION: Prevent eating, drinking, tobacco usage, and cosmetic application in areas where there is a potential for exposure to the material. Always wash thoroughly after handling.

EYE CONTACT: To avoid eye contact, wear safety glasses with side shields or chemical goggles.

SKIN CONTACT: To avoid skin contact, wear rubber gloves, rubber boots, long-sleeved shirt, long pants and a head covering.

INHALATION: To avoid breathing dust, use a particulate filter, NIOSH-approved per 42 CFR Part 84. Select N or R or P type as appropriate for the oil characteristics of any other air contaminants present. Filter efficiency may range from 95-99.97% as appropriate for the size distribution of dusts present.

ADDITIONAL PROTECTIVE MEASURES: Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

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USER SAFETY RECOMMENDATIONS:

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove PPE/clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

EXPOSURE GUIDELINES: Refer to Section 2.

ENGINEERING CONTROLS: Refer to product label.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Granules

ODOR: Faint

BULK DENSITY: 0.483 g/mL @ 24°C

pH: 10.37 @ 20°C

10. STABILITY AND REACTIVITY

STABILITY: Stable under normal ambient and anticipated storage conditions.

HAZARDOUS POLYMERIZATION: Will not occur

CONDITIONS TO AVOID: None known

HAZARDOUS DECOMPOSITION PRODUCTS: None known

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY/IRRITATION STUDIES:

| | |
|------------------------------------|-----------------------|
| Acute Oral LD50 (Rat): | 5,512 mg/kg |
| Acute Dermal LD50 (Rabbit): | >5,000 mg/kg |
| Acute Inhalation LC50 (Rat): | >2.07 mg/L |
| Eye Irritation (Rabbit): | Mildly irritating. |
| Dermal Irritation (Rabbit): | Non irritating. |
| Dermal Sensitization (Guinea Pig): | Not a skin sensitizer |

MUTAGENIC POTENTIAL:

ATRAZINE: Not mutagenic

REPRODUCTIVE HAZARD POTENTIAL:

ATRAZINE: No adverse reproductive effects observed.

CHRONIC/SUBCHRONIC TOXICITY STUDIES:

ATRAZINE: Cardiotoxicity in Long Term Study with High Doses (Dogs)

CARCINOGENIC POTENTIAL:

ATRAZINE: Mammary Tumors (Female Sprague-Dawley Rats), Sex and Strain Specific
None Observed (Male Sprague-Dawley Rats, F-344 Rats or Mice)

OTHER TOXICITY INFORMATION:

Not Available

TOXICITY OF OTHER COMPONENTS:

DISPERSING AGENT: Dust may produce a respiratory allergenic response and/or irritation in some individuals. May cause severe eye injury but the damage is reversible.

SURFACTANT: Exposure may cause skin and eye irritation.

SURFACTANT: Exposure can result in eye, skin, and respiratory tract irritation.

TARGET ORGANS:

ATRAZINE: Heart

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL HAZARDS: Atrazine can travel (seep or leach) through soil and can enter ground water which may be used as drinking water. Atrazine has been found in ground water. Users are advised not to apply atrazine to sand and loamy sand soils where the water table (ground water) is close to the surface and where

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these soils are very permeable, i.e., well-drained. Your local agricultural agencies can provide further information on the type of soil in your area and the location of ground water.

SUMMARY OF EFFECTS:

ATRAZINE: Slight toxicity to fish and wildlife

ECO-ACUTE TOXICITY:

ATRAZINE: Rainbow Trout 96-hour LC₅₀ 9.9 mg/L
Bluegill Sunfish 96-hour LC₅₀ 42 mg/L
Bobwhite Oral LD₅₀ 940 mg/kg
Bobwhite 8-day Dietary LC₅₀ >5,000 ppm
Mallard 8-day Dietary LC₅₀ >5,000 ppm
Invertebrate *Ceriodaphnia dubia* 48 HR LC₅₀ 4.9 mg A.I./L.
Peking Duck LD₅₀ >10,000 mg/kg
Bees LC₅₀ > 100 µg/bee

ECO-CHRONIC TOXICITY:

ATRAZINE: Fish (Fathead Minnow) Early Life Stage MATC >0.25 and <0.46 mg A.I./L.
Mallard Reproduction NOEC 225 ppm a.i.
Bobwhite Reproduction NOEC 225 ppm a.i.
Invertebrate (*Ceriodaphnia dubia*) Life Cycle NOEL 2.5 ppm

ENVIRONMENTAL FATE:

ATRAZINE: No data available for the formulation. The information presented here is for the active ingredient, atrazine. A thorough review of environmental information is not possible in this document. For additional information call the toll free number listed in Section 16.
Environmental Persistence/Mobility: Stable in water, both in the light and dark. In soil, degrades slowly in the dark under both aerobic and anaerobic conditions (t ½ = 5 months), but degrades more rapidly in the light (t ½ = 45 days). Exhibits medium to very high mobility in all soils in a Kd test (Koc = 39 to 155). Dissipation in the field is moderate (t ½ = 25 to 100 days), but may be longer or shorter depending on the environmental conditions.

13. DISPOSAL CONSIDERATIONS:

END USERS MUST DISPOSE OF ANY UNUSED PRODUCT AS PER THE LABEL RECOMMENDATIONS.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on-site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Dispose of product containers, waste containers, and residues according to label instructions and local, state, and federal health and environmental regulations.

14. TRANSPORT INFORMATION:

DOT CLASSIFICATION:

Non-bulk: Not regulated

Bulk: Not regulated

INTERNATIONAL TRANSPORTATION:

IMO (vessel): Not regulated

IATA (air): Not regulated

15. REGULATORY INFORMATION:

SARA TITLE III CLASSIFICATION:

SECTION 302: Not applicable

SECTION 311/312: Acute (Immediate) Health Hazard

Chronic (Delayed) Health Hazard

SECTION 313 Chemical(s): Atrazine (88.5%) (CAS No. 1912-24-9)

CA PROPOSITION 65: Not Applicable

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CERCLA REPORTABLE QUANTITY (RQ): None

RCRA CLASSIFICATION: Under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

TSCA STATUS: The ingredients of this product are listed on the TSCA inventory or are exempt.

16. OTHER INFORMATION:

NFPA HAZARD RATINGS:

| | | |
|----------------------|---|------------|
| HEALTH: | 1 | 0 Least |
| FLAMMABILITY: | 0 | 1 Slight |
| REACTIVITY: | 0 | 2 Moderate |
| | | 3 High |
| | | 4 Severe |

MSDS DATE: 08-28-13. Supersedes version dated 10-20-08. Changes made to Sections 1 and 16.

The information contained herein is given in good faith and is believed to be correct, but no warrant, express or implied, is made. Consult Makhteshim Agan of North America, Inc. for further information.