

MATERIAL SAFETY DATA SHEET

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SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

- a. **Product Identifier** AATREX[®] 480 Liquid Herbicide
Registration Number: 18450
Formulation Number: A8566A
Chemical Classes: Triazine herbicide
Synonym: Atrazine
- b. **Name of Supplier, Address and Emergency Telephone Number** - See above.
- c. **Name of Manufacturer, Address and Emergency Telephone Number** - See above.
- d. **Product Use:** Liquid herbicide for agricultural weed control
- e. **Date of MSDS Preparation (Y/M/D):** 03-09-18
- f. **Name and Telephone Number of Party Responsible for MSDS Preparation:**
Prepared by Regulatory & Biology Development Department of Syngenta Crop Protection Canada, Inc. For further information, please contact Claudia Thum at (519) 837-5338.

SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS

- a. **Chemical Identity and CAS Registry No. of hazardous ingredients (WHMIS Controlled Products) present at 1.0%, or 0.1% as appropriate, by weight.**
Ethylene glycol - 5% (w/v) CAS Number 107-21-1
- b. **Ingredients present which are on the WHMIS Ingredient Disclosure List at, or above, the minimum concentration specified on the List.** None other than as in 2a and 2g
- c. **Ingredients with unknown toxicological properties:** None.
- d. **Ingredients the supplier believes may be harmful:** None other than as in 2a and 2g
- e. **Generic chemical identity and Registry Number for trade secret ingredients registered under the Hazardous Materials Information Review Commission:** Not applicable.
- f. **Ingredient concentration in units of wt./wt., vol./vol. or wt./vol. expressed as: i) actual concentration, or ii) a range as specified in the Controlled Product Regulations.**
Atrazine - 48% (w/v) CAS Number 1912-24-9 Chemical name: 2-chloro-4-ethylamino-6-isopropylamino-s-triazine.
- g. **Exposure limits for ingredients:** ACGIH-TLV (TWA) Atrazine 5 mg/m³ Ethylene glycol (vapour and mist) C 50 ppm, C 127 mg/m³

SECTION 3 HAZARDS IDENTIFICATION

Potential Health Effects:

- a. **Relevant routes of exposure** - Skin, eyes, lungs, mouth
- b. **Adverse health effects from exposure to product or ingredients of product:**
- i) length of exposure
 - ii) severity of effect
 - iii) target organ
 - iv) type of effect
 - v) signs and symptoms

ACUTE TOXICITY - UNDILUTED

- INGESTION: Slightly toxic: Oral LD50 rat 1075-1880 mg/kg bw.
INHALATION: Slightly toxic: LC50 rat (4h) exceeds 2.38 mg/L
SKIN: Practically non-toxic: Dermal LD50 rabbit exceeds 5,000 mg/kg bw.
Moderately irritating: Rabbit studies show temporary redness and swelling after 24h exposure.
Sensitizing: A skin sensitization reaction indicates that some individuals may develop allergy to this product.
EYE: Mild irritation on contact: Studies with rabbits showed redness and swelling of eyelids.

vi) **medical conditions known to be aggravated:** Individuals with known sensitivity to atrazine should not be exposed to this product. Individuals with allergic history or pre-existing dermatitis should use extra care in handling this product.

SECTION 4 FIRST AID MEASURES

If **POISONING IS SUSPECTED**, immediately contact the **poison information centre**, doctor or nearest hospital. Tell the person contacted the complete product name, and the type and amount of exposure. Describe any symptoms and follow the advice given. Call the Syngenta Emergency Line [**1-800-327-8633 (1-800-FASTMED)**], for further information.

- EYES: Flush eyes with clean water, holding eyelids apart. Obtain medical attention if irritation occurs.
SKIN: Immediately remove contaminated clothing and wash skin, hair and fingernails thoroughly. Obtain medical attention if irritation occurs.
INHALATION: Move to fresh air, clean up, and rest.
INGESTION: If a large amount was swallowed, give water to drink and induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or poison control centre immediately.

NOTE TO PHYSICIAN: Atrazine is an s-triazine herbicide. There is no specific antidote. If a large amount has been swallowed and emesis has been inadequate, lavage stomach. A suspension of thirty to fifty grams of activated charcoal can be given for smaller amounts or to absorb the remaining toxicant.

SECTION 5 FIRE FIGHTING MEASURES

1. **Flash point and method:** Not applicable.
2. **Upper and lower flammable (explosive) limits in air:** Not applicable.
3. **Autoignition temperature:** Not applicable.
4. **Hazardous combustion products:** Thermal decomposition products may include carbon monoxide, hydrogen cyanide and acetonitrile.
5. **Conditions under which flammability could occur:** The product presents no static explosion hazard. It is not impact or shock sensitive.
6. **Extinguishing media:** All are compatible. Avoid excessive water.
7. **Sensitivity to explosion by mechanical impact:** Not sensitive.
8. **Sensitivity to explosion by static discharge:** Not sensitive.

SECTION 6 ACCIDENTAL RELEASE MEASURES

- a. **Procedures for dealing with release or spill:** Wear proper protective clothing (see Section 8). Pump or scoop large amounts of liquid into a disposable container. Absorb remaining liquid or smaller spills with clay, sand or vermiculite. Wash area with detergent and water. On soils, skim off the upper contaminated layer and collect for disposal. Check local spill reporting regulations.

SECTION 7 HANDLING AND STORAGE

- a. **Handling practices:** Stop work, remove protective equipment, and wash hands before eating, smoking, drinking, or using the toilet. Clean up spilled material immediately, and clean clothes, equipment, and work area after use. Keep product, wash or rinse water, and contaminated materials out of water, away from crops, and away from access by people, animals and birds.
- b. **Appropriate storage practices/requirements:** Store in original container only in a well ventilated, cool, dry, secure area set aside for herbicides. Keep separate from other products to prevent cross contamination. Rotate stock. Clean up spilled material immediately.
- National Fire Code classification:** Not required.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

- a. **Applicable control measures, including engineering controls:** Ensure work areas have ventilation, containment, and procedures sufficient to maintain airborne levels below the TLV for atrazine. Warehouses, production area, parking lots and waste holding facilities must have adequate containment to prevent environmental contamination. Provide separate shower and eating facilities.
- b. **Personal protective equipment for each exposure route:**
- Ingestion: Store the material in a well-ventilated, secure area out of the reach of children and domestic animals. Do not store food, beverages, or tobacco products in the storage area. Do not eat, drink, use tobacco or apply cosmetics in areas where there is a potential for exposure to the material. Always wash thoroughly after handling.
- Eye contact: Wear safety glasses or goggles when direct exposure to product, splash or spray is likely.
- Skin contact: Wear full working clothing, enclosed boots, and a hat. Wear nitrile gloves and an apron if direct contact with the product or spray mix is likely.
- Inhalation: Respirator is not normally required. Use a dust mask or pesticide respirator if ventilation is not adequate.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

- a. **Appearance:** White liquid.
- b. **Formulation Type:** Liquid Suspension.
- c. **Odour:** Odourless.
- d. **pH:** 5.26 (neat).
- e. **Vapour pressure and reference temperature:** 1.5 mm Hg @ 20°C
- f. **Vapour density:** Not available.
- g. **Boiling point:** 103 +/- 3°C
- h. **Freezing point:** - 5°C
- i. **Specific gravity or density:** 1.090 -1.120 @ 20°C
- j. **Evaporation Rate:** Not available.
- k. **Water/oil partition coefficient:** atrazine log P 2.34
- l. **Odour threshold:** Not applicable.
- m. **Viscosity:** 300 – 600 cps @ RT

SECTION 10 STABILITY AND REACTIVITY

- a. **Chemical stability:** Stable.
- b. **Conditions to avoid:** None known.
- c. **Incompatibility with other materials:** None known.
- d. **Hazardous decomposition products:** Carbon monoxide, hydrogen cyanide and acetonitrile.
- e. **Hazardous polymerization:** Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

Information on the product: Shown in Section 3.

Information on active ingredient (Atrazine):

- a. **LD50 (species and route)**
Acute Oral - rat 672 mg/kg
Acute Dermal - rat >12 500 mg/kg
LC50 (species)
Acute Inhalation (4H) - rat 5200 mg/m³/4H
- b. **Irritation data** - Mild skin irritant, non-irritating to eyes (rabbits).
- c. **Results of studies on:**
Sensitisation: - May be a weak skin sensitiser
Carcinogenicity: Atrazine is listed by IARC as 2B carcinogen.
Reproductive toxicity/Teratogenicity: No birth defects resulted from exposing pregnant animals to atrazine. Atrazine in the diet at levels high enough to be toxic to the mother resulted in decreased fetal weight, and a slight increase of fetal deaths in animals. Atrazine did not affect the ability of animals to reproduce. Ethylene glycol is known to cause dose related teratogenic effects in rats and mice but there is no information suggesting that ethylene glycol has caused birth defects in humans.
Mutagenicity: The majority of studies indicate that atrazine is not a mutagen. However a few studies have shown changes in the hereditary material of some plants.
Chronic exposure: a metabolite of atrazine, 2,3-diamino-6-chloro-s-triazine (DACT) has caused signs of cardiotoxicity in dogs at high doses.
- d. **Other materials that show synergistic toxic effects together with the product:** None known.

SECTION 12 ECOLOGICAL INFORMATION

The active ingredient (atrazine) has shown the following results:

Birds - Eight-day dietary LC50 for bobwhite quail 5760, mallard ducks 19,650 mg/kg diet (80% wettable powder formulation)

Fish - LC50 (96 hours) for rainbow trout 8.8, bluegill sunfish 16, carp 76, catfish 7.6, perch 16, guppies 4.3 mg/L.

Bees - Not toxic to bees

Degradation and metabolism: **Environmental:** In soil, microbial degradation occurs, with a half-life of ca. 6-10 weeks. Hydroxyatrazine is the principal metabolite (S.U. Khan and P.B. Marriage J. Agric. Food Chem. 1977, **25**, 1408). Following an application rate of 3 kg/ha, duration of residual activity in soil is ca. 5-7 months. **In plants:** In tolerant plants, atrazine is readily metabolized to hydroxyatrazine and amino acid conjugates, with further decomposition of hydroxyatrazine by degradation of the side-chains and hydrolysis of the resulting amino acids on the ring, together with evolution of carbon dioxide. In sensitive plants, unaltered atrazine accumulates, leading to chlorosis and death. **In animals:** In mammals, following oral administration, atrazine is rapidly and completely metabolized, primarily by oxidative dealkylation of the amino groups (R. Ikonen et al. Toxicol. Lett. 1988, **44**, 109; Bull. Environ. Contam. Toxicol. 1989, **43**).

SECTION 13 DISPOSAL CONSIDERATIONS

- a. **Waste disposal information:** Do not reuse jugs. Dispose of empty containers in accordance with local regulations. Return reusable containers for refill. Consult provincial environment ministry for advice on waste disposal. Industrial/commercial waste may be handled at licensed facilities only. Waste shipments must be securely packaged and properly labelled. Only licensed carriers may be used, and proper documents must accompany the shipment. This product is biodegradable.

SECTION 14 TRANSPORT INFORMATION

- a. **Shipping information such as shipping classification:**
TRANSPORTATION OF DANGEROUS GOODS CLASSIFICATION - ROAD/RAIL
Proper Shipping Name: Not Regulated (Clear Language)

SECTION 15 REGULATORY INFORMATION

- a. **WHMIS classification for product:** Exempt
b. **A statement that the MSDS has been prepared to meet WHMIS requirements, except for use of the 16 headings.**
This MSDS has been prepared in accordance with WHMIS requirements, but the data are presented under 16 headings.

SECTION 16 OTHER INFORMATION

The information and recommendations contained herein are based on information believed to be correct. However, no guarantee or warranty of any kind, expressed or implied is made with respect to the information provided herein.

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