1. PRODUCT IDENTIFICATION

Product Name: PENNANT MAGNUM
EPA Signal Word: Caution
Product No.: A9793B

2. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Material</th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
<th>Other</th>
<th>NTP/IARC/OSHA Carcinogen</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,2,4-Trimethylbenzene (not to exceed 1%)</td>
<td>25 ppm (125 mg/m³) TWA</td>
<td>25 ppm (123 mg/m³) TWA</td>
<td>25 ppm (125 mg/m³) REL (Recommended Exposure Limit)**</td>
<td>No</td>
</tr>
<tr>
<td>Naphthalene (not to exceed 1%)</td>
<td>10 ppm (50 mg/m³) TWA (skin)</td>
<td>10 ppm (50 mg/m³) TWA (skin)</td>
<td>10 ppm (50 mg/m³) TWA**</td>
<td>See “Toxicity”, Sec. 11</td>
</tr>
<tr>
<td>S-Metolachlor (83.7%)</td>
<td>Not Established</td>
<td>Not Established</td>
<td>Not Established</td>
<td>No</td>
</tr>
</tbody>
</table>

** recommended by NIOSH

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.

3. HAZARDS IDENTIFICATION

Symptoms of Acute Exposure
Causes eye, skin and respiratory passage irritation. Allergic skin reactions are possible.
Exposure to high vapor levels may cause headache, dizziness, numbness, nausea, incoordination, or other central nervous system effects.

Hazardous Decomposition Products
Can decompose at high temperatures forming toxic gases.

Physical Properties
Appearance: Golden brown liquid
Odor: Sweet

Unusual Fire, Explosion and Reactivity Hazards
During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

4. FIRST AID MEASURES

Have the product container, label or Material Safety Data Sheet with you when calling Syngenta (800-888-8372), a poison control center or doctor, or going for treatment.

Ingestion: If swallowed: Call Syngenta (800-888-8372), a poison control center or doctor immediately for treatment advice. Do not give any liquid to the person. Do not induce vomiting unless told to do so after calling 800-
5. FIRE FIGHTING MEASURES

Fire and Explosion

Flash Point (Test Method): > 200°F (Setaflash)
Flammable Limits (% in Air): Lower: % Not Applicable Upper: % Not Applicable
Autoignition Temperature: Not Available
Flammability: Not Applicable

Unusual Fire, Explosion and Reactivity Hazards
During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

In Case of Fire
Use dry chemical, foam or CO2 extinguishing media. 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. Water runoff can cause environmental damage. If water is used to fight fire, dike and collect runoff.

6. ACCIDENTAL RELEASE MEASURES

In Case of Spill or Leak
Control the spill at its source. Contain the spill to prevent it from spreading, contaminating soil, or entering sewage and drainage systems or any body of water. Clean up spills immediately, observing precautions outlined in Section 8. If a solid, sweep up material and place in a compatible disposal container. If a liquid, cover entire spill with absorbing material and place into compatible disposal container. Scrub area with hard water detergent (e.g. commercial products such as Tide, Joy, Spic and Span). Pick up wash liquid with additional absorbent and place into compatible disposal container. Once all material is cleaned up and placed in a disposal container, seal container and arrange for disposition.

7. HANDLING AND STORAGE

Store the material in a well-ventilated, secure area out of reach of children and domestic animals. Do not store food, beverages or tobacco products in the storage area. Prevent eating, drinking, tobacco use, and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION, PACKAGING AND USE OF THIS PRODUCT.

FOR COMMERCIAL APPLICATIONS AND/OR 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. Wash thoroughly with soap and water after handling.
11. TOXICOLOGICAL INFORMATION

**Eye Contact:** Where eye contact is likely, use chemical splash goggles. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

**Skin Contact:** Where contact is likely, wear chemical-resistant (such as nitrile or butyl) gloves, coveralls, socks and chemical-resistant footwear. For overhead exposure, wear chemical-resistant headgear.

**Inhalation:** Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below exposure limits. A NIOSH-certified combination air-purifying respirator with an N, P or R 95 or HE class filter and an organic vapor cartridge may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air-purifying respirators is limited. Use a pressure demand atmosphere-supplying respirator if there is any potential for uncontrolled release, exposure levels are not known, or under any other circumstances where air-purifying respirators may not provide adequate protection.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Golden brown liquid</td>
</tr>
<tr>
<td>Odor</td>
<td>Sweet</td>
</tr>
<tr>
<td>Melting Point</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>Not Available</td>
</tr>
<tr>
<td>Specific Gravity/Density</td>
<td>1.09 g/cc @ 68°F (20°C)</td>
</tr>
<tr>
<td>pH</td>
<td>5.5 (1% solution in H2O @ 77°F (25°C))</td>
</tr>
<tr>
<td>Solubility in H2O</td>
<td>S-Metolachlor: 0.48 g/l @ 77°F (25°C)</td>
</tr>
<tr>
<td></td>
<td>S-Metolachlor: 2.48 x 10(-5) mmHg @ 77°F (25°C)</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td></td>
</tr>
<tr>
<td></td>
<td>S-Metolachlor:</td>
</tr>
</tbody>
</table>

### 10. STABILITY AND REACTIVITY

- **Stability:** Stable under normal use and storage conditions.
- **Hazardous Polymerization:** Will not occur.
- **Conditions to Avoid:** None known.
- **Materials to Avoid:** None known.
- **Hazardous Decomposition Products:** Can decompose at high temperatures forming toxic gases.

### 11. TOXICOLOGICAL INFORMATION

**Acute Toxicity/Irritation Studies (Finished Product)**

- **Ingestion:** Slightly Toxic
  - Oral (LD50 Rat) : 3,425 mg/kg body weight

- **Dermal:** Slightly Toxic
  - Dermal (LD50 Rabbit) : > 2,000 mg/kg body weight

- **Inhalation:** Slightly Toxic
  - Inhalation (LC50 Rat) : > 2.61 mg/l air - 4 hours

- **Eye Contact:** Moderately Irritating (Rabbit)
- **Skin Contact:** Slightly Irritating (Rabbit)
- **Skin Sensitization:** Sensitizing (Guinea Pig)

**Reproductive/Developmental Effects**

- S-Metolachlor: None observed.

**Chronic/Subchronic Toxicity Studies**

- S-Metolachlor: None observed.

**Carcinogenicity**
S-Metolachlor: Benign liver tumors at high dose levels (female rats).

Other Toxicity Information
None

Toxicity of Other Components
1,2,4-Trimethylbenzene (not to exceed 1%)
Inhalation of 1,2,4-trimethylbenzene at high concentrations can cause central nervous system depression, respiratory tract irritation, asphyxiation, cardiac stress and coma. Effects of chronic exposure to this solvent can include blood disorders (anemia, leukopenia) and kidney or liver damage.

Naphthalene (not to exceed 1%)
Exposure to naphthalene can cause cataracts, liver damage, kidney failure, respiratory failure, hematuria, anemia, damage to red blood cells, leukocytosis, or coma.

Carcinogen Status:
NTP: Anticipated Carcinogen
IARC: Group 2B Possible Human Carcinogen

Target Organs
Active Ingredients
S-Metolachlor: Liver
Inert Ingredients
1,2,4-Trimethylbenzene: CNS, liver, kidney, blood, respiratory tract, skin, eye
Naphthalene: Eye, liver, kidney, respiratory tract, blood, CNS

12. ECOLOGICAL INFORMATION

Summary of Effects
S-Metolachlor:
Slightly to moderately toxic to fish. Slightly toxic to invertebrates. Practically non-toxic to birds and bees.

Eco-Acute Toxicity
S-Metolachlor: Bees LC50/EC50  > 200 ug/bee
Invertebrates (Water Flea) LC50/EC50 26 ppm
Fish (Trout) LC50/EC50 12 ppm
Fish (Bluegill) LC50/EC50 3.16 ppm
Birds (8-day dietary - Bobwhite Quail) LC50/EC50  > 5,620 ppm
Birds (8-day dietary - Mallard Duck) LC50/EC50  > 5,620 ppm

Eco-Chronic Toxicity
S-Metolachlor: Not Available

Environmental Fate
S-Metolachlor:
No data available for the formulation. The information presented here is for the active ingredient, s-metolachlor. A thorough review of environmental information is not possible in this document.

13. DISPOSAL CONSIDERATIONS

Disposal
Do not reuse product containers. Dispose of product containers, waste containers, and residues according to local, state, and federal health and environmental regulations.

Characteristic Waste: Under certain circumstances, discarded product may exhibit TCLP hazardous characteristics. A hazardous waste determination should be done on a case by case basis.

Listed Waste: Not Applicable

14. TRANSPORT INFORMATION
DO T Classification
Non-Bulk Containers (<= 119 gal. cap.): Not regulated by DOT.
Bulk Containers (> 119 gal. cap.): RQ Other Regulated Substances, Liquid, N.O.S. (contains naphthalene), 9, NA3082 PGIII

Air Transportation:
Domestic and International: Not regulated under IATA.

B/L Freight Classification
Herbicides, NOI

Comments
None

15. REGULATORY INFORMATION

EPCRA SARA Title III Classification
Section 311/312 Hazard Classes: Acute Health Hazard
Chronic Health Hazard

Section 313 Toxic Chemicals: 1,2,4-Trimethylbenzene (not to exceed 1%) (CAS No. 95-63-6)
Naphthalene (not to exceed 1%) (CAS No. 91-20-3)

California Proposition 65
Not Applicable

CERCLA/SARA 302 Reportable Quantity (RQ)
Report product spills > 1,700 gal. (based on naphthalene [RQ = 100 lbs.] content in the formulation)

RCRA Hazardous Waste Classification (40 CFR 261)
Under certain circumstances, discarded product may exhibit TCLP hazardous characteristics. A hazardous waste determination should be done on a case by case basis.

TSCA Status
Exempt from TSCA, subject to FIFRA

16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>NFPA Hazard Ratings</th>
<th>HMIS Hazard Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health: 2</td>
<td>Health: 2</td>
</tr>
<tr>
<td>Flammability: 1</td>
<td>Flammability: 1</td>
</tr>
<tr>
<td>Instability: 0</td>
<td>Reactivity: 0</td>
</tr>
</tbody>
</table>

For non-emergency questions about this product call:
1-800-334-9481

Original Issued Date: 03/30/1998
Revision Date: 04/15/2003
Replaces: 06/28/2000

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

RSVP#: SCP-955-00225C

End of MSDS