MATERIAL SAFETY DATA SHEET

Eraser A/P

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1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Name: Eraser A/P
Supplier: Control Solutions, Inc.
Emergency Telephone No. - see 16: Other Information (last page)

2. COMPOSITION/INFORMATION ON INGREDIENTS

2.1. ACTIVE INGREDIENT:

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Glyphosate (as its isopropylamine salt)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS Name</td>
<td>Glycine, N-(phosphonomethyl)-</td>
</tr>
<tr>
<td>ISO Name</td>
<td>Glyphosate</td>
</tr>
<tr>
<td>CAS No.</td>
<td>1071-83-6</td>
</tr>
<tr>
<td>EC No.</td>
<td>213-997-4</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>169.07</td>
</tr>
<tr>
<td>Empirical Formula</td>
<td>C₆H₁₂N₂O₇P</td>
</tr>
</tbody>
</table>
| Structural Formula | \[
\begin{align*}
\text{HO} & \begin{array}{c}
\text{P} \\
\text{CH₂-NH-CH₂-COOH}
\end{array} \\
\text{HO} & \begin{array}{c}
\text{P} \\
\text{CH₂-NH-CH₂-COO-} + \text{NH}_₂\text{-CH(CH₃)₂}
\end{array}
\end{align*}
\] |

2.2. TYPICAL CONTENT:

<table>
<thead>
<tr>
<th>Active Ingredient</th>
<th>Glyphosate, N-(phosphonomethyl)glycine*, as its isopropylamine salt</th>
<th>41.0% by weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inert Ingredients</td>
<td>Surfactant, water, etc.</td>
<td>59.0% by weight</td>
</tr>
<tr>
<td></td>
<td>*(Contains 480 g/l of the active ingredient glyphosate in the form of its isopropylamine salt, equivalent to about 360 g/l of the acid, glyphosate)</td>
<td></td>
</tr>
<tr>
<td>Content of reportable ingredients</td>
<td>Surfactant</td>
<td>10 - 30% by weight</td>
</tr>
</tbody>
</table>

The information presented herein is believed to be accurate and reliable, but is presented without any warranty, express nor implied, on the part of Control Solutions, Inc.
The surfactant has EU classification: Xn;R22 Xi;R36 N;R51/53: Harmful if swallowed. Irritating to eyes. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

The product contains Tallow alkylamine ethoxylate (CAS No. 61791-26-2).

Material Use: Herbsicide

EU Classification of the Product: None

WHO Classification: None (Technical product unlikely to present acute hazard in normal use)

US Classification: Toxicity Category II, Signal Word: Warning

Classification – Canada: Caution Irritant

Health: 1
Flammability: 0
Reactivity: 0
Personal Protection: See 8.1.

3. HAZARDS IDENTIFICATION

3.1. Health Hazards (Acute and Chronic):

- **Likely Routes of Exposure:**
  - Skin contact and inhalation
  - Eye Contact
  - Skin Contact
  - Ingestion
  - Inhalation

- **Signs and Symptoms of Exposure:** See 3.1.

- **Environmental Hazards:** See 12.

4. FIRST AID MEASURES

4.1. Emergency and First Aid Procedures:

- If in Eyes: Immediately hold eyelids open and flush with plenty of water. Get medical attention.
- If Swallowed: The product will cause gastrointestinal tract irritation. Immediately dilute by swallowing water or milk. Get medical attention.
- If Inhaled: Remove individual to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention.

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5. **FIRE-FIGHTING MEASURES**

5.1. **Extinguishing Media and Procedure**

Water spray, foam, dry chemical, carbon dioxide or any class B extinguishing agent.

Use water spray to keep fire-exposed containers cool. Approach fire from upwind to avoid hazardous vapors and toxic decomposition products. Fight fire from protected location or maximum possible distance. Avoid heavy hose streams. Dike area to prevent water runoff. Firemen should wear self-contained breathing apparatus and protective clothing.

5.2. **Hazardous Decomposition or Byproducts in a Fire**

The essential breakdown products are carbon monoxide, carbon dioxide, phosphorus pentoxide and nitrogen oxides.

5.3. **Unusual Fire and Explosion Hazards**

None.

6. **ACCIDENTAL RELEASE MEASURES**

6.1. **Personal Protection**

Observe all protection and safety precautions when cleaning up spills, see 8.

6.2. **Steps to Be Taken in Case of Spill**

Small liquid spills on the floor or other impervious surface, should be soaked up with towels or other absorbent material and discarded in the trash. Clean the spill area with soap and water and rinse the area thoroughly.

Large liquid spills on the floor or other impervious surface should be contained or diked and then absorbed with attapulgite, bentonite or other absorbent clays. Collect the contaminated absorbent, place in a metal drum and dispose of in accordance with the instructions provided under Disposal (see 13). Thoroughly scrub floor or other impervious surface with a strong industrial detergent and rinse with water.

Large spills that soak into the ground should be dug up, placed in metal drums and disposed of in accordance with instructions provided under Disposal (see 13). Contact appropriate state agency when considering a land spreading disposal option.

Leaking containers should be separated from non-leakers and either the container or its contents transferred to a drum or other non-leaking container and disposed of in accordance with instructions provided under Disposal (see 13). Any recovered spill liquid should be similarly collected and disposed of.
**7. HANDLING AND STORAGE**

7.1 Precautions to Be Taken in Handling

Do not get in eyes or breathe mist or get in or on clothing. Avoid breathing vapor or spray mist. Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing (see 8, Personal Protection).

Spray solutions of the product should be mixed, stored or applied using only stainless steel, aluminum, fiberglass, plastic or plastic-lined containers.

**Do not mix, store or apply this product or spray solutions of this product in galvanized or unlined steel (except stainless steel) containers or spray tanks.**

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark.

Do not contaminate water when disposing of equipment washwaters.

7.2 Precautions to Be Taken in Storing

Do not contaminate water, foodstuffs, feed or seed by storage or disposal.

7.3 Fire and Explosion Precautions

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

8.1 Respiratory Protection

The undiluted product is not likely to present an airborne exposure concern during normal handling. In the event of an accidental discharge of the material during manufacture or handling which produces a heavy vapor or mist, workers should put on respiratory protection equipment in conformity with local regulations.

For application of product diluted in accordance with label instructions: Respirators are not required for applications of use-dilutions of the product.

Protective gloves

Wear heavy duty, natural rubber gloves.

Eye Protection

Wear goggles, face shield or safety glasses.

Skin Protection

Wear appropriate protective clothing to prevent skin contact. Applicators and other handlers must wear long-sleeved shirt, long pants, shoes plus socks and protective eyewear.

8.2 Work/Hygienic Practices

Do not get in eyes or get in or on clothing. Avoid breathing vapor or spray mist. Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Wash thoroughly with soap and
9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Physical State ......................... Clear, viscous solution
9.2. Color ............................................ Amber-colored
9.3. Odor ........................................... Practically odorless to slight amine-like odor
9.4. Melting Point .................................. Below 0°C
9.5. Boiling Point ................................. 113°C
9.6. Specific Gravity ............................... 1.16 g/cm³ at 20°C
9.7. Vapor Pressure ............................... For the active ingredient glyphosate (acid): 1.75 x 10⁻⁷ mm Hg (1.31 x 10⁻⁵ Pa) at 25°C
9.8. Viscosity ............................... 43 cS at 20°C, 18 cS at 40°C (kinematic viscosity)
9.9. Solubility in Water ....................... The product is fully miscible with water (solubility active ingredient glyphosate (acid): 10.5 g/l at 20°C).
9.10. Partition Coefficient n-Octanol/Water P = 4.5 x 10⁻⁴; Log P = -3.4 (active ingredient glyphosate (acid))
9.11. pH ........................................ 4.5 (1% solution in water) at 20°C
9.12. Flash Point ............................... Above 113°C

10. STABILITY AND REACTIVITY

10.1. Chemical Stability ..................... The product is stable at ambient temperature.
10.2. Hazardous Decomposition or Byproducts .................................. None (however, see 5.2.).
10.3. Materials to Avoid ...................... Do not mix, store or apply this product or spray solutions of this product in galvanized or unlined steel (except stainless steel) containers or spray tanks.

This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture with air. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welders torch, lighted cigarettes or other ignition source.

Hazardous Polymerization .............. Does not occur. This product can react with caustic (basic) materials to liberate heat. This is not a polymerization but rather a chemical neutralization in an acid-base reaction.

11. TOXICOLOGICAL INFORMATION

11.2. Toxicological Data:

<table>
<thead>
<tr>
<th>Ingestion (oral)</th>
<th>Practically non-toxic (LD₅₀, rat: &gt; 5000 mg/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin (dermal)</td>
<td>Practically non-toxic (LD₅₀, rabbit: &gt; 2000 mg/kg)</td>
</tr>
</tbody>
</table>

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12. ECOLOGICAL INFORMATION

The active ingredient (glyphosate (acid)) is rapidly deactivated by adsorption to clay particles.

The acute toxicity of the product is:
- Fish
  - Rainbow Trout 96-hr LC₅₀ .................. 18.6 mg/l (static)
  - Bluegill Sunfish 96-hr LC₅₀ ............. 11.9 mg/l (static)
- Invertebrates
  - Daphnia magna 48-hr EC₅₀ ............... 21.6 mg/l
- Birds
  - Bobwhite quail and mallard duck LD₅₀ > 2000 mg/kg (glyphosate (acid))
- Algae
  - Algae 72-hr EC₅₀ .......................... 17.4 mg/l
- Bees
  - Honey Bees, LD₅₀, oral ................... > 100 µg/bee

13. DISPOSAL CONSIDERATIONS

Wastes resulting from the use of this product that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticide disposal or in accordance with applicable federal, state or local procedures.

Emptied container retains vapor and product residue. Observe all labeled safeguards until container is cleaned or destroyed. **DO NOT CUT OR WELD ON OR NEAR THIS CONTAINER.**

Plastic Containers ....................... Do not reuse container. Triple rinse container. Then puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke. However, procedures in accordance with state and local regulations must be observed.

14. TRANSPORT INFORMATION

UN CLASSIFICATION: Not classified as hazardous material for transport.

15. REGULATORY INFORMATION

15.1. IN THE EU:
Classification and Labeling
(according to 88/379/EEC as amended): None

15.2. Threshold Limit Value ................. OSHA PEL  ACGIH TLV  MAK  HGV  Others
(USA) (USA) (Germany) (Denmark) Others
n.a.  n.a.  n.a.  n.a.  –

However, threshold limit values defined by local regulations must be observed.

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16. OTHER INFORMATION

Emergencies in the US (spills): CHEMTREC toll free 1-800-424-9300
Emergencies in the US (medical): SafetyCall International 1-(866) 897-8050

Telephone Number for Information in the US (281) 892-2500 (8:00 am - 5:00 pm, Mon.-Fri.)
Origin: 07-11-11

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