

Product Name: **Surrender brand Eraser RTU Systemic Weed  
And Grass Killer**  
 Active Ingredient: Glyphosate  
 EPA Reg. No. **53883-63**

**MATERIAL SAFETY DATA SHEET**

**Surrender<sup>®</sup> Eraser RTU  
Systemic Weed and Grass Killer**

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

Product Name ..... **Surrender Eraser RTU Systemic Weed & Grass Killer**  
 Supplier: ..... **Control Solutions, Inc.**  
 5903 Genoa-Red Bluff  
 Pasadena, TX 77507-1041  
 Emergency Telephone No. - see 16: Other Information (last page)

**2. COMPOSITION/INFORMATION ON INGREDIENTS**

<b>2.1. ACTIVE INGREDIENT:</b>	<b>Glyphosate, in the form of its isopropylamine salt</b>								
Common Name .....	<b>Glyphosate</b>								
CAS Name .....	Glycine, N-(phosphonomethyl)-								
ISO Name .....	Glyphosate								
CAS No. ....	1071-83-6								
EC No. (EINECS No.) .....	213-997-4								
Molecular Weight .....	169.07								
Empirical Formula .....	C <sub>3</sub> H <sub>8</sub> NO <sub>5</sub> P								
Structural Formula .....	$\begin{array}{c} \text{HO} \\   \\ \text{P}=\text{O} \\   \\ \text{HO} \end{array} \text{CH}_2\text{-NH-CH}_2\text{-COOH}$								
	<table border="0"> <tr> <td><b>Glyphosate, isopropylamine salt</b></td> </tr> <tr> <td>Glycine, N-(phosphonomethyl), Compd. with 2-propanamine (1:1)</td> </tr> <tr> <td>—</td> </tr> <tr> <td>38641-94-0</td> </tr> <tr> <td>254-056-8</td> </tr> <tr> <td>228.18</td> </tr> <tr> <td>C<sub>6</sub>H<sub>17</sub>N<sub>2</sub>O<sub>5</sub>P</td> </tr> <tr> <td> <math display="block">\begin{array}{c} \text{HO} \\   \\ \text{P}=\text{O} \\   \\ \text{HO} \end{array} \text{CH}_2\text{-NH-CH}_2\text{-COO}^- + \text{NH}_3\text{-CH(CH}_3)_2</math> </td> </tr> </table>	<b>Glyphosate, isopropylamine salt</b>	Glycine, N-(phosphonomethyl), Compd. with 2-propanamine (1:1)	—	38641-94-0	254-056-8	228.18	C <sub>6</sub> H <sub>17</sub> N <sub>2</sub> O <sub>5</sub> P	$\begin{array}{c} \text{HO} \\   \\ \text{P}=\text{O} \\   \\ \text{HO} \end{array} \text{CH}_2\text{-NH-CH}_2\text{-COO}^- + \text{NH}_3\text{-CH(CH}_3)_2$
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<b>2.2. TYPICAL CONTENT:</b>									
Active Ingredient .....	Glyphosate, N-(phosphonomethyl)glycine*, as its isopropylamine salt ..... 0.96% by weight								
Inert Ingredients .....	Surfactant, water, etc. .... 99.04% by weight								

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Content of reportable ingredients	<p>* (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)</p> <p>Surfactant ..... &lt;1% by weight          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.</p> <p>The product contains Tallow alkylamine ethoxylate (CAS No. 61791-26-2).</p>
Material Use .....	Herbicide
2.3. EU Classification of the Product .....	None
2.4. WHO Classification .....	None (Technical product unlikely to present acute hazard in normal use)
2.5. US Classification .....	Toxicity Category III, Signal Word: Caution
2.6. Classification – Canada .....	Caution Irritant
2.7.	Health: 1 Flammability: 0 Reactivity: 0 Personal Protection: See 8.1.

<b>3. HAZARDS IDENTIFICATION</b>
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3.1. Health Hazards (Acute and Chronic):	
Likely Routes of Exposure .....	Skin contact and inhalation
Eye Contact .....	The product may cause pain, redness and tearing as shown by toxicity studies.
Skin Contact .....	The product is only slightly toxic and only slightly irritating as shown by toxicity studies.
Ingestion .....	The product is only slightly toxic as shown by toxicity studies. No significant adverse health effects are expected to develop if only small amounts (less than a mouthful) are swallowed. Ingestion of similar formulations has been reported to produce gastrointestinal discomfort with irritation of the mouth, nausea, vomiting and diarrhea. Oral ingestion of large quantities of one similar product has been reported to result in hypotension and lung edema.
3.2. Signs and Symptoms of Exposure	See 3.1.
3.3. Environmental Hazards .....	See 12.

<b>4. FIRST AID MEASURES</b>
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4.1. Emergency and First Aid Procedures:	
If Swallowed .....	The product may cause gastrointestinal tract irritation.



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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..

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 ..... N.a.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

8.1 Respiratory Protection ..... The 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 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 water after handling. Remove contaminated clothing immediately and wash before reuse. 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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**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/cm <sup>3</sup> at 20°C
9.7. Vapor Pressure .....	For the active ingredient glyphosate (acid): 1.75 x 10 <sup>-7</sup> mm Hg (1.31 x 10 <sup>-5</sup> 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 <sup>-4</sup> ; 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
9.13. Autoignition Temperature .....	N.a.
9.14. Flammable Limits .....	N.a.

**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.
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**11. TOXICOLOGICAL INFORMATION**

11.1. Health Hazards .....	See 3.
11.2. Toxicological Data:	
Ingestion (oral) .....	Practically non-toxic (LD <sub>50</sub> , rat: > 5000 mg/kg)
Skin (dermal) .....	Practically non-toxic (LD <sub>50</sub> , rabbit: > 2000 mg/kg)
Inhalation .....	LC <sub>50</sub> , rat: > 4.86 mg/l/4 h
Eye Irritation .....	May cause substantial but temporary eye injury
Skin Irritation .....	Practically not irritant to rabbit skin

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Allergy Sensitization ..... No sensitizing properties towards guinea pigs in the Magnusson-Kligmann Maximization test

Carcinogenicity ..... EPA has classified glyphosate in category E (evidence of non-carcinogenicity for humans).

**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 LC <sub>50</sub> .....	18.6 mg/l (static)
	Bluegill Sunfish 96-hr LC <sub>50</sub> .....	11.9 mg/l (static)
- Invertebrates	<i>Daphnia magna</i> 48-hr EC <sub>50</sub> .....	21.6 mg/l
- Birds	Bobwhite quail and mallard duck LD <sub>50</sub>	> 2000 mg/kg (glyphosate (acid))
- Algae	Algae 72-hr EC <sub>50</sub> .....	17.4 mg/l
- Bees	Honey Bees , LD <sub>30</sub> , 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 (USA)	ACGIH TLV (USA)	MAK (Germany)	HGV (Denmark)	Others
	n.a.	n.a.	n.a.	n.a.	-

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

<b>16. OTHER INFORMATION</b>
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Spill Emergencies in the US

CHEMTREC toll free 1-800-424-9300

Telephone Number for Information in the US

(281) 892-2500 (8:00 am - 5:00 pm, Mon.-Fri.)

Rev. Date: 08-08-05

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