MATERIAL SAFETY DATA SHEET

Syngenta Crop Protection, LLC
Post Office Box 18300
Greensboro, NC 27419

1. PRODUCT IDENTIFICATION

Product Name: REWARD LANDSCAPE AND AQUATIC HERBICIDE
Product No.: A12872A

EPA Signal Word: Caution

Active Ingredient(%): Diquat Dibromide (37.3%)
Chemical Name: [6,7-dihydrodipyrido(1,2-a:2',1'-c)pyrazinedium dibromide]
Chemical Class: Bipyridilium (dipyridilium) contact herbicide

EPA Registration Number(s): 100-1091

2. HAZARDS IDENTIFICATION

Health and Environmental
Toxic if inhaled. Harmful if swallowed. Causes mild eye and skin irritation.

Hazardous Decomposition Products
Flammable hydrogen gas may be formed on contact with aluminum. See "Conditions to Avoid", Section 10.

Physical Properties
Appearance: Dark brown liquid
Odor: Odorless

Unusual Fire, Explosion and Reactivity Hazards
This product may form flammable and explosive hydrogen gas when in contact with aluminum.

During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

3. 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>
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</thead>
<tbody>
<tr>
<td>Diquat Dibromide (37.3%)</td>
<td>Not Established</td>
<td>0.5 mg/m³ TWA</td>
<td>0.5 mg/m³ TWA (0.5 total; 0.08 respirable)</td>
<td>No ***</td>
</tr>
</tbody>
</table>

*** Syngenta Occupational Exposure Limit (OEL)

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.
Syngenta Hazard Category: C, S

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.
5. FIRE FIGHTING MEASURES

Fire and Explosion

- Flash Point (Test Method): Not Applicable
- Flammable Limits (% in Air): Lower: Not Applicable  Upper: Not Applicable
- Autoignition Temperature: Not Applicable
- Flammability: Not Applicable

Unusual Fire, Explosion and Reactivity Hazards

This product may form flammable and explosive hydrogen gas when in contact with aluminum.

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 from spreading or contaminating soil or from entering sewage and drainage systems or any body of water. Clean up spills immediately, observing precautions outlined in Section 8. 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

This product reacts with aluminum to produce flammable hydrogen gas. Do not mix or store in containers or systems made of aluminum or having aluminum fittings.

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 AND PACKAGING 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.
Eye Contact: Where eye contact is likely, use chemical splash goggles.
Skin Contact: Where contact is likely, wear chemical-resistant gloves (such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyvinyl chloride [PVC] or Viton), coveralls, socks and chemical-resistant footwear.
Inhalation: A respirator is not normally required when handling this substance. Use effective engineering controls to comply with occupational exposure limits.

In case of emergency spills, use a NIOSH approved respirator with any N, R, P or HE filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Dark brown liquid
Odor: Odorless
Melting Point: Not Applicable
Boiling Point: Not Available
Specific Gravity/Density: 1.202 g/ml @ 68°F (20°C)
pH: 4 - 6

Solubility in H2O
Diquat Dibromide: 718,000 mg/l @ 68°F (20°C) and pH 7.2

Vapor Pressure
Diquat Dibromide: < 10(-8) mmHg @ 77°F (25°C)

10. STABILITY AND REACTIVITY

Stability: Stable under normal use and storage conditions.
Hazardous Polymerization: Will not occur.
Conditions to Avoid: Concentrate should not be stored in aluminum containers. Spray solutions should not be mixed, stored or applied in containers other than plastic, plastic-lined steel, stainless steel or fiberglass.
Materials to Avoid: Strong alkalis and anionic wetting agents (e.g., alkyl and alkylaryl sulfonates). Corrosive to aluminum.
Hazardous Decomposition Products: Flammable hydrogen gas may be formed on contact with aluminum. See "Conditions to Avoid", Section 10.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity/Irritation Studies (Finished Product)

Ingestion: Oral (LD50 Female Rat) : 886 mg/kg body weight
Dermal: Dermal (LD50 Rabbit) : > 5050 mg/kg body weight
Inhalation: Inhalation (LC50 Rat) : 0.62 mg/l air - 4 hours
Eye Contact: Mildly Irritating (Rabbit)
Skin Contact: Slightly Irritating (Rabbit)
Skin Sensitization: Not a Sensitizer (Guinea Pig)
12. ECOLOGICAL INFORMATION

Ecotoxicity Effects
Diquat Dibromide:
- Fish (Rainbow Trout) 96-hour LC50 14.83 ppm
- Invertebrate (Water Flea) Daphnia Magna 48-hour EC50 0.77 ppm
- Green Algae 4-day EC50 9.4 ppb
- Bird (Mallard Duck) 14-day LD50 60.6 mg/kg

Environmental Fate
Diquat Dibromide:
The information presented here is for the active ingredient, diquat dibromide. 
Stable in soil and water. Immobile in soil. Sinks in water (after 24 h).

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: Not Applicable
Listed Waste: Not Applicable

14. TRANSPORT INFORMATION

DOT Classification
Ground Transport - NAFTA
Proper Shipping Name: Corrosive Liquid, N.O.S. (Diquat Dibromide)
Hazard Class: Class 8
Identification Number: UN 1760
Packing Group: PG III

Comments
Water Transport - International
Proper Shipping Name: Corrosive Liquid, N.O.S. (Diquat Dibromide), Marine Pollutant
Hazard Class: Class 8
Identification Number: UN 1760
Packing Group: PG III

Air Transport
Proper Shipping Name: Corrosive Liquid, N.O.S. (Diquat Dibromide)
Hazard Class: Class 8
Identification Number: UN 1760
Packing Group: PG III

15. REGULATORY INFORMATION

EPCRA SARA Title III Classification
Section 311/312 Hazard Classes: Acute Health Hazard
Section 313 Toxic Chemicals: Not Applicable

California Proposition 65
None

CERCLA/SARA 302 Reportable Quantity (RQ)
Report product spills >= 268 gal. (based on diquat [RQ = 1,000 lbs.] content in the formulation)

RCRA Hazardous Waste Classification (40 CFR 261)
Not Applicable

TSCA Status
Exempt from TSCA, subject to FIFRA

16. OTHER INFORMATION

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

Original Issued Date: 4/11/2002
Revision Date: 2/4/2011
Replaces: 7/14/2010

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