

Syngenta Crop Protection, Inc.
Post Office Box 18300
Greensboro, NC 27419

In Case of Emergency, Call
1-800-888-8372

1. PRODUCT IDENTIFICATION

Product Name: **REWARD ACCU-GEL AQUATIC HERBICIDE** Product No.: A13400D

EPA Signal Word: Warning

Active Ingredient(%): Diquat dibromide (16.6%) CAS No.: 85-00-7

Chemical Name: [6,7-dihydrodipyrido(1,2-a:2',1'-c)pyrazinediium dibromide]

Chemical Class: Bipyridilium (dipyridilium) contact herbicide

EPA Registration Number(s): 100-1194 **Section(s) Revised: 1, 8**

2. COMPOSITION/INFORMATION ON INGREDIENTS

| Material | OSHA PEL | ACGIH TLV | Other | NTP/IARC/OSHA Carcinogen |
|--------------------------|-----------------|---|---|--------------------------|
| Propylene Glycol | Not Established | Not Established | 50 ppm TWA **** | No |
| Diquat dibromide (16.6%) | Not Established | 0.5 mg/m ³ TWA (inhalable); 0.1 mg/m ³ TWA (respirable), skin | 0.5 mg/m ³ TWA (0.5 total; 0.08 respirable)*** | No |

*** Syngenta Occupational Exposure Limit (OEL)

**** Recommended by AIHA (American Industrial Hygiene Association)

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

3. HAZARDS IDENTIFICATION
Symptoms of Acute Exposure

May cause eye and skin irritation.

Hazardous Decomposition Products

Flammable hydrogen gas may be formed on contact with aluminum. See "Conditions to Avoid", Section 10.
 Can decompose at high temperatures forming toxic gases.

Physical Properties

Appearance: Viscous dark red-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.

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. Have the person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so after calling 800-888-8372 or by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

Eye Contact: If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Call Syngenta (800-888-8372), a poison control center or doctor for treatment advice.

Skin Contact: If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call Syngenta (800-888-8372), a poison control center or doctor for treatment advice.

Inhalation: If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call Syngenta (800-888-8372), a poison control center or doctor for further treatment advice.

Notes to Physician

To be effective, treatment for ingestion of the product must begin IMMEDIATELY. Treatment consists of binding the active ingredient, diquat, in the gut with suspensions of activated charcoal or bentonite clay, administration of cathartics to enhance elimination and removal of diquat from the blood by charcoal hemoperfusion or continuous hemodialysis.

Medical Condition Likely to be Aggravated by Exposure

None known.

5. FIRE FIGHTING MEASURES

Fire and Explosion

Flash Point (Test Method): > 212°F
Flammable Limits (% in Air): Lower: % Not Applicable Upper: % Not Applicable
Autoignition Temperature: > 1202 °F
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, 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.
- Eye Contact: Where eye contact is likely, use chemical splash goggles.
- 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: 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: Viscous dark red-brown liquid
- Odor: Odorless
- Melting Point: Not Applicable
- Boiling Point: Not Available
- Specific Gravity/Density: 1.12 g/cm³
- pH: 6 - 7.5

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. See also "Conditions to Avoid", Section 10.
- Hazardous Decomposition Products: Flammable hydrogen gas may be formed on contact with aluminum. See "Conditions to Avoid", Section 10. Can decompose at high temperatures forming toxic gases.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity/Irritation Studies (Finished Product)

- Ingestion: Slightly Toxic
Oral (LD50 Rat) : 2,869 mg/kg body weight
- Dermal: Practically Non-Toxic
Dermal (LD50 Rat) : > 5,000 mg/kg body weight
- Inhalation: Slightly Toxic
Inhalation (LC50 Rat) : 0.967 mg/l air - 4 hours
- Eye Contact: Mildly Irritating (Rabbit)
- Skin Contact: Moderately Irritating (Rabbit)
- Skin Sensitization: Not a Sensitizer (Guinea Pig)

Reproductive/Developmental Effects

- Diquat dibromide: Mutagenicity: No evidence in in vivo assays.

Development Toxicity: In rabbit studies a small percentage of fetuses had minor defects at 3 and 10 mg ion/kg/d.

Chronic/Subchronic Toxicity Studies

Diquat dibromide: Kidney weight decreases and cataracts seen in dogs at 12.5 mg ion/kg/d.
No evidence for neurotoxic effects in rats dosed up to 400 ppm ion in the diet for 13 weeks.

Carcinogenicity

Diquat dibromide: No evidence of carcinogenicity in rat and mouse studies.

Other Toxicity Information

None

Toxicity of Other Components

Propylene Glycol

Reported to cause central nervous system depression (anesthesia, dizziness, confusion), headache and nausea. Also, eye irritation may occur with lacrimation but no residual discomfort or injury. Prolonged contact to skin may cause mild to moderate irritation and possible allergic reactions. Chronic dietary exposure caused kidney and liver injury in experimental animals.

Target Organs

Active Ingredients

Diquat dibromide: Eye, kidney

Inert Ingredients

Propylene Glycol: CNS, skin, eye, kidney, liver

12. ECOLOGICAL INFORMATION

Summary of Effects

Diquat dibromide:

This material is slightly toxic to fish. Toxic to invertebrates and birds. Practically non-toxic to bees.

Eco-Acute Toxicity

Diquat dibromide: Bees LC50/EC50 47 - 100 ug/bee
Invertebrates (Water Flea) LC50/EC50 0.77 - 1.19 ppm
Fish (Trout) LC50/EC50 14.8 ppm
Fish (Bluegill) LC50/EC50 13.9 ppm
Birds (8-day dietary - Bobwhite Quail) LC50/EC50 106 ppm
Birds (8-day dietary - Mallard Duck) LC50/EC50 980 ppm

Eco-Chronic Toxicity

Diquat dibromide: Not Available

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

Corrosive Liquid, N.O.S. (Diquat Dibromide), 8, UN1760, PGIII

B/L Freight Classification

Herbicides, NOIBN

Comments

International Transportation

Corrosive Liquid, N.O.S. (Diquat Dibromide), Class 8, UN1760, PGIII

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 >= 1,204 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

NFPA Hazard Ratings

Health: 2
Flammability: 1
Instability: 0

HMIS Hazard Ratings

Health: 1
Flammability: 1
Reactivity: 0

| | |
|---|----------|
| 0 | Minimal |
| 1 | Slight |
| 2 | Moderate |
| 3 | Serious |
| 4 | Extreme |

For non-emergency questions about this product call:

1-800-334-9481

Original Issued Date: 02/28/2003

Revision Date: 08/05/2004

Replaces: 07/29/2004

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-955-00413B

End of MSDS