1. Product And Company Identification

Supplier
Applied Biochemists (WI)
A division of Advantis Technologies, Inc.
W175 N11163 Stonewood Drive, Suite 234
Germantown, WI 53022
Telephone Number: (262) 255-4449
FAX Number: (262) 255-4268
Web Site: www.appliedbiochemists.com

Manufacturer
Advantis Technologies, Inc.
1400 Bluegrass Lakes Parkway
Alpharetta, GA 30004 United States
Telephone Number: (770) 521-5999
FAX Number: (770) 521-5959
Web Site: www.poolspacare.com

Supplier Emergency Contacts & Phone Number
CHEMTREC - DAY OR NIGHT: (800) 424-9300

Manufacturer Emergency Contacts & Phone Number
CHEMTREC - DAY OR NIGHT: (800) 424-9300

Issue Date: 04/25/2008

Product Name: AB Weedtrine D
Chemical Name: Diquat Dibromide
CAS Number: Not Established
Chemical Family: Bipyridilium (dipyridilium) contact herbicide
Chemical Formula: Proprietary
MSDS Number: 381

2. Composition/Information On Ingredients

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>CAS Number</th>
<th>Percent Of Total Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIQUATDIBROMIDE</td>
<td>85-00-7</td>
<td></td>
</tr>
</tbody>
</table>

Ingredients listed in this section have been determined to be hazardous as defined in 29CFR 1910.1200. Materials determined to be health hazards are listed if they comprise 1% or more of the composition. Materials identified as carcinogens are listed if they comprise 0.1% or more of the composition. Information on proprietary materials is available in 29CFR 1910.1200(i)(1).

Hazard Identification (Pictograms)

Eye Hazards
May cause eye irritation.

Skin Hazards
May be toxic if absorbed through the skin.

Ingestion Hazards
May be toxic if swallowed.

Inhalation Hazards
May be toxic if inhaled.

Conditions Aggravated By Exposure
None known.
### 4. First Aid Measures

**Eye**
In case of contact, hold eyelids apart and immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a physician or a poison control center immediately.

**Skin**
Remove contaminated clothing and shoes. In case of contact, immediately flush skin with plenty of water for at least 15 minutes. Call a physician or poison control center immediately.

**Ingestion**
Call a physician or a poison control center immediately. Have the person sip a glass of water if able to swallow. DO NOT induce vomiting unless directed to do so by a physician. Never give anything by mouth to an unconscious victim.

**Inhalation**
If inhaled, remove to fresh air. If not breathing, give artificial respiration. Call a physician or a poison control center immediately.

**Note 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.

### 5. Fire Fighting Measures

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flash Point:</td>
<td>N/A °F</td>
</tr>
<tr>
<td>Flash Point Method:</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Autoignition Point:</td>
<td>N/A °F</td>
</tr>
<tr>
<td>Flammability Class:</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Lower Explosive Limit:</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Upper Explosive Limit:</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>

**Fire And Explosion 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.

**Extinguishing Media**
Use dry chemical, foam, or CO2 extinguishing media.

**Fire Fighting Instructions**
Firefighters should wear self-contained breathing apparatus and full protective gear. 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

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 disposal container, seal container and arrange for disposition.

Handling & Storage (Pictograms)

7. Handling And Storage

Handling And Storage Precautions
The 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.

Storage Precautions
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.

Protective Clothing (Pictograms)

8. Exposure Controls/Personal Protection

Engineering Controls
Not normally required.

Eye/Face Protection
Chemical splash goggles and/or face shield

Skin Protection
Chemical-resistant gloves made of nitrile or butyl, coveralls, socks and chemical-resistant footwear.

Respiratory Protection
In case of inadequate ventilation, use NIOSH-approved 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

Appearance
Dark brown liquid

Odor
Odorless

Chemical Type: Mixture
## 9. Physical And Chemical Properties - Continued

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>Not Determined °F</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.035-1.045</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>Not Determined</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Not Determined</td>
</tr>
<tr>
<td>pH Factor</td>
<td>4.0-5.0</td>
</tr>
<tr>
<td>Solubility</td>
<td>Complete</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not Determined</td>
</tr>
</tbody>
</table>

## 10. Stability And Reactivity

<table>
<thead>
<tr>
<th>Condition</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stability</td>
<td>Stable</td>
</tr>
<tr>
<td>Hazardous Polymerization</td>
<td>Will not occur</td>
</tr>
<tr>
<td>Conditions To Avoid (Stability)</td>
<td>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.</td>
</tr>
<tr>
<td>Incompatible Materials</td>
<td>Strong alkalis and anionic wetting agents (e.g. alkyl and alkylaryl sulfonates). Corrosive to aluminum.</td>
</tr>
<tr>
<td>Hazardous Decomposition Products</td>
<td>Flammable hydrogen gas may be formed on contact with aluminum. Can decompose at high temperatures forming toxic gases.</td>
</tr>
</tbody>
</table>

## 11. Toxicological Information

### Eye Effects
- Irritant*

### Skin Effects
- Moderately Toxic*
- Dermal LD50 (Rabbit) = 260 mg/kg body weight*

### Acute Oral Effects
- Slightly toxic*
- Oral LD50 (Rat) = 600 mg/kg body weight*

### Acute Inhalation Effects
- Moderately Toxic*
- Inhalation LC50 (Rat) = 0.121 mg/L air - 4 hours*

### Subchronic (Target Organ Effects)
- Kidney weight decreases and cataracts seen in dogs at 12.5 mg ion/kg/d.**

### Chronic/Carcinogenicity
- No evidence of carcinogenity in rat and mouse studies.**

### Teratogenicity (Birth Defects)
- In rabbit studies a small percentage of fetuses had minor defects at 3 and 10 mg ion/kg/d.**

### Neurotoxicity
- No evidence for neurotoxic effects in rats dosed up to 400 ppm ion in the diet for 13 weeks.**

### Mutagenicity (Genetic Effects)
- No evidence in in vivo assays.**
- Toxilogical studies not performed on finished product. Toxilogical studies based on information on active ingredient as
11. Toxicological Information - Continued

**Mutagenicity (Genetic Effects) - Continued**
indicated:
* Diquat dibromide (37.3%)
** Diquat dibromide

12. Ecological Information

**Ecotoxicological Information**

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

**Acute Toxicity - Fish And Invertebrates**

**Diquat Dibromide:**
Invertebrates (Water Flea) LC50/EC50 = 0.77-1.19 ppm
Fish (Trout) LC50/EC50 = 14.8 ppm
Fish (Bluegill) LC50/EC50 = 13.9 ppm

**Acute And Dietary Toxicity - Birds**

**Diquat dibromide:**
Birds (8-day dietary - Bobwhite Quail) LC50/EC50 = 106 ppm
Birds (8-day dietary - Mallard Duck) LC50/EC50 = 980 ppm

**Toxicity - Beneficial Microorganisms**

**Diquat dibromide:**
Bees LC50/EC50 = 47-100 ug/bee

**Environmental Fate Information**
No data available for the formulation. The information presented here is for the active ingredient, diquat dibromide. Stable in soil and water. Immobile in soil. Sinks in water (after 24 hour).

13. Disposal Considerations
Do not reuse product containers. Dispose in accordance with applicable federal, state and local government regulations.

14. Transport Information

**Proper Shipping Name**
Corrosive Liquid, N.O.S. (Diquat as Dibromide Salt)

**Hazard Class**
8, PGIII (<=4L Consumer Commodity ORM-D)

**DOT Identification Number**
UN1760
*Not regulated by DOT for ground shipments [see exception for material corrosive to steel/aluminum 49 CFR 173.154(d)]

**DOT (Pictograms)**

15. Regulatory Information
No Data Available...
### NFPA

<table>
<thead>
<tr>
<th>Category</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEALTH</td>
<td>2</td>
</tr>
<tr>
<td>FLAMMABILITY</td>
<td>1</td>
</tr>
<tr>
<td>REACTIVITY</td>
<td>0</td>
</tr>
</tbody>
</table>

### Personal Protection

<table>
<thead>
<tr>
<th>Category</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td></td>
</tr>
</tbody>
</table>

### 16. Other Information

**Revision/Preparer Information**

**MSDS Preparer:** JHW

**Disclaimer**

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**Applied Biochemists (WI)**

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