

# Material Safety Data Sheet



Transportation and Medical Emergency Phone: 1-800-535-5053 (INFOTRAC)

General Phone: 317-580-8282

EPA Reg. Number: 67690-53

Creation Date: 01/21/2011

## Littora\* Aquatic Herbicide

SePRO Corporation Carmel, IN 46032-4565

### 1. PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT:** Littora\* Aquatic Herbicide

**COMPANY IDENTIFICATION:**

SePRO Corporation  
11550 North Meridian Street, Suite 600  
Carmel, IN 46032-4565  
[www.sepro.com](http://www.sepro.com)

**Information Phone:** 317-580-8282 (Monday - Friday, 8:00 am to 5:00 pm EST)

### 2. HAZARDOUS IDENTIFICATIONS

#### EMERGENCY OVERVIEW

Dark brown, odorless liquid.

- Toxic by inhalation.
- Irritating to eyes and skin.
- Harmful if swallowed.
- Hazardous Decomposition Products - Flammable hydrogen gas may be formed on contact with aluminum. See "Conditions to Avoid", Section 10. May decompose at high temperatures forming toxic gases.
- 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.

**EMERGENCY PHONE NUMBER:** 1-800-535-5053

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Component Name	CAS #	% by Wt.
Diquat dibromide	85-00-7	37.3

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

### 4. FIRST AID MEASURES

**INGESTION:** Call 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 by the poison control center or doctor. Never give anything by mouth to an unconscious person.

**EYES:** Hold eyes open and rinse slowly and gently with water for 15 - 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. Call a poison control center or doctor for treatment advice.

**SKIN:** If on skin or clothing, take off contaminated clothing. Rinse skin immediately with plenty of water for 15 - 20 minutes. Call a poison control center or doctor for treatment advice.

**INHALATION:** Move person to fresh air. If person is not breathing, call 911 or ambulance, then give artificial respiration, preferably by mouth to mouth. Call a poison control center or doctor for further treatment advice.

#### 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.

Medical Condition Likely to be Aggravated by Exposure  
None known.

### 5. FIRE FIGHTING MEASURES

**FLASH POINT & METHOD USED:** Not Applicable

**FLAMMABLE LIMITS (LFL & UFL):** Not Applicable

**AUTO-IGNITION TEMPERATURE:** Not Applicable

**FLAMMABILITY:** Not Applicable

**UNUSUAL 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 CO<sub>2</sub> 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.

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### 6. ACCIDENTAL RELEASE MEASURES

#### ACTION TO TAKE FOR SPILLS AND LEAKS:

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.

Report large spills to **INFOTRAC** and consult SePRO Corporation for assistance.

### 7. HANDLING AND STORAGE

#### PRECAUTIONS TO BE TAKEN IN 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 gloves (such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyvinyl chloride [PVC] or Viton), 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.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	Dark brown liquid
<b>Odor:</b>	Odorless
<b>Melting Point:</b>	Not Applicable
<b>Boiling Point:</b>	Not Available
<b>Specific Gravity/Density:</b>	1.20 g/ml @ 20°C
<b>pH:</b>	4 - 6
<b>Solubility in H<sub>2</sub>O</b> (Diquat dibromide):	718,000 mg/l @ 20°C and pH 7.2
<b>Vapor Pressure</b> (Diquat dibromide):	< 10(-8) mmHg @ 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. May decompose at high temperatures forming toxic gases.

### 11. TOXICOLOGICAL INFORMATION

#### Acute Toxicity/Irritation Studies (Finished Product)

**Ingestion:** Slightly Toxic;  
LD<sub>50</sub> (Female Rat) = 886 mg/kg body weight

**Dermal:** Practically Non-Toxic;  
Dermal LD<sub>50</sub> (Rat) > 5,050 mg/kg body weight

**Inhalation:** LC<sub>50</sub> (Rat) = 0.62 mg/l air - 4 hours

**Eye Contact:** Mildly Irritating (Rabbit)

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**Skin Contact:** Slightly 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.

### Target Organs (Diquat dibromide)

Eye, kidney

## 12. ECOLOGICAL INFORMATION

THE INFORMATION PRESENTED HERE IS FOR THE ACTIVE INGREDIENT, DIQUAT DIBROMIDE.

### Summary of Effects

Very toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

### Eco-Acute Toxicity

Fish (Rainbow Trout) 96-hour  $LC_{50}$  = 14.83 ppm

Fish (Bluegill Sunfish) 96-hour  $LC_{50}$  = 13.9 ppm

Bird (Mallard Duck)  $LD_{50}$  Oral = 60.6 mg/kg

Bird (Bobwhite Quail) 8-day dietary  $LC_{50}$  = 2,932 ppm

Bird (Mallard Duck) 8-day dietary  $LC_{50}$  = > 5,000 ppm

Bee (Contact)  $LD_{50}$  = 47 - 100 ug/bee

Invertebrate (Water Flea) 48-hour  $EC_{50}$  = 0.77 ppm

Green Algae 4-day  $EC_{50}$  = 9.4 ppb

### Eco-Chronic Toxicity

Invertebrate (Water Flea) 21-day LOEC = 0.17 ppm

Bird (Mallard Duck) Reproduction LOEL = > 25 ppm

Fish (Fathead Minnow) 34-day LOEC = 1.5 ppm

### Environmental Fate

Stable in soil and water. Immobile in soil. Sinks in water (after 24 hrs).

## 13. DISPOSAL CONSIDERATIONS

### General Disposal Guidance:

Do not contaminate water, food, or feed by disposal. Pesticide, spray mixture or rinse water that cannot be used according to label instructions may be disposed of on site or at an approved water disposal facility.

### Container Disposal

Triple rinse containers. Puncture container to avoid re-use. Dispose of empty containers. Puncture container to avoid re-use. Dispose of empty containers in a sanitary landfill or by incineration, or, if allowed by State/Provincial and local authorities, by burning. If burned, stay out of smoke.

## 14. TRANSPORT INFORMATION

### DOT CLASSIFICATION

Corrosive Liquid, N.O.S. (Diquat dibromide)

Hazard Class or Division: Class 8

Identification Number: UN1760

Packing Group: PG III

### IMDG CLASSIFICATION

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

### B/L FREIGHT CLASSIFICATION

Herbicides, NOI (NMC Class 60)

For additional shipping information contact SePRO Corporation at 317-580-8282 and speak with the Logistics Manager.

## 15. REGULATORY INFORMATION

**NOTICE:** The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations.

### U.S. REGULATIONS

#### EPCRA SARA TITLE III Classification:

To the best of our knowledge, this product contains no chemical subject to SARA Title III, Section 313 supplier notification requirements.

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**SARA HAZARD CATEGORY:** This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendments and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

- An Immediate Health Hazard
- A delayed health hazard

**CALIFORNIA PROPOSITION 65:** None

**COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT (CERCLA, OR SUPERFUND)/SARA 302 Reportable Quantity (RQ):**  
Report product spills  $\geq$  268 gal. (based on diquat [RQ = 1,000 lbs.] content in the formulation).

**RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) Hazardous Waste Classification (40 CFR 261):** Not Applicable

**TOXIC SUBSTANCES CONTROL ACT (TSCA):** Exempt for TSCA, subject to FIFRA.

### 16. OTHER INFORMATION

**NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) and HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS):**  
(4 = Extreme; 3 = Serious; 2 = Moderate; 1 = Slight; 0 = Insignificant)

Health            2  
Flammability    1  
Reactivity:      0  
Others – None

**MSDS STATUS:**

Creation Date - 01-21-11  
Revision Date - Original

The information in this Material Safety Data Sheet relates to this specific material. It may not be valid for this material if used in combination with any other materials or in any process. It is the users' responsibility to satisfy themselves as to the suitability and completeness of this information for their own particular use.

**The Information Herein Is Given In Good Faith, But No Warranty, Express or Implied, Is Made. Consult SePRO Corporation for Further Information.**