# Safety Data Sheet

## SECTION 1. IDENTIFICATION

**Product Name:** **Solera Diquat 2L Herbicide**
**EPA Registration No.:** **82542-15-84237**
**Recommended Use:** **Herbicide**
**Manufacturer:** Source Dynamics
340 W, 32nd St. #383
Yuma, AZ 85364
Customer Service (928) 503-1518

**FOR MEDICAL EMERGENCIES, CONTACT the National Poison Information Center 1-800-222-1222**
**FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident, call CHEMTREC 1-800-424-9300**

**NOTE: This product is an EPA registered pesticide through the Federal Insecticide, Fungicide, Rodenticide Act. Some Hazard Classifications which are required by the OSHA Hazard Communication Standard on this SDS differ from the EPA registered product label.**

## SECTION 2. HAZARDS IDENTIFICATION

*NOTE: Please refer to Section 11 for detailed toxicological information.*

**HAZARD CLASSIFICATION PER OSHA HAZARD COMMUNICATION STANDARD (29CFR 1910.200)**

Corrosive to Metals: Category 1 (*Aluminum)*
Acute Inhalation Toxicity: Category 3
Acute Oral Toxicity: Category 4
Acute Aquatic Toxicity: Category 4

**OSHA SIGNAL WORD:** DANGER **EPA SIGNAL WORD** CAUTION

**OSHA HAZARD STATEMENTS**

H290 Corrosive to Metals (*Aluminum)*
H331 Toxic if inhaled.
H302 Harmful if swallowed.

**PICTOGRAMS**



**EPA PRECAUTIONARY STATEMENTS**

Harmful if inhaled. Harmful if swallowed. Causes moderate eye irritation. Avoid breathing spray mist. Remove and wash contaminated clothing before reuse. Wash thoroughly with soap and water after handling before eating, drinking, chewing gum, or using tobacco. Avoid contact with eyes or clothing. Wear protective eyeware. Wear long-sleeved shirt, long pants, socks, shoes and gloves.

**DESCRIPTION OF HAZARDS NOT OTHERWISE CLASSIFIED**

This pesticide is toxic to aquatic invertebrates.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Hazardous Component Name | CAS-No. | Average % by Weight |
|---|---|---|
| Diquat dibromide | 85-00-7 | 37.3% |

## SECTION 4. FIRST AID MEASURES

**GENERAL**

When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.

**IF INHALED**

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

**IF SWALLOWED**

- Call a poison control center or doctor immediately for treatment advice.
- Have person sip a glass of water if able to swallow.
- Do not induce vomiting unless told to do so by a poison control center or doctor.
- Do not give anything by mouth to an unconscious person.

**IF IN EYES**

- Hold eye 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 eye.
- Call a poison control center or doctor for treatment advice.

**NOTES TO PHYSICIAN**

To be effective, treatment for ingestion of the product must being 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.

## SECTION 5. FIRE FIGHTING MEASURES

**FIRE EXTINGUISHING EQUIPMENT:**

Use dry chemical, foam or CO2 extinguishing media. Wear full protective clothing and self contained breathing apparatus.

**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.

**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.

**PPE FOR FIREFIGHTERS/FIRE FIGHTING INSTRUCTIONS:**

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.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

**PERSONAL PRECAUTIONS**

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. Remove personal protective equipment immediately after handling this product. Wash the outside of gloves before removing.

**METHODS FOR CLEANING UP**

Control the spill at its source. Contain the spill to prevent from spreading or contaminated 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.

## SECTION 7. HANDLING AND STORAGE

**HANDLING PROCEDURES**

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.

**STORING PROCEDURES**

Store the material in 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.

**WORK/HYGIENIC PROCEDURES**

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. Remove personal protective equipment immediately after handling this product. Wash the outside of gloves before removing.

## SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**EXPOSURE LIMITS**

| | |
|---|---|
| **OSHA PEL** | **Not Established** |
| **ACGIH TLV** | 0.5 mg/m³ TWA (total No dust); 0.08 mg/m³ TWA (respirable dust) |
| **NIOSH TWA** | 0.5 mg/m³ |

**ENGINEERING CONTROLS**

Mixers and loaders supporting aerial applications are required to use closed systems that provide dermal protection. The closed system must be used in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4)]. When using the closed system, mixers and loaders PPE requirements may be reduced or modified as specified in the WPS.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

**PERSONAL PROTECTIVE EQUIPMENT**

| | |
|---|---|
| **Eye Protection** | Use splash-proof goggles if needed to prevent liquid from getting into the eyes. |
| **Ingestion** | Prevent eating, drinking, tobacco usage and cosmetic application in areas where there is a potential for exposure the material. Wash thoroughly with soap and water after handling. |
| **Skin Protection** | 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. |

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | Dark brown liquid |
| **Odor** | Odorless |
| **pH** | 4 - 6 |
| **Specific Gravity** | 1.20g/mL at 20 °C |
| **Melting Point** | Not Applicable |
| **Water solubility** | 718,000 mg/L @20$^{0}$C and pH 7.2 (Diquat dibromide) |
| **Vapor Pressure** | <10(-8) mmHg@25$^{o}$C (Diquat dibromide) |
| **Flash point** | Not Applicable |
| **Flammable Limits (% in Air)** | Not Applicable |
| **Autoignition Temperature** | Not Applicable |
| **Flammability** | Not Applicable |

## SECTION 10. STABILITY AND REACTIVITY

| | |
|---|---|
| **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. |
| **Hazardous Polymerization** | Will not occur |
| **Chemical Stability** | Stable under normal conditions. |
| **Materials to Avoid** | Strong alkalis and anionic wetting agents (e.g., alkyl and alkylaryl sulfonates). Corrosive to aluminum. |
| **Hazardous Decomposition** | Flammable hydrogen gas may be formed on contact with aluminum. See "Conditions to Avoid", Section 10. May decompose at high temperatures forming toxic gases. |

## SECTION 11. TOXICOLOGICAL INFORMATION

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

| | | | |
|---|---|---|---|
| **Ingestion** | Rat (Female): Slightly Toxicity | LD50: | >500<2000 mg/kg body |
| **Dermal** | Rat: Practically Non-Toxic | LD50: | >4000 mg/kg body weight |
| **Inhalation** | Rat: | LC50: | = 0.97 mg/L air – 4 hours |
| **Eye Contact** | Mildly Irritating (Rabbit) | | |
| **Skin Contact** | Slightly Irritating (Rabbit) | | |
| **Skin Sensitization** | Not a Sensitizer (Guinea Pig) | | |

**Reproductive & Developmental Effects**

Diquat dibromide:

Mutagenicity: No evidence in in vivo assays.

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

**Chronic/Sub-Chronic 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**

Not Applicable

**Target Organs**

Active Ingredients

Diquat Dibromide: Eye, kidney

Inert Ingredients

Not Applicable

## SECTION 12. ECOLOGICAL INFORMATION

**This pesticide is toxic to aquatic invertebrates. For Terrestrial Uses do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash waters. For Aquatic Uses do not apply directly to water except as specified on this label.**

**Summary of Effects**

Diquat dibromide:

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

**Eco-Acute Toxicity**

Diquat dibromide:

| | |
|---|---|
| Fish (Rainbow Trout) | 96-hour LC50 14.83ppm Fish |
| (Bluegill Sunfish) | 96-hour LC50 13.9ppm Bird (Mallard |
| Duck) | LD50 Oral 60.6 mg/kg |
| Bird (Bobwhite Quail) | 8-day dietary LC50 2932 |
| Bird (Mallard Duck) | 8-day dietary LC50 . 5000ppm |
| Bee (Contact) | LD50 100ug/bee |

Invertebrate (Water Flea) 48-hour EC50 0.77ppm
Green Algea 4-day EC50 9.4ppb

**Eco-Chronic Toxicity**

Diquat dibromide:
Invertebrate (Water Flea) 21-day LOEC 0.17ppm Bird (Mallard Duck) Reproduction LOEL 25ppm Fish (Fathead Minnow) 34-day LOEC 1.5ppm

**Environmental Fate**

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

## SECTION 13. DISPOSAL CONSIDERATIONS

**WASTE DISPOSAL**

Treatment, storage, transportation and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations. Do not flush to surface water or sanitary sewer system.

**DISPOSAL**

Do not contaminate water, food or feed by storage. Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

**CONTAINER DISPOSAL**

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

## SECTION 14. TRANSPORT INFORMATION

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

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

B/L FREIGHT CLASSIFICATION: Herbicides,
NOI (NMC Class 60)

## SECTION 15. REGULATORY INFORMATION

**EPCRA SARA Title III Classification**

Section 311/312 Hazard Classes: Acute Health Hazard
Chronic 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=1,000lbs] content in the formulation)

**RCRA Hazardous Waste Classification (40 CFR 261)**

Not Applicable

**TSCA Status**

Exempt from TSCA, subject to FIFRA

## SECTION 16. OTHER INFORMATION

NFPA 704 (National Fire Protection Association): Health - 2
Flammability - 1 Reactivity - 0 Others - none
0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

This information is provided in good faith but without express or implied warranty. The customer assumes all responsibility for safety and use not in accordance with label instructions.

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