Source Dynamics
Material Safety Data Sheet
Solera Diquat 2L Desiccant

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name: **Solera Diquat 2L Desiccant**
Chemical Name: [6,7-dihydrodipyrido(1,2-a:2',1'-c)pyrazinediium dibromide] (active ingredient)
EPA Registration No. 82542-15-84237

Solera ATO, LLC
7364 E. Red Hawk St.
Mesa, Arizona 85207
USA

FOR MEDICAL EMERGENCIES, CONTACT the National Poison Information Center 1-800-858-7378
FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident, call CHEMTREC 1-800-424-9300

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

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

SECTION 3. HAZARDS IDENTIFICATION

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

Health and Environmental

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.

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.

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.

Eye 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 physician or poison control center immediately.

Skin Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water for at least 15 minutes. Call a physician or poison control center immediately.

Ingestion Call a physician or poison control center immediately. Drink one or two glasses of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or physician. Never give anything by mouth to an unconscious person. Do not leave victim unattended.

Inhalation Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a physician or poison control center immediately.

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.

Medical Conditions Likely to be Aggravated by Exposure

None known.

SECTION 5. FIRE FIGHTING MEASURES

Flash point	Not Applicable
Flammable Limits (% in Air)	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.

SECTION 6. ACCIDENTAL RELEASE MEASURES

In Case of Spill or Leak

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

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 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.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROL/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.

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)

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 hight temperatures forming toxic gases.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute Toxicity/Irritation Studies (Finished Product)

Ingestion	Rat (Female):	LD50:	= 886 mg/kg body weight Slightly Toxicity
Dermal	Rat:	LD50:	>5,050 mg/kg body weight Practically Non-Toxic
Inhalation	Rat:	LC50:	= 0.62 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

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

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 waste disposal facility.

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.