

1. IDENTIFICATION

Product identifier

Product Name Sharda Diquat Dibromide 37.3% SL AG
Alternate Brand Name Dessicash Ag Desiccant & Herbicide

Other means of identification

Product Code 83529-13
UN/ID no UN3082
Synonyms None
Registration Number(s) 83529-13

Recommended use of the chemical and restrictions on use

Recommended Use Herbicide
Uses advised against No information available

Details of the supplier of the safety data sheet

Manufacturer Address
 P.O. Box 640
 Hockessin, Delaware
 Website: www.shardausa.com
 E-mail: shardain@vsnl.com

Emergency telephone number

Company Phone Number 610-350-6930 (US)
 +91 22 5678 2800 (India)
Emergency Telephone CHEMTREC: 800-424-9300
 CHEMTREC: 703-527-3887
 POISON CONTROL CENTER: 800-222-1222

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

| | |
|--|-------------|
| Acute toxicity - Oral | Category 4 |
| Acute toxicity - Inhalation (Dusts/Mists) | Category 2 |
| Skin corrosion/irritation | Category 2 |
| Serious eye damage/eye irritation | Category 2A |
| Skin sensitization | Category 1 |
| Specific target organ toxicity (single exposure) | Category 3 |
| Specific target organ toxicity (repeated exposure) | Category 1 |

Label elements

Emergency Overview

Danger

Hazard statements

Harmful if swallowed
 Fatal if inhaled
 Causes skin irritation
 Causes serious eye irritation
 May cause an allergic skin reaction

May cause respiratory irritation
Causes damage to organs through prolonged or repeated exposure
Very toxic to aquatic life
Harmful to aquatic life with long lasting effects



Appearance viscous

Physical state liquid

Odor None

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Do not breathe dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Wear respiratory protection
Wear protective gloves/protective clothing/eye protection/face protection
Contaminated work clothing should not be allowed out of the workplace
Avoid release to the environment

Precautionary Statements - Response

Specific treatment is urgent (see instructions on this label)
Get medical advice/attention if you feel unwell
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
IF ON SKIN: Wash with plenty of soap and water
Take off contaminated clothing and wash before reuse
If skin irritation or rash occurs: Get medical advice/attention
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Immediately call a POISON CENTER or doctor/physician
Call a POISON CENTER or doctor/physician if you feel unwell
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth
Collect spillage

Precautionary Statements - Storage

Store in a well-ventilated place. Keep container tightly closed
Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Not applicable

Other Information

Very toxic to aquatic life with long lasting effects.

Unknown acute toxicity

0% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable

Mixture

| Chemical Name | CAS No | Weight-% |
|---------------------|-------------|----------|
| Inert ingredients * | Proprietary | 62.7 |
| Diquat dibromide * | 85-00-7 | 37.3 |

If CAS number is "proprietary", the specific chemical identity and percentage of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

| | |
|---|---|
| General advice | Call a poison control center or doctor for treatment advice. Have the product containers or label with you when calling a poison control center or doctor, or going for treatment. |
| Eye contact | Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Call a poison control center or doctor for treatment advice. |
| Skin contact | Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Remove contaminated clothing and shoes. Wash contaminated clothing before reuse. Call a poison control center or doctor for treatment advice. |
| Inhalation | Move victim to fresh air. Administer oxygen if breathing is difficult. If breathing is irregular or stopped, administer artificial respiration. Call a physician or poison control center immediately. |
| Ingestion | If swallowed, call a poison control center or physician immediately. Drink 1 or 2 glasses of water. Rinse mouth. Never give anything by mouth to an unconscious person. Do not induce vomiting without medical advice. |
| Self-protection of the first aider | Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. Use personal protection recommended in Section 8. |

Most important symptoms and effects, both acute and delayed

| | |
|-----------------|--|
| Symptoms | May cause redness and tearing of the eyes. May cause skin irritation. Coughing and/ or wheezing. |
|-----------------|--|

Indication of any immediate medical attention and special treatment needed

| | |
|---------------------------|---|
| Note to physicians | To be effective, treatment for diquat poisoning must begin IMMEDIATELY. Treatment consists of binding 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

Suitable extinguishing media

Dry chemical, CO₂, water spray or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

Specific hazards arising from the chemical

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Hazardous combustion products Carbon oxides. Hydrogen halides. Nitrogen oxides (NO_x).

Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Wear protective gloves/protective clothing and eye/face protection. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid contact with skin, eyes and inhalation of vapors. Ensure adequate ventilation, especially in confined areas.

For emergency responders Use personal protection recommended in Section 8. Ventilate the area.

Environmental precautions

Environmental precautions Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so. Dike far ahead of spill; use dry sand to contain the flow of material.

Methods for cleaning up Prevent product from entering drains. Take up with sand or other non-combustible absorbent material and place into containers for later disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Avoid contact with skin, eyes or clothing. Wash thoroughly after handling. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Use personal protective equipment as required. Do not breathe dust/fume/gas/mist/vapors/spray. Use with local exhaust ventilation.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep away from food, drink and animal feeding stuffs. Keep in properly labeled containers.

Incompatible materials Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|-----------------------------|--|--------------------------------------|----------------------------|
| Diquat dibromide 85-00-7 | TWA: 0.5 mg/m ³ inhalable fraction TWA: 0.1 mg/m ³ respirable fraction Skin* | TWA: 0.5 mg/m ³ (vacated) | TWA: 0.5 mg/m ³ |

Legend

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992)

Skin - Skin Absorber

NIOSH IDLH - Immediately Dangerous to Life or Health

Appropriate engineering controls

Engineering Controls Ensure adequate ventilation, especially in confined areas. And. Showers. Eyewash stations. Ventilation systems.

Individual protection measures, such as personal protective equipment

- Eye/face protection** Wear safety glasses with side shields (or goggles).
- Skin and body protection** Wear suitable protective clothing. Wear protective butyl rubber gloves. Protective shoes or boots.
- Respiratory protection** Ensure adequate ventilation, especially in confined areas. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Wash hands thoroughly after handling. Keep away from food, drink and animal feeding stuffs.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

| | | | |
|-----------------------|------------|-----------------------|--------------------------|
| Physical state | liquid | Odor | None |
| Appearance | viscous | Odor threshold | No information available |
| Color | dark brown | | |

| <u>Property</u> | <u>Values</u> | <u>Remarks • Method</u> |
|---------------------------------------|--------------------------|-------------------------|
| pH | 4.5 | |
| Melting point / freezing point | No information available | |
| Boiling point / boiling range | No information available | |
| Flash point | > 100 °C / 212 °F | Tag Closed Cup |
| Evaporation rate | No information available | |
| Flammability (solid, gas) | No information available | |
| Flammability Limit in Air | | |
| Upper flammability limit: | No information available | |
| Lower flammability limit: | No information available | |
| Vapor pressure | 1.67 mPa | @ 25 °C |
| Vapor density | No information available | |
| Relative density | 1.488 | |
| Water solubility | No information available | |
| Solubility in other solvents | No information available | @ 25 °C |
| Partition coefficient | 3.05 | |
| Autoignition temperature | No information available | |
| Decomposition temperature | No information available | |
| Kinematic viscosity | No information available | |
| Dynamic viscosity | No information available | |
| Explosive properties | Not an explosive | |
| Oxidizing properties | Not applicable | |

Other Information

| | |
|-------------------------|--------------------------|
| Softening point | No information available |
| Molecular weight | No information available |
| VOC Content (%) | No information available |
| Density | No information available |
| Bulk density | 10.06 lb/gal |

10. STABILITY AND REACTIVITY

Reactivity

No data available

Chemical stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to avoid

Elevated Temperature. Storage near to reactive materials.

Incompatible materials

Strong oxidizing agents.

Hazardous Decomposition Products

Thermal decomposition can lead to release of irritating and toxic gases and vapors. Nitrogen oxides (NOx). Carbon oxides. Hydrogen halides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

| | |
|---------------------|---|
| Inhalation | May be fatal if inhaled. May cause irritation. |
| Eye contact | Irritating to eyes. |
| Skin contact | Irritating to skin. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. |
| Ingestion | Harmful if swallowed. |

| Chemical Name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|-----------------------------|--|--|-----------------|
| Inert ingredients | > 90 mL/kg (Rat) | - | - |
| Diquat dibromide 85-00-7 | = 214 mg/kg (Rat) = 120 mg/kg Rat) | (50 - 100 mg/kg (Rat) = 433 mg/kg (Rat) | - |

Information on toxicological effects

Symptoms May cause an allergic skin reaction. May cause skin irritation. May cause redness and tearing of the eyes. Coughing and/ or wheezing.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

| | |
|---------------------------------|--|
| Sensitization | May cause sensitization by skin contact. |
| Germ cell mutagenicity | No information available. |
| Carcinogenicity | No information available. |
| Reproductive toxicity | No information available. |
| STOT - single exposure | Respiratory system. |
| STOT - repeated exposure | Causes damage to organs through prolonged or repeated exposure. |
| Chronic toxicity | Prolonged or repeated exposure increases the risk. Possible risk of irreversible effects. Avoid repeated exposure. |
| Target Organ Effects | Central nervous system, kidney, liver, blood. |
| Aspiration hazard | No information available. |

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document .

| | |
|-------------------------------|----------------|
| ATEmix (oral) | 1,340.00 mg/kg |
| ATEmix (inhalation-dust/mist) | 0.13 mg/l |

12. ECOLOGICAL INFORMATION

Ecotoxicity

Very toxic to aquatic life with long lasting effects

62.7 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

| Chemical Name | Algae/aquatic plants | Fish | Crustacea |
|-----------------------------|---|--|---------------------------------------|
| Diquat dibromide 85-00-7 | 96-hr EC50 (Selenastrum capricornutum) = 0.011 mg/L | 96-hr LC50 (Rainbow Trout) = 21 mg/L 96-hr LC50 (Mirror Carp) = 67 mg/L | 48-hr EC50 (Daphnia magna) = 1.2 mg/L |

Persistence and degradability

Not readily biodegradable. Typical half-life is 1000 d. Diquat dibromide is highly persistent due to strong bonding to clay and unavailability to microbes. Diquat dibromide in soil is not taken up by plants, so any crop can be seeded after application. Diquat dibromide is immobile in soil.

Bioaccumulation

| Chemical Name | Partition coefficient |
|-----------------------------|-----------------------|
| Diquat dibromide 85-00-7 | -4.6 |

Other adverse effects

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT)

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes

Pesticide wastes may be acutely hazardous. Improper disposal is a violation of federal law. Disposal should be in accordance with applicable regional, national and local laws and regulations. Contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance on proper disposal of waste product.

Contaminated packaging

Disposal should be in accordance with applicable regional, national and local laws and regulations. Consult product label for additional information. Do not reuse container.

14. TRANSPORT INFORMATION

DOT

Not Regulated (Single Container < RQ)

This product is regulated by US DOT when shipped in single containers with a net weight of 2680 LBS or greater. The transportation information for these containers is provided below.

| | |
|--|--|
| UN/ID no | UN3082 |
| Proper shipping name | Environmentally hazardous substance, liquid, n.o.s. |
| Hazard Class | 9 |
| Packing Group | III |
| Reportable Quantity (RQ) | RQ |
| Special Provisions | 8, 146, 173, 335, IB3, T4, TP1, TP29 |
| Description | UN3082, Environmentally hazardous substance, liquid, n.o.s. (Diquat dibromide), 9, III; RQ |
| Emergency Response Guide Number | 171 |

TDG

Not regulated

IATA

UN/ID no UN3082
 Proper shipping name Environmentally hazardous substance, liquid, n.o.s.
 Hazard Class 9
 Packing Group III
 ERG Code 9L
 Special Provisions A97, A158, A197
 Description UN3082, Environmentally hazardous substance, liquid, n.o.s. (Diquat dibromide), 9, III

IMDG

UN/ID no UN3082
 Proper shipping name Environmentally hazardous substance, liquid, n.o.s.
 Hazard Class 9
 Packing Group III
 EmS-No F-A, S-F
 Special Provisions 274, 335
 Description UN3082, Environmentally hazardous substance, liquid, n.o.s. (Diquat dibromide), 9, III;
 Marine Pollutant

15. REGULATORY INFORMATION

International Inventories

TSCA Complies
 DSL/NDSL Complies
 EINECS/ELINCS Complies
 IECSC Complies
 KECL Complies
 PICCS Complies
 AICS Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
 DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
 EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
 ENCS - Japan Existing and New Chemical Substances
 IECSC - China Inventory of Existing Chemical Substances
 KECL - Korean Existing and Evaluated Chemical Substances
 PICCS - Philippines Inventory of Chemicals and Chemical Substances
 AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute health hazard Yes
 Chronic Health Hazard Yes
 Fire hazard No
 Sudden release of pressure hazard No
 Reactive Hazard No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

| Chemical Name | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants | CWA - Hazardous Substances |
|-----------------------------|-----------------------------|------------------------|---------------------------|----------------------------|
| Diquat dibromide 85-00-7 | - | - | - | X |

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

| Chemical Name | Hazardous Substances RQs | CERCLA/SARA RQ | Reportable Quantity (RQ) |
|-----------------------------|--------------------------|----------------|---|
| Diquat dibromide 85-00-7 | 1000 lb | - | RQ 1000 lb final RQ RQ 454 kg final RQ |

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

| Chemical Name | New Jersey | Massachusetts | Pennsylvania |
|-----------------------------|------------|---------------|--------------|
| Inert ingredients | - | - | X |
| Diquat dibromide 85-00-7 | X | X | X |

U.S. EPA Label Information

EPA Pesticide Registration Number 83529-13

EPA Statement

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

Difference between SDS and EPA Pesticide label

CAUTION: Harmful if inhaled. Harmful if swallowed. Causes moderate eye irritation. Avoid contact with eyes or clothing.

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

| | | | | |
|-----------------------------------|---------------------------|----------------|--------------------|------------------------------------|
| NFPA | Health hazards 3 | Flammability 0 | Instability 0 | Physical and Chemical Properties - |
| HMIS | Health hazards 3* | Flammability 0 | Physical hazards 0 | Personal protection X |
| <i>Chronic Hazard Star Legend</i> | * = Chronic Health Hazard | | | |

Issue Date 09-Jun-2016

Revision Date 08-Jun-2016

Revision Note

No information available

Disclaimer

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet