

Sharda International Africa cc.

P.O. Box 82021, Southdale, 2135, South Africa.

Tel: 011-680.5247, Fax: 011-680.4848

EMAIL: shardain@vsnl.com, Website: <http://www.shardaintl.com>

(Company registration No. 2006/186705/23)

Page 1 of 6

Material Safety Data Sheet of “Sharda Diquat 20% SL”

1. Product name: SHARDA DIQUAT 200 SL Version 1 – 2008.

Supplied by: Sharda Worldwide Exports Pvt. Ltd
Domnic Holm, 29th Road,
Bandra (w), Mumbai-400050, India.

Registered by: Sharda International Africa cc.
P.O. Box 82021,
Southdale, 2135, South Africa.
Tel: 011-680-5247

2. Composition / information on ingredients

Chemical characteristic

Formulation type : Soluble Concentrate

Use : Herbicide

Active ingredient : 20 % w/v Diquat dibromide (200g diquat/l)

Other Ingredients : Up to 100%

CAS No. : 85-00-7

3. Hazards Identification

Health hazards: Harmful if swallowed. Irritant to eyes, skin, respiratory passages.
Symptoms of human poisoning: Vomiting, nausea, diarrhoea.

Environmental hazard in case of accidental spillage or leakage): Harmful to aquatic organisms.

Distribution and persistence - diquat is rapidly absorbed and deactivated by soil. There is no mobility in soil or water. There is evidence of photodegradation in water and plants.

4. First-Aid Measures

First aid treatment: Remove the patient from the source of poisoning. Keep him/her quiet and reassured. Remove contaminated clothing and rinse contaminated skin thoroughly with plenty of soap and cold water. Do not rub skin.

Eyes: Flush out contamination with clean water for at least 15 minutes. Get medical treatment immediately.

Skin: Wash contaminated skin thoroughly with soap and cold water. If irritation and inflammation persists, get medical attention.

Sharda International Africa cc.

P.O. Box 82021, Southdale, 2135, South Africa.

Tel: 011-680.5247, Fax: 011-680.4848

EMAIL: shardain@vsnl.com, Website: <http://www.shardaintl.com>

(Company registration No. 2006/186705/23)

Page 2 of 6

Ingestion: Transfer to hospital and get medical attention immediately. Induce vomiting by tickling the back of the throat. Repeat until vomit fluid is clear and free from the smell of poison. Administer bentonite, activated charcoal or Fuller's earth if available. Administer artificial respiration or closed chest cardiac massage if necessary. Do not apply direct mouth-to-mouth respiration. Never give anything by mouth to an unconscious person.
Note to physician: In case of ingestion, induce vomiting and let patient drink as much water as possible. Take patient to hospital for observation and treatment. Immediately administer up to 1ℓ of 15% aqueous suspension of Fuller's Earth or 7% bentonite or activated charcoal plus a suitable purgative e.g. Mannitor (20% aqueous solution), or magnesium sulphate (200mℓ). Continue with the purgative until the stools contain absorbent. Haemodialysis or haemopurfusion may be necessary but do not use anti-coagulants. Maintain fluid/electrolyte balance.

5. Fire-Fighting Measures

Combustibility: Not combustible. However, following evaporation of aqueous component residual material may burn. On burning it will emit toxic fumes

Suitable Extinguishing Media: Dry chemical extinguisher, foam, carbon dioxide, water spray or fog.

Special Hazards during Fire Fighting: The container may be combustible. Combustion products are toxic and/or irritant

Protective Equipment for Fire Fighting: Use self-contained breathing apparatus to protect from fumes. Wear full protective clothing (overall, PVC gloves, boots).

6. Accidental Release Measures

Personal Precautions: Wear suitable personal protective clothing and eye protection. In the case of insufficient ventilation, wear suitable respiratory equipment.

Environmental Protection Measures following Accidents: Prevent skin and eye contact. Soak up with absorptive material such as sand, soil, diatomaceous earth, etc. Prevent material from spreading, e.g. by damming in with absorptive material. Collect material in specially marked, tightly closing containers. Spilled product cannot be used further and must be disposed of. If safe disposal is not possible, contact the manufacturer, the dealer or the local representative. Do not contaminate waters and sewers.
If the container is leaking, secure the leak and place the container in a heavy plastic bag or drum for disposal.

7. Handling and Storage

Handling information

General: Shake well before use. Avoid contact with skin, eyes and clothing. Avoid inhalation

Sharda International Africa cc.

P.O. Box 82021, Southdale, 2135, South Africa.

Tel: 011-680.5247, Fax: 011-680.4848

EMAIL: shardain@vsnl.com, Website: <http://www.shardaintl.com>

(Company registration No. 2006/186705/23)

Page 3 of 6

of fog and vapours. Keep away from sources of ignition. Take precautionary measures against static discharges (transfer operations: check grounding). May form explosive vapour-air mixtures. Do not eat, drink or smoke while working. In addition to the measures taken usually in the chemical works like splash-proof filling and measuring equipment (including vapour stripping), further personal protection measures may have to be implemented to avoid possible contact with the product.

Storage information

Special Instructions for Storage: Store the product in closed original labeled containers in a cool, well-ventilated area. Protect from light and humidity.

Storage Compatibility with other Products: Store separately from feed, food, seed and fertilisers. Keep out of the reach of children, uninformed persons and animals.

8. Exposure controls / Personal protection

Minimise exposure in accordance with good hygiene practice.

Personal protective equipment

In General: Change working clothes daily.

Breathing Protection: In case of heavy exposure, wear respirator with universal filter

Eye Protection: Always wear goggles or face-shield

Hand Protection: Chemical-resistant gloves

Body Protection: Heavy duty cotton or synthetic fabric working clothes (e.g. overalls).

Wear heavy-duty shoes or boots; long-sleeved shirt, long pants, waterproof gloves and boots.

Precautionary measures after work: Wash thoroughly (shower, bathe, wash hair).

Change clothing daily. Thoroughly clean protective gear. Thoroughly clean contaminated equipment with soap or soda solution.

9. Physical and Chemical Properties

Form: liquid

Color: dark brown

Physical State: liquid

Odour: Odourless.

Specific Gravity: 1.2g/ml at 20°C

Volatility: not volatile

Flash-Point: not applicable, water based formulation.

Solubility: diquat is soluble in water

pH Value: 4.0 to 5.5

Miscibility with water: miscible

10. Stability and Reactivity

Chemical Stability Assessment: Stable under normal use and storage conditions.

Incompatibility: Strong alkalis and anionic wetting agents. Corrosive to aluminium.

Sharda International Africa cc.

P.O. Box 82021, Southdale, 2135, South Africa.

Tel: 011-680.5247, Fax: 011-680.4848

EMAIL: shardain@vsnl.com, Website: <http://www.shardaintl.com>

(Company registration No. 2006/186705/23)

Page 4 of 6

11. Toxicological Information

Acute Oral Toxicity	LD50: 500 mg/kg (rat)
Acute Dermal Toxicity	LD50: 2 128 mg/kg (rat)
Acute Inhalation Toxicity	LC50: 0.369 mg/l (rat; 4 hour)
Acute Skin Irritation:	Category 2 irritant (rabbit)
Acute Eye Irritation:	Category 1 irritant (rabbit)
Skin Sensitization:	Not sensitizing (guinea pig)
Carcinogenicity:	Not a carcinogen
Mutagenicity:	Not a mutagen

12. Ecological Information

Birds: Mallard duck acute oral LD₅₀: 61 mg cation/kg; 564 mg diquat/kg for young males.
Young hens acute oral LD₅₀: 200-400 mg cation/kg
Bobwhite quail dietary LC₅₀: 106 mg/kg diet.
Japanese quail dietary LC₅₀: 264 mg/kg diet, 1 300 ppm (5 day).
Mallard duck reproduction NOEL: 5.0 mg cation/kg diet.
Diquat is moderately toxic to birds.

Fish: Bluegill sunfish LC₅₀: 13.9 mg cation/l (96 hours); 245 mg diquat/kg.
Chinook salmon LC₅₀: 28.5 mg diquat/l (8 hours).
Northern pike LC₅₀: 16.0 mg cation/l (96 hours).
Rainbow trout LC₅₀: 14.8 mg cation/l (96 hours); 12.3 g diquat/l (8 hours).
Yellow perch LC₅₀: 4.4 mg cation/l (96 hours); 60 mg diquat/l.
Channel catfish NOEL: 0.122 mg cation/l.
Reproduction: no information available.
BCF: Bio-concentration of diquat does not occur.

Daphnia: LC₅₀: 770 µg cation/l (48 hours).

Diquat is moderately toxic to fish and aquatic invertebrates. Application of diquat to water bodies as recommended is not harmful to fish and aquatic invertebrates. Oxygen depletion in treated water caused by weed decay may be detrimental to fish.

Algae: EC₅₀: 21 µg/l (96 hours).

Bees: Oral LD₅₀: 47 µg/bee. Also reported as 13 µg/bee for the diquat ion.
Acute contact LD₅₀: 60 µg/bee for the diquat ion.
Diquat is regarded as practically non-toxic to honey bees.

Earthworms: LC₅₀: 243 mg/kg soil (14 days).
Diquat is regarded as being of low toxicity to earthworms.

Soil micro-organisms: Diquat is degraded by soil micro-organisms and does not appear

Sharda International Africa cc.

P.O. Box 82021, Southdale, 2135, South Africa.

Tel: 011-680.5247, Fax: 011-680.4848

EMAIL: shardain@vsnl.com, Website: <http://www.shardaintl.com>
(Company registration No. 2006/186705/23)

Page 5 of 6

to have any adverse effect on them.

Cows are sensitive to diquat.

13. Disposal Considerations

Disposal

This product is toxic by inhalation and skin absorption and must be handled with caution.

Product Disposal: Pay attention to protective clothing and measures. Cover up product with absorptive material such as sand, soil, diatomaceous earth, etc. Collect material in specially marked, tightly closing containers. Avoid any contamination of surface and ground water, water supplies and drains. Hose down the area for a prolonged period. Heavily contaminated soil layers have to be dug out down to clean soil. Spilled product cannot be used further and must be disposed of. If safe disposal is not possible, contact the manufacturer, the dealer or the local representative and dispose of in an incinerator approved for chemicals.

Container Disposal: Rinse the empty container 3 times with a volume of water equal to a minimum of 10% of that of the container. Add the rinsings to the content of the spray tank before destroying the container by perforation and flattening. Never use the container for any other purpose. Dispose of empty containers for re-cycling or in an incinerator approved for chemicals.

Damaged Containers: Place original containers in specially marked larger ones. Check the possibilities of recycling large empty containers, drums and barrels.

14. Transport Information

Special Information: Use unbreakable containers, ensure container stability (can not fall), and label in accordance with regulations.

Transport Classification – Road and Rail:

UN No. : 1760
Proper Shipping Name : CORROSIVE LIQUID N.O.S. (contains diquat dibromide)
Class : 8
Packing Group : III
Hazchem : 2X

Segregation Dangerous Goods: Not to be loaded with explosives (class1), dangerous when wet substances (class 4.3), oxidising agents (class 5.1), organic peroxides (class 5.2), radioactive substances (class 7) or food and food packaging in any quantity. However, exemptions may apply. Note that concentrated strong alkalis are incompatible with concentrated strong acids.

15. Regulatory Information

EU-Classification

Hazard Symbol Hazard category: T Toxic

Sharda International Africa cc.

P.O. Box 82021, Southdale, 2135, South Africa.

Tel: 011-680.5247, Fax: 011-680.4848

EMAIL: shardain@vsnl.com, Website: <http://www.shardaintl.com>
(Company registration No. 2006/186705/23)

Page 6 of 6

Xi

Irritant

Risk Phrases

- | | |
|--------|--|
| R20/22 | Harmful by inhalation and if swallowed |
| R37 | Irritating to respiratory system. |
| R43 | May cause sensitization by skin contact. |
| R48/22 | Harmful: danger of serious damage to health by prolonged exposure if swallowed. |
| R50/53 | Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. |

Safety Phrases

- | | |
|-----------|---|
| S1/2 | Keep locked-up and out of the reach of children |
| S13 | Keep away from food, drink and animal feeding stuffs. |
| S20/321 | When using, do not eat, drink or smoke. |
| S28 | After contact with skin, wash immediately with plenty of water. |
| S35 | This material and its container must be disposed of in a safe way. |
| S36/37/39 | Wear suitable protective clothing, gloves and eye/face protection. |
| S45 | In case of accident or if you feel unwell, seek medical advice immediately (show label where possible). |
| S60 | This material and/or its container must be disposed of as a hazardous Waste. |
| S57 | Use appropriate containment to avoid environmental contamination. |

Use of this material is governed by the Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act, 1947 (Act No. 36 of 1947) and the regulations of the Act.

Users are advised to consult these regulations for further information.

The information contained in this Data Sheet does not constitute an assessment of workplace risks.

International

WHO Toxicity Classification - III: Product unlikely to present acute hazard in normal use

16. Other Information

The information contained herein is based on the present state of our knowledge as is intended to describe our products from the point of view of safety requirements. It should not therefore be construed as guaranteeing specific properties.