Sharda International Africa (Pty) Ltd

(Co. Reg. No. 2010/002268/07)
P.O. Box 82021, Southdale, 2135, South Africa.
Tel: 031 764 3011,
Email: rsa.regn@shardaintl.com, Website: http://www.shardaintl.com

SECTION 1. Chemical product and company identification

Product identifier:

Identification as on the label/Trade name: **Sharda Paraquat 200 SL**

Additional information: Paraquat 200 SL

Relevant identification uses of the substance and uses advised against:

Identified uses: Herbicide

Uses advised against: Use only as directed.

Details of the supplier of the Safety Data Sheet:

Company name: Sharda International Africa (Pty) Ltd
Address: P.O. Box 82021, Southdale, 2135
Phone number.: 031-764-3011

Emergency telephone numbers:

UNITAS Hospital: 0800-111-9900
Tygerberg Hospital: 021-931-6129
Netcare 911: 082911

SECTION 2. HAZARD IDENTIFICATION

Classification of the substances or mixture

The mixture is classified according to

SANS 10234:2008, Regulation EC 1272/2008 [EU-GHS/CLP]	
Hazard classes/Hazard categories	Hazard statement
Physical and chemical properties	H290: May be corrosive to metals.
Acute toxicity oral	H301: Toxic if swallowed.
Inhalation	H330: Fatal if inhaled.
Skin irritation	H311: Toxic in contact with skin. H315: Causes skin irritation.
Eye irritation	H319: Causes serious eye irritation.
Specific Target Organ Toxicity – Single Exposure	H335: May cause respiratory irritation.
Specific Target Organ Toxicity – Repeated Exposure	H372: Causes damage to organs through prolonged or repeated exposure.
Hazardous to the Environment	H410: Very toxic to aquatic life with long lasting effects.

For full text of H statements see section 16

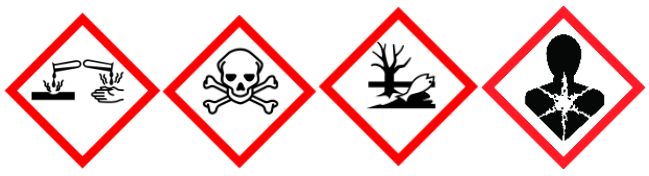
The most important adverse effects

The most important adverse physiochemical effects: None.

The most important adverse human health effects: Toxic if swallowed. Fatal if inhaled. Toxic in contact with skin. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. Causes damage to organs through prolonged or repeated exposure.

Label elements

Hazard pictograms:



Signal Word: Danger

Hazard Statements: H290: May be corrosive to metals. H301: Toxic if swallowed. H311: Toxic in contact with skin. H315: Causes skin irritation. H319: Causes serious eye irritation. H330: Fatal if inhaled. H335: May cause respiratory irritation. H372: Causes damage to organs through prolonged or repeated exposure. H410: Very toxic to aquatic life with long lasting effects.

Precautionary Statements: P234 - Keep only in original container. P264 + P280 - Wash face, hands and any exposed skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. P260 + P271 - Do not breathe dust/fume/gas/mist/vapours/spray. Use only outdoors or in a well-ventilated area. P270 - Do not eat, drink or smoke when using this product. P273 Avoid release to the environment. P284 - Wear respiratory protection. P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting. P302 + P352 - IF ON SKIN: Wash with plenty of soap and water. P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. P310 - Immediately call a POISON CENTER or doctor/physician. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P332 + P313 If skin irritation occurs: Get medical advice/attention. P337 + P313 - If eye irritation persists: Get medical advice/attention. P361 - Remove/Take off immediately all contaminated clothing. P363 - Wash contaminated clothing before reuse. P391 - Collect spillage. P403 + P233 - Store in a well-ventilated place. Keep container tightly closed. P405 - Store locked up. P501 - Dispose of contents/container according to local regulations.

Special labelling of certain mixtures: None
Other hazards: None

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Mixture: Mixture
Ingredients:

Substance name (IUPAC/EC)	CAS –No.	Concentration % by weight	Classification EC1272/2008
Paraquat Technical 44.5% pure	4685-14-7	44.940	Metals Corrosive Category 1
Paraquat	4685-14-7	20	Acute Toxicity category 3 Acute Toxicity 3 Skin Irritation category 2 Eye Irritation category 2 Acute Toxicity category 1 STOT SE category 3 STOT RE category 1 Aquatic Acute category 1 Aquatic Chronic category 1
4207H (Fatty alcohol polyoxy-ethylene ether sodium sulphate and fatty alcohol polyoxyethylene (5) ether	9004-82-4, 68439-50-9	10.770	Acute toxicity category 4 Skin Irritation category 2 Eye Irritation category 2 Aquatic Acute category 1
PP796	27277-00-5	0.005	
Pyridine base derivants	110-86-1	0.021	
Brilliant Blue*	3844-45-9	0.032	
Water	7732-18-5	24.232	

For full text of H statements see section 16

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.
Occupational exposure limits, if available, are listed in Section 8.

SECTION 4. FIRST AID MEASURES

Description of first aid measures:

Remove the victim from the area of exposure. Wash off remaining material with plenty of water. In the event of any complaints or symptoms, avoid further exposure and consult a doctor.

In case of inhalation: Remove person from contaminated area to fresh air. Keep warm and at rest. Seek medical attention immediately.

In case of skin contact: Remove contaminated clothing and wash before re-using. Flush skin with water and then wash with soap and water. Seek medical attention if skin irritation persists.

In case of eye contact: Flush eyes with clean water for at least 15 minutes. Lift eyelids to facilitate irrigation. If present, remove contact lenses after 5 minutes and continue rinsing. Seek medical attention if irritation persists.

In case of ingestion: Seek medical attention or call a poison control centre for treatment advice. Induce vomiting if person has not vomited as expected. Wash mouth with water and give water to drink.

Most important symptoms and effects, both acute and delayed:

Anticipated acute effects:
Fatal if inhaled. Causes skin irritation.
May cause an allergic skin reaction.
Harmful if swallowed.
Harmful in contact with skin.

Anticipated delayed effects:
May cause respiratory irritation or may cause drowsiness or dizziness.
Causes damage to organs through prolonged or repeated exposure.

Most important symptoms/effects: None known.

Advice to physician: To be effective, treatment for ingestion 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.

Indication of any immediate medical attention and special treatment needed:

Immediate medical attention is required if exposure to the product. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

SECTION 5. FIRE -FIGHTING MEASURE

Extinguisher media:

Suitable extinguisher media: Use carbon dioxide, dry chemical powder or foam

SMALL FIRE: See above.
LARGE FIRE: See above.
Unsuitable extinguishing media: Water jet. Use a water jet only to cool heated containers

Remove spectators from surrounding area. Isolate the fire area and evacuate all personnel downwind of the fire. Fight fire from maximum distance and use unmanned hose holder or monitor nozzles. Keep upwind. Avoid inhaling hazardous vapours and fumes from burning materials. Remove container from fire area if possible and without risk. Do not use high volume water jet, due to contamination risk. Do not scatter the burning material. Water can be used to cool unaffected containers but must be contained for later disposal. Contain fire control agents for later disposal. Avoid pollution of waterways by run-off from the site.

Specific hazards arising from the mixture: None known

Advice for fire-fighters:
Wear NIOSH/MSHA approved self-contained breathing apparatus and full protective gear. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

SECTION 6. ACCIDENTAL RELEASE

Personal precautions, protective equipment and emergency procedures:
For non-emergency personnel: Keep all personal away. Avoid contact with eyes and skin. Do not breathe in fumes
For emergency responders: Alert firefighting personnel, evacuate unprotected personnel and animals.
Protective equipment:
Refer to Section 8 for personal protective equipment to be worn during containment and clean-up of a spill.

Emergency procedures: Alert fire-fighting personnel, evacuate unprotected personal and animals

Environmental precautions: Keep spilled product from entering sewers, waterways or ground water

Methods and materials for containment and cleaning up:
Material for containment and cleaning up:
Contain spilled product by diking area with sand or earth
Cover contained spill with an inert absorbent material such as sand, vermiculite, earth or other appropriate material. Vacuum, scoop, or sweep up material and place the material into a clean, dry, sealable container. Label containers with the contents and dispose of according to local regulations. Do not place spilled material back in original container. Do not re-use spilled material. Collect washings and add to the drums already collected. Do not flush spilled material or washings into drains or waterways. To decontaminate the spill area, tools and equipment, wash with water and suitable detergent. See section 13 for disposal considerations.

Reference to other sections:
See section 7 for information on safe handling.
See section 8 for information on personal protection equipment.
See section 13 for information on disposal.

Additional information: None.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling:

Harmful if swallowed. Avoid contact with skin and eyes. Ensure adequate ventilation during handling and use. Do not handle broken packages without protective equipment. Immediately clean up spills that occur during handling. Keep containers closed when not in use. In the case of contact with the product refer to First Aid Measures – Section 4

Protective measures: Practice good hygiene when using this material. Wash hands before eating, drinking, chewing gum, smoking, using the toilet or applying cosmetics. Worker should shower at the end of each workday. Launder all clothing before it is re-used again.

Conditions for safe storage, including incompatibilities: Store in its original container in dry, cool, well-ventilated area. Avoid excess heat. Not to be stored next to foodstuffs, feed and water supplies. Keep out of reach of children, uninformed persons and animals. Do not contaminate other pesticides and fertilizers.

Incompatible substances: Refer to product label

Packaging material: Non-fluorinated plastic drums or pails and/or fluorinated containers/drums or pails.

SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Control parameters:

Occupational exposure limits (OEL): None known

Biological exposure indices (BEI): None known.

Additional exposure limits under the conditions of use: None known.

Permissible concentrations:

Components	Exposure limits	Type of exposure limit	Source
Paraquat, respirable dust	0.1 mg/m^3	8 – hour TWA (ST) STEL (C) Ceiling	OSHA PEL

Exposure control:

Appropriate engineering controls:

It is essential to provide adequate ventilation. The measures appropriate for a particular worksite depend on how this material is used and on the extent of exposure. Local Exhaust: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs or other specified exposure limits. Local exhaust ventilation is preferred. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire, and other applicable regulations.

Hygiene measures:

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Where there is possibility that an employee's eyes may be exposed to this substance; the employer should provide an eye wash fountain or appropriate alternative within the immediate work area for emergency use

Respiratory protection:

Use a NIOSH approved air-purifying respirator with cartridges/canisters approved for organic vapours.

Hand protection:

The use of chemically protective gloves is recommended to prevent against skin contact.

Eye/face protection:

The use of chemical safety goggles is recommended to prevent against eye contact. Contact lenses are not protective eye devices.

Skin and body protection:

Employee must wear appropriate protective (impervious) clothing; boots, hat and equipment to prevent repeated or prolonged skin contact with this substance.

Environmental exposure controls: Environmental manager must be informed of all major spillages.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance:	Dark green liquid.
Odour:	Non specific.
pH (1% aqueous dilution):	4.0 – 7.0
Melting point:	Not available.
Freezing Point:	Not available.
Boiling Point:	100 °C.
Flash Point:	Not available.
Flammability:	Not flammable.
Upper/lower explosion limits:	Not available.
Vapour Pressure (mm Hg):	Not available.
Relative Vapour Density:	Not available.
Density:	1.114 g/cm3.
Solubility:	Soluble in water.
n-octanol/water partition coefficient:	Not available.
Auto-ignition temperature:	Not available.
Decomposition temperature:	Not available.
Viscosity:	Not available

SECTION 10. STABILITY AND REACTIVITY

Reactivity: None known

Chemical stability:

The product is stable for two years at ambient temperature and pressure, under normal storage and handling conditions. Avoid storage under extreme temperatures and conditions. Store below 50 °C, preferably below 30 °C, and not for prolonged periods in direct sunlight.

Possibility of hazardous reactions: Will not occur.
Conditions to avoid: Extreme heat or exposure to flames.
Incompatible materials: Compatible with most herbicides except for strong acid and alkaline formulations
Hazardous decomposition products: None known

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects:

ACUTE TOXICITY:

Calculated according to GHS

Paraquat	
Acute toxicity	
Acute Oral LD_{50} (rats) Acute Oral LD_{50} (guinea pigs)	58-113 22-80 mg paraquat ion/kg
Acute Dermal LD_{50} (male rats):	>660 mg paraquat ion/kg
Acute Inhalation LC_{50}	No vapour toxicity, due to very low vapour pressure. Extreme exposure to spray droplets may cause nose bleeding.
Skin irritation/ corrosion (rabbits)	Irritating to skin
Eye damage / irritation (rabbits)	Irritating to eyes
Respiratory or skin sensitization	Not a skin sensitiser
Germ cell mutagenicity	No data available
Carcinogenicity	No data available
Reproductive toxicity	No data available
Specific Target Organ Toxicity STOT single exposure	No data available
Specific Target Organ Toxicity STOT repeated exposure	No data available
Aspiration hazard	No data available

SECTION 12. ECOLOGICAL INFORMATION

Anticipated behaviour of the chemical product inn the environment /possible environmental impact/ecotoxicity:

Paraquat	
Acute toxicity	
Birds	
Bobwhite quail Mallard ducks LC_{50} (5 + 3 d) for bobwhite quail Japanese quail Mallard ducks Ring-necked pheasants	127 54 mg paraquat ion/kg diet 711 paraquat ion/kg diet 698 paraquat ion/kg diet 2932 paraquat ion/kg diet 1063 paraquat ion/kg diet
Fish	
LC50 (96 h) Rainbow trout Mirror carp	18.6 98.3 mg paraquat ion/ℓ
Daphnia	
EC_{50}(48 h)	4.4 mg paraquat ion/ℓ
Algae	
E_bC_{50} (96 h) for green algae	0.075 mg paraquat ion/ ℓ
Bees	
LD50 (120 h) (oral) LD50 (contact)	11.2 µg paraquat ion/bee 50.9 µg paraquat ion/bee
Worms	
LC_{50} (14 d)	>1000 mg paraquat ion/kg

Plants: (Diquat dibromide) Metabolic breakdown of diquat bromide is very limited in plants. On plant surfaces, photochemical degradation occurs

(Paraquat dichloride)
Photochemical degradation occurs. Degradation products which have been isolated include 1-methyl-4-carboxypyridinium chloride and methylamine hydrochloride.

ENVIRONMENTAL EFFECTS:

(Diquat dibromide) Animals – In rats, following oral administration, only a small proportion was absorbed. The unabsorbed dose was excreted rapidly in faeces, and the absorbed dose extensively and rapidly excreted in urine.

(Paraquat dichloride) Animals – In rats, following oral administration, 76-90% of the dose was excreted in the faeces, and 11-20% in the urine. Paraquat does not bio-accumulate, with > 90% of the dose eliminated in 72 hours.

Persistence and degradability:
(Diquat dibromide) When adsorbed to soil, diquat is slowly degraded with DT50 values ranging from 1.2 to 41 y. When desorbed, it is quickly degraded by micro-organisms (DT50 of unadsorbed diquat ranged between 0.4 and 21 d.)

(Paraquat dichloride) When adsorbed to soil, paraquat is slowly degraded with DT50 values ranging from 7 to 20 y. When desorbed, it is quickly degraded by micro-organisms (DT50 of unadsorbed paraquat
Bio-accumulative Potential: Not determined.

Mobility in soil:
(Diquat dibromide) Diquat is rapidly and strongly adsorbed to soil and sediment (KOC values between 2000 and 7 900 000 ml/g), resulting in complete deactivation. The potential risk to leach into groundwater is negligible.
(Paraquat dichloride) Paraquat is rapidly and strongly adsorbed to soil and sediment (Koc values between 8000 and 40 000 ml/g), resulting in complete deactivation. The potential risk to leach into groundwater is negligible.

Other adverse effects: Not determined.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods:

General Information: Do not discharge into drains, water courses or onto the ground. Discharge, treatment or disposal may be subject to national, state, or local laws. Empty containers may contain product residues. Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this product cannot be reused or re-processed. Never pour untreated waste or surplus product into public sewers or where there is any danger of run-off or seepage into water systems. Do not contaminate rivers, dams or any other water sources with the product or used containers. Comply with local legislation applying to waste disposal. The product may be taken to a registered waste disposal site or incineration plant.

Disposal Methods:

Destroy the container by perforating and flattening and dispose of through an approved waste dump site, incineration plant or recycling company.

Container: Since emptied containers retain product residue, follow label warnings even after container is emptied.

Product/ packaging disposal: Treat as hazardous waste and dispose of in accordance with municipal, provincial and national regulations.

SECTION 14. TRANSPORT INFORMATION

UN Number:	3016
Un proper shipping name	bipyridilium pesticide, liquid, toxic. (Paraquat 120 g/l + Diquat 80 g/l)
UN Classification transport hazard class(es): 6.1	
Packing group (if applicable)	III
Marine pollutant (Y/N)	Yes, Considered a marine pollutant

Transport in bulk according to MARPOL 73/78, Annex II and the IBC Code: Not available

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SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation for the mixture:

Relevant information regarding authorization: Occupational Health and Safety Act 1993 Regulation for Hazardous Chemical Substances.

Relevant information regarding restrictions:

EU regulations: Regulation EC 1272/2008 [EU-GHS/CLP] and EU directives 67/548/EEC or EC 1999/45/EC

Other National regulations: National Road Traffic Act, 1996 (ACT NO. 93 of 1996).

SANS 11014:2010 – Safety data sheet for chemical products, Content and order section

SANS 10228:2012- The identification and classification of dangerous goods for transport by road and rail modes.

National Environmental Management: Waste Act 59 of 2008.

Chemical Safety Assessment carried out? No

SECTION 16. OTHER INFORMATION

Indication of changes:

GHS aligned

Relevant classification and H statements (number and full text):

H290: May be corrosive to metals. H301: Toxic if swallowed. H330: Fatal if inhaled. H311: Toxic in contact with skin. H315: Causes skin irritation. H319: Causes serious eye irritation. H335: May cause respiratory irritation. H372: Causes damage to organs through prolonged or repeated exposure. H410: Very toxic to aquatic life with long lasting effects.

Training instructions:

Use as indicated on the label, special training may be required for application.

Further information:

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

Notice to readers:

To the best of our knowledge, the information contained herein is accurate and is based on the present state of our knowledge and does not therefore guarantee specific properties. However, neither the above-named supplier nor any of its subsidiaries assumes any liability whatsoever for any accuracy or completeness of the information contained herein.

Final determinations of suitability of any material are sole responsibility of the users, who must take responsibility for observing existing laws and regulations. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.