

MATERIAL SAFETY DATA SHEET

SECTION 1 – IDENTIFICATION OF THE CHEMICAL PRODUCT AND COMPANY

Product Name: Kenso Agcare Diquat 200 Herbicide
Product Type: Group L Herbicide
Company Name: Kenso Corporation (M) Sdn Bhd
Address: Unit 3C, 59, Oxford Street, Bulimba Queensland 4171
Telephone Number: (07) 3217 9788
Facsimile Number: (07) 3217 9733
Emergency Telephone Number: 000 (Police or Fire Brigade)
13 11 26 (Poisons Information Centre)
Use: Herbicide for the control of a wide range of grasses and broadleaf weeds.

SECTION 2 – HAZARDS IDENTIFICATION

Statement of Hazardous Nature

This product is classified as hazardous chemical according to the criteria of NOHSC.

Risk Phrases: R24/25 – Toxic in contact with skin and if swallowed.
R36/37/38 – Irritating to eyes, respiratory system and skin.
R41 – Risk of serious damage to eyes.
R43 – May cause sensitisation by skin contact.
R48/25 – Toxic: 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 keep out of reach of children
S13 Keep away from food, drink and animal feeding stuffs.
S20/21 When using do not eat, drink or smoke.
S23 Do not breathe spray.
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.
S57 Use appropriate containment to avoid commercial contamination.

SUSDP Classification: S6
ADG Classification: 8
UN Number: 1760

Emergency Overview

Physical Description & colour: dark red brown viscous liquid.
Odour: pyridine base.

Potential Health Effects

Health Effects This product is toxic according to NOHSC Australia.

Acute:

- Swallowed:** Swallowing can result in nausea, vomiting, diarrhoea and abdominal pain within a few hours of ingestion. Ulceration of lips, mouth, throat and intestine may follow within 24-48 hours. Kidney failure and liver damage may occur at higher doses. In severe cases circulatory collapse, coma and death from respiratory failure/cardiac arrest can occur. The lethal dose for man is approximately 4-6g of Diquat (equivalent to approx. 60mg/kg).
The following acute oral toxicity results have been determined for the active ingredient of the product:
Diquat dibromide: LD₅₀ male rats = 214 mg/kg, LD₅₀ female rats = 222 mg/kg
- Skin:** Contact with skin will result in severe irritation. Can cause inflammation and in severe cases blistering of the skin. Contamination of the nails may cause white spots or cracking and loss of the nail. Normal growth follows without delay. This product is a skin sensitiser. Repeated or prolonged skin contact may lead to allergic contact dermatitis.
Absorption of Diquat through human skin is poor.
The following acute dermal toxicity results have been determined for the active ingredient of the product:
Diquat dibromide: LD₅₀ (rat) > 2000 mg/kg
- Inhaled:** Highly toxic if inhaled, however it is unlikely to be hazardous by inhalation because of low vapour pressure of the material at ambient temperature. Nose bleeding and soreness of the throat may result from spray mist or dust trapped on the nasal mucosa.
- Eye:** Severe damage may be caused, if this product comes into contact with the eye. It may lead to ulceration of corneal and conjunctival epithelium giving rise to secondary infection.

Chronic:

Ingestion studies in animals have shown that repeated doses of Diquat produce cataracts in test animals (dog, rat). The no-effect level was 5 ppm in the diet (approx. 0.25 mg/kg body weight per day) for the rat in a two year study. For the dog the no-effect level was 0.5 mg cation per kg per day in a one year study. These effects have not been seen in occupationally exposed humans. Diquat has not been shown to be carcinogenic or teratogenic.

The ADI (Acceptable Daily Intake) for humans (Diquat dibromide) is 0.002 mg/kg/day.

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS number	Proportion
Diquat (present as dibromide)	85-00-7	17.0%
Water		> 60%
Other inert ingredients	secret	To 100%

SECTION 4 – FIRST AID MEASURES

Swallowed:	If poisoning occurs get to a doctor or hospital quickly, warning by telephone of the estimated arrival time so that treatment is not delayed. Do not induce vomiting. DO NOT delay the start of treatment.
Skin:	Immediately take off all contaminated clothing. Wash skin immediately with water followed by soap and water. If swelling, redness, blistering or irritation occurs seek medical attention. Contaminated clothing should be laundered before reuse.

Eyes:	Immediately irrigate with copious quantities of water for at least 20 minutes. Eyelids to be held open. Urgently seek medical assistance. Transport to hospital or medical centre.
Inhaled:	Remove victim from exposure. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Obtain immediate medical attention.

Advice to Doctor:

Give up to 1 litre of 15% aqueous suspension of Fuller's Earth orally or via gastric tube, together with a suitable purgative (200mL of a 20% aqueous solution of mannitol). If ingested, wash out the stomach and test urine for the presence of Diquat. If there is severe mouth ulceration give nothing by mouth until patient's condition has improved. Give intravenous fluids only.

Eye contact: severe damage may be caused by apparently trivial contact and healing may be delayed. Medical supervision should continue until complete healing has occurred.

SECTION 5 – FIRE FIGHTING MEASURES

Combustibility: Non-combustible

Polymerisation: Not known to occur

Hazardous Combustion Product: During a fire, smoke may contain the original material in addition to combustion products of varying composition that may be toxic and/ or irritating. Take appropriate protective measures. It may emit oxides of nitrogen, and possibly toxic fumes of hydrogen chloride and hydrogen bromide gas.

Special Fire Fighting Procedures: Evacuate personnel to a safe area. Always wear positive-pressure self-contained breathing apparatus and full protective clothing. Do not allow water from fire-fighting to enter water supplies or drainage systems.

Extinguishing Media: Preferred extinguishing media are carbon dioxide, dry chemical, foam, water fog.

Fire Fighting: If a significant quantity of this product is involved in a fire, call the fire brigade.

Flash point: N/A

SECTION 6 – ACCIDENTAL RELEASE MEASURES

General Instructions: Wear appropriate protective equipment. Clear area of all unprotected personnel. Prevent entry of chemical or used/damaged containers into sewers, drains, streams or waterways. If necessary, inform the police and the relevant State Authority.

Small Spill: For clean up of a spill from a single shipping pack soak up with sand or other non-combustible absorbent material and place into containers for disposal. If applicable, wash the area with detergent and water.

Large Spill: Prevent spillage from entering drains or water courses. Wear protective clothing as overalls, goggles and gloves. Stop leak if safe to do so, and contain spill. Absorb onto sand, vermiculite or other suitable absorbent material. If spill is too large or if absorbent material is not available, try to create a dike to stop material spreading or going into drains or waterways. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage, and dispose of promptly. After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. Ensure legality of disposal by consulting regulations prior to disposal.

Thoroughly launder protective clothing before storage or re-use. Advise laundry of nature of contamination when sending contaminated clothing to laundry.

SECTION 7 – HANDLING AND STORAGE

Handling: Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. After work, remove protective clothing, and wash hands before eating, smoking, drinking or using the toilet.

Clean up spilled material immediately, and wash clothes, equipment and work area after use. Avoid breathing spray mist or vapours. Avoid splashes of material to the eye and skin.

Storage: The product is for use by licensed pest-control operators or primary producers only. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight. Do not store with food, feedstuff, fertilisers and seeds. The product is classified as Dangerous Goods by the ADG code for transport by road and rail.

SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

General Instructions: The following Australian Standards will provide general advice regarding safety clothing and equipment: Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Industrial Clothing: **AS2919**, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**.

Exposure limits: Exposure limits have not been established by NOHSC for active ingredient, however the OSHA permissible exposure limit for diquat is TWA 0.5 mg/m³. ACGIH TLV: TWA 0.1 mg/m³ (respirable dust).. It is not considered a significant teratogen or causative agent for reproductive effects, nor is there any evidence of carcinogenicity.

Ventilation: Use only with adequate ventilation. Provide general and/ or local exhaust ventilation to control airborne levels below the exposure guidelines. Make sure that the work environment remains clean and that vapours and mists are minimised.

Eye Protection: Eye protection such as protective glasses or goggles are required when this product is being used.

Skin Protection: Use protective clothing always. Remove contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Form:	Clear solution
Colour:	Dark red brown
Odour:	Pyridine bases
pH:	4 - 5.5
Melting point (°C):	100
Boiling point (°C):	100
Specific Gravity:	1.20
Vapour Pressure:	N/A
Flash Point	N/A
Flammability Limits:	N/A
Combustibility:	Non combustible
Volatility:	Not volatile
Solubility	Soluble
Corrosiveness:	Corrosive

SECTION 10 – STABILITY AND REACTIVITY

Chemical Reactivity: This product is stable under normal storage condition and unlikely to react or decompose under normal storage conditions.

Conditions to Avoid: Avoid high temperatures and direct sunlight. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight.

Incompatibilities: Strong oxidising agents. Diquat is highly corrosive to most metals, e.g., aluminium, Zinc and iron. Diquat is inactivated by absorption onto clays.

Fire Decomposition: During a fire, smoke may contain the original material in addition to combustion products of varying composition that may be toxic and/ or irritating. Take appropriate protective measures. It may emit oxides of nitrogen and possibly toxic fumes of hydrogen chloride and hydrogen bromide.

Polymerisation: This product is unlikely to undergo polymerisation processes.

SECTION 11 – TOXICOLOGICAL INFORMATION

Acute:

Oral toxicity:

HARMFUL Tests on rats indicate this product is harmful following single doses of a similar formulation. (LD₅₀ ca. 550 mg/kg)

Dermal toxicity:

LOW TOXICITY Tests on rats indicate this product has a low toxicity following skin contact with a similar formulation. (LD₅₀ > 5,000 mg/kg)

Inhalation:

TOXIC Tests on rats indicate this product is toxic due to inhalation of a similar formulation. LC₅₀ (4h) = 0.64 mg/L air) Nose bleeding and soreness of the throat may result from spray mist or dust trapped on the nasal mucosa.

Skin irritation:

MODERATE IRRITANT

Eye irritation:

SLIGHT IRRITANT

Sensitisation:

NOT A SENSITISER

Chronic:

Diquat dibromide technical has been extensively tested on laboratory mammals and in test-tube systems. No evidence was obtained of mutagenic, carcinogenic, teratogenic or reproductive effects. Ocular effects (cataracts) have been reported following long term oral exposure of laboratory animals.

SECTION 12 – ECOLOGICAL INFORMATION

General Information: The product is marine pollutant for sea transport.

Effects on birds: Toxic to birds.

Effects on aquatic organisms: Toxic to fish.

Effects on other organisms: The compound is low hazard to bees.

SECTION 13 – DISPOSAL CONSIDERATIONS

Disposal: Instructions concerning the disposal of this product and its containers are given on the product label. These should be carefully followed.

SECTION 14 – TRANSPORT INFORMATION

ADG Code: This product is classified as a Dangerous Good for transport by road and rail. ADG Classification: 8.

UN Number (Sea Transport): 1760

IMO Proper Shipping: CORROSIVE LIQUID, N.O.S (contains diquat pesticide), Class 8, Packing Group III.

SECTION 15 – REGULATORY INFORMATION

AICS: All of the significant ingredients in this formulation are to be found in the public AICS Database. The following ingredients: Diclofop-methyl, Liquid hydrocarbon, are mentioned in the SUSDP.

SECTION 16 – OTHER INFORMATION

This MSDS contains only safety-related information. For other data see product literature.

CONTACT POINT:

Police and Fire Brigade:

Dial 000

National Poisons Information Centre:

Dial 13 11 26 (from anywhere in Australia)

For 24 hour emergency response:

Dial 0439 933 556

Ask for Murray Goodlich