

MATERIAL SAFETY DATA SHEET

Statement of Hazardous Nature:

Hazardous according to criteria of NOHSC.

Company: Kenso Corporation (M) Sdn Bhd
Address: Kirkland Corner H/177, Old Cleveland Rd.
Coorparoo Queensland 4151
Telephone Number: (07) 3847 4288
Facsimile Number: (07) 3847 4188
Emergency Telephone Number: 000 (Police or Fire Brigade)
131126 (Poisons Information Centre)

IDENTIFICATION

Product Name: Kenso Agcare Speedy 250 Herbicide
Other names: None
UN Number: 3016
Hazchem Code: 2X
Dangerous Goods Class: 6.1 (toxic)
Poison Schedule: 7
Manufacturer's Product Code: None
Use: For control of a wide range of grasses and broadleaf weeds.

Physical Description/Properties

Form: Clear solution
Colour: Dark green/blue
Odour: Pyridine bases
pH: 5 - 6.5
Melting point (°C): 100
Boiling point (°C): 100
Specific Gravity: 1.164
Vapour Pressure: N/A
Flash Point N/A
Flammability Limits: N/A
Combustibility: Non combustible
Volatility: Not volatile
Solubility Dispersible in water
Corrosiveness: Corrosive

Ingredients

Chemical entity	CAS number	Proportion
Paraquat (present as Paraquat dichloride)	1910-42-5	11.5%
Diquat (present as Diquat dichloride)	85-00-7	9.8%
Water	7732-18-5	30-60%
Other non-hazardous ingredient	secret	Up to 100%

HEALTH HAZARD INFORMATION

Health Effects

This product is toxic according to NOHSC Australia.

Acute:

Swallowed:

The immediate effects of poisoning depend on the dose of Paraquat and Diquat absorbed into the blood.

Mild poisoning occurs at < 20 mg Paraquat ion/kg body weight and the effects are vomiting and diarrhoea. Moderate to severe poisoning occurs at 20-30 mg Paraquat ion/kg body weight and the effects are vomiting, abdominal discomfort, soreness and inflammation of the mouth, throat and oesophagus, difficulty in swallowing and, later, diarrhoea. Ulceration of lips, mouth, throat and intestine may follow within 24-48 hours. Kidney and liver damage may appear 1 – 3 days after exposure. Can cause death by a delayed proliferating fibrosis of the lung within 1 – 3 weeks.

Lethal poisoning occurs at > 30 mg Paraquat ion/kg body weight and the effects are nausea and vomiting, and can cause death by multi-organ failure and circulatory collapse within 48 hours. The lethal dose of Diquat dibromide for man is approximately 4 – 6 g of Diquat (equivalent to approx. 60 mg/kg body weight).

The following acute oral toxicity results have been determined for the active ingredients of the product:

Paraquat dichloride: LD₅₀ (rat) = 283 mg/kg (93.4mg Paraquat ion/kg)

Diquat dichloride: LD₅₀ (rat) = 1009 mg/kg (214 mg Paraquat ion/kg)

Skin:

Will irritate the skin. The product is also a skin sensitiser. Can cause inflammation and in severe cases blistering of the skin. Contamination of the nails may cause white spots or in severe cases cracking and loss of the nail. Normal growth follows without delay. Intact skin is a very effective barrier to Paraquat. Broken skin removes the barrier and Paraquat may be absorbed with effects as outlined above under "Swallowed". Repeated or prolonged skin contact may lead to allergic contact dermatitis. Modelling predicted for intact human skin and diluted solutions that systemic toxicity would be unlikely, but the risk increased significantly with damaged skin or concentrated solutions.

The following acute dermal toxicity results have been determined for the active ingredients of the product:

Paraquat dichloride: LD₅₀ (rat) = > 2000 mg/kg (> 660 mg Paraquat ion/kg)

Diquat dichloride: LD₅₀ (rat) = > 2000 mg/kg (> 424 mg Diquat ion/kg)

Inhaled:

Highly toxic if inhaled. However, 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. Irritating to the respiratory system. Pulmonary oedema may occur up to 48 hours after exposure and could prove fatal.

This product contains a stanching agent to give an offensive smell. This has been done to reduce the likelihood of accidental ingestion. This stanching agent may cause headaches and nausea in some people when inhaled. The presence of this offensive smell in the air does not necessarily indicate the presence of Paraquat.

The following acute inhalation toxicity results have been determined for the Paraquat dichloride:

LC₅₀ (rat) = 0.5 – 1.5 µg/L/4hrs

Eye:

Eye irritation may be delayed. May lead to severe, painful irritation and ulceration of corneal and conjunctival epithelium which may give rise to a secondary infection. Loss of corneal and conjunctival epithelium and iritis can occur with the risk of secondary infection and consequent residual corneal scarring. Corneal oedema may persist for up to 3-4 weeks. There may be blurring of vision and permanent damage to eyes is a possibility.

Chronic:

Studies in animals have shown that repeated doses of Paraquat do not produce carcinogenic nor teratogenic effects or adverse reproductive effects. The dietary no effect level in the rat was 25 ppm o Paraquat over 2 years. Ingestion studies in animals have shown that repeated doses of Diquat product cataracts in test animals (dog, rat). These effects have not been seen in occupationally exposed humans. The ADI (Acceptable Daily Intake) for humans (Paraquat ion) is 0.004 mg/kg/day. The ADI (Acceptable Daily Intake) for humans (Diquat ion) is 0.002 mg/kg/day.

First Aid

Swallowed:	Get medical advice immediately if poisoning occurs. Do not delay the time of the treatment.
Skin:	Wash contaminated skin with plenty of soap and water. Remove contaminated clothing and wash before re-use. If skin is broken, the component Paraquat can be absorbed through the skin. Seek medical advice immediately.
Eyes:	Hold eyelids open and flush with plenty of water for at least 20 minutes. Eyelids to be held open. Remove clothing if contaminated and wash skin. Seek medical attention. Patients should be reviewed after 24 hours If splashed with the concentrate. Referral to an ophthalmologist should be considered.
Inhaled:	Remove victim from area of exposure – avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. Seek medical advice if effects persist.

Advice to Doctor:

Refer to “Paraquat Poisoning. A Practical Guide to Diagnosis, First Aid and Hospital Treatment” (2003 or later edition) – available at most major treatment hospitals and Poisons Information Centre.

Treatment: Wash out stomach and test urine and gastric aspirate (if clear) for presence of Paraquat. Give up to 1 litre of 15% aqueous suspension of Fuller’s Earth orally or via gastric tube, together with a suitable purgative (200ml or an aqueous solution of mannitol). Repeat administration of absorbent plus purgative until absorbent is seen in stools. This should normally take between 4 and 6 hours after the start of treatment.

Do not use supplemental oxygen.

With the possibility of late onset conjunctival ulceration it is advised that patients with Paraquat eye injuries are reviewed the day after first presentation. At the review, consideration should be given to treating the eyes with a local antibiotic preparation to prevent secondary infection. Local treatment with a suitable steroid will aid resolution of granulation tissue. Corneal oedema, which may persist for up to 3-4 weeks, may cause blurring of vision.

PRECAUTIONS FOR USE

Exposure Standards:

There are no assigned values for this specific product; however, exposure standards for the active ingredients are as follows:

Ingredients	TWA	
	ppm	mg/m ³
Paraquat	-	0.1
Diquat	-	0.5
Pyridine base	1	5

As published by the National Occupational Health and Safety Commission:

TWA – the Time-Weighted Average airborne concentrations over an eight-hour working day, for a five-day working week over an entire working life.

STEL (Short Term Exposure Limit) – the average airborne concentration over a 15 minutes period which should not be exceeded at any time during a normal eight-hour work day. According to current knowledge these concentrations should neither impair the health of nor cause undue discomfort to nearly all workers.

These exposure standards are not applicable to field use.

All atmospheric contamination should be kept to as low a level as is workable. Exposure Standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

If the directions for use on the product label are followed, exposure of individuals using the product should not exceed the above standard. The standard was created for workers who are routinely, potentially exposed during manufacture of the product. Do not enter treated areas without protective clothing (waterproof footwear, clothing and gloves) until spray has dried.

Engineering Controls:

Ensure the ventilation is adequate to maintain air concentrations of components below quoted Exposure Standards. Avoid generating and inhaling mists. Keep containers closed when not in use.

Personal Protection:

MANUFACTURE, PACKING AND TRANSPORT: Avoid eye and skin contact and the inhalation of vapour and mist. Wear face shield or goggles, elbow-length impervious gloves, splash apron and rubber boots. Always wash hands before eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using. If inhalation risk of vapour or spray mist exists wear organic vapour respirator meeting the requirements of AS/NZ 1715 and AS/NZ 1716.

PREPARATION AND USE OF PRODUCT: Avoid contact with eyes, skin and clothing. When opening the container and preparing product for use, wear cotton overalls buttoned to the neck and wrist, washable hat, elbow-length PVC gloves, face shield or goggles and half face piece respirator or disposable respirator. Do not work in spray mist. When there is a risk of exposure to spray mist wear a face mask or respirator covering nose and mouth and capable of filtering spray droplets. A high efficiency type particulate respirator is recommended, but in any event use a respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716. After use and before eating, drinking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash contaminated clothing, gloves and face shield or goggles. Avoid contacting vegetation wet with spray, but if necessary to do so, wear waterproof footwear and waterproof protective clothing and gloves.

SAFE HANDLING INFORMATION

Storage and Transport

For use by licensed pest-control or primary producers only (Victorian requirement). Store in the closed original container in a dry, cool, well-ventilated locked room - away from children, animals, food, feedstuffs, seed and fertilisers. Do not store for prolonged periods in direct sunlight. Do not put into drink containers.

This material is a Schedule 7 Poison and must be stored, maintained and used in accordance with the relevant regulations.

Transport Classification – Road and Rail:

UN No.: 3016

Class: 6.1

Packing group: III

Proper Shipping Name: Bipyridilium pesticide liquid, Toxic, N.O.S.

Hazchem: 2X

Segregation of Dangerous Goods: Not to be loaded with explosives (class 1), niromethane, food and food packaging in any quantity, however, exemptions may apply.

Spills and Disposal

Ensure suitable personal protection (including respiratory protection) during removal of spillage. Contain spill and absorb with sand or other absorbent material. Do not allow to enter drains, sewers and watercourses. Collect in sealed open top container for disposal. Triple rinse containers, add rinsings to spray tanks and send containers for recycling or if not recycling, break, crush or puncture and bury empty containers in a local authority landfill or in accordance with local, state or federal regulation. Do not dispose of undiluted chemicals on site.

Fire/Explosion Hazards

Not combustible, however, following evaporation of aqueous component residual material may burn. On burning will emit toxic fumes. Fire fighters must wear self contained breathing apparatus if there is risk of exposure to products of combustion.

Suitable extinguishing media: Use water fog (or if unavailable fine water spray), foam, dry agent, (carbon dioxide, dry chemical powder).

OTHER INFORMATION

Ecological information:

The active ingredients Paraquat and Diquat are toxic to aquatic organisms. 96hr LC₅₀ (rainbow trout): 55 mg/L (static) for Paraquat and 21 mg/L for Diquat. The 96hr LC₅₀ (brown trout): 2.5 – 13 mg/L for Paraquat and 96hr LC₅₀ (mirror carp): 67 mg/L for Diquat. ErC50 72 hours for green algae is 0.34 mg/L. Paraquat and Diquat are both highly toxic to birds. The oral LD₅₀ for hens is 262 – 380 mg/kg for Paraquat and 200 – 400 mg/kg for Diquat.

Environmental fate:

Distribution and persistence – Paraquat and Diquat are both rapidly absorbed and deactivated by soil. There is no mobility in soil or into ground water. There is evidence of photo degradation in water and plants.

CONTACT POINT:

Police and Fire Brigade:

Dial 000

National Poisons Information Centre:**Dial 13 1126 (from anywhere in Australia)**

For 24 hour emergency response:

Dial 0439 933 556

Ask for Murray Goodlich