

MATERIAL SAFETY DATA SHEET

SECTION 1 – IDENTIFICATION OF THE CHEMICAL PRODUCT AND COMPANY

Product Name: Kenso Agcare Para-Ken 334 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

Hazard Classification **Toxic** according to the criteria of NOHSC.
Dangerous goods according to the Australia Dangerous Goods Code.

Risk Phrase(s) R24/25 Toxic in contact with skin.
R26 Very toxic by inhalation.
R36/37/38 Irritating to eyes, respiratory system and skin.
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 Phrase(s) S1/2 Keep locked-up and out of the 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 (show label where possible).
S57 Use appropriate containment to avoid environmental contamination.

Other Information Poisons Schedule S7

Emergency Overview

Physical Description & colour: Clear dark blue liquid.
Odour: Obnoxious pyridine odour.
Major Health Hazard: Toxic in contact with skin and if swallowed. Irritating to eyes and respiratory system. Harmful if inhaled.

Potential Health Effects

Health Effects This product is **toxic** according to NOHSC Australia

Acute:

Swallowed: **TOXIC. CAN KILL IF SWALLOWED**
Rapid treatment is essential. The immediate effects of poisoning depend on the dose of paraquat 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. 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.

Eye:	IRRITANT Eye irritation may be delayed. May lead to ulceration of corneal and conjunctival epithelium giving rise to secondary infection. Although healing may be slow, the injury is superficial and with proper medical care will be complete, even in severe cases.
Skin:	TOXIC Contact with skin will result in moderate irritation. 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. Damaged skin removes the barrier and paraquat may be absorbed with effects as outlined above under "Swallowed".
Inhaled:	TOXIC 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 stenching agent to give an offensive smell. This has been done to reduce the likelihood of accidental ingestion. This stenching 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. Modelling predicted for intact human skin and diluted solutions that systemic toxicity would be unlikely, but the risk increased significantly with damage skin or concentrated solutions.

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 of paraquat over 2 years.

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS number	Proportion
Paraquat (present as paraquat dichloride)	1910-42-5	33.4 % w/v
Surfactant	secret	10-20% w/v
Inert ingredients	secret	To 100 % w/v

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. If more than 15 minutes from a hospital induce vomiting by tickling back of throat with a clean, blunt instrument (eg spoon handle) or using fingers in the throat. DO NOT delay the start of treatment.
Eye	Immediately irrigate with copious quantities of water for at least 15 minutes. Eyelids to

	be held open. Remove clothing if contaminated and wash skin. Urgently seek medical assistance. Transport to Hospital or medical centre.
Skin	Immediately take off all contaminated clothing. Wash skin immediately with water followed by soap and water. If skin is damaged, the paraquat can be absorbed through the skin. Seek medical advice.
Inhaled	Remove victim from exposure – avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Seek medical advice.

Advice to Doctor:

Rapid treatment is essential. Refer to “the Treatment of Paraquat Poisoning: A Practical Guide to Doctors” (1994 or later edition) – available at most major treatment hospitals, Poisons information Centres.

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 suitable purgative (200mL of 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.

SECTION 5 – FIRE FIGHTING MEASURES

Fire/Explosion Hazard

Dangerous decomposition or Combustion Products

Thermal decomposition

Not combustible, however, following evaporation of aqueous component residual material may burn. On burning will emit toxic fumes.

Hazardous decomposition products

None known

Extinguishing Media

Extinguish fire with foam, dry powder, carbon dioxide, water fog or fine water spray.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

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.

SECTION 7 – HANDLING AND STORAGE

Storage

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

Transport

Considered hazardous by Australian Code for the Transport of Dangerous Goods by Road and Rail.

SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Standards:

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

	TWA		STEL	
	ppm	mg/m ³	ppm	mg/m ³
Paraquat (respirable sizes)	--	0.1	--	--

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 guides to be used in the control of occupational health hazards. 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.

Engineering Controls:

Well ventilated

Personal Protection:

Avoid contact with eyes and skin. Do not inhale spray mist. When preparing spray solution, wear PVC/rubber apron or cotton overalls buttoned to the neck and wrist, elbow-length PVC gloves and goggles or face-shield. After use and before eating, drinking and smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves, face and contaminated clothing.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Form:	liquid
Colour:	Clear dark blue
Odour:	Obnoxious pyridine odour
Boiling point (°C):	approx. 100 °C
Vapour Pressure:	2.37 kPa at 20 °C (water vapour pressure)
Flashpoint:	Not applicable
Flammability Limits:	Non-flammable
Specific Density:	1.09 ± 0.01
Water Solubility	Completely soluble

SECTION 10 – STABILITY AND REACTIVITY

Chemical Stability

Paraquat is inactivated by adsorption onto clay.

Incompatible Materials

Paraquat is highly corrosive to most metals, e.g. aluminium, zinc and iron.

Hazardous Reactions

Keep away from strong oxidising agents.

SECTION 11 – TOXICOLOGICAL INFORMATION

Acute Toxicity – Oral

LD₅₀ (rat) 129 - 157 mg/kg for paraquat dichloride
LD₅₀ (guinea pig) 30 - 58 mg/kg

Acute Toxicity – Dermal

LD₅₀ (rat) 911 mg/kg for paraquat dichloride
LD₅₀ (rabbit) 240 mg/kg for paraquat ion

May cause temporary damage to nails and a delay in the healing of cuts and wounds.

Acute Toxicity – Inhalation

LC₅₀ (rat) (4hr) 0.5 - 1.5 µg/l for paraquat dichloride

Other Information

The Australian Acceptable Daily Intake (ADI) for paraquat (as cation) for a human is 0.004 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 0.45 mg/kg/day, the level determined to show no effects during long term exposure for the most sensitive indicators and the most sensitive species.

SECTION 12 – ECOLOGICAL INFORMATION

Degradability

Paraquat is rapidly absorbed and inactivated by contact with soil. There is evidence of photodegradation in air.

Other Precautions

Keep domestic pets and poultry away from treated areas. This formulation should not be applied on or near water which is used for livestock watering. Do not contaminate dams, waterways or sewers with this product or the containers which have held this product.

Environmental Protection

Spray drift should be avoided, read the label for more information. This formulation should not be applied on or near water which is used for irrigation purposes.

Acute Toxicity – Fish

LC₅₀ (96 hr) for brown trout is 2.5 - 13 mg/l for paraquat dichloride
LC₅₀ (96 hr) for mirror carp is 135 mg/l

Acute Toxicity – Daphnia

EC₅₀ (48 hr) for daphnia is 6.1 mg/l for paraquat dichloride.

Acute Toxicity – Other Organisms

The following data is for the active ingredient, paraquat dichloride.

LD₅₀ for mallard duck is 199 mg/kg
LD₅₀ for bobwhite quail is 175 mg/kg
Bees: Not toxic to bees. LD₅₀: 36 µg/bee.

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

UN Number: 3016
Proper Shipping Name: BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC - (Contains Paraquat)
ADG Class: 6.1
Hazchem Code: 2X

Packing Group: III

SECTION 15 – REGULATORY INFORMATION

Poison schedule	S7
Packaging & Labelling	DANGEROUS POISON KEEP OUT OF REACH OF CHILDREN READ SAFETY DIRECTIONS BEFORE OPENING OR USING CAN KILL IF SWALLOWED DO NOT PUT IN DRINK BOTTLES KEEP LOCKED UP
Hazard Category AICS (Australia)	Very toxic, Irritant All of the components in this product are listed on the Australian Inventory of Chemical Substances.

SECTION 16 – OTHER INFORMATION

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

Acronyms:

ADG Code	Australian Code for the Transport of Dangerous Goods by Road and Rail
AICS	Australian Inventory of Chemical Substances
CAS number	Chemical Abstracts Service Registry Number
Hazchem Number	Emergency action code of numbers and letters that provide information to emergency services especially firefighters
IARC	International Agency for Research on Cancer
NOHSC	National Occupational Health and Safety Commission
SUSDP	Standard for the Uniform Scheduling of Drugs & Poisons
UN Number	United Nations Number

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