MATERIAL SAFETY DATA SHEET

SECTION 1 – IDENTIFICATION OF THE CHEMICAL PRODUCT AND COMPANY

Product Name:	**Kenso Agcare Ken-Grass 375 Herbicide**
Product Type:	Group I Herbicide
Company Name:	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) **13 11 26 (Poisons Information Centre)**
Use:	For post emergent control of Annual Ryegrass, Common Barbgrass and Wild Oats in Wheat, Barley, Linseed, Peas and other crops.

SECTION 2 – HAZARDS IDENTIFICATION

Statement of Hazardous Nature

This product is classified as: Hazardous according to the criteria of NOHSC Australia.
Not a Dangerous Good according to the Australian Dangerous Goods (ADG) Code.

Risk Phrases:	R22, R36, R65, R66. Harmful if swallowed. Irritating to eyes. Harmful: May cause lung damage if swallowed. Repeated exposure may cause skin dryness or cracking.
Safety Phrases:	S2, S20, S46, S24/25, S36/37. Keep out of reach of children. When using, do not eat or drink. If swallowed, contact a doctor or Poisons Information Centre immediately and show this container or label. Avoid contact with skin and eyes. Wear suitable protective clothing and gloves.
SUSDP Classification:	S6
ADG Classification:	None allocated. Not a Dangerous Good.
UN Number:	None allocated

Emergency Overview

Physical Description & colour: Light brown to dark brown liquid.
Odour: Aromatic hydrocarbon odour.
Major Health Hazards: Harmful if swallowed, eye irritant, if aspirated, may cause lung damage.

Potential Health Effects

Health Effects No LD_{50} information is available for this product.

Acute:

Swallowed: The concentrate is harmful if swallowed.

Eye: Prolonged contact with the concentrate will cause irritation.

Skin: Cause irritation. Will have a degreasing action on the skin. Repeated or prolonged skin contact may lead to irritant contact dermatitis.

Inhaled: Irritation to respiratory system

Chronic:
Not available

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS number	Proportion
Diclofop-methyl	51338-27-3	37.5 % w/v
Emulsifier	secret	10-20%
Hydrocarbon solvent	64742-94-5	To 100 % w/w

SECTION 4 – FIRST AID MEASURES

Swallowed	If swallowed, and if more than 15 minutes from a hospital induce vomiting, preferably using Ipecac Syrup APF. Do not induce vomiting if the patient is unconscious. Do not apply mouth to mouth resuscitation if material ingested. Seek medical advice immediately.
Eye	Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open.
Skin	Remove contaminated clothing and launder before use. Wash affected areas or skin thoroughly with soap and water. Seek medical advice if irritation develops.
Inhaled	Remove to fresh air, keep warm and at rest. Give artificial respiration or oxygen if breathing is shallow or stopped. Get medical attention immediately.

Advice to Doctor:
No antidote is available and treatment should be symptomatic. Gastric lavage with medicinal charcoal in water is recommended. Induce diuresis and monitor electrolyte and fluid balance. Observe kidney function. Once vomiting has occurred treatment may be required to prevent the solvent present causing pulmonary pneumonitis.

SECTION 5 – FIRE FIGHTING MEASURES

Fire and Explosion Hazards: This product is classified as a C1 combustible product. There is a slight risk of an explosion from this product if commercial quantities are involved in a fire. Violent steam generation or eruption may occur upon application of direct water stream on hot liquids. Vapours from this product are heavier than air and may accumulate in sumps, pits and other low-lying spaces, forming potentially explosive mixtures. They may also flash back considerable distances.
Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures.
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: 92°C
Upper Flammability Limit: No data.
Lower Flammability Limit: No data.
Autoignition temperature: No data.
Flammability Class: C1

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Spills & 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
Do not use or store near heat or naked flames. Store in the closed, original container in a well-ventilated area away from children, animals, food, feedstuffs, seed and fertilizers. Do not store for prolonged periods in direct sunlight.
This product is classified as a **C1 (Combustible Liquid)** for the purpose of storage and handling, in accordance with the requirements of AS 1940. Refer to the state regulations for storage and transport requirements.

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

SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Standards:
None established for formulated product

Ingredient	TLV ppm
Solvent	100

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 light to brown liquid
Odour:	Aromatic odour
Boiling point (°C):	>226 ^{0}C
Vapour Pressure:	0.17kPa @ 38 ^{0}C (for solvent), 0.034mPa @ 20 ^{0}C for AI
Flashpoint:	92 ^{0}C
Flammability Limits:	Lower 0.6%, hight 7%
Specific Density:	1.095 $\pm$ 0.01
Water Solubility	Forms emulsion

SECTION 10 – STABILITY AND REACTIVITY

Reactivity: This product is unlikely to react or decompose under normal storage conditions. However, if you have any doubts, contact the supplier for advice on shelf life properties.
Conditions to Avoid: Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight.
Incompatibilities: strong oxidising agents.
Fire Decomposition: Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Hydrogen chloride gas, other compounds of chlorine. Water. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.
Polymerisation: This product will not undergo polymerisation reactions.

SECTION 11 – TOXICOLOGICAL INFORMATION

Toxicity Data:

Product
Acute oral LD_{50} for rat: 2000 mg/kg
Acute dermal LD_{50} for rat: 5000 mg/kg
Acute inhalation LD_{50} for female rats (1 hour): 14-20mg/L

Diclofop-methyl
Acute oral LD_{50} for rats: 557-580 mg/kg
Acute dermal LD_{50} for rats: > 2000 mg/kg

LC_{50} (96hr) for rainbow trout: 0.23 mg/L
EC_{50} (72hrs) for Daphnia: 0.23 mg/L
Five day Dietary LD_{50} for bobwhite quail: >1600 mg/kg
mallard duck:>1100 mg/kg

SECTION 12 – ECOLOGICAL INFORMATION

Effects on Birds: The acute oral LD_{50} to bobwhite quail was 4,400 mg/kg; and greater than 10,000 mg/kg for Japanese quail. The eight-day dietary LC_{50} value for coturnix quail was greater than 20,000 ppm; 13,000 ppm for bobwhite quail; and greater than 20,000 ppm for mallard ducks.
Effects on Aquatic Organisms: The 96-hour LC_{50} for technical Diclofop-methyl in rainbow trout was 0.35 mg/l water. The 96-hour LC_{50} in rainbow trout for a formulated product was 1.38 ppm; and 2.60 ppm for carp. The 48-hour LC_{50} in the crustacean Daphnia for a formulated product was 4.03 ppm. Effects on Other Animals (Nontarget species): The LD_{50} for honeybees in a lab test of a formulated product indicated it was nontoxic at the highest dose tested; 48 kg/ha.
ENVIRONMENTAL FATE
Breakdown of Chemical in Soil and Groundwater: Under aerobic conditions, Diclofop-methyl hydrolyses in a matter of days in the soil to 2-[4-(2',4'-dichlorophenoxy)phenoxy] propanoic acid which in turn is degraded relatively quickly with a half-life of 10 days in sandy soils and about 30 days in sandy clay soils. Small amounts of 4-(2,4 dichlorophenoxy)phenol are also produced. Field studies of application rates up to 3.4 kg active ingredient per hectare showed very low finite residues in soil. At harvest, small finite residues were present in the 0-7.5 cm soil level and rare small residues were present above the 15 cm level. These studies indicate that Diclofop-methyl does not leach downward or move laterally, and dissipates quickly in soil.
Breakdown of Chemical in Surface Water: No information was available.
Breakdown of Chemical in Vegetation: Diclofop-methyl is absorbed via the leaves and in damp soil there is slight absorption via the roots. The compound inhibits root growth.

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 not classified as a Dangerous Good. No special transport conditions are necessary unless required by other regulations.

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