MATERIAL SAFETY DATA SHEET

SECTION 1 – IDENTIFICATION OF THE CHEMICAL PRODUCT AND COMPANY

Product Name:	**Kenso Agcare Ken-Trel 300 Herbicide**
Product Type:	Group I 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:	For control of a wide range of broadleaf weeds in wheat, barley, oats, triticale, canola, pastures, fallow land, forests and industrial situations as specified in the directions for use.

SECTION 2 – HAZARDS IDENTIFICATION

Statement of Hazardous Nature

This product is classified as: non 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:	S20/21, 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:	S5
ADG Classification:	None allocated. Not a Dangerous Good.
UN Number:	None allocated

Emergency Overview

Physical Description & colour: Clear to slightly hazy blue liquid.
Odour: No odour.
Major Health Hazards: No significant risk factors have been found for this product.

Potential Health Effects

Acute:

Swallowed:	The product is unlikely to cause irritation if a small amount is ingested.
Eye:	The concentrate may cause some irritation of the eye.
Skin:	Not a skin irritant and not harmful by normal exposure.
Inhaled:	Available data indicates that this product is not harmful, and little or not discomfort / irritation are likely.

Chronic:
Data indicates no reproductive, carcinogenic or mutagenic effects.

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS number	Proportion
Clopyralid	1702-17-6	30 % w/v
Inert ingredients	secret	33%
Water		To 100 % w/v

SECTION 4 – FIRST AID MEASURES

Swallowed	If poisoning occurs, contact a doctor or Poisons Information Centre on 13 11 26.
Eye	Flush eyes immediately with plenty of fresh water for at least 15 minutes while holding the eyelids open.
Skin	Remove contaminated clothing, wash skin with plenty of soap and water. See a doctor if any signs or symptoms described in this document occur. Discard contaminated non-waterproof shoes and boots. Wash contaminated clothing before re-wearing.
Inhaled	Remove affected person to fresh air until recovered.

Advice to Doctor:
Treat symptomatically.

SECTION 5 – FIRE FIGHTING MEASURES

Fire and Explosion Hazards: There is no risk of an explosion from this product under normal circumstances if it is involved in a fire.
This product is likely to decompose only after heating to dryness, followed by further strong heating.
Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures.
Extinguishing Media: Not Combustible. Use extinguishing media suited to burning materials. Water fog or fine spray is the preferred medium for large fires. Ensure that no spillage enters drains or water courses.
Fire Fighting: If a significant quantity of this product is involved in a fire, call the fire brigade.
Flash point: Does not burn.
Upper Flammability Limit: Does not burn.
Lower Flammability Limit: Does not burn.
Autoignition temperature: Not applicable – does not burn.
Flammability Class: Does not burn.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Spills

Small spill: Apply absorbent material such as earth, sand or clay granules or cat litter to the spill. Sweep up material for disposal when absorption is complete and contain in a refuse vessel for Disposal (See Disposal). If necessary, wash the spill area with an alkali detergent and water and absorb as above the wash liquid for disposal.

Large spill: Place leaking containers into salvage drums. Apply absorbent material such as earth, sand or cat litter to the spill area. Form a barricade around spill and in front of drains or waterways in spill vicinity, using earth or other available material. Sweep up material and contain in a refuse vessel for disposal (see Disposal).

Disposal
Triple rinse containers before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on site. If recycling container, replace cap and return clean containers to recycler or designated collection point. If not recycling break, crush, or puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.

SECTION 7 – HANDLING AND STORAGE

Storage & Transport
This product is an S5 Poison. Observe all relevant regulations regarding sale, transport and storage of this class of product. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight. Do not store near food, feedstuffs, fertilisers or seed.

SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Standards:
A time weighed average (TWA) concentration for an 8 hour day, and 5 day week has not been established by The National Occupational Health & Safety Commission for any of the major ingredients in this product. There is a blanket limit of 10mg/m^3 for dusts or mists when limits have not otherwise been established. The nature of this product makes it unlikely that this level will be approached in normal use. The ADI (Acceptable Daily Intake) for Clopyralid is set at 0.5mg/kg/day. The corresponding NOEL (No-observable-effect-level) is set at 50mg/kg/day. Values taken from Australian ADI List, January, 2001.

Engineering Controls
In industrial situations, concentration values below the TWA value should be maintained. Values may be reduced by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods. If you believe air borne concentrations of mists, dusts or vapours are high; you are advised to modify the process or environment to reduce the problem.

Personal Protection
Avoid contact with eyes and skin. Wear cotton overalls buttoned to the neck and wrist and a washable hat, elbow-length PVC gloves, a face shield or goggles when opening the container, preparing the spray and using the prepared spray,. Wash hands after use. Wash glove, face shield or goggles and contaminated clothing before reuse.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Form:	liquid
Colour:	clear to slight hazy blue liquid
Odour:	No odour
Boiling point (°C):	~ 100 ^{0}C at 100 kPa
Vapour Pressure:	No data for the tri-isopropanol-amine salt 133mPa at 24 ^{0}C (Clopyralid acid)
Flashpoint:	Does not burn
Flammability Limits:	Not combustible material
Specific Density:	1.107
Water Solubility	Completely soluble

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 acids, strong bases, strong oxidising agents.
Fire Decomposition: This product is likely to decompose only after heating to dryness, followed by further strong heating. Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Nitrogen and its compounds, and under some circumstances, oxides of nitrogen. Occasionally hydrogen cyanide gas in reducing atmospheres. 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

Local Effects:
Target Organs: none known
Clopyralid: LD_{50} Oral, Rat 3738 (male)-2675 (female) mg/kg LD_{50} Dermal, Rat = >2000mg/k
SYSTEMIC (OTHER TARGET ORGAN) EFFECTS: For a similar material, clopyralid acid, in animals, effects have been reported on the following organs: heart, kidney, and liver.
CANCER INFORMATION: A similar material, clopyralid acid, did not cause cancer in laboratory animals.
TERATOLOGY (BIRTH DEFECTS): A similar material, clopyralid acid, caused birth defects in test animals, but only at greatly exaggerated doses that were severely toxic to the mothers. No birth defects were observed in animals given clopyralid at doses several times greater than those expected during normal exposure.
REPRODUCTIVE EFFECTS: For a similar material clopyralid acid, in laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent.
MUTAGENICITY: For a similar material, clopyralid acid, in-vitro and animal genetic toxicity studies were negative.

SECTION 12 – ECOLOGICAL INFORMATION

Toxic to aquatic organisms, may cause long-term adverse effects to the aquatic environment. This product is not biodegradable; it may accumulate in the soil or water and cause long term problems.
Birds: LD_{50} mallard: 1465mg/kg LD_{50} bobwhite quail: >2000mg/kg
Fish: LC_{50} rainbow trout: 103.5mg/L LC_{50} bluegill sunfish: 125mg/L
Bees: LD_{50} non toxic
Worms: LD_{50} (Worms) >1000mg/kg

ENVIRONMENTAL FATE
In soil, Clopyralid will be degraded by microbial action within twelve months, with the most rapid breakdown occurring in warm, moist, aerated soils with high organic content. Clopyralid has a half-life between twelve and seventy days depending on soil type and climatic conditions. Minimal leaching of Clopyralid occurs and residues typically remain in the top fifteen centimetres of the soil profile. Clopyralid is not broken down in water by sunlight or hydrolysis.

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