

MATERIAL SAFETY DATA SHEET

SECTION 1 – IDENTIFICATION OF THE CHEMICAL PRODUCT AND COMPANY

Product Name: Kenso Agcare Ken-Zon 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 the control of a range of environmental and noxious woody and herbaceous weeds as specified on the label.

SECTION 2 – HAZARDS IDENTIFICATION

Hazard Classification: Classified as hazardous according to criteria of Safe Work Australia.
Not classified as a Dangerous Good according to the ADG code
Risk Phrase(s): R36/38 Irritating to eyes and skin
Safety Phrase(s): S24/25 Avoid contact with skin and eyes.
SUSDP Classification: S6
ADG Classification: N/A
UN Number: N/A

Emergency Overview

Physical Description & colour: clear brown liquid.
Odour: aromatic odour.
Major Health Hazards: No major health hazard is known.

Potential Health Effects

Health Effects

Acute:

Swallowed: A moderate hazard if the concentrate is accidentally swallowed. If liquid enters the lungs may cause lung damage or even death due to chemical pneumonia, a condition caused by solvents or surfactants.

Eye: May cause temporary, moderate eye irritation.

Skin: Prolonged or repeated contact may cause moderate irritation, drying or flaking of the skin.

Inhaled: The acute inhalation toxicity is low.

Chronic:

Possible chronic health effects from exposure to Ken-Zon are based on the active ingredient. Rats and mice administered the active ingredients, picloram or triclopyr, in long-term carcinogenicity studies showed no increase in tumours when compared to the untreated group. Studies in rats and rabbits indicate that picloram and triclopyr do not cause birth defects or interfere with reproduction. Picloram and triclopyr do not cause genetic change and do not accumulate in the body.

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS number	Proportion
Triclopyr (present as butoxyethyl ester)	64700-56-7	300 g/L
Picloram (present as hexyloxypropylamine salt)	1918-02-1	100 g/L
Diethylene glycol ethyl ether	111-90-0	410 g/L
Other non-hazardous ingredients		Up to 100%

SECTION 4 – FIRST AID MEASURES

Swallowed	If swallowed do NOT induce vomiting; seek medical advice immediately and show this container or label or contact the Poisons Information Centre on 13 11 26. Make every effort to prevent vomit from entering the lungs by careful placement of the patient.
Eye	If in eyes, hold eyes open and flood with water for at least 15 minutes. Seek medical advice.
Skin	If on skins, remove contaminated clothing and wash affected skin thoroughly with soap and water.
Inhaled	If affected, remove from contaminated area to fresh air.

Advice to Doctor
Treat symptomatically.

SECTION 5 – FIRE FIGHTING MEASURES

Specific Hazard
Product is a combustible liquid, (C1)

Fire/Explosion Hazard

Dangerous decomposition or Combustion Products

May produce irritating vapours under fire conditions. Combustible liquid. Breathable air apparatus may be required in confined spaces.

Thermal decomposition

Combustible liquid. There is a moderate risk of an explosion from this product if it is involved in a fire. Fire decomposition products from this product may form toxic and corrosive mixtures in confined spaces.

None

Hazardous decomposition products

Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Nitrogen, and under some circumstances, oxides of nitrogen. Hydrogen chloride gas, chlorides, and in some circumstances, phosgene. Water.

Hazardous reactions

Avoid oxidising agents.

Extinguishing Media

Carbon dioxide, dry chemical, foam, water fog

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Spills and Disposal

Contain spill and absorb with sand or proprietary absorbent (vermiculite). Prevent from entering drains, waterways or sewers. Collect in sealed open top containers for disposal. The product is an herbicide and spills should be contained. The product is relatively toxic to fish and hence should be kept from entering water bodies. Triple rinse containers, add rinsate to the spray tank, then offer container for recycling/reconditioning, or puncture top, sides and bottom and dispose off in landfill in accordance with local regulations. On-site disposal off concentrate is not acceptable.

SECTION 7 – HANDLING AND STORAGE

Handling

When handling this product, do not eat, drink or smoke.

When mixing this product always wear a PVC or rubber apron, elbow length PVC gloves, face shield or goggles and overalls buttoned at the wrist and neck.

When spraying this product, wear a face shield or goggles

After each days use, wash gloves, face shield or goggles and overalls.

If product gets on skin, immediately wash area with soap and water.

Storage

Store in the closed, original container in a well-ventilated area as cool as possible out of direct sunlight. Keep from contact with fertilisers and seeds.

SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Standards:

A time weighted average (TWA) has been established for picloram, present in significant quantities in this product. This value is 10 mg/m³. The corresponding STEL level is "not set". The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. The ADI (Acceptable Daily Intake) for triclopyr is set at 0.005 mg/kg/day. The corresponding NOEL (No-observable-effect-level) is set at 0.5 mg/kg/day. The ADI for Picloram is set at 0.07 mg/kg/day. The corresponding NOEL is set at 7 mg/kg/day. Values taken from Australian ADI List, January 2001.

Engineering Controls:

In industrial situations, concentrated 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.

Personal Protection:

Moderately harmful if swallowed. Will irritate eyes and skin. When preparing with eyes and skin. Do not inhale spray mist. When preparing product for use, wear cotton overalls buttoned to the neck and wrist and washable hat, elbow length PVC gloves and effective eye protection. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly. After each day's use, wash contaminated clothing and safety equipment.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Form:	liquid
Colour:	clear brown
Odour:	aromatic odour
Boiling point (°C):	Solvents may begin boiling at 196°C.
Vapour Pressure:	10 x 10 ⁻⁵ mm Hg at 33°C (triclopyr butoxyethyl ester)

Specific Density:	65 x 10 ⁻⁷ mm Hg at 35°C (picloram acid) 1.124 at 20°C.
Flashpoint:	82°C.
Flammability:	Combustible liquid, (C1)
Flammability Limits:	Not available
Solubility in Water:	Emulsifiable

SECTION 10 – STABILITY AND REACTIVITY

Chemical Stability:	This product is unlikely to spontaneously decompose.
Conditions to Avoid:	None.
Incompatibilities:	Strong oxidizing agent.
Hazardous Polymerization:	Hazardous polymerization is not possible.

SECTION 11 – TOXICOLOGICAL INFORMATION

Toxicity data:

For a similar product:

Acute oral LD₅₀ rats > 2000 mg/Kg

Acute dermal LD₅₀ (rabbits) > 2000 mg/Kg

For Triclopyr as the butoxyethyl ester:

Non-toxic to honey bees at > 100 mg/bee

LC₅₀ (96 hrs) is: for rainbow trout 0.74 mg/L

for bluegill sunfish 0.87 mg/L

For Picloram:

LC₅₀ (96 hrs) (bluegill sunfish) 19.4 mg/L

(flathead minnow) 55.3 mg/L

Not toxic to bees.

Picloram and triclopyr do not bioaccumulate in animal systems.

Other Information

The Australian Acceptable Daily (ADI) of picloram for a human is 0.07 mg/kg/day, set for public for daily, lifetime exposure. This is based on the NOEL of 0.5mg/kg/day, the level determined to show no effects during long term exposure for the most sensitive indicators and the most sensitive species.

The Australian Acceptable Daily (ADI) of picloram for a human is 0.07mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 7 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

Known Harmful Effects on the Environment

The breakdown of picloram in soil is variable and is influenced by soil moisture, temperature and organic content. Under spill conditions or very high use rates, residues could remain in the soil up to four years, particularly in arid soils. At low application rates, under warm, moist conditions, residues decline sufficiently to allow growth of susceptible plants within twelve months. In soil, picloram is degraded by photodegradation and microbial action. In water, it is degraded by ultra-violet light with a half-life of one to forty days depending

on sunlight intensity. Picloram typically remains in the top thirty centimetres of a soil profile depending on soil adsorption properties.

Triclopyr butoxyethyl ester is rapidly hydrolysed to triclopyr acid in soil and water. Triclopyr acid is degraded by microbial action and photodecomposition. Triclopyr acid, in soil, has a half life of approximately forty days, depending on soil and climatic conditions. In water, triclopyr acid will decompose rapidly with a half-life of one to two days. Minimal leaching of triclopyr acid may occur in light soils under high rainfall conditions.

Other Precautions

None

Environ. Protection

Contamination of ground water by picloram and triclopyr is highly unlikely. If used according to the label, Ken-Zon Herbicide will not be harmful to the environment.

Persistence / Degradability

Picloram ester and triclopyr ester rapidly convert to the parent acids picloram and triclopyr once in soil, water, plants and animals. It is the properties of these compounds that are important in assessing any effects from treatment.

Acute Toxicity - Fish

Picloram and triclopyr have low toxicity to fish and do not bioaccumulate in animal systems.

Acute Toxicity – Other Organisms

Picloram has low toxicity to birds, honey bees, livestock and aquatic organisms. Triclopyr has low toxicity to aquatic organisms, livestock, birds and honeybees.

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

Transport	Considered non dangerous for road and rail transport (in packaging) by the Australian Code for the Transport of Dangerous Goods by Road and Rail. Ref:ADG7; SP No. AU01.
UN Number (Sea Transport):	3082
IMO Class/Packing Group:	Class 9; Packing Group III
IMO Marine Pollutant:	Marine Pollutant
IMO Proper Shipping Name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains Triclopyr ester and Picloram)

SECTION 15 – REGULATORY INFORMATION

SUSDP Classification	S6
Packaging & Labelling	POISON KEEP OUT OF REACH OF CHILDREN READ SAFETY DIRECTIONS BEFORE OPENING OR USING

AICS (Australia) 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