

MATERIAL SAFETY DATA SHEET

Statement of Hazardous Nature:

Hazardous according to the criteria of the National Occupational Health and Safety Commission.

Company: Kenso Corporation (M) Sdn Bhd
Address: Kirkland Corner H/177 Old Cleveland Rd.
Coorparoo 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)

IDENTIFICATION

Product Name: Kenso Agcare Ken-Zon Herbicide

Other Names: None
Manufacture's Product Code: None
UN Number: None allocated
Dangerous Goods Class: None allocated
Subsidiary Risk: None allocated
Hazchem Code: None allocated
Poisons Schedule Number: S6

Use:

For the control of a range of environmental and noxious woody and herbaceous weeds as specified on the label

Physical Description/Properties

Appearance: Clear brown liquid
Boiling Point: Solvents may begin boiling at 196°C
Vapour Pressure: 10 x 10⁻⁵ mm Hg at 33°C (triclopyr butoxyethyl ester)
65 x 10⁻⁷ mm Hg at 35°C (picloram acid)
Specific Gravity: 1.124 at 20°C
Flashpoint: 82°C
Solubility in water: Emulsifiable
Corrosiveness: Not corrosive

Ingredients

Chemical Name	CAS No	Proportion
Triclopyr (present as the butoxyethyl ester)	64700-56-7	300g/L
Picloram (present as hexyloxypropylamine salt)	1918-02-1	100 g/L
Diethylene glycol ethyl ether	111-90-0	410g/L
Other non-hazardous ingredients		To 100%

HEALTH HAZARD INFORMATION

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.

First Aid

General: Consult The National Poisons Information Centre (Ph 13 11 26) or a doctor in every case of suspected chemical poisoning. Never give fluids or induce vomiting if a patient is unconscious or convulsing regardless of cause of injury. If breathing difficulties occur seek medical attention immediately.

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 and see a doctor.
Skin	If on skins, remove contaminated clothing and wash skin thoroughly with soap and water.
Inhaled	If affected, remove from contaminated area to fresh air.

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.

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.

PRECAUTIONS FOR USE

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.

SAFE HANDLING INFORMATION

Storage and Transport

This product is an S6 Poison. Observe all relevant regulations regarding sale, transport and storage of this class of product. Store in the closed original container in a cool, dry, well-ventilated area, out of direct sunlight. Avoid contact with food, feed stuffs, fertilizers and seeds.

This product is classified as a **C1 (Combustible Liquid)** for the purpose of storage and handling in accordance with the requirements of AS1940. Refer to the State regulations for storage and transport requirements.

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 of concentrate is not acceptable.

Fire/Explosion Hazard

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

Extinguishing Media

Carbon dioxide, dry chemical, foam, water fog

Special Fire Fighting Procedures

When fighting fires involving significant quantities of this product, wear safety boots, non-flammable overalls, gloves, hat, goggles and respirator. All skin areas should be covered. Ensure that no spillage enters drains or water courses.

Unusual Fire & Explosion Hazards:

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.

Stability:

This product is unlikely to spontaneously decompose.

Polymerization:

This product is unlikely to spontaneously polymerize.

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, phosphene. Water.

Materials to avoid:

Strong oxidizing agents

OTHER INFORMATION:

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.

Ecotoxicity data

Picloram has low toxicity to birds, fish, honey bees, livestock and aquatic organisms. Picloram does not bioaccumulate in animal systems.

Triclopyr butoxyethyl ester is toxic to fish, moderately toxic to aquatic organisms and livestock, and slightly toxic to birds. It has low toxicity to honey bees. In soil and water, triclopyr butoxyethyl ester hydrolyses to triclopyr acid that has low toxicity to fish, aquatic organisms, livestock, birds and honeybees. Triclopyr will not bioaccumulate in animal systems.

Environmental Fate

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 centimeters 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.

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.

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