MATERIAL SAFETY DATA SHEET

Statement of Hazardous Nature:
Hazardous according to criteria of NOHSC.

Company: 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)

IDENTIFICATION

Product Name: **Kenso Agcare Abroholos 600 Selective Herbicide**
Other names: None
UN Number: None allocated
Hazchem Code: None allocated
Dangerous Goods Class: None allocated
Poison Schedule: S5
Manufacturer's Product Code: None
Use: A specially formulated low volatile herbicide for selective control of various weeds in crops, pastures and non-agricultural areas as per Directions for Use Table.

Physical Description/Properties

Form: Liquid
Colour: Clear brown liquid
Odour: Solvent odour
pH: 3.6 in 5% solution
Melting point (°C): -5 ^{0}C
Boiling point (°C): 190-350 ^{0}C
Specific Gravity: 1.11
Vapour Pressure: ~1.5mmHg @ 25 ^{0}C (solvent); 2,4-D ester 1.6x10^{-6} mmHg
Flammability Limits: Upper ~6; Lower ~1
Solubility N/A
Vapour density ~5

Ingredients

Chemical entity	CAS number	Proportion
2,4-D (present as the ethyl-hexyl ester)	1928-43-4	84%
Inert ingredients	Secret	8.3%
Hydrocarbon solvent	64742-94-5	To 100%

HEALTH HAZARD INFORMATION

Acute:

Swallowed: Ingestion of this product may cause gastrointestinal irritation, nausea, and vomiting.

Skin: This product is expected to cause moderate skin irritation. Prolonged or repeated exposure may cause de-fatting of skin, which could lead to secondary dermatitis. Prolonged contact of the concentrate with the skin is harmful.

Inhaled: Inhalation of solvent in confined spaces and in hot weather may cause headache, nausea or intoxication. The 2,4-D ester has very low volatility, thus inhalation of the ester from the concentrate is unlikely to be a concern, however, and inhalation of spray mist must be avoided.

Eye: Will cause irritation. Prolonged contact with the concentrate may cause damage and can lead to significant 2,4-D absorption.

Chronic: Repeated absorption of relatively large amounts of 2,4-D present a risk to the liver and kidneys.

First Aid

Swallowed:	If swallowed, do not induce vomiting; seek medical advice immediately.
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.
Eyes:	Flush eyes immediately with plenty of fresh water for at least 15 minutes while holding the eyelids open. Remove contact lenses if worn. However, if irritation persists, see a doctor.
Inhaled:	Remove to fresh air until recovered. See a doctor if discomfort or irritation continues.

Advice to Doctor
Treat symptomatically. If vomiting occurs be wary of the onset of pulmonary pneumonitis caused by the solvents.

PRECAUTIONS FOR USE

Exposure Limits
No exposure limits have been set for this product, however, a limit has been set for 2,4-D acid at 10mg/m3.

Engineering Control
Natural ventilation only is required. In confined spaces where solvent vapour build-up may make working unpleasant use a local exhaust.

Protective Equipment
Poisonous if swallowed. Avoid contact with skin or clothing. Skin contact should be minimized by wearing protective clothing including elbow-length PVC gloves and face shield. If product contacts skin, immediately wash area with soap and water. After each use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. Wash gloves, face shield and contaminated clothing before reuse.

SAFE HANDLING INFORMATION

Storage and Transport
Store in the closed, original container in a well-ventilated area away from children, animals, food, feedstuffs, seed and fertilizers.
Considered non hazardous for transport by the Australian Code for the Transport of Dangerous Goods by Road and Rail.

Spills and Disposal
Contain spill and absorb with sand or proprietary absorbent (vermiculite). Prevent from entering drains, waterways or sewers. Clean up spill immediately. Collect in sealed open-top containers for disposal. Triple rinse containers, and add rinsate to the spray tank, then offer container for recycling / reconditioning, or puncture top, sites and bottom and dispose of in landfill in accordance with local regulations. On-site disposal of concentrate is not acceptable.

Special Fire Fighting Procedures
May emit toxic fumes of hydrogen chloride or phosgene if involved in fires or subjected to extreme heat. Breathable air apparatus may have to be worn in confined spaces. Keep upwind. Avoid breathing smoke and mists. Avoid personnel and equipment contact with fallout and runoff. Do not enter any enclosed area without full protective equipment, including self-contained breathing equipment. Contain and isolate runoff and debris for proper disposal. Decontaminate personal protective equipment and fire fighting equipment before reuse.
Extinguishing media: 'Alcohol' foam, water fog, dry chemical or carbon dioxide.

Hazardous Reaction
May react violently with strong oxidising agents. Avoid alkaline material such as caustic soda and caustic potash. Material will decompose non-violently to 2,4-D salts in the presence of alkalis thus losing its efficacy. Hazardous decomposition: Only expected if material involved in fires. Polymerisation is not possible

OTHER INFORMATION

Toxicology
Toxicity to mammals:

2,4-D acid:	Acute oral LD_{50} (rats) 699mg/kg
2,4-D esters:	Acute oral LD_{50} (rats) 620-900mg/kg
2,4-D iso octyl ester:	Acute oral LD_{50} (oral, rat) 896mg/kg
	Acute dermal LD_{50} (rats) >2,000mg/kg
	Acute inhalation LD_{50} (rats) >1.79mg/L (4hr) (max. attainable concentration)
Toxicity to fish:	
Moderately toxic to fish:	LC_{50} Bluegill sunfish 5-12mg/L
	LC_{50} rainbow trout 62-153mg/L

Toxicity to bees:
Non toxic to bees. In trials using 2,4-D as drug, studies on volunteers have shown that doses Formulated 2,4-D products can be absorbed by ingestion, inhalation (spray absorption through the skin is the most common route. When used with good agricultural spraying practice and good personal hygiene, absorption of 2,4-D is very low. 2,4-D does not accumulate in the body; a single dose of 2,4-D is rapidly excreted (in a few days), mainly in the urine. The Australian Acceptable Intake (ADI) of 2,4-D for a human is 0.01mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 1.0mg/kg/day, the level determined to show no effects during long term exposure for the most sensitive indicators and the most sensitive indicators and the most sensitive species. (Ref: Comm. Dept. of Human Services and Health, 'ADI List', AGPS, May 1997).

Environmental Protection

Marine pollutant

2,4-D products do not appear to oppose any threat to birds.

2,4-D esters are mildly to moderately toxic to fish. The literature values for toxicity vary widely, from an LC_{50} of 5-68mg/L for bluegill sunfish to an LC_{50} of 62-163mg/L for rainbow trout.

Do not spray in high winds.

Do not contaminate dams, rivers or streams with pesticide or used containers. Do not use the container for any other purpose. Triple rinse empty container and add rinsate to spray tank. Puncture top, sides and bottom of container and dispose of in an approved manner.

Equipment that has been used for this product should not be used for the application of other materials to sensitive plants unless it has been well washed out with hot, soapy water followed by several clear water rinses. Do not use on, or in situations where damage to susceptible crop plants such as cotton, tobacco, tomatoes, flowers vines, fruit trees or other sensitive species may result from direct application or from spray drift.

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