MATERIAL SAFETY DATA SHEET

SECTION 1 – IDENTIFICATION OF THE CHEMICAL PRODUCT AND COMPANY

Product Name:	**Kenso Agcare Ken-Amine 625 Selective 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:	Selective control of broadleaf weeds in various crops.

SECTION 2– COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	**CAS number**	**Proportion**
2,4D present as dimethylamine and diethanolamine salt	2008-39-1	62.5% w/v
Inert ingredient	secret	To 100 % w/v

SECTION 3– HAZARDS IDENTIFICATION

Hazard Classification: Hazardous according to criteria of NOHSC Australia.
Risk Phrase(s): R20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
Safety Phrase(s): S2 Keep out of reach of children.
S13 Keep away from food, drink and animal feeding stuffs.
SUSDP Classification: S5
ADG Classification: None allocated
UN Number: None allocated

Emergency Overview

Physical Description & colour: Clear reddish brown liquid.
Odour: Ammoniacal odour.
Major Health Hazards: The oral LD_{50} of 2,4-D ranges from 375 to 666 mg/kg in the rat, 370 mg/kg in mice, and from less than 320 to 1000 mg/kg in guinea pigs. The dermal LD_{50} values are 1500 mg/kg in rats and 1400 mg/kg in rabbits, respectively. In humans, prolonged breathing of 2,4-D causes coughing, burning, dizziness, and temporary loss of muscle coordination. Other symptoms of poisoning can be fatigue and weakness with possible nausea. On rare occasions following high levels of exposure, there can be inflammation of the nerve endings with muscular effects.

Potential Health Effects

Health Effects

Acute:

Swallowed: Harmful

Eye: Cause irritation

Skin: Cause irritation

Inhaled: Irritation to respiratory system

Chronic:
Not available.

SECTION 4 – FIRST AID MEASURES

Swallowed	If swallowed, and if more than 15 minutes from a hospital induce vomiting, preferably using Ipecac Syrup APF. Seek medical advice immediately.
Eye	Hold the eyes and flush immediately with plenty of water. Seek medical advice if irritation develops.
Skin	Remove contaminated clothing and wash affected areas or skin 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:
Treatment is symptomatic.

SECTION 5 – FIRE FIGHTING MEASURES

Fire/Explosion Hazard
Dangerous decomposition or Combustion Products
Thermal decomposition
Not a fire or explosion hazard

Hazardous decomposition products
None known

Hazardous reactions
None known

Extinguishing Media
Extinguish fire with foam, dry powder, carbon dioxide or water spray.

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
Store in the closed, original container in a well-ventilated area. Do not store for prolonged periods in direct sunlight.

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	TWA mg/m^3
2,4-D Acid	10

Engineering Controls:
Ensure area is 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 reddish brown liquid
Odour:	Ammoniacal odour
Boiling point (?C):	Not available
Vapour Pressure:	Not available
Specific Density:	1.25 $\pm$ 0.01
Flashpoint:	Non flammable
Flammability Limits:	Non flammable
Solubility in Water:	Completely soluble

SECTION 10 – STABILITY AND REACTIVITY

Chemical stability: This material is stable under normal use and storage conditions.
Conditions to avoid: No information available.
Incompatible Materials: Reaction of the concentrate or spray mix with acids will precipitate solid 2,4-D acid and largely de-activate the product and cause blockages in spray equipment. The addition of a strong alkali such as caustic soda will cause release of dimethylamine vapour. Dimethylamine is moderately toxic, LD50 (oral, rat) is 700 mg/kg and a TLV of 10 ppm (TWA) has been set.
Hazardous Reactions: Keep away from strong oxidising agents.
Hazardous Polymerization: Hazardous polymerization is not possible.

SECTION 11 – TOXICOLOGICAL INFORMATION

Toxicology:

2,4-D (dichlorophenoxyacetic acid)	LD_{50} (oral, rat) 699 mg/kg
	LD_{50} (dermal, rabbit) >2,000 mg/kg
	LC_{50} (inhalation, rat) >1.79 mg/L (4hr)

Dimethylamine	LD_{50} (oral, rat) 700 mg/kg
Diethanolamine	LD_{50} (oral, rat) 710 mg/kg

Other information:
The Australian Acceptable Daily Intake (ADI) for 2,4-D for a human is 0.01 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 1.0 mg/kg/day, the level determined to show no effects during long term exposure for the most sensitive indicators and the most sensitive species. (Ref: Comm. Dept. of Health and Ageing, 'ADI List', TGA, September
2006). In trials using 2,4-D as a drug, studies on volunteers have shown that doses of between 5 and 36 mg/kg body weight do not cause any acute toxic effects. Formulated 2,4-D products can be absorbed by ingestion, inhalation (spray mist) and through the skin. Studies of users (sprayers) has shown that 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.

SECTION 12 – ECOLOGICAL INFORMATION

Known Harmful Effects on the Environment

2,4-D amine products do not appear to pose any threat to birds.
2,4-D amine products do not appear to pose any threat to fish or other aquatic organisms other than in very high concentrations.

Environ. Protection Spray drift can cause damage, read the label for more information.

Acute Toxicity – Fish

Not toxic to fish. LC_{50} (96 hr) for (rainbow trout) is ~100 mg/l.

Acute Toxicity – Daphnia

LC_{50} (48hr) for 2,4-D amines is 184 mg/l.

Acute Toxicity – Other Organisms

Birds: Not toxic to birds. LD_{50} for (mallard ducks) is >1000 mg/kg
Bees: Not toxic to bees. LD_{50} 104.5 µg/bee.

Sewage Treatment

Not inhibitory in sewage system, 2,4-D is rapidly biodegraded.

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

UN Number:	None Allocated
Proper Shipping Name:	None Allocated
ADG Class:	None Allocated
Hazchem Code:	None Allocated

Packing Group: None Allocated

SECTION 15 – REGULATORY INFORMATION

Poison schedule	S5
Packaging & Labelling	CAUTION 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