

MATERIAL SAFETY DATA SHEET

SECTION 1 – IDENTIFICATION OF THE CHEMICAL PRODUCT AND COMPANY

Product Name: Kenso Agcare Tri-allate Selective Herbicide
Product Type: Group E 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 wild oats in Wheat, Triticale, Chickpeas, Barley, Peas, Linseed, Lupins, Canola (Rapeseed), Faba beans and Safflower as per directions for use.

SECTION 2 – HAZARDS IDENTIFICATION

Hazard Classification: Hazardous according to criteria of NOHSC Australia. Not a Dangerous Good according to the Australian Dangerous Goods (ADG) Code.
Risk Phrase: R22 Harmful if swallowed.
Safety Phrase: S20 When using, do not eat or drink.
SUSDP Classification: S5
ADG Classification: None allocated. Not a dangerous good.
UN Number: None allocated

Emergency Overview

Physical Description & colour: Amber to brown coloured liquid.
Major Health Hazards: Technical Tri-allate is harmful by ingestion and practically nontoxic via dermal exposure or inhalation. Inhalation exposure to large amounts of thiocarbamates may cause itching, scratchy throat, sneezing and coughing. Tri-allate is moderately irritating to the skin and is a mild eye irritant.

Potential Health Effects

Health Effects

Acute:

Swallowed: The product has been classified as harmful if swallowed, according to the Worksafe Criteria. Amounts swallowed incidental to normal handling procedures are not expected to cause injury. However swallowing of large quantities may cause injury. If aspirated, that is vomitus enters the lung, the petroleum derived solvent may cause chemical pneumonitis.

Eye: The concentrate may cause irritation of the eyes.

Skin: Slightly to moderately irritating to skin. Prolonged or repeated skin contact may cause redness and dry skin, resulting in contact dermatitis.

Inhaled: No adverse respiratory effects are expected due to the physical properties of the components – low volatility. However care should be taken to avoid inhalation of excessive amount of spray mist.

Carcinogen Status:

NOHSC: No significant ingredient is classified as carcinogenic by NOHSC.

NTP: No significant ingredient is classified as carcinogenic by NTP.

IARC: No significant ingredient is classified as carcinogenic by IARC.

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS number	Proportion
Tri-allate	2303-17-5	50 % w/w
Other non hazardous ingredients	secret	<10 % w/w
Liquid Hydrocarbon	secret	To 100 % w/w

SECTION 4 – FIRST AID MEASURES

Ingestion:	If swallowed, do not induce vomiting. Wash mouth with water and contact a Poisons Information Centre or call a doctor.
Skin:	Irritation is unlikely. However, if irritation does occur, flush with lukewarm, gently flowing water for 5 minutes or until chemical is removed. If in doubt obtain medical advice.
Eyes:	No effects expected. If irritation does occur, flush contaminated eye(s) with lukewarm, gently flowing water for 5 minutes or until the product is removed. Obtain medical advice if irritation becomes painful or lasts more than a few minutes.
Inhaled:	First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Advice to Doctor

Treat symptomatically.

SECTION 5 – FIRE FIGHTING MEASURES

Fire and Explosion Hazards:

This product is classified as a C1 combustible product. There is a slight risk of an explosion from this product if commercial quantities are involved in a fire. Violent steam generation or eruption may occur upon application of direct water stream on hot liquids. Vapours from this product are heavier than air and may accumulate in sumps, pits and other low-lying spaces, forming potentially explosive mixtures. They may also flash back considerable distances

Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures.

Extinguishing Media: Preferred extinguishing media are carbon dioxide, dry chemical, foam, water fog.

Protective Equipment: When fighting fires involving significant quantities of this product, wear a splash suit complete with self contained breathing apparatus.

Fire Fighting:

Flash point: Not flammable

Upper Flammability Limit: No data

Lower Flammability Limit: No data

Autoignition Temperature: No data

Flammability Class: C1

SECTION 6 – ACCIDENTAL RELEASE MEASURES

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

Personal Protection: For appropriate personal protective equipment (PPE), refer Section 8.

SECTION 7 – HANDLING AND STORAGE

Handling: Keep exposure to this product to a minimum, and minimize the quantities kept in work areas. Check Section 8 of this MSDS for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under 'Storage' should be followed during handling in order to minimize risks to persons using the product in the workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section 10.

Storage: Note that this product is combustible and therefore, for Storage, meets the definition of Dangerous Goods in some states. We suggest you consult your state's Dangerous Goods laws in order to clarify your obligations regarding the storage of this product.

Make sure that containers of this product are kept tightly closed. Keep containers of this product in a well ventilated area. Make sure that the product does not come into contact with substances listed under 'Materials to avoid' in Section 10. Some liquid preparations settle or separate on standing and may require stirring before use. Check packaging – there may be further storage instructions on the label.

SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

National Exposure Standards:

Exposure limits have not been established by NOHSC for any of the significant ingredients in this product. The ADI for Tri-allate is set at 0.005 mg/kg/day. The corresponding NOEL is set at 0.5 mg/kg/day. ADI means Acceptable Daily Intake and NOEL means No-observable-effect-level. Values taken from Australian ADI List, Dec 2002.

Engineering Controls:

In the field natural ventilation is adequate when handling the concentrated product.

Protective Equipment:

May irritate the eye and skin. Avoid contact with eyes and skin. Avoid inhalation of spray mist. When preparing spray, wear cotton overalls buttoned to the neck and wrist, washable hat, and elbow-length PVC gloves. Wear goggles when handling the concentrate and preparing the spray. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash contaminated clothing and gloves.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Form:	liquid
Colour:	amber to brown
Melting point (°C):	no specific data, liquid at normal temperatures
Specific Density:	1.053
Vapour Pressure:	no data.
Flammability:	Combustible
Water Solubility	Emulsifiable

SECTION 10 – STABILITY AND REACTIVITY

Stability: 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: This product should be kept in a cool place, preferably below 30 °C. Containers should be kept dry.

Incompatibilities: Strong acids, strong bases, strong oxidizing agents.

Fire Decomposition: 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. Oxides of sulfur (sulfur dioxide is a respiratory hazard) and other sulfur compounds. Most will have a foul odour. Hydrogen chloride gas, other compounds of chlorine. Water. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death. Hydrogen cyanide poisoning signs and symptoms are

weakness, dizziness, headache, nausea, vomiting, coma, convulsions and death. Death results from respiratory arrest. Hydrogen cyanide gas acts very rapidly; symptoms and death can both occur quickly.

SECTION 11 – TOXICOLOGICAL INFORMATION

Acute Toxicity – Oral

The following data is for the active ingredient, tri-allate.

LD₅₀ (rat) 800-2165 mg/kg

LD₅₀ (mice) 930 mg/kg

The following data is for the emulsifiable concentrate formulation.

LD₅₀ (rat) 2700 mg/kg

Acute Toxicity – Dermal

The following data is for the active ingredient, tri-allate

LD₅₀ (rat) 3500 mg/kg

LD₅₀ (rabbit) 8200 mg/kg

Acute Toxicity – Inhalation

LC₅₀ (cat) (4hr) 0.4 mg/l

Other Information The Australian Acceptable Daily Intake (ADI) for Tri-allate for a human is 0.005 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 0.5 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, December 2004).

SECTION 12 – ECOLOGICAL INFORMATION

Environmental Protection

Dangerous to fish. Not toxic to bees. Do not spray in high winds. Do not contaminate dams, waterways or sewers with pesticides or used containers. Do not use this container for any other purpose. Wash out the container and dispose of it in an approved manner.

Persistence / Degradability

Tri-allate tends to be strongly adsorbed to soil. Biodegradation in soil is dependent on temperature, moisture and other factors. Half life in soil has been quoted to range from 3-195 days, generally 8-11 weeks. Tri-allate bioaccumulates in fish, log Kow = 4.54.

Toxicity to Fish:

LC₅₀ (96hr) (rainbow trout) 1.2 mg/l

LC₅₀ (96hr) (bluegill sunfish) 1.3 mg/l

Toxicity to Birds: Moderate toxic

Acute oral LD₅₀ (bobwhite quail) 2251 mg/kg

Toxicity to Bees:

Not toxic to bees.

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
SUSDP Classification:	S5
ADG Class:	None allocated
Hazchem Code:	None allocated
Packing Group:	None allocated

SECTION 15 – REGULATORY INFORMATION

SUSDP Classification	S5
Packaging & Labelling	CAUTION KEEP OUT OF REACH OF CHILDREN READ SAFETY DIRECTIONS BEFORE OPENING OR USING
Hazard Category	Hazardous

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
NOS	Not otherwise specified
NTP	National Toxicology Program (USA)
R-Phrase	Risk Phrase
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