

MATERIAL SAFETY DATA SHEET

SECTION 1 – IDENTIFICATION OF THE CHEMICAL PRODUCT AND COMPANY

Product Name: Kenso Agcare Kendax 600 WG Herbicide
Product Type: Group B 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: For the control of Arrowhead, Dirty Dora and Star Fruit in aerially sown rice as per the directions for use table.

SECTION 2 – HAZARDS IDENTIFICATION

Hazard Classification Not classified as Hazardous according to criteria of NOHSC.
Risk Phrase(s) Not available
Safety Phrase(s) Not available
Other Information Not available

Emergency Overview

Physical Description & colour: Light tan granules .

Odour: Woody .

Major Health Hazards: Causes substantial but temporary eye injury. Do not get in eyes or on clothing. Harmful if swallowed. Harmful if absorbed through skin. Avoid contact with skin, eyes or clothing.

Potential Health Effects

Health Effects

Based on animal studies, liver or kidney may be potential targets of repeated and excessive overexposure. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are :-

Acute:

Swallowed: Very low toxicity by ingestion
Eye: May cause eye irritation with tearing, blurred vision or pain.
Skin: Slight to moderately toxic by absorption through skin.
Not a primary skin irritant or sensitiser.
Inhaled: Low toxicity through this route.
May irritate throat.

Chronic:

None available for formulated product.
Bensulfuron methyl:
Chronic dietary administration of bensulfuron methyl to rats, mice and dogs resulted in a similar toxicity profile. Chronic exposure of male rats at the high dose produced mild anaemia, which was not observed in female rats or in

other species. Liver effects were observed in each of these species. In rats and mice, these effects included slight liver weight increases, enlarged hepatocytes and changes in appearance and staining properties of hepatocytes when prepared for histological examination. These changes were minimal to mild in severity, were more pronounced among males, were localised within the centrilobular liver region, and were considered to be associated with an adaptive response of the liver to an increased demand for compound metabolism and clearance. There were no clinical, chemical or histopathological indices of liver toxicity or dysfunction associated with these effects in rats or mice. Normal liver functions were not significantly compromised in this treatment group. In addition to the liver effects observed for rats and mice, chronic exposure of dogs resulted in clinical pathological and histopathological evidence of slight to minimal hepatotoxicity at the high dose. Normal liver functions were not significantly compromised in this treatment group. The non observable effect level (NOEL) following chronic dietary administration were 750 ppm, 750 ppm and 2500 ppm for the dog, rat and mouse, respectively. Bensulfuron methyl was non-oncogenic by chronic dietary administration. Negative results in five of five tests for mutagenicity and genetic toxicity support this observation. There were no reproductive effects in rats from dietary administration; therefore, the NOEL was greater than 7,500 ppm, the highest dose tested. Bensulfuron methyl was non-teratogenic in the rat and rabbit. Foetotoxicity or developmental variations were observed at excessive maternal doses. The NOELs for these observations were 300mg/kg and 500 mg/kg for the rabbit and rat, respectively. Not mutagenic in the Ames bacterial assay and the Chinese Hampster ovary cell assay. Negative in the *in vivo* bone marrow cytogenetic assay, the DNA repair assay with rat liver cells, and the *in vitro* chromosome aberration test in human lymphocytes.

Other Health Effects Significant skin permeation, and systemic toxicity, after contact appears unlikely. Based on data from animal testing, high ingestion exposures may lead to abnormal liver function as detected by laboratory tests. Otherwise no acceptable information is available to confidently predict the effects of excessive human exposure to this compound

Carcinogenicity Information:

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS number	Proportion
Bensulfuron-methyl	83055-99-6	60 % w/v
Other non hazardous ingredients	secret	To 100 % w/w

SECTION 4 – FIRST AID MEASURES

Swallowed	Call poison control centre or doctor immediately for treatment advice. Have a person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control centre or doctor. Do not give anything by mouth to an unconscious person.
Eye	Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice.

Skin	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control centre or doctor for treatment advice.
Inhaled	No specific intervention is indicated, as the compound is not likely to be hazardous by inhalation. Consult a physician if necessary.

Advice to Doctor:

No specific requirements. Treat symptomatically

SECTION 5 – FIRE FIGHTING MEASURES

Fire and Explosion Hazards:

Not a fire or explosion hazard. Like most organic powders or crystals, under severe dusting conditions, this material may form explosive mixtures in air. If area is heavily exposed to fire and if conditions permit, let fire burn itself out since water may increase the contamination area.

Extinguishing Media:

Water fog, foam, dry chemical, carbon dioxide.

Fire Fighting:

Wear self-contained breathing apparatus. Use water spray, Runoff from fire control may be a pollution hazard.

Flash point:

Upper Flammability Limit: Does not burn.

Lower Flammability Limit: Does not burn.

Autoignition temperature: 400 °C (752 °F).

Flammability Class: Does not burn.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Spills & Disposal

Dike spill. Prevent material from entering sewers, waterways, or low areas.

Personal Protection

Review Fire Fighting Measures and Handling section before proceeding with clean-up. Use appropriate Personal Protective Equipment during clean-up. Avoid eye contact, repeated or prolonged skin contact and the inhalation of vapour. Wear overalls, safety glasses and impervious gloves.

Clean-up Methods

Shovel or sweep up.

Environmental Precautions

This product is a herbicide and spills can damage crops, pastures and desirable vegetation. Prevent from entering drains, waterways or sewers.

SECTION 7 – HANDLING AND STORAGE

Handling: User should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Storage: Do not contaminate water, food or feed by storage. Store product in original container only. Store in a cool, dry place.

SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

National Exposure Standards

Bensulfuron-methyl

PEL (OSHA) : None Established

TLV (ACIH) : None Established

AEL * (DuPont) : 10 mg/m³, 8 & 12 Hr. TWA, total dust.

* AEL is DuPont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effects, such limits shall take precedence.

Engineering Controls

Use only with adequate ventilation. When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirement listed in Worker Protection Standard (WPS) for agricultural pesticides [40 CFR170.240 (d) (4-6)], the handler PPE requirement may be reduced or modified as specified in the WPS.

Personal Protective Equipment

Always follow label instructions when using this product. Some materials that are chemical resistant to this product are listed below. If you want more options follow the instructions for Category A on the EPA chemical resistance category selection chart. Applicators and other handlers must wear: long-sleeved shirt and long pants, chemical resistant gloves made of any waterproof material such as polyethylene or polyvinylchloride, shoes plus socks and protective eye wear.

Discard clothing or other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soils or water is coveralls, chemical resistant gloves made of any water proof material, shoes plus socks and protective eyewear.

Requirements Concerning Special Training

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Form:	Granules
Colour:	Light tan
Odour:	Woody
Melting point (?C):	Not available
Boiling point (?C):	Not applicable
Bulk Density:	0.8 g/cm ³
Vapour Pressure:	Not applicable
Flashpoint:	Not applicable

SECTION 10 – STABILITY AND REACTIVITY

Chemical Stability:	Stable under normal temperatures and storage conditions.
Hazardous Reactions:	None known.
Hazardous Polymerization:	Polymerization will not occur.

SECTION 11 – TOXICOLOGICAL INFORMATION

Inhalation:	Single inhalation exposure caused decreased body weight with nasal and ocular discharge.
Ingestion:	Repeated and long term ingestion exposure with Bensulfuron-methyl caused decreased body weight, increased liver weight, pathological changes of the liver and kidneys, anemia, and altered hematology and clinical chemistry.
Skin:	Not a skin irritant or skin sensitizer in animals.
Eye:	Moderate eye irritant.
Chronic Effects:	Data indicates no chronic effects.
Reproductive Toxicity:	Data indicates no reproductive effects.
Mutagenicity:	Data indicates that Bensulfuron-methyl does not present a mutagenic risk.
Carcinogenicity:	Data indicates that Bensulfuron-methyl is not carcinogenic.
Acute Oral:	LD ₅₀ (rat) >5000 mg/kg (very low toxicity)
Acute Dermal:	LD ₅₀ (rat) >2000 mg/kg (slight to moderate toxicity)
Acute Inhalation:	LC ₅₀ (rat) (4hr) >7.5 mg/l for technical Bensulfuron-methyl
Other Information:	Animal data show development effects only at exposure levels producing other toxic effects in the adult animal. No-observed-Adverse-Effect-Level (NOAEL) for the development study was 300 mg/kg in rabbits. The NOAEL in rats for maternal and fetal toxicity was 1320 mg/kg. Tests have shown that Bensulfuron-methyl did not cause genetic damage in bacterial or mammalian cell cultures, or in animals.

SECTION 12 – ECOLOGICAL INFORMATION

Known Harmful Effects on the Environment

Not available.

Environ. Protection

Not available.

Acute Toxicity - Fish

LC₅₀ (96 hr) for Bluegill sunfish is >120 mg/l

LC₅₀ (96 hr) for Rainbow trout is >66 mg/l

Acute Toxicity – Other Organisms

LD₅₀ for Mallard Duck is >2510 mg/kg

LD₅₀ for Bobwhite Quail is >5620 ppm

SECTION 13 – DISPOSAL CONSIDERATIONS

Waste Disposal: Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations. Do not flush to surface water or sanitary sewer system. Do not contaminate water, food, or feed by disposal. Waste resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Environmental Hazards: Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark, except as specified on the label for use in rice. Do not contaminate water when disposing of equipment washwaters.

Container Disposal: Triple or preferably pressure rinse containers before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point.

If not recycling, break, crush or puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.

SECTION 14 – TRANSPORT INFORMATION

U.N. Number	None Allocated
Proper Shipping Name	None Allocated
DG Class	None Allocated
Hazchem Code	None Allocated
Packing Group	None Allocated
Storage and Transport	Considered non dangerous for transport by the Australian Code for the Transport of Dangerous Goods by Road and Rail.
UN Number (Sea Transport)	Not regulated
IMO Class/Packing Group	Not regulated
IMO Proper Shipping Name	Not regulated

SECTION 15 – REGULATORY INFORMATION

U.S. Federal Regulations

Title III hazard Classifications Section 311, 312

Acute	: Yes
Chronic	: No
Fire	: No
Reactivity	: No
Pressure	: No

SECTION 16 – OTHER INFORMATION

This MSDS contains only safety-related information. For other data see product literature.

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