SAFETY DATA SHEET

SECTION 1 – IDENTIFICATION OF THE CHEMICAL PRODUCT AND COMPANY

Product Name:	**Kenso Agcare Ethefon Xtra 900 Growth Regulator**
Product Type:	Plant Growth Regulator
Company Name:	Kenso Corporation (M) Sdn. Bhd.
Address:	Level 1, 98 Commercial Road, Teneriffe, 4005 QLD.
Telephone Number:	(07) 3216 1188
Emergency Telephone Number:	000 (Police or Fire Brigade) **13 11 26 (Poisons Information Centre)**
Use:	For crop thinning, loosening or ripening in various crops and for accelerating boll opening, defoliation and pre-conditioning before defoliation of cotton as specified in the Directions for Use table.

SECTION 2 – HAZARDS IDENTIFICATION

Hazard classification: Classified as hazardous according to criteria of Safe Work Australia.
Classified as a Dangerous Good according to the ADG Code.

Classification of the Hazardous Chemical:	Corrosive to metals – Category 1 Acute toxicity (Dermal) – Category 4 Skin corrosion/ irritation – Category 1,2,3 Acute toxicity (Inhalation) – Category 4 Hazardous to the aquatic environment, long term – Chronic 3
GHS Signal Word:	**DANGER**
Hazard statements:	H290: May be corrosive to metals. H312: Harmful in contact with skin. H314: Causes severe skin burns and eye damage. H332: Harmful if inhaled. H412: Harmful to aquatic life with long lasting effects.
Prevention:	P234: Keep only in original packaging. P260: Do not breathe dusts or mists. P261: Avoid breathing dust/fume/gas/mist/vapours/spray. P264: Wash contacted areas thoroughly after handling. P271: Use only outdoors or in a well-ventilated area. P273: Avoid release to the environment. P280: Wear protective gloves/protective clothing/eye protection/face protection.
Response:	P301+P330+P331: IF SWALLOWED: Rinse mouth. Do not induce vomiting.

	P302+P352: IF ON SKIN: Wash with plenty of soap and water. P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing. P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310: Immediately call a POISON CENTER/doctor/physician. P312: Call a POISON CENTER/doctor/physician if you feel unwell. P321: Specific treatment (see FIRST AID on this label). P362+P364: Take off contaminated clothing and wash it before reuse. P390: Absorb spillage to prevent material damage.
Storage:	P405: Store locked up. P406: Store in corrosive resistant/container with a resistant inner liner.
Disposal:	P501: Dispose of contents/container as specified on the registered label
SUSMP Classification:	S6
ADG Classification:	Class 8: Corrosive.
UN Number:	3265, CORROSIVE LIQUID, ACIDIC, N.O.S. (contain ETHEPHON)

Emergency Overview

Physical Description & colour: Colourless liquid.
Odour: Characteristic odour
Major Health Hazards: Causes burns, may cause serious damage to eyes, harmful if swallowed.

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS number	Proportion
Ethephon	16672-87-0	90 % w/v
Water	7732-18-5	To 100 %

SECTION 4 – FIRST AID MEASURES

General Information:
You should call The Poisons Information Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 13 1126 from anywhere in Australia (0800 764 766 in New Zealand) and is available at all times. Have this SDS with you when you call.
Atropine tablets 0.6 mg should be available in the area where this product is used, or in a nearby unlocked medicine cabinet. If swallowed, splashed on skin or inhaled, contact a Poisons Information Centre or a doctor at once. Remove any contaminated clothing and wash skin thoroughly. Give atropine if instructed. The usual instruction is to give one atropine tablet every 5 minutes until dryness of the mouth occurs.

This product has the properties of a strong acid and may cause strong mucosal damage if swallowed. Appropriate conventional treatment for circulatory shock, respiratory depression and convulsions may be needed.

Inhalation:	If inhalation has occurred, and irritation has developed, remove to fresh air and observe until recovered. If irritation becomes painful or persists more than about 30 minutes, seek medical advice.
Skin contact:	Quickly and gently, blot or brush away excess chemical. Wash gently and thoroughly with water (use non-abrasive soap if necessary) for 20 minutes or until chemical is removed. Under running water, remove contaminated clothing, shoes and leather goods (e.g. watchbands and belts). If irritation persists, repeat flushing and obtain medical advice. Completely decontaminate clothing, shoes and leather goods before reuse or discard. See instructions above about treatment with atropine.
Eye contact:	Quickly and gently, blot or brush away chemical. Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for at least 20-30 minutes, by the clock, while holding the eyelid(s) open. Neutral saline solution may be used as soon as it is available. DO NOT INTERRUPT FLUSHING. If necessary, keep emergency vehicle waiting (show paramedics this SDS and take their advice). Take care not to rinse contaminated water into the unaffected eye or onto face. If irritation persists, repeat flushing. Call a Poisons Information Centre or a doctor urgently.
Ingestion:	If swallowed, do NOT induce vomiting. Give a glass of water and contact a Poisons Information Centre or a doctor. Activated charcoal may be advised. Give atropine if instructed. See instructions above about treatment with atropine.

Advice to Doctor:
Treat symptomatically.

SECTION 5 – FIRE FIGHTING MEASURES

Fire/Explosion Hazards
Dangerous Decomposition or Combustion Products
Thermal Decomposition
There is no risk of an explosion from this product under normal circumstances if it is involved in a fire. Fire decomposition products from this product are likely to be toxic if inhaled. Take suitable protective measures. This product is likely to decompose only after heating to dryness, followed by further strong heating.
Extinguishing Media
Not combustible. Use extinguishing media suited to burning materials. Water fog or fine spray is the preferred medium for large fires. Try to contain spills, minimize spillage entering drains or water courses.

Fire Fighting
If a significant quantity of this product is involved in a fire, call the fire brigade. There is little danger of a violent reaction or explosion if significant quantities of this product are involved in a fire. Fire-fighter should wear appropriate protective equipment with self-contained breathing apparatus.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Spills & Disposal
Contain spill and absorb with clay, sand, soil or proprietary absorbent (such as vermiculite). Collect spilled material and waste in sealable open-top type containers for disposal.
Personal Protection
For appropriate personal protective equipment (PPE), refer Section 8.
Clean-up Methods – Large Spillages
Place damaged containers in recovery bins (if available) and return to manufacturer. If large liquid spills occur, attempt to recover as much spilt material from sumps and bunded areas absorbing remaining material into vermiculite or other absorbent.

SECTION 7 – HANDLING AND STORAGE

Handling
When handling this product, do not eat, drink or smoke.
When mixing this product always wear a PVC or rubber apron, elbow length PVC gloves, face shield or goggles and overalls buttoned at the wrist and neck.
When spraying this product, wear a face shield or goggles
After each days use, wash gloves, face shield or goggles and overalls.
If product gets on skin, immediately wash area with soap and water.
Storage
Store in the closed, original container in a well-ventilated area as cool as possible out of direct sunlight. Keep from contact with fertilisers and seeds.

SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

National Exposure Standards
No exposure standards have been set for this product or the active ingredients.
Engineering Controls
Handle in well ventilated areas, generally natural ventilation is adequate.
Personal Protective Equipment
When opening the container, preparing spray and using the prepared spray wear cotton overalls buttoned to the neck and wrist and a washable hat, elbow-length PVC gloves and goggles.
Eye Protection
Eye protection is essential. Wear a face shield or goggles.
Hygiene Measures
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 safety equipment

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Form:	Liquid
Colour:	Colourless
Odour:	Characteristic odour
pH:	1.5 – 3.0
Boiling Point (°C):	Not available
Flashpoint:	Non flammable
Vapour Pressure:	Not available
Specific gravity:	1.38 ± 0.1 g/cm^3
Water Solubility:	Completely soluble

SECTION 10 – STABILITY AND REACTIVITY

Reactivity
Most strong acids react with inorganic and organic bases such as amines to form salts. They also react with many metals liberating hydrogen gas. These reactions are often rapid and sometimes liberate much heat. They can also decompose many organic materials such as esters, in a reaction called hydrolysis.

Conditions to Avoid
Protect this product from light. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight.

Incompatibilities
Bases, strong oxidising agents, zinc, tin, aluminium and their alloys.

Fire Decomposition
Combustion forms carbon dioxide, and if incomplete, carbon monoxide and possibly smoke. Water is also formed. May form oxides of phosphorus and other phosphorus compounds. May form hydrogen chloride gas, other compounds of chlorine. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.

Polymerisation
This product will not undergo polymerisation reactions.

SECTION 11 – TOXICOLOGICAL INFORMATION

Toxicity data (of ethephon tech)
Acute Toxicity – Oral
LD_{50} (rat): 1564 mg/kg
Acute Toxicity - Dermal
LD_{50} (rat) = 1560 mg/kg
Acute Toxicity – Inhalation:
LC_{50} (rats) (4hr): 4.52 mg/l

Potential Health Effects

Health Effects

Ethephon is a weak to moderate cholinesterase inhibitor. Repeated minor exposure may have an accumulative effect. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:-

Acute:

Inhalation: Product may be irritating, but is unlikely to cause anything more than mild transient discomfort. Acidic corrosiveness produces respiratory tract irritation with signs of coughing, choking and mucous membrane damage. Dizziness, headache, nausea and weakness are symptoms of exposure. Severe exposures may develop pulmonary oedema.

Skin contact: Product should present no hazards in normal use. However, this product maybe harmful through skin absorption. Pain and burns may develop; healing process will be slow with formation of scar tissues. Enter blood stream through open wounds, cuts; lesion may lead to systemic injuries.

Eye contact: Product is corrosive to eyes. It will cause severe pain, and corrosion of the eye and surrounding facial tissues. Unless exposure is quickly treated, irreversible damage like permanent blindness and facial scarring is likely.

Ingestion: This product is harmful if swallowed, and will cause cholinesterase inhibition, corrosive to the gastrointestinal tract. Will cause burning to mouth and throat, possible irreversible problems, even death unless treated promptly.

Reproductive Toxicity
Data indicates no reproductive effects.

Mutagenicity
Ethephon studies in Salmonella typhimurium indicated no mutagenic effect up to 1,000 micrograms/100mL, without enzyme activation.

Carcinogenicity
A carcinogenicity study was conducted in mice using 70.6 - 72.1% Ethephon. The doses were administered in feed at 0, 15.5 156 or 1630 mg/kg/day to CD-1 mice for 78 weeks. No dose-related evidence of carcinogenicity/ oncogenicity was reported.

Other Information
The Australian Acceptable Daily Intake (ADI) for ethephon for a human is 0.02 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOAEL of 0.17 (H) mg/kg/day, the level determined to show no effects during long term exposure for the most sensitive indicators and the most sensitive species. **ADI= Acceptable Daily Intake; NOAEL: No Observable Adverse Effect Level. Data adopted from Australia ADI List, December 2022.*

SECTION 12 – ECOLOGICAL INFORMATION

Harmful to aquatic organisms with long lasting effects.

Ecotoxicity data (of ethephon tech)
Acute Toxicity – Bird
LD_{50} mallard duck: 375 mg/kg
LD_{50} bobwhite quail: 1072 mg/kg
Acute Toxicity – Fish
LC_{50} carp (96 hrs): >140 mg/L
LC_{50} rainbow trout (96 hrs): 720 mg/L
Acute Toxicity – Crustaceans
Daphnia EC_{50} (48 hrs): 1000 mg/L
Acute Toxicity – Other organisms
Algae**:** EC_{50} *Chlorella vulgaris* (24 - 48 hrs): 32 mg/L
Earthworms**:** Not toxic to earthworms.
Bees: Harmless to bees.

ENVIRONMENTAL FATE
In animals, ethephon is rapidly excreted intact via the urine, and as ethylene via the expired air. In plants, ethephon rapidly undergoes degradation to ethylene, phosphoric acid, phosphate and chloride. Major metabolite is ethylene gas. Ethephon appeared to have low to moderate mobility in soils depending on soil textures from loamy sand to peat and silt loam. Thus potential of ground water contamination is low to moderate. Bioaccumulation potential of ethephon is low.

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

ADG

UN Number:	3265
Proper shipping name:	CORROSIVE LIQUID, ACIDIC, N.O.S (contains ETHEPHON)
Class:	8 Corrosive Substances
Packaging group:	III
Hazchem:	2X

IMO-IMDG

UN Number:	3265
Proper shipping name:	CORROSIVE LIQUID, ACIDIC, N.O.S (contains ETHEPHON)

Class:	8 Corrosive Substances
Packaging group:	III
Marine pollutant:	No

SECTION 15 – REGULATORY INFORMATION

SUSMP Classification	S6
Packaging & Labelling	POISON KEEP OUT OF REACH OF CHILDREN READ SAFETY DIRECTIONS BEFORE OPENING OR USING

SECTION 16 – OTHER INFORMATION

This SDS 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
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
SUSMP	Standard for the Uniform Scheduling of Medicines & Poisons
UN Number	United Nations Number
GHS	Globally Harmonised System

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	0428 776 327 Ask for Russell Clark