

1. Identification of Chemical Product and Company

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Trade name	Cheminova Ethephon 720SL Growth Regulator
Other names:	720 g/L ethephon
Product Use:	Plant growth regulator

2. Hazards Identification

Hazard Statement	This product is classified as hazardous according to the criteria of Safe Work Australia (SWA). Harmful in contact with skin. Harmful if inhaled. Causes severe skin burns and eye damage. May cause respiratory irritation.
GHS Classification	Acute Toxicity - Dermal: Category 4. Acute Toxicity - Inhalation: Category 4. Skin Corrosion/Irritation: Category 1B
Signal Word	DANGER
General Precautionary Statement (s)	If medical advice is needed, have product container or label at hand. Keep out of reach of children. Read label before use.
Precautionary statement - Prevention	Wear protective gloves, clothing, eye and face protection. Avoid breathing spray. Do not breathe dust or mist. Wash hands and exposed skin thoroughly after handling.
Precautionary statement - Response	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell. IF SWALLOWED: rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or doctor/physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Poison schedule	S6

3. Composition/Information on Ingredients

Ingredient Name	CAS No.	Proportion
Ethephon	16672-87-0	72%, w/v
Water	7732-18-5	Remainder

4. First Aid Measures

Inhalation	Remove affected person to fresh air until recovered. Obtain medical advice.
Ingestion	Rinse mouth thoroughly with water. Rinse mouth and then drink plenty of water. Seek medical advice immediately.
Skin	If skin contact occurs, remove contaminated clothing and wash skin thoroughly with water. Remove contaminated clothing and laundry before re-use. Seek medical advice, but only after the exposed skin has been thoroughly washed.
Eye contact	If in eyes, hold eyelids open and wash with copious amounts of water for at least 15 minutes. Seek medical advice immediately.
First Aid Facilities	If poisoning occurs, contact a doctor or the Poisons Information Centre 131 126 (Australia).
Advice to Doctor	Treat symptomatically for strong acid and highly corrosive materials, however, use of alkaline neutralising agents is contraindicated because of possible ethylene formation. Patients with severe over-exposure by inhalation should be kept under medical observation for up to 72 hours in case of delayed onset of pulmonary oedema. In a patient with severe over-exposure by ingestion, careful gastric lavage is required due to the possibility of stomach or esophageal perforation. First aid instructions recommending atropine therapy for cholinesterase inhibition are mandated by the Department of Health and Aging. Ethephon has been shown to inhibit plasma and erythrocyte cholinesterase in animal studies, however effects on brain cholinesterase have not been observed. It may produce a mild cholinergic effect. Treat symptomatically.

5. Fire Fighting Measures

Extinguishing media	If involved in a fire, the product will not burn. Choose extinguishing media to suit the burning material
Special hazards	If involved in a fire, the dehydrated components may emit oxides of carbon, hydrogen chloride and oxides of phosphorous. Considered low risk due to water content, however upon evaporation of water the product is combustible.
Advice for firefighters	Dike area to prevent water runoff. Firemen should wear self-contained breathing apparatus and protective clothing.
HazChem code	2X

6. Accidental Release Measures

Spills & Disposal	Contain spill and absorb with clay, sand, soil or proprietary absorbent (such as vermiculite). Collect in sealed open top containers for disposal. Final clean-up with degreasing agent or detergent is advised.
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 banded areas, as possible, before absorbing remaining material into vermiculite or other absorbent.
Environmental Precautions	Prevent from entering drains, waterways or sewers.

7. Handling and Storage

Precautions for Safe Handling	Corrosive to metals. Mix only the quantity of spray required for immediate use and do not allow to stand in metal containers for more than 2 hours.
Conditions for safe storage, including any incompatibilities	Store in the closed, original container in a dry, well-ventilated area out of direct sunlight, away from children, animals, food and feedstuffs. Follow directions on the product label.
Tank Cleaning	Galleon may be corrosive to metal parts of the sprayer. Thoroughly flush tanks, pumps and nozzles with water after use.

8. Exposure Controls and Personal Protection

Occupational exposure limit values	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	Eye protection is essential. Wear a faceshield or goggles. 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.
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.

9. Physical and Chemical Properties

Appearance	Light brown liquid
Odour	Weak, ammonia-like
pH	<2-4
Melting Point	Approximately 0°C
Boiling Point	Not determined
Vapour pressure	2.37 kPa at 20°C (water vapour pressure).
Vapour density	Not determined
Specific Gravity	1.28-1.32 @ 20°C
Flash Point	>100°C (miniflash closed cap)
Flammability limits	Not flammable
Volatile Component	Water component
Partition coefficient	Kow Log P is <2.2

10. Stability and Reactivity

Chemical stability	The product is very stable at pH <3.5 and does not cause any degradation when stored in normal conditions and at temperature <75°C. At higher pH, possible decomposition with ethylene emission..
Possibility of hazardous reactions	Reacts with alkaline materials, metallic salts and metals such as iron, copper and aluminium. Hazardous decomposition products include hydrogen chloride and ethylenes.
Incompatible materials	Do not mix, store or apply the product or spray solutions of the product in galvanised steel or unlined steel (except stainless steel) containers or spray tanks. Avoid contact with alkaline materials.
Hazardous polymerization	Hazardous polymerisation is not possible.

11. Toxicological Information

Acute toxicity	Information for ethephon
Oral	LD50 (rat) 3030 mg/kg
Dermal	LD50 (rat) 1560 mg/kg
Inhalation	LC50 (rat) (4hr) 4.52 mg/l
Skin irritation	Will irritate the skin
Eye irritation	Eye irritant
Respiratory or skin sensitisation	Not a skin sensitiser
Symptoms and effects, acute and delayed	May cause burns to the mouth, throat, oesophagus and stomach. May cause irritation to the respiratory tract if mists or aerosols are inhaled. Severe over-exposure by inhalation can cause pulmonary oedema, which may be delayed. Unless removed immediately, will cause burns. Will cause burns unless immediate treatment is given.
Chronic toxicity	Regular exposure may result in lowering of cholinesterase activity which will recover within a few days after exposure ceases.
Specific Target Organ Toxicity (STOT) – single exposure	Category 3 (respiratory tract irritation)
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 NOEL 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. (Ref: Comm. Dept. of Health and Ageing, Office of Chemical Safety, 'ADI List', March 2013).

12. Ecological Information

Precaution	Do not contaminate dams, waterways or sewers with this product or the containers which have held this product. Spray drift should be avoided, read the label for more information.
Acute Toxicity - Fish	LC50 (96hr) for rainbow trout is 720 mg/l for ethephon LC50 (96hr) for carp is >140 mg/l for a similar product
Acute Toxicity - Daphnia	LC50 (48hr) for daphnia is 1000 mg/l for ethephon.
Acute Toxicity - Algae	EC50 (24-48 hrs) for chlorella vulgaris 32 mg/l
Acute Toxicity - Other Organisms	The following data is for the active ingredient, ethephon. LD50 for bobwhite quail is 1072 mg/kg Not toxic to bees.

13. Disposal Considerations

Product Disposal	On site disposal of the concentrated product is not acceptable. Ideally, the product should be used for its intended purpose. If there is a need to dispose of the product, approach local authorities who hold periodic collections of unwanted chemicals (ChemClear®).
Container Disposal	Do not use this container for any other purpose. Triple or preferably pressure rinse containers before disposal. Add rinsings to the spray tank. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush or puncture and deliver empty packaging for appropriate disposal at an approved waste management facility. If an approved waste management facility is not available, bury the empty packaging 500mm below the surface in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots, in compliance with relevant local, state or territory government regulations. Empty containers and product should not be burnt.

14. Transport Information

Land (ADG7), air (IATA) and sea (IMDG) transport:	Classified as Dangerous Goods for transport
UN Number	3265
UN Proper Shipping Name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (contains Ethephon 720g/L)
Class	Class 8: Corrosive substances
Packaging group	III
Limited quantities	ADG 7 specifies a Limited Quantity value of 5 L for this class of product
Hazchem code	2X

Class 8 Corrosive Substances shall not be loaded in the same vehicle or packed in the same freight container with Classes 1 (Explosives), 4.3 (Dangerous When Wet Substances), 5.1 (Oxidising Agents), 5.2 (Organic Peroxides), 6 (Toxic Substances where the Toxic Substances are cyanides and the Corrosives are acids), 7 (Radioactive Substances), Foodstuffs and foodstuff empties. They may however be loaded in the same vehicle or packed in the same freight container with Classes 2.1 (Flammable Gases), 2.2 (Non-Flammable, Non-Toxic Gases), 2.3 (Poisonous Gases), 3 (Flammable liquids), 4.1 (Flammable Solids), 4.2 (Spontaneously Combustible Substances), 6 (Toxic Substances except where the Toxic Substances are cyanides and the Corrosives are acids) and 9 (Miscellaneous Dangerous Goods).

15. Regulatory Information

Poisons Schedule	S6
Australian Pesticides and Veterinary Medicines Authority (APVMA) registration number	60235

16. Other Information

This Material Safety Data Sheet summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this SDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products. If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company.

DISCLAIMER

This product must be used, stored and handled strictly as directed in accordance with the label and this Safety Data Sheet. To the extent permitted by law, Cheminova Australia Pty Ltd, the trademark owner, manufacturer and vendors of the product will not be liable for any loss or damage arising from use, storage or handling contrary to the product label and MSDS.