



Infosafe No™ NU08U

Issue Date : July 2008

ISSUED by NUFARM

CS: 1.4.21

Product Name **GALLEON Growth Regulator**

Classified as hazardous

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name	GALLEON Growth Regulator
Product Code	5210
Product Type	Plant Growth Regulator
Company Name	NUFARM AUSTRALIA LIMITED. (ABN 80 004 377 780)
Address	103-105 Pipe Road Laverton North Victoria 3026 Australia
Emergency Tel.	1800 033 498 (24hr Australia)
Telephone/Fax Number	Tel: +61 3 9282-1000 Fax: +61 3 9282-1001
Recommended Use	For crop thinning, loosening or ripening in various crops and for accelerated boll opening, defoliation and pre-conditioning before defoliation of cotton as specified in the Directions for Use table on the label.
Other Information	This MSDS describes, to the best of our knowledge, the properties of the concentrated product. The physical properties and some of the assessments do not apply to the properties of the product once it has been diluted for application. Acute health effects of the diluted product are likely to be much less severe.

2. HAZARDS IDENTIFICATION

Hazard Classification	Classified as hazardous HAZARDOUS SUBSTANCE. DANGEROUS GOODS. Hazard classification according to the criteria of NOHSC. Dangerous goods classification according to the Australia Dangerous Goods Code.
Risk Phrase(s)	Classified as hazardous R20/21 Harmful by inhalation and in contact with skin. R34 Causes burns.
Safety Phrase(s)	S13 Keep away from food, drink and animal feeding stuffs. S2 Keep out of reach of children. S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S28 After contact with skin, wash immediately with plenty of S36/37/39 Wear suitable protective clothing, gloves and eye/face protection. S45 In case of accident or if you feel unwell seek medical advice immediately
Other Information	Poisons Schedule S6

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Characterization	Liquid									
Ingredients	<table><thead><tr><th><u>Name</u></th><th><u>CAS</u></th><th><u>Proportion</u></th></tr></thead><tbody><tr><td>Ethephon</td><td>16672-87-0</td><td>720 g/L</td></tr><tr><td>Water</td><td></td><td>Balance</td></tr></tbody></table>	<u>Name</u>	<u>CAS</u>	<u>Proportion</u>	Ethephon	16672-87-0	720 g/L	Water		Balance
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Ethephon	16672-87-0	720 g/L								
Water		Balance								

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 launder before re-use. Seek medical advice, but only after the exposed skin has been thoroughly washed.
Eye	If in eyes, hold eyelids open and wash with copious amounts of water for at least 15 minutes. Seek medical advice immediately.



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First Aid Facilities	If poisoning occurs, contact a doctor or the Poisons Information Centre (Australia) on 13 11 26.
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

Suitable Extinguishing Media	If involved in a fire, the product will not burn. Choose extinguishing media to suit the burning material.
Hazards from Combustion Products	If involved in a fire, the dehydrated components may emit oxides of carbon, hydrogen chloride and oxides of phosphorous.
Special Protective Equipment for fire fighters	Breathable air apparatus should be worn when fighting a fire in which this product is involved.
Specific Hazards	Considered low risk due to water content, however upon evaporation of water the product is combustible.
Hazchem Code	2X
Other Information	STOP FIRE WATER FROM ENTERING DRAINS OR WATER BODIES.

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 before absorbing remaining material into vermiculite or other absorbent.

7. HANDLING AND STORAGE

Precautions for Safe Handling	Galleon is 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	Store in the closed, original container in a cool, well ventilated area. Do not store for prolonged periods in direct sunlight.
Tank Cleaning	Galleon may be corrosive to metal parts of the sprayer. Thoroughly flush tanks, pumps and nozzles with water after use.
Other Information	Always read the label and any attached leaflet before use.

8. EXPOSURE CONTROLS/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.
Eye Protection	Eye protection is essential. Wear a faceshield or goggles.
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.



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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

Form Liquid
Appearance Pale yellow to brown liquid
Odour Slight pungent odour
Solubility in Water Soluble in water.
Specific Gravity 1.294
pH Value <2
Vapour Pressure <0.01 mPa @ 20°C
Octanol/Water Partition Coefficient Kow Log P is <2.2
Flash Point >100°C
Flammability Not flammable
Other Information pKa1 is 2.5; pKa2 is 7.2

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.

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 Reactions Reacts with alkaline materials, metallic salts and metals such as iron, copper and aluminium. Hazardous decomposition products include hydrogen chloride and ethylenes.

Hazardous Polymerization Hazardous polymerisation is not possible.

11. TOXICOLOGICAL INFORMATION

Inhalation 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.

Ingestion May cause burns to the mouth, throat, oesophagus and stomach.

Skin Will irritate the skin.
Unless removed immediately, will cause burns.

Eye The concentrate will cause irritation of the eyes.
Will cause burns unless immediate treatment is given.

Chronic Effects Regular exposure may result in lowering of cholinesterase activity which will recover within a few days after exposure ceases.

Reproductive Toxicity Data indicates no reproductive effects.

Acute Toxicity - Oral LD50 (rat) 3030 mg/kg for ethephon

Acute Toxicity - Dermal LD50 (rat) 1560 mg/kg for ethephon

Acute Toxicity - Inhalation LC50 (rat) (4hr) 4.52 mg/l for ethephon

Eye Irritation The product is an eye irritant.

Skin Irritation The product is a skin irritant.

Skin Sensitisation Product is not a skin sensitiser.

Other Information The Australian Acceptable Daily Intake (ADI) for ethephon for a human is 0.02



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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', September 2007).

12. ECOLOGICAL INFORMATION

Other Precautions	Do not contaminate dams, waterways or sewers with this product or the containers which have held this product.
Environ. Protection	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 rinse containers, add rinsate to the spray tank, then offer the container for recycling/reconditioning, or puncture top, sides and bottom and dispose of in landfill in accordance with local regulations. drumMUSTER is the national program for the collection and recycling of empty, cleaned, non returnable crop production and on-farm animal health chemical containers. If the label on your container carries the drumMuster symbol, triple rinse the container, ring your local Council, and offer the container for collection in the program. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, puncture or shred and bury containers in 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. Returnable containers: empty contents fully into application equipment. Replace cap, close all valves and return to the point of supply for refill or storage.

14. TRANSPORT INFORMATION

U.N. Number	3265
Proper Shipping Name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. - {contains Ethephon}
DG Class	8
Hazchem Code	2X
Packaging Method	3.8.8
Packing Group	III
Storage and Transport EPG Number	8A1
IERG Number	36



Material Safety Data Sheet

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15. REGULATORY INFORMATION

Poisons Schedule	S6
Packaging & Labelling	POISON KEEP OUT OF REACH OF CHILDREN READ SAFETY DIRECTIONS BEFORE OPENING OR USING
Hazard Category	Harmful, Corrosive
AICS (Australia)	All of the components in this product are listed on the Australian Inventory of Chemical Substances.

16. OTHER INFORMATION

Date of preparation or last revision of MSDS	Revised 11/07/2008		
Contact Person/Point	Normal Hours: Mr Volker Maier	Phone: +61 3 9282 1000	
Revisions Highlighted	After Hours: Shift Supervisor	Phone: 1800 033 498	
	The MSDS was reviewed. Minor changes were made to the information. The MSDS is now issued in a 16 header format.		
	...End Of MSDS...		

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