

SAFETY DATA SHEET

According to
HSNO Hazardous Substances (Safety Data Sheets) Notice 2017

Section 1. Identification of the material and the supplier

Product:	Modula
Product Use:	Plant Growth Regulations
Restriction of Use:	Refer to Section 15
New Zealand Supplier:	Adria Crop Protection Solutions
Address:	407 State Highway 16 Kumeu 0841, Auckland
Telephone:	+64 9 412 9817
Fax:	+64 9 412 9807
Website:	www.adria.nz
Emergency No:	0800 734 607 (24hr) 0800 764 766 (National Poison Centre)
Date of SDS Preparation:	9 November 2018

Section 2. Hazards Identification

This substance is hazardous according to the EPA Hazardous Substances (Classification) Notice 2017

EPA Approval No: HSR101134

Pictograms



Toxic



Chronic



Corrosive



Ecotoxic

Signal Word: **DANGER**

HSNO Classification	Hazard Code	Hazard Statement	GHS Category
6.1D (oral)	H302	Harmful if swallowed.	Acute Tox. 4
6.9B	HH373	May cause damage to organs through single, prolonged or repeated exposure.	STOT RE 2
8.2C	H314	Causes severe skin burns and eye damage.	Skin Corr. 1C
8.3A	H318	Causes serious eye damage.	Eye Corr. 1
9.1C	H412	Harmful to aquatic life with long lasting effects.	Aquatic Chronic 3
9.2B	H422	Toxic to the soil environment.	-
9.3B	H432	Toxic to terrestrial vertebrates.	-

Prevention Code	Prevention Statement
P102	Keep out of reach of children.
P103	Read label before use.
P260	Do not breathe fumes, vapours and spray.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P280	Wear protective clothing as detailed in Section 8.

Response code	Response Statement
P101	If medical advice is needed, have product container or label at hand.
P310	Immediately call a POISON CENTER or doctor/physician.
P330	Rinse mouth.
P363	Wash contaminated clothing before reuse.
P391	Collect spillage.
P301 + P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P301 + P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340	IF INHALED: Remove to fresh air and keep at rest in a position 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.
P309 + P311	IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.

Storage Code	Storage Statement
P405	Store locked up.

Disposal Code	Disposal Statement
P501	Refer to Section 13.

Section 3. Composition / Information on Hazardous Ingredients

Ingredients	Content (%w/v)	CAS NUMBER.
Mepiquat chloride	30.5	24307-26-4
Chlorethephon	15.5	16672-87-0
Non-hazardous ingredients	To bal	

Section 4. First Aid Measures

Routes of Exposure:

If in Eyes	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
If on Skin	IF ON SKIN: Remove contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.
If Swallowed	Do NOT induce vomiting if swallowed. Immediately rinse mouth and then drink 200-300ml of water. For advice, contact the National Poisons Centre on 0800 POISON (0800 764766) or seek medical attention immediately.
If Inhaled	Remove person to fresh air. Remove contaminated clothing and loosen remaining clothing. Allow person to assume most comfortable position and keep warm. Keep at rest until fully recovered. Apply artificial

respiration if not breathing. Get medical advice if breathing becomes difficult.

Most important symptoms and effects, both acute and delayed

Symptoms:

Ingestion: Harmful if swallowed.

Inhalation: Not applicable.

Skin: Causes skin burns.

Eye: Causes severe eye damage

Chronic: Causes damage to organs through single, prolonged or repeated exposure.

Treatment: No known specific antidote. Treat symptomatically (decontamination, vital functions).

Section 5. Fire Fighting Measures

Hazard Type	This product is not flammable.
Hazards from products	Combustion products are toxic and/or irritant. Measures have to be taken to prevent the contaminated extinguishing agent from seeping into the ground or from spreading uncontrollably.
Suitable Extinguishing media	Make use of fine water spray, foam, dry chemical, or carbon dioxide to extinguish fires. DO NOT use a direct jet of water.
Recommended protective clothing & Precautions for firefighters	Wear SCBA and chemical-protective clothing.
HAZCHEM CODE	2X

Section 6. Accidental Release Measures

Personal precautions:

Use protective clothing as per Section 8. Avoid contact with skin, eyes and clothing. Remove contaminated clothes and shoes immediately.

Environmental precautions:

Do not discharge into drains/surface waters/groundwater. Do not discharge into the subsoil/soil.

Spill and Disposal procedures:

Contain and collect spillage with non-combustible absorbent materials e.g. sand, earth, vermiculite, diatomaceous earth. Wash area with water and absorb with further inert material. Dispose of waste safely, according to Local Council regulations.

Section 7. Handling and Storage

Precautions for Handling:

- Read label before use.
- Avoid breathing fumes, vapours and spray.
- Wash hands thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Ensure adequate ventilation.
- Avoid temperature extremes.
- Avoid release to the environment.
- Wear protective clothing as detailed in Section 8.

Precautions for Storage:

- Keep away from children.
- Store locked up.
- Protect from temperatures above: 40 °C.
- Segregate from foods and animal feeds.
- Store away from incompatible materials listed in Section 10.

Section 8**Exposure Controls / Personal Protection****WORKPLACE EXPOSURE STANDARDS (provided for guidance only)**

Substance	TWA	STEL
	ppm mg/m ³	ppm mg/m ³

No ingredient has exposure limits

Workplace Exposure Standard – Time Weighted Average (WES-TWA). The time-weighted average exposure standard designed to protect the worker from the effects of long-term exposure. Workplace Exposure Standard – Short-Term Exposure Limit (WESSTEL). The 15-minute average exposure standard. Applies to any 15- Minute period in the working day and is designed to protect the worker against adverse effects of irritation, chronic or irreversible tissue change, or narcosis that may increase the likelihood of accidents. The WES-STEL is not an alternative to the WES-TWA; both the short-term and time-weighted average exposures apply. Workplace Exposure Standards and Biological Exposure Indices NOV 2017 9TH EDITION.

Engineering Controls / Industrial Hygiene

Ensure adequate ventilation.

Personal Protection Equipment

Eyes	Safety goggles with side-shields.
Skin	Wear suitable chemical resistant safety gloves (e.g. nitrile rubber (.4mm)). Body protection (chemical protection suit, boots) must be chosen depending on activity and possible exposure.
Respiratory	Wear respiratory protection if ventilation is inadequate. Use particle filter with medium efficiency for solid and liquid particles.
General	Keep away from food, drink and animal feedstuffs. No eating, drinking or smoking during use. Wash hands and face before breaks and after work.

Section 9**Physical and Chemical Properties**

Appearance	Liquid. Soluble concentrate
Colour	Clear-yellowish
Odour	Characteristic
Odour Threshold	Not available
pH	1.9
Boiling Point	Not available
Melting Point	Not available
Freezing Point	Not available
Flash Point	Not available
Flammability	Not available
Upper and Lower Explosive Limits	Not available
Vapour Pressure	Not available
Vapour Density	Not available
Specific Gravity	1.092
Water Solubility	Not available
Octanol/water partition coefficient:	Not available
Auto Ignition Temperature	Not available
Decomposition Temperature	Not available
Viscosity	Not available
Particle Characteristics	Not available

Section 10. Stability and Reactivity

Stability of Substance	This product is stable under normal conditions.
Possibility of hazardous reactions	None known.
Conditions to Avoid	Avoid excessive temperatures.
Incompatible Materials	Strong acids, bases and oxidising agents.
Hazardous Decomposition Products	None known.

Section 11 Toxicological Information

Acute Effects:

Swallowed	Harmful if swallowed. Acute LD50 oral = >500 - < 2 000 mg/kg
Dermal	Not applicable. Acute LD50 dermal (rats) = >4000 mg/kg, 1250mg/kg
Inhalation	Not applicable. Acute LC50 inh- 4 hr = 5.3mg/L
Eye	Causes severe eye damage.
Skin	Causes skin burns.

Chronic Effects:

Carcinogenicity	Not applicable.
Reproductive Toxicity	Not applicable.
Germ Cell Mutagenicity	Not applicable.
Aspiration	Not applicable.
STOT/SE	May cause damage to organs through single exposure.
STOT/RE	May cause damage to organs through repeated or prolonged exposure.

Section 12. Ecotoxicological Information

Ecological effects information	9.1C = Harmful to aquatic life with long lasting effects. 9.2B = Toxic to soil environment. 9.3B = Toxic to terrestrial vertebrates.
Persistence and degradability	No data available
Bioaccumulation	No data available
Mobility in Soil	No data available
Other adverse effects	No data available
Acute fish toxicity: Based on data from a similar formulation	LC50 (96h) > 100 mg/L, <i>Oncorhynchus mykiss</i>
Toxicity for daphnia: Based on data from a similar formulation	EC50 (48 h) > 100 mg/L
Toxicity to algae: Based on data from a similar formulation	EC50 (7 d) > 100 mg/L (growth rate), <i>Lemna gibba</i>
Precautions:	Do not allow to enter waterways.

Section 13. Disposal Considerations

Disposal Method:

Triple rinse container and add residue to spray tank. Return empty container to an AgRecovery collection point for disposal.



Empty container precautions:

Avoid contamination of any water supply with chemical or empty container.

Precautions or methods to avoid: Avoid release to the environment.

Section 14 Transport Information

This product is classified as a Dangerous Good for transport in NZ; NZS 5433:2012



Road, Rail, Sea and Air Transport

UN No	3265
Class - Primary	8
Packing Group	III
Proper Shipping Name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (CONTAINS ETHEPHON),
Marine Pollutant	No
Special Provisions-Limited Quantities	If the product's individual container is below 5L, it can be transported as a non-DG as long as the product packaging is still labelled as per DG requirements and the driver is given safety information in accordance with Chapter 3.4 of the UNRTDG.

Section 15 Regulatory Information

This substance is classified hazardous according to the EPA Hazardous Substances (Classification) Notice 2017

EPA Approval Code: HSR101134

HSNO Classification: 6.1D(Oral),6.9B, 8.2C, 8.3A, 9.1C, 9.2B, 9.3B

HSW (HS) Regulations 2017	Trigger Quantity
Certified Handlers	Not required
Location Certificate	Not required
Signage Trigger Quantities (Schedule 3)	1000L (9.1C)
Emergency Response Plan (Schedule 5)	1000L (9.1C)
Secondary Containment (Schedule 5)	1000L (9.1C)
Tracking (Schedule 26)	Not required
HSNO Additional Controls (Restrictions of use)	Refer to EPA www.epa.govt.nz for controls document - HSR101134
77A	The substance must not be applied into or onto water [1]. [1] where 'water' means water in all its physical forms, whether flowing or not, and whether over or under ground, but does not include water in any form while in a pipe, tank or cistern or water used in the dilution of the substance prior to application or water used to rinse the container after use
77A - The maximum level of an impurity in the technical grade active material for this substance is set.	The following limits are set for the toxicologically-relevant impurities in chlorethephon used to manufacture this substance: MEPHA (Mono 2-chloroethyl ester, 2-chloroethyl phosphonic acid): 20 g/kg 1,2-Dichloroethane: 0.5 g/kg
77A - A restriction has been placed on the application method for this substance.	This substance must be applied by ground-based methods only [1] [1] Ground-based methods of applying pesticides include, but are not limited to, application by ground boom, airblast or knapsack, and do not include aerial application methods

Hazardous Property Controls Notice 2017	
HPC Notice Part 4 Clause 47	Equipment for class 9 substances must be appropriate
HPC Notice Part 4 Clause 48	Records of application of class 9 pesticides and plant growth regulators
HPC Notice Part 3	Hazardous substances in a place other than a workplace.
HPC Notice Part 4 Subpart A	Site and storage controls for class 9 substances.
ACVM Act and Regulations	
ACVM Approval No See www.foodsafety.govt.nz for registration controls	P9226

Section 16 Other Information

For proper and safe use of this product, please refer to the approval conditions laid down on the product label. The data contained in this safety data sheet is based on our current knowledge and describes the product only with regard to safety requirements. The data does not describe the products properties. Neither should any agreed property nor the suitability of the product for any specific purpose be deduced from the data contained in the safety data sheet. It is the responsibility of the recipient of the product to ensure any existing laws and legislation are observed.

Glossary

EC ₅₀	Median effective concentration.
EEL	Environmental Exposure Limit.
EPA	Environmental Protection Authority
HSNO	Hazardous Substances and New Organisms.
HSW	Health and Safety at Work.
LC ₅₀	Lethal concentration that will kill 50% of the test organisms inhaling or ingesting it.
LD ₅₀	Lethal dose to kill 50% of test animals/organisms.
LEL	Lower explosive level.
OSHA	American Occupational Safety and Health Administration.
TEL	Tolerable Exposure Limit.
TLV	Threshold Limit Value-an exposure limit set by responsible authority.
UEL	Upper Explosive Level
WES	Workplace Exposure Limit

References:

1. EPA Hazardous Substances (Safety Data Sheets) Notice 2017
2. Workplace Exposure Standards and Biological Exposure Indices Nov 2017 edition.
3. Assigning a hazardous substance to a HSNO Approval (Aug 2013).
4. Transport of Dangerous goods on land NZS 5433:2012
5. HSW (Hazardous Substances) Regulations 2017

Disclaimer

This document has been prepared by TCC (NZ) Ltd and serves as the suppliers Safety Data Sheet ('SDS'). It is based on information concerning the product which has been provided to TCC (NZ) Ltd or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer. While TCC (NZ) have taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, TCC (NZ) Ltd accept no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS

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Please contact Adria, if further information is required.

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