

SAFETY DATA SHEET

Section 1. Identification of the material and the supplier

Product: **Urea Ammonium Nitrate (UAN) 32% liquid**
 Item Code:
 Product Use: Fertiliser
 Restriction of Use: Refer to Section 15

New Zealand Supplier: Horticulture Ltd
 Address: 10 Firth Street
 Drury, 2113

Telephone: +64 9 294 8453
 Fax Number: +64 9 294 7272

Emergency Telephone: 0800 764 766 (National Poison Centre)

Date of SDS Preparation: 30 April 2021

Section 2. Hazards Identification

This substance is hazardous according to the EPA Hazardous Substances (Classification) Notice 2020

EPA Approval No: Fertiliser (subsidiary) – HSR002571

Pictograms



Irritant

Signal Word: **Warning**

GHS Classification and Category	Hazard Code	Hazard Statement
Eye irritation Cat. 2	H319	Causes serious eye irritation.

Prevention Code	Prevention Statement
P103	Read label before use.
P264	Wash hands thoroughly after handling.
P280	Wear protective clothing as detailed in Section 8.

Response Code	Response Statement
P305 + P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313	If eye irritation persists: Get medical advice/attention.

Storage Code	Storage Statement
None allocated	

Disposal Code	Disposal Statement
P501	Dispose of according to Local Regulations or Authorities

Section 3. Composition / Information on Ingredients

Ingredients	Wt%	CAS NUMBER.
Ammonium nitrate	30-47	6484-52-2

Section 4. First Aid Measures

Routes of Exposure:

If in Eyes	Rinse cautiously with water for 15 minutes. If eye irritation persists: call doctor/physician.
If on Skin	Wash with plenty of soap and water. If skin irritation occurs: get medical advice/attention.
If Swallowed	Do not cause vomiting, rinse mouth with water; give the affected person plenty of water or milk to drink; apply to doctor.
If Inhaled	Does not affect respiratory tract, non-hazardous.

Most important symptoms and effects, both acute and delayed

Symptoms: Causes serious eye irritation. Prolonged contact may cause skin irritation.

Section 5. Fire Fighting Measures

Hazard Type	Non Flammable, Non-combustible material.
Hazards from decomposition products	None known.
Suitable Extinguishing media	Water and carbon dioxide or other fire-extinguishing media appropriate for surrounding materials. Not suitable: do not use chemical extinguishers, water vapor.
Precautions for firefighters and special protective clothing	None required.
HAZCHEM CODE	None allocated

Section 6. Accidental Release Measures

Wear appropriate protective clothing. Exclude non-essential people from the area.

Keep away from getting into a rain drainage system or trenches an/or ditches.

Pump (scoop) as much as possible of the spilled substance/ preparation into tight containers and eliminate the remains with dry sand. Pumped (taken away) product may be used according to its purpose again. Prevent spread fertilizer from accessing water pools. Dispose as per Section 13.

Section 7. Handling and Storage

Precautions for Handling:

- While spraying manually (during fertilizing process) use water-proof coat, rubber gloves, protective glasses and head protection; always spray downwind.
- After finish of work, wash hands with soap.
- Read label before use.
- Wash hands thoroughly after handling.
- Wear protective clothing as detailed in Section 8.

Precautions for Storage:

- Incompatible products: Storage with any other chemical substances is not recommended, as possible reactions are not identified.
- Requirements to packages: Transported by railway or truck tanks prepared especially for transportation of this kind of fertilizers: clean, hermetic and technically sound; packed into 1-50 dm³ polyethylene packages in compliance with applicable standardizing documents to ensure safe transportation and storage. May be packed in the customer's package, which must be clean and hermetic (carbon steel containers, tanks, barrels); must be fastened tight while carrying.

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 ingredients have 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 2019 11TH EDITION.

Therefore, no DNEL and PNEC are identified. The tables show the DNEL and PNEC values of the ammonium nitrate contained in the product.

Workers exposure. Ammonium nitrate information

Exposure mode	Exposure type	Hazardous	Physicochemical property that could have the greatest negative effect
Inhalation	Systemic effect – long lasting	DNEL: 36 mg/m ³	Toxicity (ingested)
Inhalation	Systemic effect - acute	The hazard is not known	
Inhalation	Local effect – long lasting	The hazard is not known (further research is not necessary)	
Inhalation	Local effect - acute	The hazard is not known (further	
		research is not necessary)	
Skin contact	Systemic effect – long lasting	DNEL: 5,12 mg/kg bw/day	Toxicity (ingested)
Skin contact	Systemic effect - acute	No hazard identified	

Skin contact	Local effect – long lasting	The hazard is not known (further research is not necessary)	
Skin contact	Local effect - acute	No hazard identified	
Contact via eyes	Local effect	Low hazard (limit not identified)	

Predicted inactive concentration(s) PNE. Ammonium nitrate data.

Section	Hazardous	Comments
Fresh water		No effect was observed in all eco-toxicity studies with the highest recommended concentration of ammonium nitrate (nominal 100 mg / l). Therefore, on the basis of the ECHA document "Guidance on information requirements and chemical safety assessment. Part B: Hazard Assessment", assessment of the impact of water bodies is not necessary and PNEC values are not derived.
Sea water		No effect was observed in all eco-toxicity studies with the highest recommended concentration of ammonium nitrate (nominal 100 mg / l). Therefore, on the basis of the ECHA document "Guidance on information requirements and chemical safety assessment. Part B: Hazard Assessment", assessment of the impact of water bodies is not necessary and PNEC values are not derived.
Fresh water sediment		No effect was observed in all eco-toxicity studies with the highest recommended concentration of ammonium nitrate (nominal 100 mg / l). No data on eco toxicity in sediment organisms. In addition, it is considered that such data are not necessary. Therefore, on the basis of the ECHA document "Guidance on information requirements and chemical safety assessment. Part B: Hazard Assessment ", assessment of the impact of water bodies is not necessary and PNEC values are not derived.
Sea water sediment	There is no probability of sediment exposure	No effect was observed in all eco-toxicity studies with the highest recommended concentration of ammonium nitrate (nominal 100 mg / l). No data on eco toxicity in sediment organisms. In addition, it is considered that such data are not necessary. Therefore, on the basis of the ECHA document "Guidance on information requirements and chemical safety assessment. Part B: Hazard Assessment ", assessment of the impact of water bodies is not necessary and PNEC values are not derived.
Microorganisms in sewage treatment system	PNEC STP: 18 mg/l	Exposure factor: 10 Extrapolation method: exposure factor Available test data with sodium nitrate, which is similar in structure to ammonium nitrate, EC50> 1000 mg / l and NOx 180 mg / l. An assessment factor of 10 was used in accordance with the ECHA Guideline on Information Requirements and Chemical Safety Assessment. Section R.10
Soil		No effect was observed in all eco-toxicity studies with the highest recommended concentration of ammonium nitrate (nominal 100 mg / l). No data on eco toxicity to soil. In addition, it is considered that such data are not necessary. Therefore, on the basis of the ECHA document "Guidance on information requirements and chemical safety assessment. Part B: Hazard Assessment ", assessment of the impact of soil bodies is not necessary and PNEC values are not derived.
Air		PNEC (air) was not determined because there is no data that can determine it. Furthermore there are no demands in regulations to determine PNEC (air).
Food chain	No bioaccumulation potential	According to ammonium nitrate regulation (EB) No. 1272/2008 hazard statements H373, H372, H360, H361 and H362 are excluded. The substance is extremely water soluble and is thus believed to have low bio accumulation potential. Therefore, on the basis of the ECHA document "Guidance on information requirements and chemical safety assessment Part B.7", exposure assessment for the food chain is not necessary and the values for PNEC in the mouth are not derived.

Engineering Controls

Not required.

Personal Protection Equipment



Eyes	Chemical protective safety goggles (EN 166) or face shield (EN 166).																					
Skin	<p>Hand protection: adequate protection gloves according to EN 420, EN ISO 374-1 due to chemical protection, EN 388 due to mechanical protection. Protective gloves must be made of one of the materials listed in the table, at least as specified, for penetration of thickness and resistance.</p> <table border="1"> <thead> <tr> <th>Glove material</th> <th>Glove thickness, mm</th> <th>Penetration time, min*</th> </tr> </thead> <tbody> <tr> <td>Butyl rubber - butyl</td> <td>0.50</td> <td>> 480</td> </tr> <tr> <td>Nitrile rubber/Nitrile latex</td> <td>0.35</td> <td>> 480</td> </tr> <tr> <td>Fluorocarbon rubber</td> <td>n.m. 0.40</td> <td>> 480</td> </tr> <tr> <td>Polychloroprene</td> <td>n.m. 0.50</td> <td>> 480</td> </tr> <tr> <td>Natural rubber/Natural latex</td> <td>0.50</td> <td>> 480</td> </tr> <tr> <td>Polyvinyl chloride</td> <td>0.50</td> <td>> 480</td> </tr> </tbody> </table> <p>Other protection: wear working clothes according EN ISO 13688 and EN ISO 13034, wear special working boots according to EN ISO 20345. After finishing work wash your hands with soap and change clothes.</p>	Glove material	Glove thickness, mm	Penetration time, min*	Butyl rubber - butyl	0.50	> 480	Nitrile rubber/Nitrile latex	0.35	> 480	Fluorocarbon rubber	n.m. 0.40	> 480	Polychloroprene	n.m. 0.50	> 480	Natural rubber/Natural latex	0.50	> 480	Polyvinyl chloride	0.50	> 480
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Natural rubber/Natural latex	0.50	> 480																				
Polyvinyl chloride	0.50	> 480																				
Respiratory	Not required.																					

Section 9 Physical and Chemical Properties

Appearance	Liquid
Colour	Colourless or brownish
Odour	Mild ammonia odor could be felt.
Odour Threshold	Mild ammonia odor could be felt in a small quantity of product.
pH	6,5 - 7,5
Boiling Point	107°C
Melting/Freezing Point	Not higher than 0 °C
Flash Point	The substance is inorganic. In accordance with Column 2 of REACH Annex VII, flash point does not need to be conducted in case the substance is inorganic.
Flammability	Non flammable
Upper and Lower Explosive Limits	Not available
Vapour Pressure	480 Pa
Vapour Density	Not available
Relative Density	1305 – 1325 (UAN32)
Solubilities	Fully soluble in water.
Partition coefficient (n-octanol/water)	The substance is inorganic. In accordance with Column 2 of REACH Annex VII, the partition coefficient noctanol/water does not need to be conducted in case the substance is inorganic.
Auto-ignition Temperature	In accordance with REACH Annex XI, testing may be omitted if testing does not appear scientifically necessary. Liquid nitrogen fertilizers have no explosive properties. However, Liquid nitrogen fertilizers do not contain groups that may react with oxygen and therefore will not auto-ignite at temperatures between room temperature and melting point. Therefore, a study is not considered necessary.
Decomposition Temperature	Not available
Viscosity	5,26 mPa. s (at 20°C), 3,36 mPa. s (at 40°C) (UAN-32).
Other information	Of all kinds of urea and ammonium nitrate in the weight ratio of 0.73 to 0.83 during the manufacturing process is added to 150 to 200 ppm (0.015 to 0.02%) of corrosion inhibitor. Portion of corrosion inhibitor after dispensing process decreases. The inhibitor is made of organic acids.

Section 10. Stability and Reactivity

Stability of Substance	Stable under regular conditions, does not have cumulative properties, does not form any toxic compounds with other substances contained in the air or drainage waters.
Hazardous Reactions	Possible dangerous reactions with other chemicals are unknown; do not mix with other substances. After defreezing, the properties are not changed. Need for and the presence of stabilizers: not necessary.
Conditions to Avoid	Possible dangerous reactions with other chemicals are unknown; do not mix with other substances. Store below the crystallization temperature to avoid package damages.
Incompatible Materials	None without changing the physical state of the substance.
Hazardous Decomposition Products	None without changing the physical state of the substance.

Section 11 Toxicological Information

Acute Effects:

Swallowed	Not applicable.
Dermal	Not applicable.
Inhalation	Not applicable.
Eye	Causes serious eye irritation.
Skin	Not applicable.

Chronic Effects:

Carcinogenicity	Not applicable.
Reproductive Toxicity	Not applicable.
Germ Cell Mutagenicity	Not applicable.
Aspiration	Not applicable.
STOT/SE	Not applicable.
STOT/RE	Not applicable.

Ammonium nitrate. Based on the available data, ammonium nitrate does not meet this hazard criteria in accordance with Regulation (EC) No 1272/2008. The effects of ammonium nitrate on animals are presented in the table

	Exposure dose / concentration	Routes	Method	Symptoms / delayed effects	Notes
Acute oral toxicity	LD50: 2950 mg/kg bw	Female/Male rats	OECD 401	Negative effects have not been established	Direct ATE Validation for Trusted Data
Acute dermal toxicity	LD50: > 5000 mg/kg bw	Female/Male rats	OECD 402	Negative effects have not been established	Direct ATE Validation for Trusted Data
Acute inhalation toxicity (vapour)	LC50: > 88,8 mg/kg bw	Rats		Negative effects have not been established	Direct ATE Validation for Trusted Data

Urea. According to the available data, urea does not meet this classification criteria according to Regulation (EC) No 1272/2008. The effects of urea on animals are shown in the table.

	Exposure dose / concentration	Routes	Method	Symptoms / delayed effects	Notes
Acute oral toxicity	LD50: 14300 mg/kg bw (male) LD50: 15000 mg/kg bw (female)	Rats	OECD 423	Negative effects have not been established	Direct ATE Validation for Trusted Data
Acute dermal toxicity	Data not available				
Acute inhalation toxicity (vapour)	Data not available				

Section 12. Ecotoxicological Information

Ecotoxicity (toxicity to water and soil organisms, other animals and plants): if spread, undiluted preparation may destroy vegetation and cause death in fish.

Persistence and degradability	Biodegradation: Decomposes in nitrate, ammoniacal and amidic nitrogen during the biodegradation, which are plant nutrients.
Bioaccumulation	Ammonium nitrate and urea do not have any bio accumulative properties; do not form any toxic compounds with other substances presented in the air or drainage waters.
Mobility in Soil	Adsorption coefficient: Well-soluble in water; NO ₃ ion is extremely mobile; NH ₄ cation is absorbed in soil.
Other adverse effects	No data available.

Section 13. Disposal Considerations

Disposal Method:

The contaminant free UAN waste according to Regulation (EC) No. 1357/2014 is classified as non-hazardous waste. Depending on degree and nature of contamination dispose of by use as fertilizer or to an authorised waste facility

Precautions or methods to avoid: Do not empty into drains. Dispose of this material in a safe way and in accordance with all applicable local and national regulations.

Section 14 Transport Information

This product is NOT classified as a Dangerous Good for transport in NZ ; NZS 5433:2012

Section 15 Regulatory Information

The manufacturer has stated that this substance is NOT hazardous according to Regulation (EC) No. 1272/2008 [CLP] therefore non-hazardous as per EPA Hazardous Substances (Classification) Notice 2020.

Section 16 Other Information

Glossary

Cat	Category
EC ₅₀	Median effective concentration.
EEL	Environmental Exposure Limit.
EPA	Environmental Protection Authority
HSNO	Hazardous Substances and New Organisms.
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 the New Zealand distributor, if further information is required.

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