

SAFETY DATA SHEET

Section 1. Identification of the material and the supplier

Product: **Smartfert 44% Nitrogen**
 Product Use: Fertiliser

 New Zealand Supplier: **Fertspec Ltd t/a Biofert**
 Address: 121 Whangarata Road,
 Tuakau
 Waikato

 Telephone: +64 9 233 6491 0800PACBIO (0800722246)
Emergency No: 0800 764 766 (National Poison Centre)

 Date of SDS Preparation: 5 October 2022

Section 2. Hazards Identification

Hazardous substance according to Hazardous Substances and New Organisms (HSNO) Act 1996.

HSNO Substance Approval : Fertilizers (Subsidiary Hazard) Group Standard 2020

HSNO Approval Code: HSR002571

Pictograms:



Signal Word: WARNING

Hazards Classification	Hazard Code	Hazard Statement
Eye irritation Category 2	H319	Causes serious eye irritation.
Hazardous to terrestrial vertebrates	-	Harmful to terrestrial vertebrates

Prevention Code	Prevention Statement
P103	Read label before use.
P264	Wash hands thoroughly after handling.
P280	Wear eye/face protection.

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
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Disposal Code	Disposal Statement
P501	If possible, use product according to label. Collect waste in sealed containers and dispose to an approved facility/landfill according to Local Regulations. Recycle packaging if possible, otherwise dispose of to a waste facility/landfill.

Section 3. Composition / Information on Hazardous Ingredients

Ingredients	Cas Number	Weight %
Urea	57-13-6	95*
Other ingredients not affecting classification	Trade secret	To balance*

*This is a commercial product whose exact ratio of components may vary slightly.

Section 4. First Aid Measures

4.1 Description of first aid measures

General Information:

For advice call the National Poison Centre, telephone 0800 POISON [0800 764 766].

Have label or Safety Data Sheet at hand

Ingestion: Rinse mouth with water. Do NOT induce vomiting. Give a glass or two of water to drink slowly. Call the NATIONAL POISON CENTRE or doctor for advice. Never give anything by mouth to an unconscious person. If vomiting occurs spontaneously, person is face downwards, with the head turned to the side and lower than the hips to prevent vomit entering the lungs. Seek immediate medical attention.

Skin Contact: Remove contaminated clothing and wash skin with plenty of water. Get medical advice if irritation persists.

Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice if irritation persists.

Inhalation: Remove person to fresh air and keep at rest in a position comfortable for breathing. Get medical advice if person experiences respiratory symptoms such as difficulty breathing.

4.2 Symptoms caused by exposure

Irritation of eyes.

4.3 Medical attention and special treatment

Treat symptomatically.

Section 5. Fire Fighting Measures

5.1 Suitable Extinguishing media	Water spray, fog or use an extinguishing agent suitable for the surrounding fire.
5.2 Hazards from combustion products	Thermal decomposition products can be dependent on temperature conditions. Urea decomposes to ammonia, biuret and cyanuric acid. Potential risk of carbon and nitrogen oxides, hydrogen cyanide and other unknown toxic compounds being emitted under fire decomposition conditions.
5.3 Precautions for firefighters and special protective clothing	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face - piece operated in positive pressure mode.
5.4 HAZCHEM Code	None assigned

Section 6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Contain spillage. Keep unauthorized people away from spillage. Wear full protective clothing including respiratory, eye and face protection. Wash contaminated personal protective equipment and clothing, and dry before re-use.

6.2 Environmental precautions

Prevent spillage from entering drains or waterways. If contamination of drains, streams, water courses, etc. is unavoidable, warn the local water authority.

6.3 Methods and materials for containment and cleaning up

Contain and collect spilled material. Recover spills into labelled containers that can be sealed for reuse or safe disposal. Dispose of in accordance with any local regulations.

Section 7. Handling and Storage

7.1 Precautions for safe handling

Read the label and understand hazards and safety precautions before use. Avoid contact with eyes. Wear personal protective equipment as advised on product label and in Section 8 of this SDS. Do not eat, drink or smoke while using product. Wash hands after handling.

7.2 Conditions for safe storage

Keep dry. Store in the tightly closed original packaging out of reach of children and in a dry, cool, well-ventilated area. Keep away from food, drink and animal feedstuffs, and incompatible substances as listed in Section 10.

Section 8 Exposure Controls / Personal Protection

8.1 Control parameters – exposure standards, biological monitoring

Workplace Exposure Standards (WES) have not been set for this product (Workplace Exposure Standard and Biological Exposure Indices, edition 15, February 2025).

Ingredient	TWA (mg/m ³)	STEL (mg/m ³)	Ceiling (mg/m ³)
Inhalable dust (not otherwise classified)	10	-	-
Respirable dust (not otherwise classified)	3	-	-

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.

8.2 Engineering controls

Use in well-ventilated area.

8.3 Personal protective equipment (PPE)

The following Standards provide general advice regarding safety clothing and equipment:

Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Occupational Protective Clothing: **AS/NZS 4501**, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**.

Personal Protection Equipment



Eye/Face Protection	Wear protective glasses (safety glasses with side shields or chemical goggles). Contact lenses may pose a special hazard.
Skin Protection	Gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Overalls/coveralls recommended for protection of normal clothing from contamination.
Respirator	Not normally required in end-use situation with adequate ventilation. If in poorly ventilated area, wear an appropriate certified respirator or particulate mask.
Other	Wear closed in footwear.

Section 9 Physical and Chemical Properties

Appearance	Off white to slight yellowish round granule/prill
Odour	Odourless
Odour Threshold	Not available
pH	Not available
Boiling Point	Not available
Melting/decomposition temp.	Urea, 132.7°C
Freezing Point	Not applicable
Flash Point	Not applicable
Flammability (gas, solid)	Non flammable
Upper and Lower Explosive Limits	Not applicable
Vapour Pressure	Not applicable
Vapour Density	Not applicable
Relative Density	Urea, 1.32 g/cm ³
Solubility	Urea, 545 g/L @ 25 °C
Partition Coefficient:	Not applicable
Auto-ignition Temperature	Not applicable
Decomposition Temperature	Not applicable
Kinematic Viscosity	Not applicable
Particle Characteristics	Not applicable
Bulk density	Urea; 0.73t/m ³ to 0.77t/m ³

Section 10. Stability and Reactivity

10.1 Reactivity

Stable under normal storage and handling conditions.

10.2 Chemical stability

Stable under normal temperatures and pressure for storage and use.

10.3 Conditions to Avoid

Avoid storage in direct sunlight or at elevated temperatures.

Avoid contact with possible sources of ignition (spark, flame).

10.4 Incompatible materials and possible hazardous reactions

Contact with oxidizing agents (i.e. nitrates, oxidizing acids, chlorine bleach, pool chlorine, peroxide, perchlorates).

10.5 Hazardous decomposition products

Fire Decomposition: Carbon and nitrogen oxides, hydrogen cyanide and other unknown toxic compounds

10.6 Polymerisation:

Not known to occur.

Section 11 Toxicological Information

11.1 Health hazard information

The product is classified for health hazards according to an assessment of information on product ingredients. Classifications according to the Hazardous Substances (Hazard Classification) Notice 2020.

11.2 Toxicological Information

Acute toxicity:	Not classified as acutely toxic by ingestion, dermal contact or inhalation.
Aspiration hazard:	Product contains no components with an aspiration hazard.
Respiratory irritation:	Any fine dust may irritate mucous membranes.
Skin corrosion/irritation:	Not classified as skin irritant.
Serious eye damage/irritation:	Urea causes serious eye irritation.
Respiratory or skin sensitization:	Not classified as respiratory or skin sensitizer. Repeated contact with urea fertilizer may result in dry/scaly skin and contact dermatitis (nonallergic) in some individuals.
Germ cell mutagenicity:	Not classified as presumed or suspected mutagen.
Carcinogenicity:	Not classified as presumed or suspected carcinogen.
Reproductive toxicity:	Not classified as suspected of damaging fertility or the unborn child.
Specific target organ toxicity – single/repeated exposure:	Not classified as causing damage to organs.
Narcotic effects:	Product contains no ingredient identified as causing narcotic effects.

11.3 Toxicological data:

Urea	Oral, rat, LD50 15 g/kg b.w
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Section 12. Ecotoxicological Information

12.1 Ecotoxicity

This product is not classified as being ecotoxic to the aquatic environment, soil environment or terrestrial invertebrates.

Urea can be harmful to terrestrial vertebrates.

Cattle, oral LD50 510 mg/kg b.w.

Urea toxicity is highly dependent on the rate at which urea degrades to ammonia. Humans and monogastric animals do not rapidly convert urea to ammonia and urea is practically nontoxic following ingestion by these species. However, ruminant animals very rapidly convert urea to ammonia following oral ingestion and are much more susceptible to toxicity following ingestion of urea.

12.2 Persistence and biodegradability

Data not available for all ingredients.

Urea is non persistent and is hydrolysed rapidly to ammonia and carbon dioxide by urease.

12.3 Potential to Bioaccumulate

Data not available for all ingredients.

Urea has low potential for bioaccumulation (BCF 1 @ pH 1 -10 and 25 0C).

12.4 Mobility in soil

Urea is readily soluble in water, but the granule product is encapsulated slowing the usual rapid solubility rate.

Urea has weak absorption to soil and a low soil-water partition co-efficient.

12.5 Other adverse effects

No information available for product.

Section 13. Disposal Considerations

13.1 Product Disposal

If possible, dispose of product by using according to the label. Otherwise, dispose of to recycling facility or approved landfill. Comply with any local, regional or national regulations.

13.2 Packaging/Container Disposal

Do not use packaging for storage of other products. Recycle, or otherwise dispose of at an approved waste facility or landfill. Comply with any local, regional or national regulations.

Section 14 Transport Information

Road and Rail Transport

Classified as non-Dangerous Good according to NZS5433 Transport of Dangerous Goods on Land 2020.

Marine Transport (IMO/IMDG)

Classified as non-Dangerous Good by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

Air Transport (ICAO/IATA)

Classified as non-Dangerous Good by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulation for transport by air.

UN Number:	Non-regulated
UN Proper Shipping Name:	–
Transport hazard class(es)	–
Sub class	–
Packing Group	III
HAZCHEM Code	–
Special Precautions for User	–
IMDG Marine pollutant	No
Transport in Bulk	–

Section 15 Regulatory Information

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

HSNO Substance Approval : Fertilizers (Subsidiary Hazard) Group Standard 2020
HSNO Approval Number: HSR002571

HSW (HS) Regulations 2017 and EPA Notices	Trigger Quantity
Certified Handler	Not required
Location Certificate	Not required
Tracking	Not required
Signage	Not required
Emergency Response Plan	Not required
Secondary Containment	Not required
Restriction of Use	Only use for the intended purpose.

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.
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. Supplier Safety Data Sheets
2. EPA CCID
3. EPA Hazardous Substances (Safety Data Sheets) Notice 2017
4. Workplace Exposure Standards and Biological Exposure Indices February 2025 edition.
5. Assigning a hazardous substance to a HSNO Approval (Aug 2013).
6. Transport of Dangerous goods on land NZS 5433:2020
7. HSW (Hazardous Substances) Regulations 2017

Disclaimer

This document has been prepared by Fertspec Ltd and serves as the supplier's Safety Data Sheet ('SDS'). It is based on information concerning the product which has been provided to Fertspec 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 Fertspec Ltd 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, Fertspec 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.

Issue Date: 01 Oct 2025

Review Date: 01 Oct 2030