Safety Data Sheet UREA

SDS no. 6NX5GC16 • Version 1.0 • Date of issue: 2024-11-19

SECTION 1: Identification

GHS Product identifier

Product name	UREA

Recommended use of the chemical and restrictions on use

Manufacture of synthetic resins, plastics, glues, solvents and pharmaceuticals, cosmetics, dentrifices, paper industry, fertilizer, animal feeds, sulfamic acid, stabilizer in explosives, biochemistry, for reversible denaturation of proteins, chemical intermediate, medicine (diuretic), separation of hydrocarbons (as urea adduct), flameproofing agents, viscosity modifier for starch or casein-based paper coatings, preparation of biuret and laboratory reagent.

Supplier's details

Name	ChemSupply Australia Pty Ltd
Address	38-50 Bedford Street 5013 Gillman South Australia Australia
Telephone	08 8440 2000
email	www.chemsupply.com.au

Emergency phone number

CHEMCALL 1800 127 406 (Australia) / +64-4-917-9888 (International)

SECTION 2: Hazard identification

General hazard statement

Not classified as dangerous goods according to the Australian Dangerous Goods Code (ADG).

Classified as non-Hazardous according to the Globally Harmonised System of classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia.

Classification of the substance or mixture

GHS classification in accordance with: UN GHS revision 7

Not a hazardous substance or mixture.

GHS label elements, including precautionary statements

Not a hazardous substance or mixture.

Other hazards which do not result in classification

Not a hazardous substance or mixture.

SECTION 3: Composition/information on ingredients

Mixtures

Molecular weight: 60.06

Components

Component	CAS no.	Concentration
Urea (EC no.: 200-315-5)	**57-13-6**	**<= 100 % (weight)**
CLASSIFICATIONS: No data available. HAZARDS: No data available.		

SECTION 4: First-aid measures

Description of necessary first-aid measures

General advice	First Aid Facilities: Maintain eyewash fountain in work area.
If inhaled	If inhaled, remove from contaminated area to fresh air immediately. Apply artificial respiration if not breathing. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.
In case of skin contact	Rinse with plenty of water. Get medical attention if irritation develops and persists.
In case of eye contact	If contact with the eye(s) occurs, wash with copious amounts of water for approximately 15 minutes holding eyelid(s) open. Take care not to rinse contaminated water into the non-affected eye. If persistent irritation occurs, obtain medical attention.
If swallowed	Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. DO NOT INDUCE VOMITING. Seek medical advice if effects persist.

Most important symptoms/effects, acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Indication of immediate medical attention and special treatment needed, if necessary
For advice, contact the National Poisons Information Centre (Phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor.

SECTION 5: Fire-fighting measures

Suitable extinguishing media
Small fire: Use dry chemical, CO2, water spray or foam.
Large fire: Use water spray, fog or foam.
If safe to do so, move undamaged containers from the fire area. Cool containers with flooding quantities of water until well after the fire is out.

Specific hazards arising from the chemical
Hazards from Combustion Products: May librate toxic fumes in fire (oxides of carbon and nitrogen).

Material does not burn.

Special protective actions for fire-fighters
Use suitable protective equipment for surrounding fire.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures
Avoid substance contact. Avoid generation of dusts: do not inhale dusts. Ensure supply of fresh air in enclosed rooms.
Wear protective clothing specified for normal operations (see Section 8)

Methods and materials for containment and cleaning up
Sweep up (avoid generating dust) and remove to a suitable, clearly labelled container for disposal in accordance with local regulations.
Seek expert advice on handling and disposal.
Avoid release to the environment.

SECTION 7: Handling and storage

Precautions for safe handling
Avoid generation or accumulation of dusts. Avoid prolonged or repeated contact with skin, eyes and clothing . Wash hands and face thoroughly after working with material.

Conditions for safe storage, including any incompatibilities
Store in a cool dry place out of direct sunlight. Avoid contact with incompatible materials that support combustion such as strong oxidising agents. Keep container tightly closed and dry, away from direct sunlight and other sources of heat or ignition.

SECTION 8: Exposure controls/personal protection

Appropriate engineering controls
Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, gas, etc.) below recommended exposure limits.

Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection
The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336.

Skin protection
Clean impervious clothing should be worn. Clothing for protection against
chemicals should comply with AS 3765 Clothing for Protection Against Hazardous
Chemicals.

Body protection
Footwear: Safety boots in industrial situations is advisory, foot protection should comply with AS 2210, Occupational protective footwear - Guide to selection, care and use.

Body Protection: Clean clothing or protective clothing should be worn, preferably with and apron. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

Respiratory protection
Where ventilation is not adequate, respiratory protection may be required. Avoid breathing dust, vapours or mists. Respiratory protection should comply with AS 1716 - Respiratory Protective Devices and be selected in accordance with AS 1715 - Selection, Use and Maintenance of Respiratory Protective Devices. Filter capacity and respirator type depends on exposure levels. In event of emergency or

planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

SECTION 9: Physical and chemical properties

Basic physical and chemical properties

Physical state	Solid
Appearance	White crystals, powder or prills.
Color	No data available.
Odor	Odourless. Slight ammonia odour may develop especially in presence of moisture.
Odor threshold	No data available.
Melting point/freezing point	132 - 135 °C
Boiling point or initial boiling point and boiling range	Decomposes before boiling.
Flammability	No data available.
Lower and upper explosion limit/flammability limit	No data available.
Flash point	No data available.
Explosive properties	No data available.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
Oxidizing properties	No data available.
pH	~ 7.5 - 9.5 (480 g/L, H2O, 25 °C)
Kinematic viscosity	No data available.
Solubility	Solubility in Water: Soluble, 480 g/l at 20°C. Solubility in Organic Solvents: Very soluble in methanol and ethanol. Soluble in acetic acid, pyrimidine, concentrated hydrochloric acid and glycerol. Almost insoluble in chloroform and ether.
Partition coefficient n-octanol/water (log value)	log P(o/w): -1.59
Vapor pressure	< 0.1 hPa (20 °C)
Evaporation rate	No data available.
Density and/or relative density	Specific Gravity: 1.34
Relative vapor density	No data available.
Particle characteristics	No data available.

Supplemental information regarding physical hazard classes
No data available.

Further safety characteristics (supplemental)
Other Information: Taste: Saline taste

SECTION 10: Stability and reactivity

Reactivity
Stable under normal conditions of storage and handling.

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
Contact with strong oxidising agents may cause fire or explosion. Will cause deterioration of unplasticized PVC with long-term use.

Hazardous Polymerization: Will not occur.

Conditions to avoid
When humidity is over 75%, urea absorbs moisture from the air. When dissolved in water, urea slowly decomposes to ammonia and carbon dioxide.

Incompatible materials
Strong oxidising agents (permanganate, dichromate, nitrate, chlorine), bases, ABS, calcium/sodium hypochlorite, PVC, polyethylene, chromyl chloride, sodium nitrate, gallium perchlorate, phosphorus pentachloride, nitrosyl perchlorate, titanium tetrachloride, bases.

Hazardous decomposition products
Ammonia, cyanuric acid, hydrogen cyanide and oxides of nitrogen and carbon.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity
Acute Toxicity - Oral: LD50 (rat): 8471 mg/kg.

Ingestion: May cause irritation to the gastrointestinal tract. Symptoms may include nuasea, sore throat, vomiting, abdominal pain, headache and confusion. Absorption into the metabolism, bloodstream and urinary system may occur.

Inhalation: High levels of dust or mist may cause irritation of the nose and throat with sore throat, sneezing, coughing and shortness of breath. May cause emphysema. May be absorbed into the bloodstream, metabolism and urinary system with symptoms similar to ingestion.

Skin corrosion/irritation
Acute Toxicity - Dermal: LD50 (rat): 8200 mg/kg.

May cause skin irritation. Symptoms may include redness, itching, pain, rash due to mild irritation.

Serious eye damage/irritation
Eye contact may cause irritation, redness and pain. A 10% solution of urea in water used by people as eye drops several times a day for a year caused no eye irritation or discomfort.

Respiratory or skin sensitization
Not classified based on available information.

Germ cell mutagenicity
Germ cell mutagenicity: Not classified based on available information.
Mutagenicity: Not classified based on available information.

Carcinogenicity
Not considered to be a carcinogenic hazard.

Reproductive toxicity
Not considered to be toxic to reproduction.

Specific target organ toxicity (STOT) - single exposure
Not expected to cause toxicity to a specific target organ.

Specific target organ toxicity (STOT) - repeated exposure

Not expected to cause toxicity to a specific target organ.

Aspiration hazard
Not expected to be an aspiration hazard.

Additional information
Chronic Effects: Repeated or prolonged skin contact may cause dermatitis. Prolonged or repeated exposure may lead to distrubances in the metabolism , bloodstream, urinary system and respiratory system.

SECTION 12: Ecological information

Persistence and degradability
Biodegradation: 96 %/16 d Zahn-Wellens test. Easily eliminable.

Bioaccumulative potential
No bioaccumulation is to be expected (log P(o/w) < 1).

Other adverse effects
Environmental Fate: Behaviour in environmental compartments:
Distribution: log P(o/w/) -1.59

SECTION 13: Disposal considerations

Disposal methods

Product disposal
Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers.

Sewage disposal
No bioaccumulation is to be expected (log P(o/w) < 1).

Other disposal recommendations
Do not discharge this material into waterways, drains and sewers.

SECTION 14: Transport information

ADG (Road and Rail)
Not dangerous goods

IMDG
Not dangerous goods

IATA
Not dangerous goods

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

Australia SUSMP
Poison Schedule: NS

SECTION 16: Other information

Further information/disclaimer

ChemSupply Australia Pty Ltd does not warrant that this product is suitable for any use or purpose. The user must ascertain the suitability of the product before use or application intended purpose. Preliminary testing of the product before use or application is recommended. Any reliance or purported reliance upon ChemSupply Australia Pty Ltd with respect to any skill or judgement or advice in relation to the suitability of this product of any purpose is disclaimed. Except to the extent prohibited at law, any condition implied by any statute as to the merchantable quality of this product or fitness for any purpose is hereby excluded. This product is not sold by description. Where the provisions of Part V, Division 2 of the Trade Practices Act apply, the liability of ChemSupply Australia Pty Ltd is limited to the replacement of supply of equivalent goods or payment of the cost of replacing the goods or acquiring equivalent goods.

Preparation information

All information provided in this data sheet or by our technical representatives is compiled from the best knowledge available to us. However,since data, safety standards and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, we make no warranty either expressed or implied, with respect to the completeness or accuracy to the information contained herein. ChemSupply Australia Pty Ltd accepts no responsibility whatsoever for its accuracy or for any results that may be obtained by customers from using the data and disclaims all liability for reliance on information provided in this data sheet or by our technical representatives.

Standard for the Uniform Scheduling of Medicines and Poisons, Commonwealth of Australia
National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.'
Safe Work Australia, 'National Code of Practice fot the Preparation of Safety Data Sheets for Hazardous Chemicals', July 2020.
Safe Work Australia, 'National Guide for Classifying Hazardous Chemicals', July 2020.
Safe Work Australia, Workplace Exposure Standards for Airbourne Contaminants, December 2019
Safe Work Australia, Hazardous Chemical Information System (HCIS), hcis.safeworkaustralia.gov.au
IATA, Dangerous Goods Regulations (DGR)
IMO, International Maritime Dangerous Goods Code (IMDG)