

Material Safety Data Sheets

1. IDENTIFICATION

Product Name	Urea
Other Names	Carbamide
Uses	Chemical intermediate; Raw material for the glue and resin industry; Additive for the paper, plastics and textile industry and other industrial sectors; Defrosting agent.
Chemical Family	No Data Available
Chemical Formula	CH ₄ N ₂ O
Chemical Name	Urea
Product Description	No Data Available
Company	Arman sina.co
Contact Information	info@armansina.com www.armansina.com

2. HAZARD IDENTIFICATION

Hazard Classification	NOT hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)
Signal Word	None

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Urea	CH ₄ N ₂ O	57-13-6	<=100 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	IF SWALLOWED: Rinse mouth, then drink plenty of water. Do not induce vomiting. Get medical advice/attention.
Eye	IF IN EYES: Immediately flush eyes with running water for several minutes, holding eyelids open and occasionally lifting the upper and lower lids. Remove contact lenses if present and easy to do. Continue rinsing for at least 15 minutes. If eye irritation persists, get medical advice/attention.
Skin	IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation occurs, get medical advice/attention.
Inhaled	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If respiratory symptoms persist, get medical advice/attention. Apply resuscitation if victim is not breathing - Administer oxygen if breathing is difficult.
Advice to Doctor	Treat symptomatically.
Medical Conditions Aggravated by Exposure	No information available.

5. FIRE FIGHTING MEASURES

General Measures	If safe to do so, move undamaged containers from fire area. Cool containers with water spray until well after fire is out.
Flammability Conditions	Non-combustible; The product itself does not burn.
Extinguishing Media	If material is involved in a fire, use dry chemical, Carbon dioxide (CO ₂), foam or water spray for extinction - Do not use water jets. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Fire and Explosion Hazard	May evolve toxic gases (ammonia, carbon/nitrogen oxides, hydrocarbons) when heated to decomposition. Fire or heat may produce irritating, toxic and/or corrosive fumes, including Ammonia.
Hazardous Products of Combustion	
Special Fire Fighting Instructions	Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Personal Protective Equipment	Wear self-contained breathing apparatus (SCBA) and chemical splash suit. SCBA and structural firefighter's uniform may provide limited protection.
Flash Point	No Data Available
Lower Explosion Limit	No Data Available
Upper Explosion Limit	No Data Available
Auto Ignition Temperature	No Data Available
Hazchem Code	No Data Available

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Ensure adequate ventilation. Do not touch or walk through spilled material - Forms slippery surfaces in contact with water. Avoid generating dust. Avoid breathing dust and contact with eyes, skin and clothing.
Clean Up Procedures	Recover spilt product as soon as possible. Pick up dry and put into suitable containers for recycling or disposal (see SECTION 13). *Urea that has not been degraded or contaminated can be used as intended.
Containment	Stop leak if safe to do so – Prevent entry into waterways, drains or confined areas. Prevent dust cloud.
Decontamination	No information available.
Environmental Precautionary Measures	Prevent entry into drains and waterways.
Evacuation Criteria	Spill or leak area should be isolated immediately. Keep unauthorised personnel away.
Personal Precautionary Measures	Use personal protective equipment as required (see SECTION 8).

7. HANDLING AND STORAGE

Handling	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Minimise dust generation and accumulation. Avoid breathing dust and contact with eyes, skin and clothing. Do not ingest. Use personal protective equipment as required (see SECTION 8).
Storage	Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep container tightly closed. Protect from moisture (hygroscopic); Do not allow to get wet. Keep away from heat and sources of ignition - No smoking. Keep away from foodstuffs, farm chemicals and incompatible materials (see SECTION 10). *Bulk urea should be stored in bays or piles physically apart from other products. The product may set in storage, posing a risk of engulfment when being removed from the stockpile. Conduct Risk Assessments, and ensure appropriate equipment, procedures and training are in place. Ensure stockpiles of bulk bags are stable. Avoid high stacking as this promotes caking.
Container	Keep in the original container.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	No specific exposure standards are available for this product. For dusts from solid substances without specific occupational exposure standards: - Safe Work Australia Exposure Standard (Nuisance dusts): 8 hr TWA = 10 mg/m ³ (measured as inhalable dust). - New Zealand WES (Particulates not otherwise classified): TWA = 10 mg/m ³ ; TWA = 3 mg/m ³ (respirable dust).
Exposure Limits	No Data Available
Biological Limits	No information available.
Engineering Measures	A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.
Personal Protection Equipment	- Respiratory protection: In case of inadequate ventilation, wear respiratory protection. Recommended: Where an inhalation risk exists, wear a Class P1 (Particulate) respirator (refer to AS/NZS 1715 & 1716). - Eye/face protection: Wear appropriate eye protection to avoid eye contact. Recommended: Wear splash-proof or dust-proof goggles. - Hand protection: Handle with gloves. Recommended: Wear cotton or PVC or rubber gloves. - Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Normal work clothing may suffice where contact with the product is limited; When using large quantities or where heavy contamination is likely, wear coveralls.

Special Hazards Precautions	This product can give off ammonia or other odours. As oxygen may be depleted, it is essential that ventilation is carried out prior to entry into confined, unventilated space/ship holds.
Work Hygienic Practices	Do not eat, drink or smoke when using this product. Wash hands before breaks and at the end of workday. Wash contaminated clothing and other protective equipment before storage or reuse. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	Crystals, granules, pellets, prills
Odour	Odourless or slightly ammoniacal
Colour	White
pH	<10 (10% solution)
Vapour Pressure	No Data Available
Relative Vapour Density	No Data Available
Boiling Point	Decomposes
Melting Point	133 - 134 ° C
Freezing Point	No Data Available
Solubility	Very soluble in water
Specific Gravity	1.33
Flash Point	No Data Available
Auto Ignition Temp	No Data Available
Evaporation Rate	No Data Available
Bulk Density	700 - 780 kg/m ³
Corrosion Rate	No Data Available
Decomposition Temperature	No Data Available
Density	No Data Available
Specific Heat	No Data Available
Molecular Weight	No Data Available
Net Propellant Weight	No Data Available
Octanol Water Coefficient	log Pow: -1.56 (20 ° C)
Particle Size	No Data Available
Partition Coefficient	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	No Data Available
Volatile Percent	No Data Available
VOC Volume	No Data Available
Additional Characteristics	No information available.
Potential for Dust Explosion	No information available.
Fast or Intensely Burning Characteristics	No information available.
Flame Propagation or Burning Rate of Solid Materials	No information available.

Non-Flammables That Could Contribute Unusual Hazards to a Fire	No information available.
Properties That May Initiate or Contribute to Fire Intensity	Non-combustible; The product itself does not burn.
Reactions That Release Gases or Vapours	May evolve toxic gases (ammonia, carbon/nitrogen oxides, hydrocarbons) when heated to decomposition.
Release of Invisible Flammable Vapours and Gases	No information available.

10. STABILITY AND REACTIVITY

General Information	Reacts violently with nitrites.
Chemical Stability	Stable under recommended conditions of storage.
Conditions to Avoid	Avoid dust formation. Avoid heat, sparks, open flames and other ignition sources.
Materials to Avoid	Incompatible/reactive with strong oxidising agents, acids, bases.
Hazardous Decomposition Products	May evolve toxic gases (ammonia, carbon/nitrogen oxides, hydrocarbons) when heated to decomposition.
Hazardous Polymerisation	Polymerisation will not occur.

11. TOXICOLOGICAL INFORMATION

General Information	Information on possible routes of exposure: - Ingestion: Low toxicity. Ingestion may result in gastrointestinal irritation, nausea and vomiting. Ingestion of large quantities may result in dizziness, drowsiness, excessive urine, weakness and confusion. - Eye contact: May cause eye irritation, lacrimation, redness, pain. - Skin contact: May cause skin irritation, redness, pain. - Inhalation: Over exposure may result in coughing and irritation of the nose and throat. Chronic effects: No information available.
Acute	
Ingestion	Acute toxicity (Oral): - LD50, Rat: 14,300 mg/kg
Chronic	
Ingestion	Repeated dose toxicity (Oral): - NOAEL, Rat: 2,250 mg/kg
Reproduction	Reproductive toxicity: - NOAEL, Rat: 500 mg/kg
Carcinogen Category	None

12. ECOLOGICAL INFORMATION

Ecotoxicity	Aquatic toxicity: - LC50, Fish (<i>Leuciscus idus</i>): >6,810 mg/l (96 h). - EC50, Crustacea (<i>Daphnia magna</i>): >10,000 mg/l (24 h). - EC50, Algae (<i>Scenedesmus quadricauda</i>): >10,000 mg/l (192 h).
Persistence/Degradability	Readily biodegradable.
Mobility	No information available.
Environmental Fate	Slightly water endangering - Prevent entry into drains and waterways.
Bioaccumulation Potential	Does not bioaccumulate.
Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS

General Information Dispose of contents/container in accordance with local/regional/national regulations. Beneficial reuse is the preferred disposal option.

Special Precautions for Land Fill Packaging should be completely emptied, and then taken to an approved recycler after appropriate cleaning.

14. TRANSPORT INFORMATION

Land Transport

Proper Shipping Name	Urea
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Sea Transport

Proper Shipping Name	Urea
Class	No Data Available
Subsidiary Risk(s)	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
EMS	No Data Available
Marine Pollutant	No
Comments	NON-DANGEROUS GOODS: Not regulated for SEA transport.

Air Transport

Proper Shipping Name	Urea
Class	No Data Available
Subsidiary Risk(s)	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for AIR transport.

15. OTHER INFORMATION

Revision

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Key/Legend

< Less Than
 > Greater Than
 AICS Australian Inventory of Chemical Substances
 atm Atmosphere
 CAS Chemical Abstracts Service (Registry Number)
 cm² Square Centimetres
 CO₂ Carbon Dioxide
 COD Chemical Oxygen Demand
 deg C (° C) Degrees Celcius
 EPA (New Zealand) Environmental Protection Authority of New Zealand
 deg F (° F) Degrees Farenheit
 g Grams
 g/cm³ Grams per Cubic Centimetre
 g/l Grams per Litre
 HSNO Hazardous Substance and New Organism
 IDLH Immediately Dangerous to Life and Health
 immiscible Liquids are insoluable in each other.
 inHg Inch of Mercury
 inH₂O Inch of Water
 K Kelvin
 kg Kilogram
 kg/m³ Kilograms per Cubic Metre
 lb Pound
 LC₅₀ LC stands for lethal concentration. LC₅₀ is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.
 LD₅₀ LD stands for Lethal Dose. LD₅₀ is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals.
 ltr or L Litre
 m³ Cubic Metre
 mbar Millibar
 mg Milligram
 mg/24H Milligrams per 24 Hours
 mg/kg Milligrams per Kilogram
 mg/m³ Milligrams per Cubic Metre
 Misc or Miscible Liquids form one homogeneous liquid phase regardless of the amount of either component present.
 mm Millimetre
 mmH₂O Millimetres of Water
 mPa.s Millipascals per Second
 N/A Not Applicable
 NIOSH National Institute for Occupational Safety and Health
 NOHSC National Occupational Heath and Safety Commission
 OECD Organisation for Economic Co-operation and Development
 Oz Ounce
 PEL Permissible Exposure Limit
 Pa Pascal
 ppb Parts per Billion
 ppm Parts per Million
 ppm/2h Parts per Million per 2 Hours
 ppm/6h Parts per Million per 6 Hours
 psi Pounds per Square Inch
 R Rankine
 RCP Reciprocal Calculation Procedure
 STEL Short Term Exposure Limit
 TLV Threshold Limit Value
 tne Tonne
 TWA Time Weighted Average
 ug/24H Micrograms per 24 Hours
 UN United Nations
 wt Weight