Safety data sheet

ChemiPURE Urea, Molecular Biology Grade

Product name ChemiPURE Urea, Molecular Biology Grade	Catalog no. UR05, UR10
Synonyms Urea; Carbamide; Carbonyldiamide	SDS revision -
CAS no. 57-13-6	Format version / date 3 / 25 October 2026

01 PRODUCT AND COMPANY IDENTIFICATION

Product identifier	ChemiPURE Urea, Molecular Biology Grade
Product code	UR05 (500 g); UR10 (1 kg)
CAS number	57-13-6
EC number	200-315-5
Recommended use	For laboratory research use only. Protein denaturation and solubilization, electrophoresis sample preparation and protein-refolding workflows.
Supplier	EcoTech Biotechnology
Website	www.ecotechbiotech.com
Address	Universite Mah. Ipekyolu Cad. Ata Teknokent Sitesi B Blok No: Z10, Yakutiye, Erzurum, Türkiye
Telephone	0090 544 327 34 97
SDS contact	info@ecotechbiotech.com
Emergency telephone	0090 544 327 34 97
Available	Monday-Saturday/08:00-20:00/GMT+3
Languages	Turkish/English
Outside these hours	Contact: info@ecotechbiotech.com

02 HAZARDS IDENTIFICATION

Classification	Not classified as hazardous under Regulation (EC) No. 1272/2008 (CLP).
Label elements	No hazardous label elements required.
Symbols / pictograms	None
Signal word	None
Hazard statements	None
Precautionary statements - Prevention	Avoid dust formation and inhalation. Use good laboratory hygiene, protective eyewear and suitable gloves.
Precautionary statements - Response	If exposure causes irritation, rinse the affected area with water. Obtain medical advice if symptoms persist.
Other hazards	Airborne particles may irritate the eyes, skin or respiratory tract. Heating or contact with incompatible oxidizing agents may generate hazardous gases.

Composition & response

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03 COMPOSITION / INFORMATION ON INGREDIENTS

Product name	ChemiPURE Urea, Molecular Biology Grade
Synonyms	Urea; Carbamide; Carbonyldiamide
Concentration	≥99% (purity)
Formula	CH4N2O (NH2CONH2)
Molecular weight	60.056 g/mol
Mixture statement	Substance: urea (CAS 57-13-6; EC 200-315-5), purity ≥99%. Remaining minor constituents are not specified.

04 FIRST AID MEASURES

4.1 Description of first aid measures

Eye contact	Rinse immediately with plenty of water, including under eyelids, for at least 15 minutes. Remove contact lenses if easy to do. Seek medical advice if irritation persists.
Skin contact	Wash thoroughly with water and soap. Remove contaminated clothing. Seek medical advice if irritation develops.
Inhalation	Move to fresh air and keep at rest. Seek medical attention for persistent cough, breathing discomfort or other symptoms.
Ingestion	Rinse mouth with water. Do not induce vomiting. Give water if fully conscious; seek medical advice if symptoms occur.
Self-protection of first aider	Avoid breathing dust. Use appropriate personal protective equipment and observe standard laboratory hygiene.
Most important symptoms / effects	Possible transient irritation of eyes, skin and respiratory tract; ingestion of large amounts may cause gastrointestinal discomfort.
Notes to physicians	Treat symptomatically.

05 FIREFIGHTING MEASURES

Suitable extinguishing media	Water spray, dry chemical powder, carbon dioxide or foam suitable for the surrounding fire.
Unsuitable extinguishing media	No specific extinguishing restrictions identified.
Special hazards arising from the substance or mixture	Non-combustible solid. Strong heating or decomposition may release ammonia, nitrogen oxides, carbon oxides and irritating fumes.
Explosion data	Not classified as explosive. Avoid dust accumulation and contact with strong oxidizing agents.
Advice for firefighters	Use self-contained breathing apparatus and protective clothing in fire conditions; prevent contaminated runoff.

Safe use & protection

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06 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	Ventilate the affected area. Avoid dust generation and inhalation. Wear protective gloves, suitable eyewear and protective clothing.
Environmental precautions	Prevent large or uncontrolled releases to drains and waterways.
Methods and materials for containment and cleaning up	Carefully sweep or vacuum using a method that minimizes dust. Collect in a closed, labelled container for disposal.
Reference to other sections	Refer to Sections 8 and 13.

07 HANDLING AND STORAGE

Precautions for safe handling	Avoid inhalation of dust and contact with eyes. Work with good ventilation; keep containers closed when not in use. Do not eat, drink or smoke during handling.
Conditions for safe storage	Store at room temperature (15–25 °C) in a tightly closed container. Keep dry, away from excessive heat, chlorine, hypochlorites and strong oxidizing agents.
Container labeling	Maintain original identification and suitable laboratory safety labelling on all containers.

08 EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

No EU-wide substance-specific occupational exposure limit is specified here. Comply with applicable local limits for airborne dust and chemical exposure.

8.2 Exposure controls

Engineering measures	Use adequate general ventilation. Local exhaust is recommended if dust can be generated.
Hygiene measures	Observe standard chemical hygiene; wash hands after handling and before eating. Keep work surfaces clean.
Eye / face protection	Safety glasses with side shields or chemical safety goggles (EN 166).
Hand protection	Suitable chemical-resistant protective gloves, such as nitrile, selected for the handling task.
Skin and body protection	Laboratory coat and protective clothing appropriate to the task.
Respiratory protection	Not normally required with adequate ventilation; use an appropriate particulate respirator if dust levels cannot be adequately controlled.

Material properties

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09 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	White crystalline solid or powder
Odor	Faint characteristic or ammonia-like odor
Odor threshold	No data available
pH	Approximately 7.5–9.5 (10% aqueous solution)
Melting point / freezing point	Approximately 132–135 °C (with decomposition)
Initial boiling point and boiling range	No applicable boiling point; decomposes on heating
Flash point	Not applicable (solid)
Evaporation rate	Not applicable (solid)
Flammability (solid, gas)	Not combustible under normal conditions
Upper / lower flammability or explosive limits	Not applicable
Vapor pressure	No reliable data available
Vapor density	Not applicable (solid)
Relative density	Approximately 1.335 g/cm³
Solubility(ies)	Freely soluble in water; approximately 1,080 g/L at 20 °C
Partition coefficient: n-octanol / water	log Pow approximately -1.73
Auto-ignition temperature	No data available
Decomposition temperature	Decomposes upon heating above the melting range
Viscosity	Not applicable (solid)
Explosive properties	Not classified as explosive
Oxidizing properties	Not classified as oxidizing

10 STABILITY AND REACTIVITY

Reactivity	No hazardous reactivity expected during normal laboratory use.
Chemical stability	Stable when kept tightly closed and dry under recommended storage conditions.
Possibility of hazardous reactions	Can react with strong oxidizing agents; hazardous polymerization is not expected.
Conditions to avoid	Excessive heat, moist storage and contact with incompatible chemicals.
Incompatible materials	Strong oxidizers, chlorine and sodium hypochlorite.
Hazardous decomposition products	Thermal decomposition may generate ammonia, nitrogen oxides and carbon oxides.

Health & environment

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11 TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity	Not classified for acute toxicity. Oral LD50 (rat): approximately 8,471 mg/kg (reported for urea).
Skin corrosion / irritation	Not classified for skin corrosion or irritation; repeated contact or dust may cause temporary irritation.
Serious eye damage / eye irritation	Not classified for serious eye damage or irritation; airborne dust can cause mechanical irritation.
Carcinogenicity	Not classified as carcinogenic based on available information.
Reproductive toxicity	Not classified for reproductive toxicity based on available information.
STOT - SE	Not classified for STOT-single exposure; inhaling dust may temporarily irritate the respiratory tract.
STOT - RE	Not classified for STOT-repeated exposure based on available information.
Aspiration hazard	Not applicable to a solid substance.

11.2 Potential health effects

Ingestion: Large quantities may cause gastrointestinal symptoms.
Inhalation: Dust may cause cough or airway irritation.
Skin: Prolonged or repeated contact may cause mild irritation.
Eyes: Dust may cause transient irritation and redness.

11.3 Additional information

No further product-specific toxicological data available.

12 ECOLOGICAL INFORMATION

Ecotoxicity	Fish LC50 (96 h, Poecilia reticulata): 16,200–18,300 mg/L. Daphnia magna EC50 (48 h): approximately 3,910 mg/L.
Persistence and degradability	Expected to be biodegradable in the environment.
Bioaccumulative potential	Low bioaccumulation potential; log Pow approximately -1.73.
Mobility in soil	Highly water soluble; may move readily with water through soil.
Results of PBT and vPvB assessment	Not considered PBT or vPvB on available information.

13 DISPOSAL CONSIDERATIONS

Waste treatment methods

Product	Collect unused product and contaminated material for disposal in accordance with national and local waste regulations. Avoid uncontrolled discharge to drains or waterways.
Contaminated packaging	Empty contaminated containers should be disposed of in accordance with applicable regulations; recycle only after suitable cleaning.

Transport & reference

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14 TRANSPORT INFORMATION

Mode	UN no.	UN proper shipping name	Hazard class	Packing group	Environmental hazards
ADR/RID	-	Not regulated	-	-	No
IMDG	-	Not regulated	-	-	No
IATA	-	Not regulated	-	-	No

15 REGULATORY INFORMATION

Safety, health and environmental regulations / legislation	Regulation (EC) No. 1907/2006 (REACH), Regulation (EC) No. 1272/2008 (CLP) and relevant national provisions. Urea: CAS 57-13-6; EC 200-315-5. No CLP hazard labelling required on the available classification.
Environmental hazards	Not classified as hazardous to the aquatic environment under CLP.
Chemical safety assessment	No product-specific chemical safety assessment available.

16 OTHER INFORMATION

Key to abbreviations and acronyms

STOT-SE	Specific Target Organ Toxicity - Single Exposure
STOT-RE	Specific Target Organ Toxicity - Repeated Exposure
PBT	Persistent Bioaccumulative and Toxic
vPvB	very Persistent very Bioaccumulative and toxic
ADR	European Agreement concerning the international carriage of Dangerous goods by Road
CAS	Chemical Abstracts Service
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime code for Dangerous Goods
REACH	Registration, Evaluation, Authorization and restriction of Chemicals
RID	Regulations concerning the International transport of Dangerous goods by rail