



# MATERIAL SAFETY DATA SHEET

2522 Plantation Center Drive  
Matthews, NC 28105  
(704) 845 9440  
www.ciscochem.com

1. PRODUCT NAME: Urea
2. CHEMICAL NAME:
3. SYNONYMS: UREA ACS REAGENT
4. CAS NUMBER: 57-13-6
5. COMPOSITION: UREA ACS REAGENT (57-13-6) - 98%
6. PROPERTIES: PHYSICAL AND CHEMICAL PROPERTIES  
APPEARANCE  
PHYSICAL STATE: Solid  
MOLECULAR WEIGHT: 60.06 AMU  
PH: 7.5 – 9.5  
BP/BP Range: N/A  
MP/MP Range: 133 - 135 C  
FREEZING POINT: N/A  
VAPOR PRESSURE: N/A  
VAPOR DENSITY: N/A  
SATURATED VAPOR CONCENTRATION: N/A  
SG/DENSITY: 1.335 g/cm<sup>3</sup>  
BULK DENSITY: N/A  
ODOR THRESHOLD: N/A  
VOLATILE %: N/A  
VOC CONTENT: N/A  
WATER CONTENT: N/A  
SOLVENT CONTENT: N/A  
EVAPORATION RATE: N/A  
VISCOSITY: N/A  
PARTITION COEFFICIENT: N/A  
DECOMPOSITION TEMP.: N/A  
FLASH POINT F: N/A  
FLASH POINT C: N/A  
EXPLOSION LIMITS: N/A  
FLAMMABILITY: N/A  
AUTOIGNITION TEMP: N/A  
SOLUBILITY  
SOLUBILITY IN WATER: 8 M in H<sub>2</sub>O, 20 C, complete, colorless  
STABILITY: Stable  
MATERIALS TO AVOID: Strong Oxidizing agents.  
HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, Carbon dioxide, Nitrogen oxides  
HAZARDOUS POLYMERIZATION: Will not occur
7. HAZARDS: EMERGENCY OVERVIEW: Irritant, irritating to eyes, respiratory system, and skin.  
HMIS RATING: Health – 2, Flammability – 0, Reactivity – 0  
NFPA RATINGS: Health – 2, Flammability – , Reactivity – 0
8. FIRE FIGHTING INFORMATION: AUTOIGNITION TEMP: N/A  
EXTINGUISHING MEDIA: SUITABLE: Water spray, carbon dioxide, dry chemical powder, or appropriate foam.

IN CASE OF  
TRANSPORT EMERGENCY  
CONTACT CHEMTREC  
USA: 1-800-424-9300  
INTERNATIONAL: 1-703-527-3887



Carolina International Sales Co., Inc

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FIRE-FIGHTING: PROTECTIVE EQUIPMENT: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.  
SPECIFIC HAZARDS: Emits toxic fumes under fire conditions.

9. PERSONAL ENGINEERING CONTROLS: Safety shower and eye bath. Mechanical exhaust required.

PROTECTION PERSONAL PROTECTIVE EQUIPMENT

MEASURES: RESPIRATORY: Government approved respirator

HAND: Compatible chemical-resistant gloves

EYE: Chemical safety goggles

GENERAL HYGIENE MEASURES: Wash thoroughly after handling.

10. FIRST AID ORAL EXPOSURE: If swallowed, wash out mouth with water provided person is conscious. Call a physician.

PROCEDURES: INHALATION EXPOSURE: If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

DERMAL EXPOSURE: In case of skin contact, immediately wash skin with soap and copious amounts of water.

EYE EXPOSURE: In case of contact, immediately flush eyes with copious amounts of water for least 15 minutes.

11. EXPOSURE NE  
LIMITS:

12. TOXICOLOGICAL ROUTE OF EXPOSURE

INFORMATION: SKIN CONTACT: Causes skin irritation

SKIN ABSORPTION: May be harmful if absorbed through skin

EYE CONTACT: Causes eye irritation

INHALATION: Material is irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.

INGESTION: May be Harmful if swallowed

SIGNS AND SYMPTOMS OF EXPOSURE: To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

RTECS Number: YR6250000

TOXICITY DATA

ORAL – Rat: 8,471 mg/kg (LD50)

INTRAPERITONEAL – Rat: >5 MG/KG (LD50)

SUBCUTANEOUS – Rat: 8200 MG/KG (LD50)

Remarks: Behavioral: Altered sleep time (Including change in righting reflex).

Behavioral: Change in Motor activity (specific assay).

Behavioral: Antipsychotic.

INTRAVENOUS – Rat: 5300 MG/KG (LD50)

Remarks: Behavioral: Altered sleep time (including change in righting reflex).

Behavioral: Change in motor activity (specific assay).

Behavioral: Antipsychotic.

Blood: Methemoglobinemia-Carboxyhemoglobin.

INTRATRACHEAL – Rat: 567 MG/KG (LD50)

Remarks: Behavioral: Convulsions or effect on seizure threshold.

Lungs, Thorax, or Respiration: Dyspnea.

Blood: Methemoglobinemia-Carboxyhemoglobin.

ORAL – mouse: 11,000 mg/kg (LD50)

SUBCUTANEOUS – Mouse: 9200 MG/KG (LD50)



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Remarks: Behavioral: Altered sleep time (including change in righting reflex).

Behavioral: Change in motor activity (specific assay).

Behavioral: Antipsychotic.

INTRAVENOUS – Mouse: 4600 MG/KG (LD50)

Remarks: Behavioral: Altered sleep time (including change in righting reflex).

Behavioral: Change in motor activity (specific assay).

Behavioral: Antipsychotic.

### IRRITATION DATA

SKIN – Human: 22 mg 3D I

Remarks: Mild irritation effect

SKIN – Human: 22 mg 3D I

Remarks: Mild irritation effect

### CHRONIC EXPOSURE CARCINOGEN

ORAL – Rat: 821 GM/KG 1Y C

Result: Tumorigenic: Neoplastic by RTECS criteria. Blood: Tumors. Blood: Lymphomas including Hodgkin's disease.

ORAL – Mouse: 394 GM/KG 1Y C

Result: Tumorigenic: Carcinogenic by RTECS criteria. Blood: Tumors. Blood: Lymphomas including Hodgkin's disease.

### CHRONIC EXPOSURE – MUTAGEN

Result: Laboratory experiments have shown mutagenic effect.

Human - 600 MMOL/L - Lymphocyte - DNA inhibition

Human - 50 MMOL/L - Leukocyte - Cytogenetic analysis

Mouse - 628 MMOL/L - Lymphocyte - DNA damage

Mouse - 100 GM/KG - Oral - 5D - . - Cytogenetic analysis

Mouse - 265 MMOL/L - Lymphocyte - Mutation in mammalian somatic cells

Hamster - 8 MOL/L - Fibroblast - DNA damage

Hamster - 16 GM/L - 24H - Fibroblast - Cytogenetic analysis

Hamster - 13 GM/L - Lung - Cytogenetic analysis

### CHRONIC EXPOSURE – REPRODUCTIVE HAZARD

Woman - 1400 MG/KG - Intraplacental - (16W PREG)

Result: Effects on Fertility: Abortion

Woman - 1600 MG/KG - Intraplacental - (16W PREG)

Result: Effects on Fertility: Abortion

Monkey - 6 GM/KG - Intrauterine (18W PREG)

Result: Effects on Fertility: Abortion

### 13. ECOLOGICAL NE INFORMATION:

14. DISPOSAL APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION  
CONSIDERAIONS: Contact licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an after burner and scrubber. Observe all federal, state, and local environmental regulations.

15. CARCINOGENIC Chronic Exposure Carcinogen. See Toxicity Data.  
PROPERTIES &  
NOTIFICATIONS:



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16. TRANSPORT DOT  
INFORMATION: PROPPER SHIPPING NAME: None  
NON-HAZARDOUS FOR TRANSPORT: Non-hazardous for air transport.  
IATA  
NON-HAZARDOUS FOR AIR TRANSPORT: Non-hazardous for air transport  
EU DIRECTIVES CLASSIFICATION  
SYMBOL OF DAMAGE: Xi  
INDICATION OF DANGER: Irritant  
RISK STATEMENTS: Irritating to eyes, respiratory system, and skin. R: 36/37/38  
SAFETY STATEMENTS: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing. S: 26 36  
US CLASSIFICATION AND LABEL TEXT  
INDICATION OF DANGER: Irritant.  
RISK STATEMENTS: Irritating to eyes, respiratory system, and skin.  
SAFETY STATEMENTS: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.  
UNITED STATES REGULATORY INFORMATION  
SARA LISTED: no  
TSCA INVENTORY ITEM: yes
17. HANDLING & HANDLING  
STORAGE: USER EXPOSURE: Do not breathe dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.  
STRORAGE  
SUITABLE: Keep tightly closed. Store in a cool dry place
18. ACCIDENTAL PROSEDURES OF PERSONAL PRECAUTIONS: Wear respirator, chemical safety goggles, rubber  
RELEASE boots, and heavy rubber gloves.  
MEASURES: METHODS FOR CLEANING: Sweep up, place in a bag and hold for waste disposal. Avoid raising dust.  
Ventilate area and wash spill site after material pickup is complete.
19. REGULATORY For R & D use only. Not for drug, household or other uses.  
INFORMATION: