

# UREA MSDS

## 1. Product Name and Identification

**Product Name:** [Urea](#)

**CAS Number:** 57-13-6

**Chemical Name:** Carbamide

**Synonyms:** Carbonyldiamide, Carbonic acid diamide

**Product Use:** Fertilizer, feed additive, chemical intermediate, component in resin manufacturing

**Manufacturer Information:**

[Insert Manufacturer's Name, Address, and Contact Information]

**Emergency Contact Number:** [Insert Emergency Contact Number]

## 2. Composition/Ingredients

**Chemical Name:** Urea

**Chemical Formula:** CH<sub>4</sub>N<sub>2</sub>O

**CAS Number:** 57-13-6

**Concentration:** 99% or higher (purity may vary depending on grade)

**Impurities:** Trace amounts of biuret and other non-hazardous substances (specific details depend on manufacturing source and grade).

## 3. Hazards Identification

### Classification

- **Not classified as hazardous under GHS criteria.**

### Label Elements

- **Pictogram(s):** None required
- **Signal Word:** None required
- **Hazard Statement(s):** Not applicable
- **Precautionary Statement(s):** Handle in accordance with good industrial hygiene and safety practices.

### Potential Health Risks

- **Eye Contact:** May cause mild irritation.

- **Skin Contact:** Prolonged or repeated contact may cause slight irritation.
- **Inhalation:** Excessive exposure to dust may irritate respiratory tract.
- **Ingestion:** May cause gastrointestinal discomfort if large amounts are ingested.

## **Environmental Hazards**

- Low environmental hazard; readily biodegradable.

## **4. First Aid Measures**

### **General Advice**

If symptoms persist or in case of any discomfort, seek medical attention immediately.

- **Eye Contact:** Rinse with clean water for several minutes. Remove contact lenses if present and continue rinsing.
- **Skin Contact:** Wash affected area with soap and water. If irritation occurs, seek medical attention.
- **Inhalation:** Move to fresh air. If breathing difficulties persist, seek medical attention.
- **Ingestion:** Rinse mouth with water. Do not induce vomiting. Drink water to dilute. Seek medical advice if large amounts are ingested or if discomfort develops.

## **5. Handling and Storage**

### **Handling**

- Avoid generating and inhaling dust.
- Wear appropriate personal protective equipment.
- Use in a well-ventilated area.

### **Storage**

- Store in a cool, dry, and well-ventilated area.
- Keep container tightly closed.
- Avoid exposure to moisture or direct sunlight.

## **6. Exposure Controls/Personal Protection**

### **Exposure Limits**

- Not established for urea.

### **Engineering Controls**

- Ensure suitable ventilation in areas where urea dust may be generated.

## Personal Protective Equipment (PPE)

- **Eye Protection:** Safety glasses with side shields.
- **Skin Protection:** Protective gloves (e.g., nitrile or rubber).
- **Respiratory Protection:** Dust mask or respirator if excessive dust is generated.
- **Hygiene Measures:** Wash hands thoroughly after handling and before eating or drinking.

## 7. Physical and Chemical Properties

- **Physical State:** Solid
- **Appearance:** White crystalline granules or powder
- **Odor:** Odorless
- **Melting Point:** Decomposes before melting at 132–135 °C (270–275 °F)
- **Solubility:** Freely soluble in water
- **pH (aqueous solution):** 7.2–7.5
- **Density:** 1.32 g/cm<sup>3</sup>
- **Molecular Weight:** 60.06 g/mol

## 8. Stability and Reactivity

### Stability

- Stable under normal handling and storage conditions.

### Reactivity

- **Hazardous Reactions:** None known under normal conditions.
- **Material to Avoid:** Strong oxidizing agents, acids, and alkalis.

### Decomposition Products

- Carbon dioxide (CO<sub>2</sub>) and ammonia (NH<sub>3</sub>) may be released at elevated temperatures.

## 9. Toxicological Information

### Acute Toxicity

- **Oral LD50 (Rat):** Approximately 14,300 mg/kg (low toxicity).

### Skin Contact

- Mildly irritating with prolonged exposure.

## **Eye Contact**

- May cause slight irritation.

## **Chronic Exposure**

- No significant effects known under normal conditions of use.

## **Additional Information**

- Non-carcinogenic and not classified as a reproductive hazard.

## **10. Disposal Considerations**

- Dispose of urea in accordance with local, regional, and national regulations.
- Avoid disposing of large quantities into the environment.
- For small quantities, it may be diluted with water and used as fertilizer if applicable.
- Ensure proper disposal of packaging materials; consider recycling if possible.

**Disclaimer:** The information provided here is based on available data and is intended for safety guidance. This MSDS does not replace regulatory or legal requirements for specific jurisdictions. Always consult local regulatory authorities for compliance guidelines.