



MATERIAL SAFETY DATA SHEET (MSDS) – UREA

Section 1: Product and Company Identification

- **Product Name:** Urea
- **Chemical Formula:** $\text{CO}(\text{NH}_2)_2$
- **CAS Number:** 57-13-6
- **Molecular Weight:** 60.06 g/mol
- **Intended Use:** Fertilizer, chemical reagent, feed additive, and industrial applications.
- **Supplier:** Basekim

Section 2: Composition / Information on Ingredients

- **Chemical Name:** Urea
- **Synonyms:** Carbamide, Carbonyl Diamide
- **Purity:** $\geq 99\%$
- **Hazardous Components:** None

Section 3: Hazards Identification

- **Hazard Classification:** Non-hazardous substance
- **GHS Classification:** Not classified as hazardous
- **Health Hazards:**
 - May cause mild irritation to eyes and skin.
 - Inhalation of dust may cause respiratory irritation.
 - Ingestion in large amounts may cause gastrointestinal discomfort.
- **Environmental Hazards:** Can contribute to eutrophication if released in water bodies in large quantities.

Section 4: First Aid Measures

- **Inhalation:** Remove to fresh air. Seek medical attention if symptoms persist.
- **Skin Contact:** Wash with soap and water. Seek medical attention if irritation occurs.
- **Eye Contact:** Rinse eyes with plenty of water for at least 15 minutes. Seek medical attention if irritation persists.
- **Ingestion:** Rinse mouth with water. If symptoms occur, seek medical attention.

Section 5: Firefighting Measures

- **Flash Point:** Not applicable
- **Flammability:** Non-flammable
- **Suitable Extinguishing Media:** Water spray, foam, dry chemical, or CO_2 .
- **Special Firefighting Procedures:** Firefighters should wear protective gear and self-contained breathing apparatus.
- **Hazardous Combustion Products:** May produce ammonia, carbon dioxide, and nitrogen oxides when heated to decomposition.



Section 6: Accidental Release Measures

- **Personal Precautions:** Use protective gloves and goggles. Avoid creating dust.
- **Environmental Precautions:** Prevent large spills from entering waterways.
- **Cleanup Methods:** Sweep up and collect in suitable containers for disposal. Wash area with water.

Section 7: Handling and Storage

- **Handling:**
 - Avoid inhalation of dust.
 - Use in a well-ventilated area.
 - Avoid prolonged contact with skin.
- **Storage:**
 - Store in a cool, dry, and well-ventilated place.
 - Keep away from moisture, acids, and oxidizing agents.
 - Store in tightly closed containers.

Section 8: Exposure Controls / Personal Protection

- **Occupational Exposure Limits:** No established exposure limits.
- **Engineering Controls:** Use local exhaust ventilation if necessary.
- **Personal Protective Equipment (PPE):**
 - **Respiratory Protection:** Dust mask if airborne dust is present.
 - **Eye Protection:** Safety goggles.
 - **Skin Protection:** Protective gloves.
 - **Hygiene Measures:** Wash hands after handling.

Section 9: Physical and Chemical Properties

- **Appearance:** White crystalline solid
- **Odor:** Odorless
- **Melting Point:** 132 - 135°C
- **Boiling Point:** Decomposes before boiling
- **Solubility in Water:** Soluble (108 g/L at 20°C)
- **Density:** 1.32 g/cm³
- **pH (10% solution):** 7.2 - 7.5

Section 10: Stability and Reactivity

- **Stability:** Stable under normal conditions.
- **Incompatible Materials:** Strong acids, oxidizers, and nitrates.
- **Hazardous Decomposition Products:** Ammonia, carbon dioxide, nitrogen oxides.
- **Polymerization:** Will not occur.

Section 11: Toxicological Information

- **Acute Toxicity:**



- **Oral (LD50 - Rat):** 8,471 mg/kg (low toxicity)
- **Dermal (LD50 - Rabbit):** No significant toxicity
- **Carcinogenicity:** Not classified as a carcinogen.
- **Reproductive Toxicity:** No known effects.
- **Mutagenicity:** No known effects.

Section 12: Ecological Information

- **Environmental Impact:** Can contribute to water eutrophication if released in large quantities.
- **Bioaccumulation:** Low potential.
- **Degradability:** Readily biodegradable.

Section 13: Disposal Considerations

- **Waste Disposal:** Dispose of according to local regulations.
- **Packaging Disposal:** Recycle or dispose of in an approved facility.

Section 14: Transport Information

- **UN Number:** Not regulated
- **Hazard Class:** Not classified
- **Packing Group:** Not applicable
- **Transport Labels:** None required

Section 15: Regulatory Information

- **GHS Classification:** Not classified as hazardous
- **TSCA Status:** Listed
- **REACH Status:** Registered
- **OSHA Hazards:** None

Section 16: Other Information

- **NFPA Ratings:**
 - **Health:** 1 (Slight hazard)
 - **Flammability:** 0 (Non-flammable)
 - **Reactivity:** 0 (Stable)
- **Revision Date:** March 2025