



Specification for Urea (Carbamide) 46% Nitrogen

1. General Information

- **Chemical Name:** Urea
- **Chemical Formula:** $\text{CO}(\text{NH}_2)_2$
- **CAS Number:** 57-13-6
- **HS Code:** 31021000
- **Appearance:** White, free-flowing granules or prills
- **Odor:** Odorless
- **Solubility:** Highly soluble in water
- **Melting Point:** 132 – 135°C

2. Chemical Composition

Parameter	Specification
Nitrogen Content (N)	Min 46.0%
Moisture	Max 0.5%
Biuret	Max 1.0%
Free Ammonia (NH_3)	Max 160 ppm
Particle Size (Granular)	2 – 4 mm (90% min)
Particle Size (Prilled)	1 – 2.8 mm (90% min)
Color	White
Bulk Density (Granular)	720 – 770 kg/m^3
Bulk Density (Prilled)	640 – 700 kg/m^3
pH (10% solution)	7.0 – 9.0

3. Applications

- **Agriculture:** Used as a high-nitrogen fertilizer to enhance crop yield.
- **Industrial Uses:**
 - Production of adhesives, resins, and plastics.
 - Ingredient in animal feed.
 - Used in diesel exhaust fluid (DEF) as **AdBlue** to reduce NOx emissions.
 - Used in pharmaceuticals and cosmetics.

4. Packaging & Storage

- **Packaging:**
 - 50 kg PP bags with PE liner
 - 500 kg and 1000 kg Jumbo bags
 - Bulk shipment available
- **Storage:**
 - Store in a cool, dry, and well-ventilated area.
 - Protect from moisture to prevent caking.
 - Keep away from direct sunlight and heat.