PETROCHEMICALS & FERTILIZERS · TECHNICAL DATA SHEET

Urea 46% ($CO(NH_2)_2$) — Grade Specifications

Granular Urea 46% · Prilled Urea 46% · Technical / Automotive DEF Uncoated Feedstock (ISO 22241 Ref.)

BEG-TDS-UREA46

HS Code: 3102.10 · **CAS:** 57-13-6
Inspection: SGS / Intertek Port COA
beroilenergy.com/urea-46-supplier

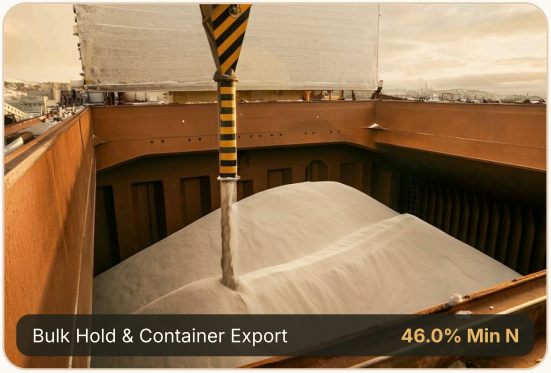
NITROGEN CONTENT	MIN. CONTRACT QTY	INCOTERMS	QUALITY ASSURANCE
46.0% Wt Min	100 MT – 10,000+ MT	FOB · CPT · CFR ASWP	SGS / Intertek

Product Overview & Export Allocation

46% N · Solid Grade

Beroil Energy Group exports refinery-direct Urea 46% in Granular, Prilled, and Uncoated Technical/DEF feedstock qualities from major petrochemical complexes. Containing a guaranteed 46.0% minimum total nitrogen with controlled low biuret (≤ 0.9%) and moisture (≤ 0.3%), shipments support broadacre agriculture, resin/adhesive synthesis, and Diesel Exhaust Fluid (AUS 32 / AdBlue) production.

Granular 2–4 mm (90% Min) · Prilled 1–2.8 mm (90% Min) · Formaldehyde-Free DEF Feedstock · Bulk Vessel & Bagged Loads



01 · Granular Urea 46% & Prilled Urea 46% (Agricultural & Blend Export Grades)

PACKAGING	MIN. ORDER	DELIVERY	VERIFICATION
50 kg PP/PE · 1 MT FIBC · Bulk	100 MT (Bags) / 10,000 MT (Bulk)	FOB, CPT, CFR ASWP	SGS / Intertek COA

PARAMETER	UNIT	TEST METHOD	GRANULAR 46%	PRILLED 46%
Total Nitrogen (Dry Basis)	% wt	ISO 15604 / AOAC	**46.0 Min**	**46.0 Min**
Biuret Content	% wt	ISO 2754 / Spectrophotometric	**0.90 Max**	**0.90 Max**
Moisture Content	% wt	Karl Fischer / Vacuum Dry	**0.30 Max**	**0.30 Max**
Particle Size Distribution	mm	Sieve Analysis	**2.0 – 4.0 mm (≥ 90%)**	**1.0 – 2.8 mm (≥ 90%)**
Free Ammonia (NH_3)	mg/kg	Titration	160 Max	160 Max
Conditioning / Anti-Caking	% wt	Standard Export Option	≤ 0.45% Formaldehyde (or Nil)	Untreated / Anti-Caked Opt.
Loose Bulk Density (Typical)	kg/m³	Gravimetric	720 – 780	700 – 750
Appearance & Flowability	—	Visual	White free-flowing granules	White free-flowing prills

02 · Uncoated Technical Urea Feedstock & ISO 22241-1 AUS 32 (DEF) Quality Targets

QUALITY PARAMETER	SOLID TECHNICAL FEEDSTOCK SPEC	ISO 22241-1 AUS 32 (32.5% SOLUTION) LIMIT
Urea / Nitrogen Assay	**46.0% Min Nitrogen ($CO(NH_2)_2$)**	31.8% – 33.2% Urea (Density 1.0870–1.0930 g/cm³ @ 20 °C)
Biuret & Free Alkalinity (as NH_3)	**Biuret ≤ 0.90% · Alkalinity ≤ 0.02%**	Biuret ≤ 0.30% · Alkalinity ≤ 0.20%
Aldehydes / Anti-Caking Additives	**Nil (100% Uncoated Feedstock)**	≤ 5.0 mg/kg Total Aldehydes
Water Insoluble Matter	**20 mg/kg Max (ISO 22241-2 G)**	≤ 20 mg/kg
Phosphate (PO_4) & Trace Metals	Low-ash deionized synthesis stock	PO_4 ≤ 0.5 mg/kg · Ca/Fe/K/Mg/Na/Al ≤ 0.5 · Cu/Zn/Cr/Ni ≤ 0.2 mg/kg

Physicochemical Reference, Grade Selection & Maritime Export Logistics

03 · Chemical & Physical Reference

$CO(NH_2)_2$

Chemical Formula / CAS	**$CO(NH_2)_2$ · CAS 57-13-6**
Molar Mass	60.06 g/mol
Melting Point	132.7 °C (decomposes above 135 °C)
Solubility in Water (20 °C)	1,079 g/L (endothermic dissolution)
Solution pH (10% aqueous)	7.2 – 9.0
Solid Crystal Density	1.32 g/cm³ @ 20 °C
Hazard Classification	Non-hazardous dry cargo (IMDG / ADR)

04 · Granular vs. Prilled Selection

Application Fit

CRITERIA	GRANULAR UREA	PRILLED UREA
Crushing Strength	**Higher mechanical hardness**	Moderate strength
Spreader Swath	Wide (up to 36 m)	Medium (up to 18 m)
NPK Bulk Blending	**Matches DAP/MAP/MOP size**	Higher segregation risk
Dissolution Speed	Steady soil release	**Rapid (fertigation / DEF)**
Resins & AdBlue	Suitable if uncoated	**Preferred uncoated feed**

05 · Export Packaging Formats, Container Stuffs & Vessel Charters

SHIPPING FORMAT	NET CAPACITY	INCOTERMS	LOGISTICS & TERMINAL FIT
50 kg Woven PP + PE Inner Liner	**50 kg Bag**	20ft / 40ft FCL · Breakbulk	UV-stabilized moisture-barrier bags; ~24–27 MT per 20ft container
1,000 kg / 1,250 kg Jumbo FIBC	**1.0 – 1.25 MT**	FCL · Flatbed · Breakbulk	4-loop lifting design with top spout & PE inner liner for port discharge
Bulk Maritime Vessel Charter	**5,000 – 35,000 MT**	FOB · CFR ASWP	Direct terminal conveyor spout loading with SGS draft survey & hold inspection

Storage & Anti-Caking Guidance: Urea 46% is hygroscopic above ~75% relative humidity. Store bagged cargo on pallets away from direct sun and moisture; stack jumbo bags max 2–3 high on dry, ventilated warehouse floors.

06 · Standard Export Execution & Documentation Flow

Trade Terms

STEP 01 · GRADE & COATING

Granular vs. Prilled & Formaldehyde Option

Confirm Granular (2–4 mm) or Prilled (1–2.8 mm), anti-caking treatment (agriculture vs. 100% uncoated DEF/resin), and port tonnage.

STEP 02 · QUOTE & ALLOCATION

Soft Offer & SGS Baseline Verification

Receive firm FOB, CPT, or CFR ASWP pricing backed by SGS/Intertek analytical limits (46.0% N, ≤ 0.9% biuret, ≤ 0.3% moisture).

STEP 03 · PACKAGING & BOOKING

Bags, Jumbo FIBCs or Bulk Laycan

Schedule stuffing in 50 kg PP+PE bags, 1 MT FIBCs, or bulk hold chartering under confirmed T/T or irrevocable L/C at Sight.

STEP 04 · COA & CUSTOMS PACK

Independent Port Assay & B/L Release

Full commercial invoice, packing list, Bill of Lading, Certificate of Origin, Non-Radioactivity, and SGS Quality/Weight Certificate.

Need Firm Urea 46% Pricing or an Uncoated DEF Sample COA?

Specify grade (Granular, Prilled, or Uncoated Technical), packaging (50 kg, 1 MT FIBC, or bulk vessel), tonnage, and destination port for an allocation offer.

Request Quote / Lot COA →

beroilenergy.com/urea-46-supplier

info@beroilenergy.com · +44 7449 139023