

TECHNICAL DATA SHEET

Urea - Organic Nitrogen Technical Grade

Technical

CAS NUMBER	ALLIANCE CODE	GENERATED
57-13-6	urea-organic-nitrogen	2026-08-31
REVISION	REVIEWED	
1.1	2026-06-17 · Andre Taki	

IDENTITY & COMPOSITION

PRODUCT NAME	ALLIANCE CODE
Urea - Organic Nitrogen Technical Grade	urea-organic-nitrogen
GRADE	CONCENTRATION
Technical	—
CAS NUMBER	FORMULA
57-13-6 PubChem	CH4N2O PubChem
MOLECULAR WEIGHT	PRODUCT TYPE
60.056 PubChem	pure_substance

SPECIFICATIONS

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Urea content	≥ 99 Wt. %	99.4 Wt. %	—	Supplier specification
Formaldehyde	≤15 mg/kg	2 mg/kg	—	Supplier specification
Alkalinity as NH3	≤ 0.6 %	0.03 %	—	Supplier specification

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Aluminum	≤ 1.5 mg/kg	0.08 mg/kg	—	Supplier specification
Free Ammonia (NH ₃)	max. 0,02 %	0.005 %	Volumetry	Supplier specification
Ash	max. 0,02 %	0.004 %	Gravimetric analysis	Supplier specification
Calcium as Ca	≤1.5 mg/kg	0.15 mg/kg	—	Supplier specification
Chlorides (Cl ⁻)	max. 0,001 %	0.0002 %	Colorimetry	Supplier specification
Chromium as Cr	≤ 0.6 mg/kg	0.03 mg/kg	—	Supplier specification
Copper as Cu	≤ 0.6 mg/kg	0.02 mg/kg	—	Supplier specification
Granulometry, 0,5 – 3,0 mm, prills	min. 96,0 %	98.5 %	Sieving	Supplier specification
Insoluble matter	≤ 57 mg/kg	8 mg/kg	—	Supplier specification
Magnesium as Mg	≤ 1.5 mg/kg	0.05 mg/kg	—	Supplier specification
Nickel as Ni	≤ 0.6 mg/kg	0.02 mg/kg	—	Supplier specification

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Nitrogen, total	≥46 %	46.4 %	AOAC 2.4.05 (978-02)	Supplier specification
Particle size (prilled technical grade)	Min. 80 % retained between 1 mm and 2.8 mm	Passes test	IS sieve	Supplier specification
Phosphate as PO ₄	≤ 1.5 mg/kg	0.10 mg/kg	—	Supplier specification
Potassium as K	≤1.5 mg/kg	0.05 mg/kg	—	Supplier specification
Sodium as Na	≤1.5 mg/kg	0.20 mg/kg	—	Supplier specification
Insoluble in water	max. 0,005 %	0.001 %	Gravimetric analysis	Supplier specification
Total nitrogen (N), expressed as amide N	min. 46,0 %	46.3 %	Volumetry	Supplier specification
Zinc as Zn	≤ 0.6 mg/kg	0.05 mg/kg	—	Supplier specification
Biuret	≤ 0.90 Wt. %	0.25 wt. %	—	Supplier specification
Iron as Fe	≤ 1.5 mg/kg	0.3 ppm Fe	—	Supplier specification
Moisture	≤ 0.5 Wt. %	0.20 wt. % H ₂ O	—	Supplier specification

Specification values are guaranteed limits. Typical values are representative of production lots and are not guaranteed. Lot-specific certificates of analysis ship with every order.

PHYSICAL & CHEMICAL PROPERTIES

One or more physical-property values are temporarily suppressed pending verification against vendor COA data. For complete properties refer to the Safety Data Sheet (SDS) or contact sales@alliancechemical.com.

PROPERTY	VALUE	SOURCE
Appearance	Urea appears as solid odorless white crystals or pellets. Density 1.335 g /cc. Noncombustible.	Published reference
Form	Pellets	Published reference
Odor	MAY GRADUALLY DEVELOP SLIGHT ODOR OF AMMONIA, ESP IN PRESENCE OF MOISTURE	Published reference
Density	1.34 at 68 °F (USCG, 1999) – Denser than water; will sink	Published reference
Boiling Point	Decomposes (NTP, 1992)	Published reference
Melting Point	275 °F (NTP, 1992)	Published reference
Flash Point	>200°C	Published reference
Vapor Pressure	0.000012 [mmHg]	Published reference
Solubility (water)	Soluble (NTP, 1992)	Published reference

REGULATORY & TRANSPORT

DOT / 49 CFR

UN NUMBER

Not regulated [Adjudicated](#)

PACKING GROUP

Not regulated [Adjudicated](#)

HAZARD CLASS

Not regulated [Adjudicated](#)

PROPER SHIPPING NAME

Not regulated [Adjudicated](#)

GHS / OSHA HAZCOM 2012

SIGNAL WORD

Not regulated [Adjudicated](#)

H-CODES (HAZARD STATEMENTS)

— [no canonical](#)

P-CODES (PRECAUTIONARY STATEMENTS)

— [no canonical](#)

OCCUPATIONAL EXPOSURE LIMITS

OSHA PEL (29 CFR 1910.1000)

— [no canonical](#)

ACGIH TLV

— [no canonical](#)

NIOSH REL

— [no canonical](#)

NIOSH IDLH

— [no canonical](#)

Transport descriptions reflect 49 CFR 172.101 lookup at time of publication. Sourced data: ECHA CLP Annex VI for harmonised classifications, NIOSH Pocket Guide for REL/IDLH, OSHA Z-Tables for PEL. Always verify against the latest regulatory text before shipment-critical decisions.

APPLICATIONS

High-purity source of nitrogen for industrial-sector use [sabic.com](#)

Environmental control applications, including Selective Catalytic Reduction (SCR) [sabic.com](#)

Manufacture of resins and adhesives [sabic.com](#)

Animal feed [sabic.com](#)

Cloud seeding agent [sabic.com](#)

Applications are drawn from published manufacturer and supplier documentation; each is sourced. Suitability for a specific use is the buyer's to confirm.

STORAGE & HANDLING

RECOMMENDED STORAGE

Store in a dry, cool and well-ventilated area; protect from direct sunlight, rain and moisture; store in a clean environment free of dust/dirt; use pallet racking to avoid double stacking; do not blend or store in contact with ammonium nitrate.

[sabic.com](https://www.sabic.com)

INCOMPATIBILITIES

ammonium nitrate, moisture [sabic.com](https://www.sabic.com)

HANDLING PRECAUTIONS

Use standard chemical PPE — splash goggles, gloves, lab coat. Refer to SDS for hazard-specific PPE requirements.

Class-level guidance — not product-specific; the SDS controls.

SHELF LIFE

Consult Technical Services for product-specific shelf life

For full hazard, PPE, and emergency response guidance, refer to the Safety Data Sheet (SDS) for this product. The SDS controls in all cases where guidance differs.

PACKAGING & LOGISTICS

SHIPPING DESCRIPTION (US DOT)

Not regulated for transport.

Confirm against shipping documents and carrier requirements before tender.

NMFC CLASS
70

REVISION HISTORY

Last reviewed 2026-06-17 by Andre Taki, DOT Hazmat Specialist.

VERSION	DATE	CHANGE	TRIGGER
1.1	2026-06-17	Canonical data re-verified: 3 fields updated against independent vendor SDSs, CLP Annex VI, 49 CFR, and OSHA HazCom 2024 (GHS classification, hazard/precautionary codes, signal word, physical properties as applicable). - countryOfOrigin · canonical adjudication / reground (coa.data_provenance) - dotSubsidiaryHazardClass · canonical adjudication / reground (coa.data_provenance) - hsCode · canonical adjudication / reground (coa.data_provenance)	canonical_change

VERSION	DATE	CHANGE	TRIGGER
1.0	2026-05-20	Initial URL-first TDS published from canonical chemistry registry.	initial

This Technical Data Sheet is provided for technical reference. The Safety Data Sheet (SDS) controls in all cases where guidance differs. Values reflect Alliance Chemical canonical data at time of generation; subsequent revisions are recorded in the Revision History above.