Technical Data Sheet

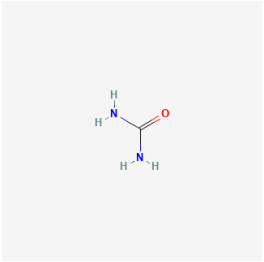
Urea - Organic Nitrogen Technical Grade

Technical

Alliance Code	Revised	Revision
urea-organic-nitrogen	2026-10-13	1.4

CAS number

57-13-6



Structure · PubChem

Grade

Technical

IDENTITY & COMPOSITION

PRODUCT NAME

Urea - Organic Nitrogen Technical Grade

ALLIANCE CODE

urea-organic-nitrogen

GRADE

Technical

CONCENTRATION

—

CAS NUMBER

57-13-6 PubChem

FORMULA

CH4N2O PubChem

MOLECULAR WEIGHT

60.056 PubChem

PRODUCT TYPE

Pure substance

SPECIFICATIONS

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Urea content	≥ 99 Wt. %	—	—	Interpreted
Formaldehyde	≤15 mg/kg	—	—	Interpreted
Alkalinity as NH3	≤ 0.6 %	—	—	Interpreted

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Aluminum	≤ 1.5 mg/kg	—	—	Interpreted
Free Ammonia (NH3)	max. 0,02 %	—	Volumetry	Interpreted
Ash	max. 0,02 %	—	Gravimetric analysis	Interpreted
Calcium as Ca	≤1.5 mg/kg	—	—	Interpreted
Chlorides (Cl-)	max. 0.001 %	—	Colorimetry	Interpreted
Chromium as Cr	≤ 0.6 mg/kg	—	—	Interpreted
Copper as Cu	≤ 0.6 mg/kg	—	—	Interpreted
Granulometry, 0,5 - 3,0 mm, prills	min. 96.0 %	—	Sieving	Interpreted
Insoluble matter	≤ 57 mg/kg	—	—	Interpreted
Magnesium as Mg	≤ 1.5 mg/kg	—	—	Interpreted
Nickel as Ni	≤ 0.6 mg/kg	—	—	Interpreted
Nitrogen, total	≥46 %	—	AOAC 2.4.05 (978-02)	Interpreted
Particle size (prilled technical grade)	Min. 80 % retained between 1 mm and 2.8 mm	—	IS sieve	Interpreted
Phosphate as PO4	≤ 1.5 mg/kg	—	—	Interpreted

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Potassium as K	≤1.5 mg/kg	—	—	Interpreted
Sodium as Na	≤1.5 mg/kg	—	—	Interpreted
Zinc as Zn	≤ 0.6 mg/kg	—	—	Interpreted
Biuret	≤ 0.90 Wt. %	—	—	Interpreted
Iron as Fe	≤ 1.5 mg/kg	—	—	Interpreted
Moisture	≤ 0.5 Wt. %	—	—	Interpreted
Conditioner	1.76 %wt max	—	—	Interpreted
Turbidity as sio2	10 ppm max	—	—	Interpreted

Values are reproduced from the current product reference. Source labels do not by themselves establish a supplier guarantee or a test result for your lot. Confirm applicable acceptance limits and request lot-specific documentation.

PHYSICAL & CHEMICAL PROPERTIES

PROPERTY	VALUE	SOURCE
Appearance	White crystalline pellets	Adjudicated
Form	Pellets	Published reference
Odor	MAY GRADUALLY DEVELOP SLIGHT ODOR OF AMMONIA, ESP IN PRESENCE OF MOISTURE	Published reference
pH	7 - 10 pH_unit (10% solution)	Interpreted
Density	1.34 g/cm^3 at 68 °F (USCG, 1999)	Published reference
Boiling Point	Decomposes (NTP, 1992)	Published reference
Melting Point	275 °F (NTP, 1992)	Adjudicated
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

HAZARD CLASS

Not regulated Adjudicated

PACKING GROUP

Not regulated Adjudicated

PROPER SHIPPING NAME

Not regulated Adjudicated

GHS / OSHA HCS 2024

SIGNAL WORD

Not regulated Adjudicated

H-CODES (HAZARD STATEMENTS)

Not applicable Adjudicated

P-CODES (PRECAUTIONARY STATEMENTS)

Not applicable Adjudicated

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: 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

Keep containers tightly closed in a dry, cool, well-ventilated place away from incompatible materials; protect from moisture and direct sunlight. Minimize dust generation and accumulation.

Adjudicated

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.

INCOMPATIBILITIES

Strong oxidizing agents; strong acids; strong bases; hypochlorites; halogens; nitric acid (forms urea nitrate); sodium nitrite; phosphorus pentachloride.

Adjudicated

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)

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Not regulated for transport.
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Confirm against shipping documents and carrier requirements before tender.

NMFC CLASS

55

Freight classification is a fallback estimate. Verify with carrier before tender.

REVISION HISTORY

Last reviewed 2026-10-13 by Andre Taki, Chief Commercial Officer, DOT Hazmat–certified (49 CFR 172.704).

VERSION	DATE	CHANGE	TRIGGER
1.4	2026-10-13	Canonical data updated: 4 fields changed via the provenance/adjudication pipeline. • `storage_precautions` · canonical change (coa.data_provenance / adjudication) • `incompatible_materials` · canonical change (coa.data_provenance / adjudication) • `conditions_to_avoid` · canonical change (coa.data_provenance / adjudication) • `hazardous_decomposition_products` · canonical change (coa.data_provenance / adjudication)	`canonical_change`

VERSION	DATE	CHANGE	TRIGGER
1.3	2026-10-02	Canonical data updated: 2 fields changed via the provenance/adjudication pipeline. • hazard_h_codes · canonical change (coa.data_provenance / adjudication) • hazard_p_codes · canonical change (coa.data_provenance / adjudication)	canonical_change
1.2	2026-09-30	Canonical data updated: 2 fields changed via the provenance/adjudication pipeline. • meltingPoint · canonical change (coa.data_provenance / adjudication) • appearance · canonical change (coa.data_provenance / adjudication)	canonical_change
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
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.