

TECHNICAL DATA SHEET

Cyclohexanone ACS Grade

ACS Grade

CAS NUMBER	ALLIANCE CODE	GENERATED
108-94-1	cyclohexanone-acs-grade	2026-08-31
REVISION	REVIEWED	
1.3	2026-07-17 · Andre Taki	

IDENTITY & COMPOSITION

PRODUCT NAME	ALLIANCE CODE
Cyclohexanone ACS Grade	cyclohexanone-acs-grade
GRADE	CONCENTRATION
ACS Grade	—
CAS NUMBER	FORMULA
108-94-1 PubChem	C6H10O PubChem
MOLECULAR WEIGHT	PRODUCT TYPE
98.14 PubChem	pure_substance

SPECIFICATIONS

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Assay (by GC, corrected for water)	NLT 99.0%	99.9%	GC, corrected for water	Supplier specification
Acidity (as formic acid)	0.01% max.	0.002%	—	Supplier specification
Cyclohexanol	0.05% max.	0.01%	—	Supplier specification

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Cyclohexanone	99.5% min.	99.9%	—	Supplier specification
Residue after evaporation	≤ 0.05 %	0.002 %	—	ACS Reagent Chemicals
Water (wt%)	0.05% max	0.02%	—	Supplier specification
Identification (IR)	Conforms to reference spectrum	Passes test	FT-IR, comparison to reference spectrum	Interpreted
residue	0.05 % max	0.002 %	—	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.

AVAILABLE GRADES SAME CAS, ALTERNATE GRADES AND CONCENTRATIONS

GRADE	CONCENTRATION	TYPICAL ASSAY	SKU
THIS GRADE ACS Grade	—	—	current
Technical Grade	—	—	cyclohexanone-technical-grade

Typical assay shown is the rolling-window mean from the sibling product's most recent lots. Grade selection drives downstream end-use — verify the sibling grade matches your specification before substitution.

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
Form	Liquid	Published reference
Color	≤ 10 APHA	ACS Reagent Chemicals
Odor	ODOR REMINISCENT OF PEPPERMINT & ACETONE	Published reference
Density	0.945 – 0.950 g/mL	Interpreted
Boiling Point	154.0 – 157.0 °C	Interpreted
Melting Point	3 °F (NTP, 1992)	Published reference
Flash Point	111 °F (NTP, 1992)	Published reference
Vapor Pressure	5.2 mmHg at 77 °F ; 10 mmHg at 101.7 °F (NTP, 1992)	Published reference
Solubility (water)	50 to 100 mg/mL at 64 °F (NTP, 1992)	Published reference
Refractive Index (nD 20)	1.4500 – 1.4520	Interpreted

REGULATORY & TRANSPORT

DOT / 49 CFR

UN NUMBER

UN1915 [49 CFR 172.101](#)

PACKING GROUP

III [Adjudicated](#)

HAZARD CLASS

3 [Adjudicated](#)

PROPER SHIPPING NAME

Cyclohexanone [Adjudicated](#)

GHS / OSHA HAZCOM 2012

SIGNAL WORD

Danger [Adjudicated](#)

H-CODES (HAZARD STATEMENTS)

H226, H302, H312, H315, H318, H332, H335

[Adjudicated](#)

P-CODES (PRECAUTIONARY STATEMENTS)

P210, P233, P240, P241, P242, P243, P261,
P271, P280, P303+P361+P353, P304+P340,
P313, P370+P378, P403+P235, P501

[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: 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

Intermediate for nylon production and solvent for paints, inks, and electronic materials

highchem.co.jp

High-performance solvent in coatings, adhesives, and printing inks, and chemical intermediate for Nylon 6 via caprolactam

gneechemical.com

Feedstock for caprolactam (via cyclohexanone oxime and Beckmann rearrangement) and for adipic acid by controlled oxidation

gneechemical.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 cool, dry, well-ventilated place, away from heat and oxidizing agents

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

INCOMPATIBILITIES

oxidizing agents [gneechemical.com](https://www.gneechemical.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)

UN1915, Cyclohexanone, 3, PG III

Sourced from 49 CFR 172.101. Confirm against shipping documents and carrier requirements before tender.

NMFC CLASS
77.5

PLACARD
Flammable Liquid

PACKING GROUP
PG III

REVISION HISTORY

Last reviewed 2026-07-17 by Andre Taki, DOT Hazmat Specialist.

VERSION	DATE	CHANGE	TRIGGER
1.3	2026-08-05	Canonical data updated: 1 field changed via the provenance/adjudication pipeline. unNumber · canonical change (coa.data_provenance / adjudication)	canonical_change
1.2	2026-07-22	Canonical data updated: 1 field changed via the provenance/adjudication pipeline. dotSubsidiaryHazardClass · canonical change (coa.data_provenance / adjudication)	canonical_change

VERSION	DATE	CHANGE	TRIGGER
1.1	2026-07-17	Canonical data re-verified: 7 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). • <code>bulkThresholdGallons</code> · canonical adjudication / reground (<code>coa.data_provenance</code>) • <code>countryOfOrigin</code> · canonical adjudication / reground (<code>coa.data_provenance</code>) • <code>ghsClassification</code> · canonical adjudication / reground (<code>coa.data_provenance</code>) • <code>hazard_h_codes</code> · canonical adjudication / reground (<code>coa.data_provenance</code>) • <code>hazard_p_codes</code> · canonical adjudication / reground (<code>coa.data_provenance</code>) • <code>hsCode</code> · canonical adjudication / reground (<code>coa.data_provenance</code>) • <code>regulationRule</code> · canonical adjudication / reground (<code>coa.data_provenance</code>)	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.