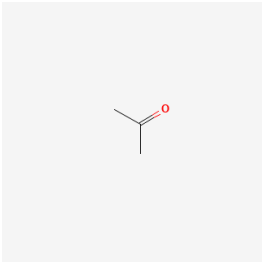
Technical Data Sheet

Acetone ACS Grade

ACS Grade

Alliance Code	Revised	Revision
acetone-acs-grade	2026-10-13	1.7

CAS number 67-64-1	UN number UN1090	Hazard class · packing group 3 · PG II
 Structure · PubChem	Grade ACS Grade	Signal word **Danger**

Hazards

Flammable | Irritant / harmful | H225 H319 H336 EUH066

Proper shipping name
Acetone

IDENTITY & COMPOSITION

PRODUCT NAME
Acetone ACS Grade

ALLIANCE CODE
acetone-acs-grade

GRADE
ACS Grade

CONCENTRATION
—

CAS NUMBER
67-64-1 PubChem

FORMULA
CH3COCH3 PubChem

MOLECULAR WEIGHT
58.08 PubChem

PRODUCT TYPE
Pure substance

SPECIFICATIONS

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Assay (acetone)	99.5 % Min	—	GC, corrected for water content	Interpreted
Titrable acid	0.0003 Max meq/g	—	ASTM D1613 / ACS titration	Interpreted
Aldehyde (as HCHO)	0.002% max	—	—	Interpreted
Titrable base	0.0006 Max meq/g	—	ASTM D1614 / ACS titration	Interpreted
Color (APHA / Pt-Co)	10 Max	—	ASTM D1209	Interpreted
Isopropyl alcohol	0.05% max	—	—	Interpreted
Methanol	0.05% max	—	—	Interpreted
Substances reducing permanganate (permanganate time test)	Color retains 120 min	—	ASTM D1363	Interpreted
Residue after evaporation	10 ppm max	—	Gravimetric (evaporation of 100 g, dried 30 min at 105 °C)	Interpreted
Solubility In Water	Solution remains clear for 30 min.	—	—	Interpreted

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Ultraviolet absorbance (applies to ACS lots designated suitable for ultraviolet spectrophotometry; not tested on general-use ACS lots)	400 nm 0.01; 350 nm 0.02; 340 nm 0.10; 330 nm 1.00 (max A.U.)	—	UV spectrophotometry, 1 cm cell vs. water	Interpreted
Water (H2O)	0.5 Max Wt.%	—	ASTM D1364 (Karl Fischer)	Interpreted
Identification (infrared absorption)	Conforms to reference spectrum for acetone	—	FT-IR, comparison to reference spectrum	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.

AVAILABLE GRADES SAME CAS, ALTERNATE GRADES AND CONCENTRATIONS

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

Typical assay for each grade is the average of its recent lots. Confirm a grade meets your specification before substituting it.

PHYSICAL & CHEMICAL PROPERTIES

PROPERTY	VALUE	SOURCE
Appearance	Clear, colorless liquid	Adjudicated
Form	Liquid	Published reference
Odor	Sweet, fruity (characteristic ketone) odor	Adjudicated
Specific Gravity	0.79 at 20 °C (water = 1)	Adjudicated
Density	0.791 at 68 °F (USCG, 1999) - Less dense than water; will float	Published reference
Boiling Point	56 °C (133 °F) at 760 mmHg	Adjudicated
Melting Point	-95 °C (-139 °F)	Adjudicated
Flash Point	-20 to -17 °C (-4 to 1 °F), closed cup	Adjudicated
Vapor Pressure	240–247 hPa (180–185 mmHg) at 20 °C	Adjudicated
Vapor Density	2.0 (air = 1)	Adjudicated
Solubility (water)	Completely miscible with water	Adjudicated
Refractive Index (nD 20)	1.3580 - 1.3600	Interpreted
Viscosity	0.3 mPa·s at 25 °C	Adjudicated

Polar solvent — purity vs. intended end-use (electronics, pharma, general industrial) is the dominant grade consideration. See application guidance for grade selection.

MATERIALS OF CONSTRUCTION

MATERIAL	RATING	CONDITIONS	SOURCE
HDPE	Compatible	—	nwsci.com

Compatibility is drawn from published manufacturer and supplier documentation for this product; each rating is sourced. Confirm against your specific duty cycle before equipment selection.

REGULATORY & TRANSPORT

DOT / 49 CFR

UN NUMBER
UN1090 49 CFR 172.101

HAZARD CLASS
3 Adjudicated

PACKING GROUP
II Adjudicated

PROPER SHIPPING NAME
Acetone Adjudicated

GHS / OSHA HCS 2024

SIGNAL WORD
Danger Adjudicated

H-CODES (HAZARD STATEMENTS)
H225, H319, H336, EUH066 ECHA C&L Inventory

P-CODES (PRECAUTIONARY STATEMENTS)
P210, P233, P240, P241, P242, P243, P261, P264, P271, P280, P303+P361+P353, P304+P340, P305+P351+P338, P312, P337+P313, P370+P378, P403+P233, P403+P235, P405, P501

ECHA C&L Inventory

OCCUPATIONAL EXPOSURE LIMITS

OSHA PEL (29 CFR 1910.1000)
1000 ppm TWA OSHA 29 CFR 1910.1000

ACGIH TLV
250 ppm TWA / 500 ppm STEL Adjudicated

NIOSH REL
250 ppm TWA NIOSH Pocket Guide

NIOSH IDLH
2500 ppm NIOSH Pocket Guide

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.

HEALTH & FIRE HAZARD

ACUTE TOXICOLOGY

LD_{50} ORAL (RAT)
5,800 mg/kg Adjudicated

LD_{50} DERMAL (RABBIT)
7,400–20,000 mg/kg

Adjudicated

LC_{50} INHALATION (RAT, 4 H)
76 mg/L (vapor) Adjudicated

Acute toxicology values from SDS Section 11 or NIOSH RTECS.

CATALOG EQUIVALENTS CROSS-REFERENCE VS MAJOR CHEMICAL SUPPLIERS

SIGMA-ALDRICH

SKU	GRADE	CONC.	MATCH	NOTES
179124	ACS Reagent	99.5%	Unverified candidate	ACS Reagent ≥99.5%

Cross-references are informational. Confirm against the manufacturer's current specification before substitution. Competitor trademarks are property of their respective owners.

APPLICATIONS

Laboratory and analytical solvent (ACS grade); glassware rinsing and drying; extraction. Adjudicated

Restrictions on Use: For industrial, professional and laboratory use. Not for ingestion, medicinal or food use.

STORAGE & HANDLING

RECOMMENDED STORAGE

Keep containers tightly closed in a cool, dry, well-ventilated flammables area away from heat, sparks, open flame and direct sunlight. Store in an area designed for flammable liquids and keep locked up. Ground and bond containers when transferring.

Adjudicated

HANDLING PRECAUTIONS

Use chemical-resistant gloves and splash goggles. Bond and ground during transfer to prevent static accumulation. Eliminate ignition sources within vapor envelope.

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

INCOMPATIBILITIES

Strong oxidizers (peroxides, nitric acid, perchlorates, chromic acid) — violent reaction; strong acids and strong bases; chloroform with bases; halogens.

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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UN1090, Acetone, 3, PG II
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Sourced from 49 CFR 172.101. Confirm against shipping documents and carrier requirements before tender.

NMFC CLASS	PLACARD	PACKING GROUP
70	Flammable Liquid	PG II

REVISION HISTORY

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

VERSION	DATE	CHANGE	TRIGGER
1.7	2026-10-13	Canonical data updated: 1 field changed via the provenance/adjudication pipeline. • storage_precautions · canonical change (coa.data_provenance / adjudication)	canonical_change
1.6	2026-10-07	Canonical data updated: 21 fields changed via the provenance/adjudication pipeline. • synonyms · canonical change (coa.data_provenance / adjudication) • odor · canonical change (coa.data_provenance / adjudication) • flashPoint · canonical change (coa.data_provenance / adjudication) • boilingPoint · canonical change (coa.data_provenance / adjudication) • meltingPoint · canonical change (coa.data_provenance / adjudication) • vaporPressure · canonical change (coa.data_provenance / adjudication) • vaporDensity · canonical change (coa.data_provenance / adjudication) • specificGravity · canonical change (coa.data_provenance / adjudication) • solubility · canonical change (coa.data_provenance / adjudication) • viscosity · canonical change (coa.data_provenance / adjudication) • explosiveLimits · canonical change (coa.data_provenance / adjudication) • autoIgnitionTemperature · canonical change (coa.data_provenance / adjudication) • oel_acgih_tlv · 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) • rcra_waste_codes · canonical change (coa.data_provenance / adjudication) • cercla_rq · canonical change (coa.data_provenance / adjudication) • dot_transport_note · canonical change (coa.data_provenance / adjudication) • recommended_use · canonical change (coa.data_provenance / adjudication) • restrictions_on_use · canonical change (coa.data_provenance / adjudication)	canonical_change
1.5	2026-10-05	Canonical data updated: 3 fields changed via the provenance/adjudication pipeline. • oel_niosh_rel · canonical change (coa.data_provenance / adjudication) • oel_idlh · canonical change (coa.data_provenance / adjudication) • oel_osha_pel · canonical change (coa.data_provenance / adjudication)	canonical_change

VERSION	DATE	CHANGE	TRIGGER
1.4	2026-09-30	Canonical data updated: 4 fields changed via the provenance/adjudication pipeline. • boilingPoint · canonical change (coa.data_provenance / adjudication) • meltingPoint · canonical change (coa.data_provenance / adjudication) • flashPoint · canonical change (coa.data_provenance / adjudication) • appearance · canonical change (coa.data_provenance / adjudication)	canonical_change
1.3	2026-08-05	Canonical data updated: 4 fields changed via the provenance/adjudication pipeline. • hazardClass · canonical change (coa.data_provenance / adjudication) • packingGroup · canonical change (coa.data_provenance / adjudication) • signalWord · canonical change (coa.data_provenance / adjudication) • unNumber · canonical change (coa.data_provenance / adjudication)	canonical_change
1.2	2026-07-22	Canonical data updated: 2 fields changed via the provenance/adjudication pipeline. • dotSubsidiaryHazardClass · canonical change (coa.data_provenance / adjudication) • dotProperShippingName · canonical change (coa.data_provenance / adjudication)	canonical_change
1.1	2026-06-18	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) • ghsClassification · 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.