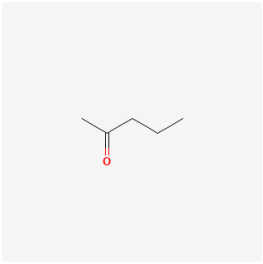
Technical Data Sheet

Methyl n-Propyl Ketone (MPK) ACS

ACS Grade · 99.5%

Alliance Code	Revised	Revision
methyl-n-propyl-ketone-mpk-acs	2026-10-07	1.6

CAS number 107-87-9	UN number UN1249	Hazard class · packing group 3 · PG II
 Structure · PubChem	Grade ACS Grade · 99.5%	Signal word **Danger**
Hazards Flammable · Irritant / harmful · H225 H302 H319 H335		
Proper shipping name Methyl propyl ketone		

IDENTITY & COMPOSITION

PRODUCT NAME
Methyl n-Propyl Ketone (MPK) ACS

ALLIANCE CODE
methyl-n-propyl-ketone-mpk-acs

GRADE
ACS Grade

CONCENTRATION
99.5%

CAS NUMBER
107-87-9 PubChem

FORMULA
CH3COC3H7 PubChem

MOLECULAR WEIGHT
86.13 PubChem

PRODUCT TYPE
Pure substance

SPECIFICATIONS

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Assay (Methyl Propyl Ketone)	99.50 MIN %	—	Gas chromatography	Interpreted
Acid as Acetic	0.0200 MAX %	—	Titration	Interpreted
Visual Color (platinum-cobalt)	15 MAX pcs	—	Visual color comparison, platinum-cobalt scale	Interpreted
Methyl Isobutyl Ketone	0.10 MAX %	—	Gas chromatography	Interpreted
Other Ketones	0.10 MAX %	—	Gas chromatography	Interpreted
Water	0.1000 MAX %	—	—	Interpreted
Distillation Range @ 760 mmHg	101.0 - 104.0 °C (incl. 102.3 °C)	—	ASTM D1078	Interpreted
Residue After Evaporation	0.001 wt % max.	—	ASTM D1353	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	99.5%	—	current
Technical	—	—	methyl-n-propyl-ketone-mpk

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, mobile liquid with fruity ketone character	Adjudicated
Form	Liquid	Published reference
Odor	Sweet, acetone-like ketone odor	Adjudicated
Specific Gravity	0.81 at 20–25 °C (water = 1)	Adjudicated
Density	0.809 at 68 °F (USCG, 1999) - Less dense than water; will float	Published reference
Boiling Point	100–105 °C (212–221 °F)	Adjudicated
Melting Point	-78 °C (-108 °F)	Adjudicated
Flash Point	7 °C (45 °F), closed cup	Adjudicated
Vapor Pressure	27 mmHg (36 hPa) at 20 °C	Adjudicated
Solubility (water)	Slightly soluble in water (about 43 g/L at 20 °C); miscible with most organic solvents	Adjudicated
Refractive Index (nD 20)	1.3890 - 1.3910 @ 20°C	Interpreted
Viscosity	0.5 mPa·s at 20 °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 SERVICE ENVELOPE ≈ 99.5%

MATERIAL	RATING	MAX T (°C)	NOTES	SOURCE
Buna-N (NBR) Elastomer	Fair	60	Acceptable for alcohols; poor for ketones.	Parker O-ring Chemical Compatibility

MATERIAL	RATING	MAX T (°C)	NOTES	SOURCE
EPDM Elastomer	Fair	—	Good for alcohols, poor for esters	Cole-Parmer Chemical Compatibility
Viton (FKM) Elastomer	Fair	80	Swells in acetone and esters; avoid for those.	Parker O-ring Chemical Compatibility
FFKM (Kalrez) Fluoropolymer	Excellent	200	Premium ester / ketone sealing	Cole-Parmer Chemical Compatibility
PTFE Fluoropolymer	Excellent	200	Universal solvent compatibility.	Cole-Parmer Chemical Compatibility
Borosilicate Glass Glass Ceramic	Excellent	100	Universally inert.	Cole-Parmer Chemical Compatibility
316L Stainless Steel Metal	Excellent	80	Inert; preferred for high-purity solvent service.	Cole-Parmer Chemical Compatibility
Aluminium Metal	Good	40	Acceptable; avoid prolonged wet contact	Cole-Parmer Chemical Compatibility
Carbon Steel Metal	Fair	50	Trace moisture causes rust; flash-rust prevention required.	Cole-Parmer Chemical Compatibility
HDPE Thermoplastic	Fair	40	Swells with many polar solvents; verify per solvent.	Cole-Parmer Chemical Compatibility
PP Thermoplastic	Good	50	Acceptable but watch swelling with esters	Cole-Parmer Chemical Compatibility
PVC Thermoplastic	Fair	25	Esters soften PVC; avoid for esters	Cole-Parmer Chemical Compatibility

Ratings reflect the service envelope (concentration × temperature) shown. Always confirm against your specific duty cycle and contact-time before equipment selection. The most cautious rating across overlapping references is shown.

REGULATORY & TRANSPORT

DOT / 49 CFR

UN NUMBER

UN1249 49 CFR 172.101

HAZARD CLASS

3 Adjudicated

PACKING GROUP

II Adjudicated

PROPER SHIPPING NAME

Methyl propyl ketone Adjudicated

GHS / OSHA HCS 2024

SIGNAL WORD

Danger Adjudicated

H-CODES (HAZARD STATEMENTS)

H225, H302, H319, H335 Adjudicated

P-CODES (PRECAUTIONARY STATEMENTS)

P210, P233, P240, P241, P242, P243, P261, P264, P270, P271, P280, P301+P312, P303+P361+P353, P304+P340, P305+P351+P338, P312, P330, P337+P313, P370+P378, P403+P233, P403+P235, P405, P501

Adjudicated

OCCUPATIONAL EXPOSURE LIMITS

OSHA PEL (29 CFR 1910.1000)

200 ppm TWA OSHA 29 CFR 1910.1000

ACGIH TLV

150 ppm STEL Adjudicated

NIOSH REL

150 ppm (530 mg/m^3) TWA Adjudicated

NIOSH IDLH

1,500 ppm Adjudicated

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)

1,600 mg/kg (rat), the basis for H302

Adjudicated

LD_{50} DERMAL (RABBIT)

6,500 mg/kg Adjudicated

LC_{50} INHALATION (RAT, 4 H)

> 25.5 mg/L (vapor, rat, 4 h)

Adjudicated

Acute toxicology values from SDS Section 11 or NIOSH RTECS.

APPLICATIONS

Active solvent for most synthetic resins, including acrylics, polyesters, cellulosics, epoxies, vinyls and alkyds

productcatalog.eastman.com

Letdown solvent for high-solids resins used to formulate low-VOC coatings productcatalog.eastman.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 tightly closed in a cool, well-ventilated flammables area away from ignition sources, oxidizers and bases. Ground and bond containers.

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 oxidizing agents and peroxides; strong bases; reducing agents; amines; isocyanates.

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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UN1249, Methyl propyl ketone, 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 2026-10-07 by Andre Taki, Chief Commercial Officer, DOT Hazmat–certified (49 CFR 172.704).

VERSION	DATE	CHANGE	TRIGGER
1.6	2026-10-07	Canonical data updated: 27 fields changed via the provenance/adjudication pipeline. • ghsClassification · canonical change (coa.data_provenance / adjudication) • hazard_h_codes · canonical change (coa.data_provenance / adjudication) • hazard_p_codes · canonical change (coa.data_provenance / adjudication) • synonyms · canonical change (coa.data_provenance / adjudication) • restrictions_on_use · 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) • specificGravity · canonical change (coa.data_provenance / adjudication) • solubility · canonical change (coa.data_provenance / adjudication) • viscosity · canonical change (coa.data_provenance / adjudication) • autoIgnitionTemperature · canonical change (coa.data_provenance / adjudication) • explosiveLimits · canonical change (coa.data_provenance / adjudication) • partitionCoefficient · canonical change (coa.data_provenance / adjudication) • oel_acgih_tlv · canonical change (coa.data_provenance / adjudication) • oel_niosh_rel · canonical change (coa.data_provenance / adjudication) • oel_idlh · 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) • storage_precautions · 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)	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: 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: 3 fields changed via the provenance/adjudication pipeline. • dotSubsidiaryHazardClass · canonical change (coa.data_provenance / adjudication) • dotProperShippingName · canonical change (coa.data_provenance / adjudication) • ghsClassification · canonical change (coa.data_provenance / adjudication)	canonical_change
1.1	2026-07-17	Canonical data re-verified: 5 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) • hazard_h_codes · canonical adjudication / reground (coa.data_provenance) • hazard_p_codes · 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.