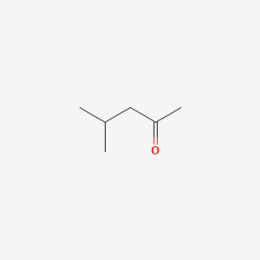
Technical Data Sheet

Methyl Isobutyl Ketone (MIBK) Technical Grade

Technical Grade

Alliance Code	Revised	Revision
methyl-isobutyl-ketone-mibk-technical-grade	2026-10-08	1.5

CAS number 108-10-1	UN number UN1245	Hazard class · packing group 3 · PG II
 Structure · PubChem	Grade Technical Grade	Signal word **Danger**
Hazards Flammable · Irritant / harmful · Health hazard · EUH066 H225 H319 H332 H335 H351		
Proper shipping name Methyl isobutyl ketone		

IDENTITY & COMPOSITION

PRODUCT NAME
Methyl Isobutyl Ketone (MIBK) Technical Grade

ALLIANCE CODE
methyl-isobutyl-ketone-mibk-technical-grade

GRADE
Technical Grade

CONCENTRATION
—

CAS NUMBER
108-10-1 PubChem

FORMULA
C6H12O PubChem

MOLECULAR WEIGHT
100.16 PubChem

PRODUCT TYPE
Pure substance

SPECIFICATIONS

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Assay (purity)	99.0 wt % min.	—	—	Interpreted
Acidity, as Acetic Acid	max. 0.01 % (w/w)	—	DIN EN ISO 2114 / ASTM D 1613	Interpreted
Distillation Range	114-117 °C	—	—	Interpreted
Methyl Isobutyl Ketone	min. 99.0 % (w/w)	—	DIN 51 405 (GC)	Interpreted
Nonvolatile matter	0.010 g/100 ml	—	DIN 53 172 / ASTM D 1353	Interpreted
Water	max. 0.10 % (w/w)	—	DIN 51 777 / ASTM D 1364 (mod. Karl Fischer-Method)	Interpreted
Platinum/Cobalt Color (Hazen/APHA Color)	10 max. (Pt-Co / APHA)	—	DIN EN 1557 / DIN ISO 6271 / ASTM D 1209 / ASTM D5386	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 Technical Grade	—	—	current
ACS Grade	—	—	methyl-isobutyl-ketone-mibk-acs-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, camphor-like	Adjudicated
Specific Gravity	0.799–0.803 at 20 °C (water = 1)	Adjudicated
Density	0.802 at 68 °F (USCG, 1999) - Less dense than water; will float	Published reference
Boiling Point	114–117 °C (237–243 °F)	Adjudicated
Melting Point	-84 °C (-119 °F)	Adjudicated
Flash Point	14–17 °C (57–63 °F), closed cup	Adjudicated
Vapor Pressure	15–16 mmHg (20–21.5 hPa) at 20 °C	Adjudicated
Vapor Density	3.45 (air = 1)	Adjudicated
Solubility (water)	Slightly soluble in water (17–20 g/L at 20 °C); miscible with alcohols, ethers and most organic solvents	Adjudicated
Viscosity	0.6 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 ≈ 100%

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

UN1245 49 CFR 172.101

HAZARD CLASS

3 Adjudicated

PACKING GROUP

II Adjudicated

PROPER SHIPPING NAME

Methyl isobutyl ketone Adjudicated

GHS / OSHA HCS 2024

SIGNAL WORD

Danger Adjudicated

H-CODES (HAZARD STATEMENTS)

EUH066, H225, H319, H332, H335, H351

Adjudicated

P-CODES (PRECAUTIONARY STATEMENTS)

P201, P202, P210, P233, P240, P241, P242, P243, P260, P261, P264, P271, P280, P303+P361+P353, P304+P340, P305+P351+P338, P308+P313, P312, P337+P313, P370+P378, P403+P233, P403+P235, P405, P501

Adjudicated

OCCUPATIONAL EXPOSURE LIMITS

OSHA PEL (29 CFR 1910.1000)

100 ppm TWA OSHA 29 CFR 1910.1000

ACGIH TLV

20 ppm TWA; 75 ppm STEL (A3: confirmed animal carcinogen with unknown relevance to humans)

Adjudicated

NIOSH REL

50 ppm TWA / 75 ppm STEL NIOSH Pocket Guide

NIOSH IDLH

500 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)

2,080 mg/kg (rat) Adjudicated

LD_{50} DERMAL (RABBIT)

> 3,000 mg/kg Adjudicated

LC_{50} INHALATION (RAT, 4 H)

8.2–16.4 mg/L (2,000–4,000 ppm), vapor

Adjudicated

Acute toxicology values from SDS Section 11 or NIOSH RTECS.

APPLICATIONS

Solvent for nitrocellulose, lacquers, and certain polymers and resins prasolchem.com

Extraction solvent for precious metals; solvent for textile, industrial and other maintenance coatings

prasolchem.com

Precursor to 6PPD, an antiozonant used in tires prasolchem.com

Active solvent for synthetic resins including cellulosics, vinyl copolymers, acrylics, alkyds, polyesters and epoxies

productcatalog.eastman.com

Solvent for inks, coatings and adhesives; extraction agent in dewaxing and deoiling of petroleum products

productcatalog.eastman.com

Formulating high-solids coatings, using its high solvent activity and low density productcatalog.eastman.com

Extraction agent in the dewaxing and deoiling of petroleum products. productcatalog.eastman.com

Used in manufacturing germicides, fungicides, pharmaceuticals, and electroplating solutions.

productcatalog.eastman.com

Denaturant in ethanol formulations. productcatalog.eastman.com

Precursor to 6PPD, an antiozonant used in tires. prasolchem.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 out of sunlight, away from ignition sources and oxidizers. Store locked up. 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; strong reducing agents; strong bases.

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)

```
UN1245, Methyl isobutyl ketone, 3, PG II
```

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 2026-10-08 by Andre Taki, Chief Commercial Officer, DOT Hazmat–certified (49 CFR 172.704).

VERSION	DATE	CHANGE	TRIGGER
1.5	2026-10-08	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) • meltingPoint · canonical change (coa.data_provenance / adjudication) • vaporPressure · canonical change (coa.data_provenance / adjudication) • vaporDensity · canonical change (coa.data_provenance / adjudication) • solubility · canonical change (coa.data_provenance / adjudication) • autoIgnitionTemperature · canonical change (coa.data_provenance / adjudication) • explosiveLimits · canonical change (coa.data_provenance / adjudication) • evaporationRate · canonical change (coa.data_provenance / adjudication) • viscosity · canonical change (coa.data_provenance / adjudication) • partitionCoefficient · 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) • 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) • specificGravity · canonical change (coa.data_provenance / adjudication) • boilingPoint · canonical change (coa.data_provenance / adjudication)	canonical_change
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

VERSION	DATE	CHANGE	TRIGGER
1.3	2026-08-05	Canonical data updated: 4 fields changed via the provenance/adjudication pipeline. • dotProperShippingName · canonical change (coa.data_provenance / adjudication) • hazardClass · canonical change (coa.data_provenance / adjudication) • packingGroup · canonical change (coa.data_provenance / adjudication) • 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
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.