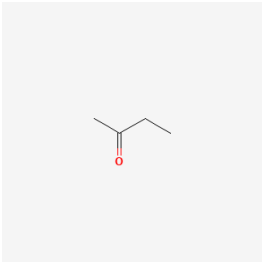
Technical Data Sheet

Methyl Ethyl Ketone (MEK) Technical Grade

Technical

Alliance Code	Revised	Revision
methyl-ethyl-ketone-mek	2026-11-09	1.7

CAS number 78-93-3	UN number UN1193	Hazard class · packing group 3 · PG II
 Structure · PubChem	Grade Technical	Signal word **Danger**
Hazards Flammable · Irritant / harmful · H225 H319 H336 EUH066		
Proper shipping name Methyl ethyl ketone		

IDENTITY & COMPOSITION

PRODUCT NAME
Methyl Ethyl Ketone (MEK) Technical Grade

ALLIANCE CODE
methyl-ethyl-ketone-mek

GRADE
Technical

CONCENTRATION
—

CAS NUMBER
78-93-3 PubChem

FORMULA
C4H8O PubChem

MOLECULAR WEIGHT
72.11 PubChem

PRODUCT TYPE
Pure substance

SPECIFICATIONS

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Purity	99.5 % m/m min.	—	ASTM D2804	Interpreted

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Acidity (as acetic acid)	0.003 wt% max	—	ASTM D1613	Interpreted
Color (Pt-Co)	10 max	—	ASTM D5386 / ASTM D1209	Interpreted
Distillation, DP	80.5 °C max.	—	ASTM D1078	Interpreted
Distillation, IBP	79.0 °C min.	—	ASTM D1078	Interpreted
Non-volatile residue	2 mg/100ml max	—	ASTM D1353	Interpreted
Total Alcohols	0.5 %m/m max.	—	ASTM D2804	Interpreted
Water	0.05 % m/m max.	—	ASTM D1364	Interpreted
Ethyl acetate	0.15 mass % max	—	—	Interpreted
Acetone	0.1 mass % 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.

AVAILABLE GRADES SAME CAS, ALTERNATE GRADES AND CONCENTRATIONS

GRADE	CONCENTRATION	TYPICAL ASSAY	SKU
THIS GRADE Technical	—	—	current
ACS Grade	—	—	methyl-ethyl-ketone-mek-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

Additional physical properties are listed in the Safety Data Sheet (SDS). For anything not shown, contact sales@alliancechemical.com.

PROPERTY	VALUE	SOURCE
Appearance	Clear, colorless, volatile liquid	Adjudicated
Form	Liquid	Published reference
Odor	Characteristic sweet, acetone-like odor	Adjudicated
Specific Gravity	0.805–0.806 at 20 °C (water = 1)	Adjudicated
Density	0.805 g/cm^3 at 20 °C	Adjudicated
Boiling Point	79.6 °C (175.3 °F) at 760 mmHg	Adjudicated
Melting Point	-86 °C (-123 °F)	Adjudicated
Flash Point	-9 to -6 °C (16 to 21 °F), closed cup	Adjudicated
Vapor Pressure	78 mmHg (10.5 kPa) at 20 °C	Adjudicated
Vapor Density	2.41–2.5 (air = 1)	Adjudicated
Solubility (water)	290 g/L in water at 20 °C (partly miscible)	Adjudicated
Viscosity	0.40–0.42 mPa·s at 15–20 °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
UN1193 49 CFR 172.101

HAZARD CLASS
3 Adjudicated

PACKING GROUP
II Adjudicated

PROPER SHIPPING NAME
Methyl ethyl ketone 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)
200 ppm TWA OSHA 29 CFR 1910.1000

ACGIH TLV
200 ppm TWA / 300 ppm STEL Adjudicated

NIOSH REL
200 ppm TWA / 300 ppm STEL NIOSH Pocket Guide

NIOSH IDLH
3000 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)
2054–2737 mg/kg Adjudicated

LD_{50} DERMAL (RABBIT)
6480 mg/kg Adjudicated

LC_{50} INHALATION (RAT, 4 H)
11700 ppm 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
360473	ACS Reagent	99%	Unverified candidate	ACS Reagent ≥99%

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

APPLICATIONS

Solvent for natural and synthetic resins, giving solutions with low viscosity and high solids content

wurthmachinery.com

Used widely as a solvent labdepotinc.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 cool, dry, well-ventilated flammables area away from heat, sparks and open flame. Hygroscopic: protect from moist air. Keep away from oxidizers. 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 oxidizing agents, including hydrogen peroxide and nitric acid (violent reaction); strong acids such as sulfuric acid; strong bases and caustics; strong reducing agents; ammonia and amines; chloroform; copper. Attacks many plastics, resins and rubber.

Adjudicated

SHELF LIFE

12 months wurthmachinery.com

Provided proper storage and handling precautions are taken

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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UN1193, Methyl ethyl 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 2026-10-13 by Andre Taki, Chief Commercial Officer, DOT Hazmat–certified (49 CFR 172.704).

VERSION	DATE	CHANGE	TRIGGER
1.7	2026-11-09	Canonical data updated: 1 field changed via the provenance/adjudication pipeline. • `dotProperShippingName` · canonical change (coa.data_provenance / adjudication)	`canonical_change`
1.6	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
1.5	2026-10-05	Canonical data updated: 21 fields changed via the provenance/adjudication pipeline. • oel_osha_pel · canonical change (coa.data_provenance / adjudication) • appearance · 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) • density · 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) • evaporationRate · canonical change (coa.data_provenance / adjudication) • partitionCoefficient · canonical change (coa.data_provenance / adjudication) • oel_acgih_tlv · canonical change (coa.data_provenance / adjudication) • rcra_waste_codes · canonical change (coa.data_provenance / adjudication) • synonyms · 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
1.4	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

VERSION	DATE	CHANGE	TRIGGER
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: 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). • boilingPoint · canonical adjudication / reground (coa.data_provenance) • color · canonical adjudication / reground (coa.data_provenance) • countryOfOrigin · canonical adjudication / reground (coa.data_provenance) • ghsClassification · canonical adjudication / reground (coa.data_provenance) • hsCode · canonical adjudication / reground (coa.data_provenance) • refractiveIndex · canonical adjudication / reground (coa.data_provenance) • specificGravity · 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.