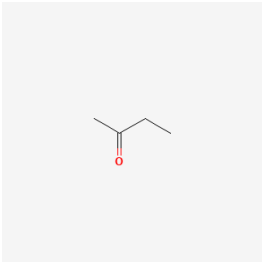
Technical Data Sheet

Methyl Ethyl Ketone (MEK) ACS Grade

ACS Grade

Alliance Code	Revised	Revision
methyl-ethyl-ketone-mek-acs-grade	2026-11-19	1.7

CAS number 78-93-3	UN number UN1193	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

Ethyl methyl ketone or methyl ethyl ketone

IDENTITY & COMPOSITION

PRODUCT NAME
Methyl Ethyl Ketone (MEK) ACS Grade

ALLIANCE CODE
methyl-ethyl-ketone-mek-acs-grade

GRADE
ACS Grade

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
Assay (C4H8O)	99.0 % min	—	Gas chromatography (GC)	Interpreted
Titrable acid	0.0005 meq/g max	—	—	Interpreted
Color (APHA)	15 max	—	—	Interpreted
Residue after evaporation	0.0025 % max	—	—	Interpreted
Water (H2O)	0.20 % max	—	—	Interpreted
Substances darkened by sulfuric acid	Passes test	—	ACS monograph colorimetric test	Interpreted
Identification (Infrared spectrum)	Conforms to structure	—	FTIR vs. 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	—	—	methyl-ethyl-ketone-mek

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	Volatile clear liquid, colorless, mobile	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	0.806 g/cm^3 at 68 °F (USCG, 1999)	Published reference
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	Not recommended	—	Unsatisfactory: not recommended for any use.	CP Lab Safety Chemical Compatibility Chart
EPDM Elastomer	Excellent	—	Excellent compatibility.	CP Lab Safety Chemical Compatibility Chart

MATERIAL	RATING	MAX T (°C)	NOTES	SOURCE
Viton (FKM) Elastomer	Not recommended	—	Severe effect: not recommended for any use.	CP Lab Safety Chemical Compatibility Chart
PTFE Fluoropolymer	Excellent	—	Excellent.	CP Lab Safety Chemical Compatibility Chart
Aluminium Metal	Good	—	Good: minor effect, slight corrosion or discoloration.	CP Lab Safety Chemical Compatibility Chart
Carbon Steel Metal	Excellent	—	Excellent.	CP Lab Safety Chemical Compatibility Chart
Stainless Steel Metal	Excellent	—	Excellent.	CP Lab Safety Chemical Compatibility Chart
LDPE Thermoplastic	Not recommended	—	Severe effect: not recommended for any use.	CP Lab Safety Chemical Compatibility Chart
Polypropylene (PP) Thermoplastic	Good	—	Good: minor effect, slight corrosion or discoloration.	CP Lab Safety Chemical Compatibility Chart
PVC Thermoplastic	Not recommended	—	Severe effect: not recommended for any use.	CP Lab Safety Chemical Compatibility Chart

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

Ethyl methyl ketone or 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

ACS reagent grade material for high-purity laboratory applications labdepotinc.com

Used widely as a solvent labdepotinc.com

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

wurthmachinery.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)

```
UN1193, Ethyl methyl ketone or methyl ethyl 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 2026-11-19 by Andre Taki, Chief Commercial Officer, DOT Hazmat–certified (49 CFR 172.704).

VERSION	DATE	CHANGE	TRIGGER
1.7	2026-11-19	Canonical data updated: 1 field changed via the provenance/adjudication pipeline. • `cercla_rq` · 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	2026-10-07	Canonical data updated: 18 fields changed via the provenance/adjudication pipeline. • 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) • evaporationRate · canonical change (coa.data_provenance / adjudication) • partitionCoefficient · canonical change (coa.data_provenance / adjudication) • odor · 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) • restrictions_on_use · canonical change (coa.data_provenance / adjudication) • recommended_use · canonical change (coa.data_provenance / adjudication)	canonical_change
1.4	2026-10-05	Canonical data updated: 1 field changed via the provenance/adjudication pipeline. • oel_osha_pel · canonical change (coa.data_provenance / adjudication)	canonical_change
1.3	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
1.2	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

VERSION	DATE	CHANGE	TRIGGER
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.