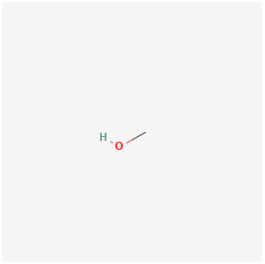
Technical Data Sheet

Methanol ACS Reagent Grade

ACS Reagent

Alliance Code	Revised	Revision
methanol-acs-reagent-grade	2026-10-13	1.8

CAS number 67-56-1	UN number UN1230	Hazard class · packing group 3 · PG II
 Structure · PubChem	Grade ACS Reagent	Signal word **Danger**
Hazards Flammable · Acute toxicity · Health hazard · H225 H301 H311 H331 H370		
Proper shipping name Methanol		

IDENTITY & COMPOSITION

PRODUCT NAME
Methanol ACS Reagent Grade

ALLIANCE CODE
methanol-acs-reagent-grade

GRADE
ACS Reagent

CONCENTRATION
—

CAS NUMBER
67-56-1 PubChem

FORMULA
CH3OH PubChem

PRODUCT TYPE
Pure substance

SPECIFICATIONS

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Assay	min. 99.8%	—	GC, corrected for water	Interpreted
Titrable Acid	max 0.0003 meq/g	—	—	Interpreted
Titrable Base	max 0.0002 meq/g	—	—	Interpreted
Carbonyl compounds (acetone, formaldehyde, acetaldehyde, each)	≤ 0.001 %	—	—	Interpreted
Color (APHA)	max 10	—	—	Interpreted
Substances reducing permanganate	Pass Test	—	—	Interpreted
Residue After Evaporation	max. 0.001%	—	—	Interpreted
Solubility in Water	To Pass	—	—	Interpreted
Substances darkened by sulfuric acid	Pass Test	—	—	Interpreted
Ultraviolet Absorption at 205nm	1.0 max.	—	—	Interpreted
Ultraviolet Absorption at 210nm	0.80 max.	—	—	Interpreted
Ultraviolet Absorption at 220nm	0.40 max.	—	—	Interpreted
Ultraviolet Absorption at 230nm	0.20 max.	—	—	Interpreted

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Ultraviolet Absorption at 240nm	0.10 max.	—	—	Interpreted
Ultraviolet Absorption at 260nm	0.04 max.	—	—	Interpreted
Ultraviolet Absorption at 280nm – 400nm	0.01 max.	—	—	Interpreted
Water	max 0.10%	—	—	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 Reagent	—	—	current
Technical Grade	—	—	methanol-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	Volatile clear liquid, transparent	Adjudicated
Form	Liquid	Published reference
Odor	Mild alcohol odor (gives no reliable warning of overexposure)	Adjudicated
Specific Gravity	0.791–0.793 at 20 °C (water = 1)	Adjudicated
Density	0.792 g/cm^3 at 68 °F (USCG, 1999)	Published reference
Boiling Point	64.7 °C (148.5 °F) at 760 mmHg	Adjudicated
Melting Point	-98 °C (-144 °F)	Adjudicated
Flash Point	10–11 °C (50–52 °F), closed cup	Adjudicated
Vapor Pressure	128 hPa (96 mmHg) at 20 °C	Adjudicated
Vapor Density	1.1 (air = 1)	Adjudicated
Solubility (water)	Completely miscible with water	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	Methanol ACS/HPLC grade, assay min. 99.8% (typical 99.99%), supplied in 20 liter HDPE packaging; source states no upper temperature or exposure-time bound	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

UN1230 49 CFR 172.101

HAZARD CLASS

3 Adjudicated

PACKING GROUP

II Adjudicated

PROPER SHIPPING NAME

Methanol Adjudicated

GHS / OSHA HCS 2024

SIGNAL WORD

Danger Adjudicated

H-CODES (HAZARD STATEMENTS)

H225, H301, H311, H331, H370 Adjudicated

P-CODES (PRECAUTIONARY STATEMENTS)

P210, P233, P240, P241, P242, P243, P260, P264, P270, P271, P280, P301+P310, P302+P352, P303+P361+P353, P304+P340, P307+P311, P308+P311, P311, P312, P321, P330, P361, 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

200 ppm TWA / 250 ppm STEL (skin notation)

Adjudicated

NIOSH REL

200 ppm TWA / 250 ppm STEL NIOSH Pocket Guide

NIOSH IDLH

6000 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

1,187–6,200 mg/kg (rat). Humans are far more sensitive: classification ATE 100 mg/kg (H301).

Adjudicated

LD_{50} DERMAL

15,840–17,100 mg/kg (rabbit); classification ATE 300 mg/kg (H311)

Adjudicated

LC_{50} INHALATION

64,000 ppm (rat); classification ATE 3 mg/L vapor (H331)

Adjudicated

Acute toxicology values from SDS Section 11 or NIOSH RTECS.

CATALOG EQUIVALENTS CROSS-REFERENCE VS MAJOR CHEMICAL SUPPLIERS

HONEYWELL

SKU	GRADE	CONC.	MATCH	NOTES
34860	HPLC	≥99.9 %	Unverified candidate	Honeywell Burdick & Jackson HPLC grade — tighter residue than ACS.

SIGMA-ALDRICH

SKU	GRADE	CONC.	MATCH	NOTES
179337	ACS Reagent	99.9%	Unverified candidate	ACS Reagent ≥99.9%

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 reagent): extraction, chromatography and sample preparation.

Adjudicated

Restrictions on Use: Toxic: small amounts swallowed can cause permanent blindness or death, and methanol is also absorbed through the skin and by inhalation. Never use as a substitute for ethanol or in anything that could be drunk. For industrial, professional and laboratory 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 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 oxidizing agents and peroxides; strong acids, acid anhydrides and acid chlorides; strong bases; alkali metals; aluminum, zinc and lead (corroded, especially by dry methanol).

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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UN1230, Methanol, 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
1.8	2026-10-13	Canonical data updated: 1 field changed via the provenance/adjudication pipeline. • storage_precautions · canonical change (coa.data_provenance / adjudication)	canonical_change

VERSION	DATE	CHANGE	TRIGGER
1.7	2026-10-08	Canonical data updated: 3 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)	canonical_change
1.6	2026-10-07	Canonical data updated: 19 fields changed via the provenance/adjudication pipeline. • 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) • vaporDensity · canonical change (coa.data_provenance / adjudication) • specificGravity · canonical change (coa.data_provenance / adjudication) • solubility · canonical change (coa.data_provenance / adjudication) • explosiveLimits · canonical change (coa.data_provenance / adjudication) • oel_acgih_tlv · canonical change (coa.data_provenance / adjudication) • oel_other · 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) • 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
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. • 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: 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.