

TECHNICAL DATA SHEET

Isopropyl Alcohol 99.9% ACS Reagent Grade

ACS Reagent · 99.9%

CAS NUMBER

67-63-0

ALLIANCE CODE

isopropyl-alcohol-99-9-
acs-reagent-grade

GENERATED

2026-08-31

REVISION

1.2

REVIEWED

2026-06-18 · Andre Taki

IDENTITY & COMPOSITION

PRODUCT NAME

Isopropyl Alcohol 99.9% ACS Reagent Grade

ALLIANCE CODE

isopropyl-alcohol-99-9-acs-reagent-grade

GRADE

ACS Reagent

CONCENTRATION

99.9%

CAS NUMBER

67-63-0 [PubChem](#)

FORMULA

C₃H₈O [PubChem](#)

MOLECULAR WEIGHT

60.10 [PubChem](#)

PRODUCT TYPE

solution

IUPAC NAME

propan-2-ol [PubChem](#)

INCHI-KEY

KFZMGEQAYNKOFK-UHFFFA0YSA-N [PubChem](#)

SMILES

CC(C)O [PubChem](#)

PHARMACOPOEIA COMPLIANCE:

[USP](#)

[ACS](#)

SPECIFICATIONS

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Assay (CH ₃ CHOHCH ₃)	>= 99.5 %	99.9 %	—	ACS Reagent Chemicals

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Titration acid or base	max. 0.0001 meq/g	0.00002 meq/g	—	ACS Reagent Chemicals
Titration Base	<= 0.0001 meq/g	0.00003 meq/g	—	ACS Reagent Chemicals
Carbonyl compounds (as acetone)	max. 0.002 %	0.0003 %	—	ACS Reagent Chemicals
Residue after Evaporation	<= 0.001 %	0.0002 %	—	ACS Reagent Chemicals
Solubility in H ₂ O	Passes Test	Passes test	—	ACS Reagent Chemicals
Water (H ₂ O)	<= 0.2 %	0.04 %	Karl Fischer titr	ACS Reagent Chemicals
Substances darkened by sulfuric acid	Passes test	Passes test	ACS monograph test – shake with H ₂ SO ₄ , compare acid layer	Interpreted
Identification (Infrared Absorption)	Conforms to structure	Passes test	FTIR-ATR, comparison to reference spectrum	Interpreted

Specification values are guaranteed limits. Typical values are representative of production lots and are not guaranteed. Lot-specific certificates of analysis ship with every order.

AVAILABLE GRADES SAME CAS, ALTERNATE GRADES AND CONCENTRATIONS

GRADE	CONCENTRATION	TYPICAL ASSAY	SKU
THIS GRADE ACS Reagent	99.9%	—	current

GRADE	CONCENTRATION	TYPICAL ASSAY	SKU
Technical	99%	—	isopropyl-alcohol-99
USP Grade	70%	—	isopropyl-alcohol-70-usp-grade
Technical	60%	—	isopropyl-alcohol-60- technical-grade
USP	60%	—	isopropyl-alcohol-60-usp-grade
Technical	50%	—	isopropyl-alcohol-50- technical-grade
USP	50%	—	isopropyl-alcohol-50-usp-grade

Typical assay shown is the rolling-window mean from the sibling product's most recent lots. Grade selection drives downstream end-use — verify the sibling grade matches your specification before substitution.

PHYSICAL & CHEMICAL PROPERTIES

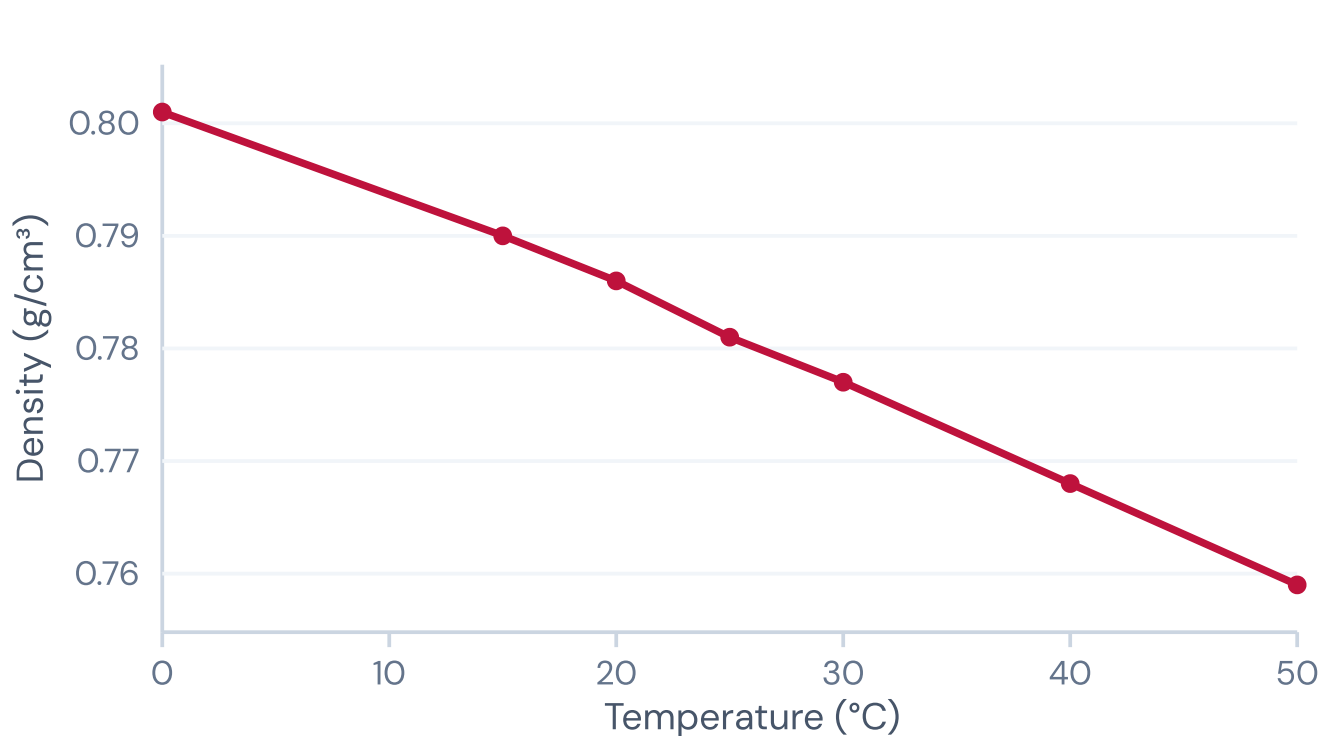
One or more physical-property values are temporarily suppressed pending verification against vendor COA data. For complete properties refer to the Safety Data Sheet (SDS) or contact sales@alliancechemical.com.

PROPERTY	VALUE	SOURCE
Form	Liquid	Published reference
Color	<= 10	ACS Reagent Chemicals
Odor	Pleasant odor	Published reference
Density	0.785 – 0.786 g/ml	Supplier specification
Boiling Point	82.8 °C max	Supplier specification
Melting Point	–127.3 °F (NTP, 1992)	Published reference
Flash Point	53 °F (NTP, 1992)	Published reference
Vapor Pressure	33 mmHg at 68 °F ; 40 mmHg at 74.8 °F (NTP, 1992)	Published reference
Solubility (water)	greater than or equal to 100 mg/mL at 72 °F (NTP, 1992)	Published reference
Refractive Index (nD 20)	1.376 – 1.378	Supplier specification

Polar solvent — purity vs. intended end-use (electronics, pharma, general industrial) is the dominant grade consideration. See application guidance for grade selection.

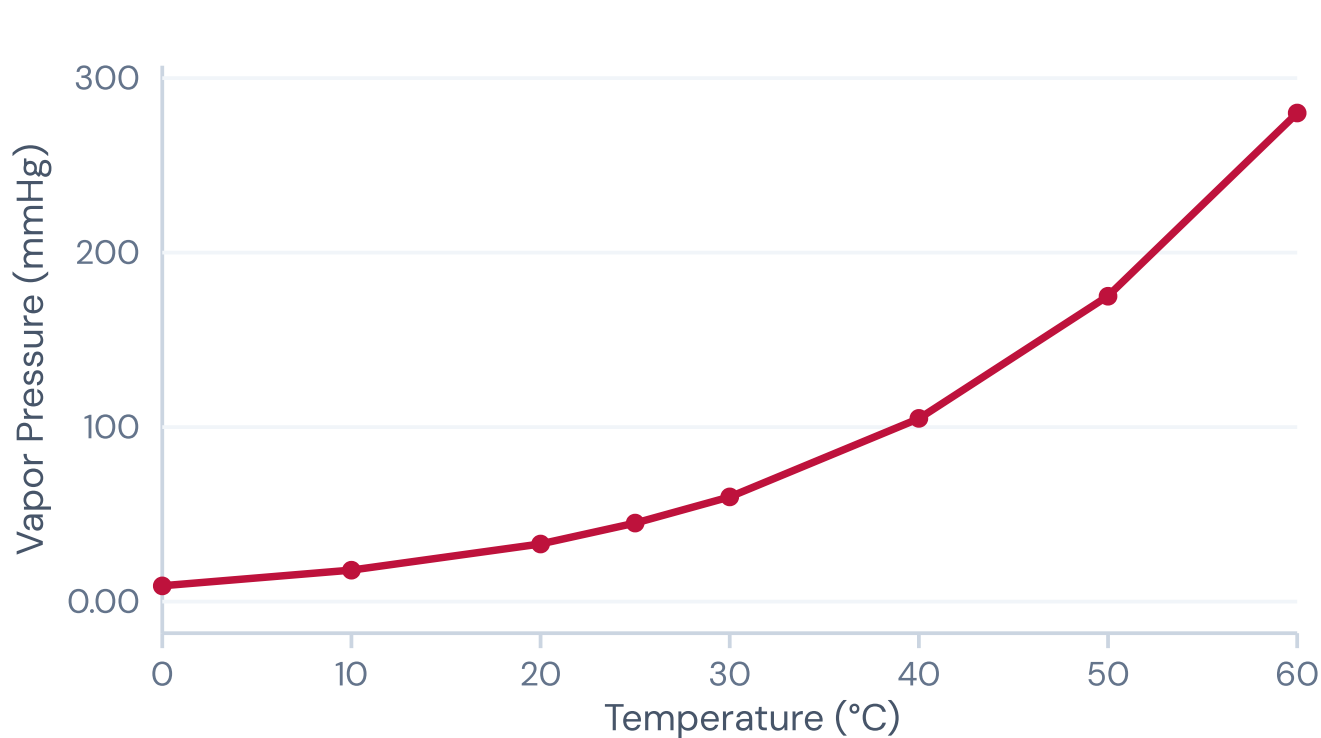
PROPERTY CURVES

Density vs. Temperature (100%)



Source: [CRC Handbook of Chemistry & Physics \(neat IPA\)](#)

Vapor Pressure vs. Temperature (100%)



Source: [CRC Handbook of Chemistry & Physics \(neat IPA\)](#)

Reference curves drawn from public engineering data. For engineering use, consult the cited source for the underlying tabulated values.

MATERIALS OF CONSTRUCTION SERVICE ENVELOPE ≈ 99.9%

MATERIAL	RATING	MAX T (°C)	NOTES	SOURCE
Buna-N (NBR) Elastomer	Fair	60	Acceptable for alcohols; poor for ketones.	Parker O-ring Chemical Compatibility
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
Glass (borosilicate) Glass Ceramic	Excellent	100	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

MATERIAL	RATING	MAX T (°C)	NOTES	SOURCE
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

UN1219 [Adjudicated](#)

PACKING GROUP

II [Adjudicated](#)

HAZARD CLASS

3 [Adjudicated](#)

PROPER SHIPPING NAME

Isopropanol or isopropyl alcohol [Adjudicated](#)

GHS / OSHA HAZCOM 2012

SIGNAL WORD

Danger [Adjudicated](#)

H-CODES (HAZARD STATEMENTS)

H225, H319, H336 [ECHA CLP Annex VI](#)

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 CLP Annex VI](#)

OCCUPATIONAL EXPOSURE LIMITS

OSHA PEL (29 CFR 1910.1000)

400 ppm TWA [OSHA 29 CFR 1910.1000](#)

NIOSH REL

400 ppm TWA / 500 ppm STEL

[NIOSH Pocket Guide](#)

ACGIH TLV

— [no canonical](#)

NIOSH IDLH

2000 ppm [NIOSH Pocket Guide](#)

REGIONAL CLASSIFICATIONS

EC NUMBER (EU EINECS)

200-661-7 [Web SDS consensus](#)

REACH SVHC

Not listed [Web SDS consensus](#)

CALIFORNIA PROP 65

Not listed [Web SDS consensus](#)

WGK WATER HAZARD (DE)

1 [Web SDS consensus](#)

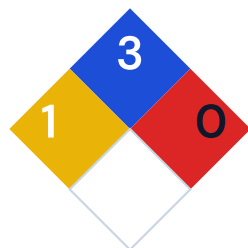
TDG CLASSIFICATION (CANADA)

un1219, class 3, pg ii [Web SDS consensus](#)

Transport descriptions reflect 49 CFR 172.101 lookup at time of publication. Sourced data: ECHA CLP Annex VI for harmonised classifications, 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

NFPA 704



- Health: 1 [Web SDS consensus](#)
- Fire: 3 [Web SDS consensus](#)
- Reactivity: 0 [Web SDS consensus](#)
- Specific: —

HMIS III

Health	1	Web SDS consensus
Flammability	3	Web SDS consensus
Physical Hazard	0	Web SDS consensus
PPE	B	Web SDS consensus

ACUTE TOXICOLOGY

LD₅₀ ORAL (RAT)
5045 mg/kg
[Web SDS consensus](#)

LD₅₀ DERMAL (RABBIT)
12800 mg/kg
[Web SDS consensus](#)

LC₅₀ INHALATION (RAT, 4 H)
16000 ppm
[Web SDS consensus](#)

NFPA 704 ratings 0 (no hazard) – 4 (severe hazard) per NFPA 704 standard. HMIS III ratings 0 – 4 per the American Coatings Association. Acute toxicology values from SDS Section 11 or NIOSH RTECS.

CATALOG EQUIVALENTS CROSS-REFERENCE VS MAJOR CHEMICAL SUPPLIERS

HONEYWELL

SKU	GRADE	CONC.	MATCH	NOTES
277-1	HPLC	≥99.9%	Close	Honeywell HPLC grade; tighter residue spec than ACS.

SIGMA-ALDRICH

SKU	GRADE	CONC.	MATCH	NOTES
190764	ACS Reagent	99.5%	Exact	ACS Reagent ≥99.5%

THERMOFISHER

SKU	GRADE	CONC.	MATCH	NOTES
A416-4	ACS	99.5%	Exact	Optima LC/MS grade equivalent

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

APPLICATIONS

Commercial manufacturing, laboratory or research use; may be used as an excipient or process solvent for pharmaceutical purposes (not as an active drug ingredient, medical device, or disinfectant)

chemsavers.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

Cool, well-ventilated flammable-liquid storage area. Tightly sealed original containers. Segregate from oxidizers and acids. Bond and ground bulk storage.

Class-level guidance — not product-specific; the SDS controls.

INCOMPATIBILITIES

Strong oxidizers, strong acids, isocyanates, anhydrides. Hygroscopic — protect from atmospheric moisture for water-sensitive end uses.

Class-level guidance — not product-specific; the SDS controls.

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.

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.

SHELF LIFE

Consult Technical Services for product-specific shelf life

PACKAGING & LOGISTICS

SHIPPING DESCRIPTION (US DOT)

UN1219, Isopropanol or isopropyl alcohol, 3, PG II

Sourced from 49 CFR 172.101. Confirm against shipping documents and carrier requirements before tender.

NMFC CLASS
70

PLACARD
Flammable Liquid

PACKING GROUP
PG II

REVISION HISTORY

Last reviewed 2026-06-18 by Andre Taki, DOT Hazmat Specialist.

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

VERSION	DATE	CHANGE	TRIGGER
1.1	2026-06-18	Canonical data re-verified: 25 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). • <code>acs_compliance</code> · canonical adjudication / reground (<code>coa.data_provenance</code>) • <code>countryOfOrigin</code> · canonical adjudication / reground (<code>coa.data_provenance</code>) • <code>ec_number</code> · canonical adjudication / reground (<code>coa.data_provenance</code>) • <code>ghsClassification</code> · canonical adjudication / reground (<code>coa.data_provenance</code>) • <code>hmis_flammability</code> · canonical adjudication / reground (<code>coa.data_provenance</code>) • <code>hmis_health</code> · canonical adjudication / reground (<code>coa.data_provenance</code>) • <code>hmis_physical</code> · canonical adjudication / reground (<code>coa.data_provenance</code>) • <code>hmis_ppe</code> · canonical adjudication / reground (<code>coa.data_provenance</code>) • <code>hsCode</code> · canonical adjudication / reground (<code>coa.data_provenance</code>) • <code>inchi</code> · canonical adjudication / reground (<code>coa.data_provenance</code>) • <code>inchi_key</code> · canonical adjudication / reground (<code>coa.data_provenance</code>) • <code>iupac_name</code> · canonical adjudication / reground (<code>coa.data_provenance</code>) • <code>lc50_inhalation_rat_4h</code> · canonical adjudication / reground (<code>coa.data_provenance</code>) • <code>ld50_dermal_rabbit</code> · canonical adjudication / reground (<code>coa.data_provenance</code>) • <code>ld50_oral_rat</code> · canonical adjudication / reground (<code>coa.data_provenance</code>) • <code>nfpa_fire</code> · canonical adjudication / reground (<code>coa.data_provenance</code>) • <code>nfpa_health</code> · canonical adjudication / reground (<code>coa.data_provenance</code>) • <code>nfpa_reactivity</code> · canonical adjudication / reground (<code>coa.data_provenance</code>) • <code>prop_65_listed</code> · canonical adjudication / reground (<code>coa.data_provenance</code>) • <code>pubchem_cid</code> · canonical adjudication / reground (<code>coa.data_provenance</code>) • <code>reach_svhc_listed</code> · canonical adjudication / reground (<code>coa.data_provenance</code>) • <code>smiles</code> · canonical adjudication / reground (<code>coa.data_provenance</code>) • <code>tdg_classification</code> · canonical adjudication / reground (<code>coa.data_provenance</code>) • <code>usp_compliance</code> · canonical adjudication / reground (<code>coa.data_provenance</code>) • <code>wgk_water_hazard</code> · canonical adjudication / reground (<code>coa.data_provenance</code>)	canonical_change

VERSION	DATE	CHANGE	TRIGGER
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.