

TECHNICAL DATA SHEET

50% Vinegar - Concentrated Industrial Strength

Technical · 50%

CAS NUMBER

64-19-7

ALLIANCE CODE

50-vinegar-concentrated-industrial-strength

GENERATED

2026-08-31

REVISION

1.4

REVIEWED

2026-07-17 · Andre Taki

IDENTITY & COMPOSITION

PRODUCT NAME

50% Vinegar – Concentrated Industrial Strength

ALLIANCE CODE

50-vinegar-concentrated-industrial-strength

GRADE

Technical

CONCENTRATION

50%

CAS NUMBER

64-19-7 [PubChem](#)

FORMULA

C2H4O2 [PubChem](#)

MOLECULAR WEIGHT

60.05 [PubChem](#)

PRODUCT TYPE

solution

SPECIFICATIONS

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Assay (CH3COOH)	49.5 – 50.5 %	50.0 %	—	Commercial practice
Chlorides	0.50 PPM max	0.10 PPM	—	Derived by dilution
Formic acid	0.025 WT% max	0.0015 WT%	—	Derived by dilution

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Heavy metals	0.25 PPM max	0.05 PPM	—	Derived by dilution
Non-volatile matter	0.0015% mass max	0.0002 % mass	—	Derived by dilution
Sulfates	0.50 PPM max	0.15 PPM	—	Derived by dilution
Iron	0.25 PPM max	0.025 PPM	—	Derived by dilution
Aldehydes, as acetaldehyde	MAX. 0.0025 WT%	0.001 WT%	GC-FID	Interpreted
Acetic Anhydride	0.005% max	0.001 %	—	Derived by dilution
Arsenic	0.1 ppm max	0.0025 ppm	—	Derived by dilution
Lead	0.26 mg/kg max	0.005 mg/kg	—	Derived by dilution

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 Technical	50%	—	current
Food Grade	50%	—	50-acetic-acid-food-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
Appearance	Clear colorless liquid with a vinegar odor (50% aqueous acetic acid solution).	Published reference
Form	Liquid	Published reference
Color	MAX. 5	Derived by dilution
Odor	Pungent	Published reference
pH	Aqueous solution 1.0 molar = 2.4; 0.1 molar = 2.9; 0.01 molar = 3.4	Published reference
Specific Gravity (20 °C)	1.055 – 1.060	Interpreted
Density	1.058 g/mL at 20 °C (50% w/w aqueous acetic acid; CRC)	Published reference
Boiling Point	not characterized for the solution	Published reference
Melting Point	not characterized for the solution	Published reference
Vapor Pressure	11.4 mmHg at 68 °F ; 20 mmHg at 86 °F (NTP, 1992)	Published reference
Solubility (water)	greater than or equal to 100 mg/mL at 73 °F (NTP, 1992)	Published reference

MATERIALS OF CONSTRUCTION

MATERIAL	RATING	CONDITIONS	SOURCE
aluminium	Not recommended	water-diluted acetic acid; the source restricts aluminium to chemically pure (glacial) acid and warns that corrosion of metals increases with water content	ingredi.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

UN2790 Adjudicated

PACKING GROUP

II Adjudicated

HAZARD CLASS

8 Adjudicated

PROPER SHIPPING NAME

Acetic acid solution, not less than 50 percent but not more than 80 percent acid, by mass
Adjudicated

GHS / OSHA HAZCOM 2012

SIGNAL WORD

Danger Adjudicated

H-CODES (HAZARD STATEMENTS)

H314 Adjudicated

P-CODES (PRECAUTIONARY STATEMENTS)

P210, P233, P240, P241, P242, P243, P260, P264, P280, P301+P330+P331, P303+P361+P353, P304+P340, P305+P351+P338, P310, P321, P363, P370+P378, P403+P235, P405, P501

Adjudicated

OCCUPATIONAL EXPOSURE LIMITS

OSHA PEL (29 CFR 1910.1000)

10 ppm TWA OSHA 29 CFR 1910.1000

ACGIH TLV

— no canonical

NIOSH REL

10 ppm TWA / 15 ppm STEL

NIOSH IDLH

50 ppm NIOSH Pocket Guide

NIOSH Pocket Guide

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.

CATALOG EQUIVALENTS CROSS-REFERENCE VS MAJOR CHEMICAL SUPPLIERS

HONEYWELL

SKU	GRADE	CONC.	MATCH	NOTES
33209	ACS	99.8%	Exact	Fluka ACS grade

SIGMA-ALDRICH

SKU	GRADE	CONC.	MATCH	NOTES
320099	ACS Reagent	99.7%	Exact	ACS Reagent ≥99.7%

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

APPLICATIONS

Industrial manufacturing mubychem.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, dry, well-ventilated area in original sealed containers. Refer to product SDS for material-specific guidance.

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

INCOMPATIBILITIES

Consult the SDS for material-specific incompatibilities.

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

HANDLING PRECAUTIONS

Use standard chemical PPE — splash goggles, gloves, lab coat. Refer to SDS for hazard-specific PPE requirements.

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

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)

UN2790, Acetic acid solution, not less than 50 percent but not more than 80 percent acid, by mass, 8, PG II

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

NMFC CLASS
60

PLACARD
Corrosive

PACKING GROUP
PG II

REVISION HISTORY

Last reviewed 2026-07-17 by Andre Taki, DOT Hazmat Specialist.

VERSION	DATE	CHANGE	TRIGGER
1.4	2026-08-05	Canonical data updated: 1 field changed via the provenance/adjudication pipeline. signalWord · canonical change (coa.data_provenance / adjudication)	canonical_change
1.3	2026-08-04	Canonical data updated: 3 fields changed via the provenance/adjudication pipeline. - unNumber · canonical change (coa.data_provenance / adjudication) - hazardClass · canonical change (coa.data_provenance / adjudication) - packingGroup · 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
1.1	2026-07-17	Canonical data re-verified: 6 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) - hazard_h_codes · canonical adjudication / reground (coa.data_provenance) - hazard_p_codes · canonical adjudication / reground (coa.data_provenance) - hsCode · canonical adjudication / reground (coa.data_provenance) - physicalProperties · 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.