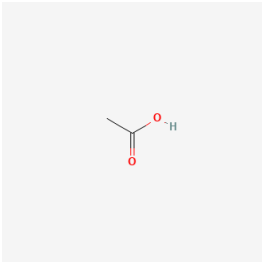
Technical Data Sheet

50% Vinegar - Concentrated Industrial Strength

Technical · 50%

Alliance Code	Revised	Revision
50-vinegar-concentrated-industrial-strength	2026-10-21	1.10

CAS number 64-19-7	UN number UN2790	Hazard class · packing group 8 · PG II
 Structure · PubChem	Grade Technical · 50%	Signal word **Danger**
Hazards Corrosive H314		
Proper shipping name Acetic acid solution, not less than 50 percent but not more than 80 percent acid, by mass		

IDENTITY & COMPOSITION

PRODUCT NAME
50% Vinegar - Concentrated Industrial Strength

ALLIANCE CODE
50-vinegar-concentrated-industrial-strength

GRADE
Technical

CONCENTRATION
50% w/w

CAS NUMBER
64-19-7 PubChem

FORMULA
CH3COOH PubChem

MOLECULAR WEIGHT
60.05 PubChem

PRODUCT TYPE
Solution

SPECIFICATIONS

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Assay (CH3COOH)	49.5 - 50.5 % w/w	—	—	Interpreted
Aldehydes, as acetaldehyde	0.025 % max	—	—	Interpreted
Chlorides	0.7 ppm max	—	—	Interpreted
Formic acid	0.025 wt% max	—	—	Interpreted
Heavy metals	0.26 ppm max	—	—	Interpreted
Non-volatile matter	0.0051% max	—	—	Interpreted
Sulfates	1.1 ppm max	—	—	Interpreted
Iron	0.26 ppm max	—	—	Interpreted
iodide	5 ppb max	—	—	Interpreted
propionic acid	150 ppm max	—	—	Interpreted
sulfurous acid	0.5 ppm max	—	—	Interpreted
total sulfur	0.5 ppm max	—	—	Interpreted
Color, Pt-Co	MAX. 5	—	—	Interpreted

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Composition	50 % acetic acid in deionized water, by weight	—	By formulation; batch weights (scale ticket)	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	50%	—	current
Food Grade	50%	—	50-acetic-acid-food-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	CLEAR AND FREE OF SUSPENDED MATTER	Interpreted
Form	Liquid	Adjudicated
Odor	Pungent, vinegar-like	Adjudicated
pH	Below 2	Adjudicated
Specific Gravity	1.058 at 20/20 °C (water = 1)	Adjudicated
Density	1.0562 g/cm^3 at 20 °C	Adjudicated
Boiling Point	About 107 °C (225 °F)	Adjudicated
Melting Point	not characterized for the solution	Adjudicated
Flash Point	> 100 °C (> 212 °F), closed cup; not flammable	Adjudicated
Vapor Pressure	11.4 mmHg at 68 °F ; 20 mmHg at 86 °F (NTP, 1992)	Adjudicated
Solubility (water)	Completely miscible with water	Adjudicated

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

HAZARD CLASS

8 Adjudicated

PACKING GROUP

II Adjudicated

PROPER SHIPPING NAME

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

Adjudicated

GHS / OSHA HCS 2024

SIGNAL WORD

Danger Adjudicated

H-CODES (HAZARD STATEMENTS)

H314 Adjudicated

P-CODES (PRECAUTIONARY STATEMENTS)

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

10 ppm TWA / 15 ppm STEL (acetic acid)

Adjudicated

NIOSH REL

10 ppm TWA / 15 ppm STEL NIOSH Pocket Guide

NIOSH IDLH

50 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} DERMAL (RABBIT)

1,060–1,112 mg/kg (pure acetic acid); about 2,100 mg/kg for the 50% solution (calculated)

Adjudicated

Acute toxicology values from SDS Section 11 or NIOSH RTECS.

APPLICATIONS

Cleaning and descaling concentrate; pH adjustment; industrial use. Adjudicated

Restrictions on Use: Technical grade: not for food or beverage use. Dilute before use; do not use undiluted on surfaces that acids damage. Never mix with bleach.

STORAGE & HANDLING

RECOMMENDED STORAGE

Store sealed in the original corrosion-resistant container (polyethylene, glass or stainless steel; not mild steel or aluminum) in a cool, dry, well-ventilated area out of direct sunlight, away from oxidizers, bases and foodstuffs. Protect from freezing.

Adjudicated

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.

INCOMPATIBILITIES

Oxidizing agents (peroxides, permanganates, nitric and chromic acid); bleach and other hypochlorites (release chlorine); hydroxides and other bases; soluble carbonates and phosphates; metals (releases hydrogen); amines; alcohols.

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)

```
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	PLACARD	PACKING GROUP
60	Corrosive	PG II

REVISION HISTORY

Last reviewed 2026-10-20 by Andre Taki, Chief Commercial Officer, DOT Hazmat–certified (49 CFR 172.704).

VERSION	DATE	CHANGE	TRIGGER
1.10	2026-10-21	Canonical data updated: 1 field changed via the provenance/adjudication pipeline. • `physicalProperties` · canonical change (coa.data_provenance / adjudication)	canonical_change

VERSION	DATE	CHANGE	TRIGGER
1.9	2026-10-20	Canonical data updated: 2 fields changed via the provenance/adjudication pipeline. • density · canonical change (coa.data_provenance / adjudication) • specificGravity · canonical change (coa.data_provenance / adjudication)	canonical_change
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
1.7	2026-10-07	Canonical data updated: 20 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) • synonyms · canonical change (coa.data_provenance / adjudication) • recommended_use · canonical change (coa.data_provenance / adjudication) • restrictions_on_use · canonical change (coa.data_provenance / adjudication) • odor · canonical change (coa.data_provenance / adjudication) • odorThreshold · canonical change (coa.data_provenance / adjudication) • solubility · canonical change (coa.data_provenance / adjudication) • flashPoint · 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) • oel_acgih_tlv · canonical change (coa.data_provenance / adjudication) • rcra_waste_codes · canonical change (coa.data_provenance / adjudication) • pH · canonical change (coa.data_provenance / adjudication) • specificGravity · canonical change (coa.data_provenance / adjudication) • boilingPoint · canonical change (coa.data_provenance / adjudication) • cercla_rq · canonical change (coa.data_provenance / adjudication) • dot_transport_note · canonical change (coa.data_provenance / adjudication)	canonical_change
1.6	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

VERSION	DATE	CHANGE	TRIGGER
1.5	2026-10-03	Canonical data updated: 1 field changed via the provenance/adjudication pipeline. • flashPoint · canonical change (coa.data_provenance / adjudication)	canonical_change
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.