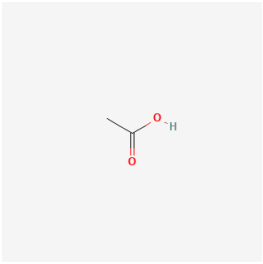
Technical Data Sheet

50% Diluted Acetic Acid Food Grade

Food Grade · 50%

Alliance Code	Revised	Revision
50-acetic-acid-food-grade	2026-10-20	1.8

CAS number 64-19-7	UN number UN2790	Hazard class · packing group 8 · PG II
 Structure · PubChem	Grade Food Grade · 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% Diluted Acetic Acid Food Grade

ALLIANCE CODE
50-acetic-acid-food-grade

GRADE
Food Grade

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
Color (APHA)	Max 10	—	ASTM D1209 (Pt-Co)	Interpreted
Acetic Anhydride	0.005% max	—	—	Interpreted
Arsenic	0.1 ppm max	—	—	Interpreted
Heavy Metals	0.26 ppm max	—	—	Interpreted
Lead	0.26 mg/kg max	—	—	Interpreted
Non-Volatile Residue	0.0026% max	—	FCC	Interpreted
iron	0.26 ppm max	—	—	Interpreted
sulfates	1 ppm max	—	—	Interpreted
Chloride (Cl)	Pass Test (USP)	—	—	Interpreted
Identification (Acetate)	A 1:3 aqueous solution gives positive tests for Acetate	—	—	Interpreted
Readily Oxidizable Substances	Passes test	—	—	Interpreted
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 Food Grade	50%	—	current
Technical	50%	—	50-vinegar-concentrated-industrial-strength

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, colorless liquid	Published reference
Form	Liquid	Published reference
Odor	Pungent, vinegar-like	Published reference
pH	1.8-2.0 (50% solution)	Published reference
Specific Gravity	1.058 at 20/20 °C (water = 1)	Adjudicated
Density	1.0562 g/cm^3 at 20 °C	Adjudicated
Boiling Point	100 to 118 °C (212 to 244 °F) (aqueous solution)	Adjudicated
Melting Point	0 to 16 °C (32 to 61 °F), freezing point (aqueous solution)	Adjudicated
Flash Point	>60 °C (combustible, not GHS-flammable)	Published reference
Solubility (water)	Miscible with water	Published reference

Strong acid — density and vapor-pressure values shown are at 20 °C; values shift markedly with concentration and temperature. Reference concentration-temperature curves before specifying equipment.

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, 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 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.

APPLICATIONS

Direct food ingredient used as a curing and pickling agent and as a flavor enhancer govinfo.gov

Flavoring agent and adjuvant, and pH control agent, in food govinfo.gov

Solvent and vehicle in food, and boiler water additive complying with 21 CFR 173.310 govinfo.gov

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 closed in plastic, glass or stainless-steel containers, not mild steel or aluminum. Store away from bases and bleach.

Adjudicated

HANDLING PRECAUTIONS

Use full PPE including face shield, acid-resistant gloves and apron. Add acid to water slowly with stirring; never reverse. Ventilation required.

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

INCOMPATIBILITIES

Strong bases; strong oxidizers; bleach and other hypochlorites (release chlorine); carbonates; reactive metals (release hydrogen).

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
1.8	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

VERSION	DATE	CHANGE	TRIGGER
1.7	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
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
1.5	2026-09-30	Canonical data updated: 2 fields changed via the provenance/adjudication pipeline. • boilingPoint · canonical change (coa.data_provenance / adjudication) • meltingPoint · canonical change (coa.data_provenance / adjudication)	canonical_change
1.4	2026-08-19	Canonical data updated: 1 field changed via the provenance/adjudication pipeline. • unNumber · canonical change (coa.data_provenance / adjudication)	canonical_change
1.3	2026-08-05	Canonical data updated: 3 fields changed via the provenance/adjudication pipeline. • hazardClass · canonical change (coa.data_provenance / adjudication) • packingGroup · canonical change (coa.data_provenance / adjudication) • unNumber · canonical change (coa.data_provenance / adjudication)	canonical_change
1.2	2026-07-22	Canonical data updated: 4 fields changed via the provenance/adjudication pipeline. • ghsClassification · canonical change (coa.data_provenance / adjudication) • hazard_p_codes · canonical change (coa.data_provenance / adjudication) • dotSubsidiaryHazardClass · canonical change (coa.data_provenance / adjudication) • dotProperShippingName · canonical change (coa.data_provenance / adjudication)	canonical_change

VERSION	DATE	CHANGE	TRIGGER
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.