TECHNICAL DATA SHEET

20% Diluted Acetic Acid Food Grade

Food Grade · 20%

CAS NUMBER	ALLIANCE CODE	GENERATED
64-19-7	20-acetic-acid-food-grade	2026-08-31

REVISION	REVIEWED
1.4	2026-07-17 · Andre Taki

IDENTITY & COMPOSITION

PRODUCT NAME
20% Diluted Acetic Acid Food Grade

ALLIANCE CODE
20-acetic-acid-food-grade

GRADE
Food Grade

CONCENTRATION
20%

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)	19.5 - 20.5 %	20.0 %	—	Commercial practice
Arsenic	0.04 ppm max	0.001 ppm	—	Derived by dilution
Heavy Metals	0.10 ppm max	0.02 ppm	—	Derived by dilution

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Lead	0.10 mg/kg max	0.002 mg/kg	—	Derived by dilution
Readily Oxidizable Substances	Passes test	Passes test	—	Derived by dilution
Nonvolatile Residue	0.001 % max	0.0001 %	—	Derived by dilution
Identification (Acetate)	Aqueous solution gives positive tests for Acetate	Passes test	FCC / USP <191> acetate identification	Interpreted
Chloride (Cl)	Passes test (USP)	Passes test	USP <221> limit test (AgNO3 nephelometric)	Interpreted
Acetic Anhydride	0.002% max	0.0004 %	—	Derived by dilution
iron	0.11 ppm max	0.016 ppm	—	Derived by dilution
sulfates	0.2 ppm max	0.040 ppm	—	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.

PHYSICAL & CHEMICAL PROPERTIES

PROPERTY	VALUE	SOURCE
Appearance	Clear, colorless liquid	Published reference
Form	Liquid	Published reference
Color	Max 10	Interpreted
Odor	Pungent, vinegar-like	Published reference
pH	2.0-2.2 (20% solution)	Published reference
Specific Gravity (20 °C)	1.024 - 1.029	Interpreted
Density	1.01-1.03 g/cm³ (20°C)	Published reference
Boiling Point	~100-101 °C	Published reference
Melting Point	~0 °C	Published reference
Flash Point	Not 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
III Adjudicated

PROPER SHIPPING NAME
Acetic acid solution, with more than 10 percent and less than 50 percent acid, by mass
Adjudicated

GHS / OSHA HAZCOM 2012

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 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

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

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 compatible containers (lined steel, HDPE, FRP — verify per concentration). Segregate from bases, oxidizers, metals, and cyanides.

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

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

Bases, active metals (aluminium, zinc), cyanides, sulfides, oxidizing agents. Reacts violently with organic anhydrides.

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)

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UN2790, Acetic acid solution, with more than 10 percent and less than 50 percent acid, by mass, 8, PG III
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Sourced from 49 CFR 172.101. Confirm against shipping documents and carrier requirements before tender.

NMFC CLASS	PLACARD	PACKING GROUP
65	Corrosive	PG III

REVISION HISTORY

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

VERSION	DATE	CHANGE	TRIGGER
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.