Safety Data Sheet · OSHA HCS 2024

50% Vinegar - Concentrated Industrial Strength

Technical · 50%

Standard	Revised	Emergency
OSHA HCS 2024 · GHS Rev. 7	2026-11-12	Chemtel 1-800-255-3924 (24/7)

1 Identification

Product Identifier	50% Vinegar - Concentrated Industrial Strength
Grade	Technical
Concentration	50% w/w
CAS Number	64-19-7
Chemical Formula	CH3COOH
Molecular Weight	60.05 g/mol
Manufacturer	Alliance Chemical 204 South Edmond Street, Taylor, TX 76574
Emergency Phone	Chemtel 1-800-255-3924 (24/7)
Synonyms	Acetic acid solution; ethanoic acid; concentrated vinegar
Recommended Use	Cleaning and descaling concentrate; pH adjustment; industrial use.
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.

2 Hazard Identification



Corrosive

Classification	Skin corrosion/irritation, Category 1 Serious eye damage/eye irritation, Category 1
Signal Word	**Danger**
Hazard Statements	H314 Causes severe skin burns and eye damage

Precautionary Statements

P260 Do not breathe dust, fume, gas, mist, vapors or spray.

P264 Wash hands and face thoroughly after handling.

P280 Wear protective gloves, protective clothing, and eye/face protection.

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER or doctor.

P321 Specific treatment (see first-aid information on this label).

P363 Wash contaminated clothing before reuse.

P370+P378 In case of fire: Use dry chemical, CO2 or water spray to extinguish.

P403+P235 Store in a well-ventilated place. Keep cool.

P405 Store locked up.

P501 Dispose of contents and container in accordance with local, regional, national, and international regulations.

Classification, hazard (H) and precautionary (P) statements and pictograms per OSHA HCS 2024 (29 CFR 1910.1200, Appendices A–C), aligned with GHS Rev. 7.

3 Composition / Information on Ingredients

Component	CAS No.	Formula	Concentration
Acetic acid	64-19-7	C2H4O2	49.5-50.5% (w/w)
Water	7732-18-5	H2O	Balance (w/w)

Concentrations are nominal; lot-specific values appear on the Certificate of Analysis. Components not contributing to classification are omitted.

4 First-Aid Measures

Eyes

Rinse with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical attention immediately.

Skin

Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing. Wash with soap. Get medical attention immediately.

Inhalation

Move person to fresh air and keep comfortable for breathing. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention immediately.

Ingestion

Do Not Induce Vomiting! Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention immediately.

Most Important Symptoms and Effects

Causes burns to the skin, eyes and mucous membranes; eye contact may cause permanent damage including blindness; ingestion burns the mouth, throat and stomach.

Immediate Medical Attention and Special Treatment

Immediate medical attention is required after eye or skin contact or ingestion; tissue damage may continue after exposure ends.

5 Fire-Fighting Measures

Suitable Extinguishing Media

Dry chemical, CO2, water spray. Use water spray to cool containers.

Unsuitable Extinguishing Media

Do not use a solid water stream as it may scatter and spread fire.

Specific Hazards Arising from the Chemical

Fire may release corrosive and toxic gases. Containers may rupture when heated.

Protective Equipment

Wear self-contained breathing apparatus and full protective clothing.

Hazardous Combustion Products

Carbon oxides.

6 Accidental Release Measures

Personal Precautions	Use PPE as described in Section 8. Ensure adequate ventilation. Evacuate personnel to safe areas.
Hazard-Specific Precautions	Do not touch spilled material without protective equipment. Neutralize residue only with a method suitable for the material, then collect.
Environmental Precautions	Prevent leakage or spillage from entering drains, sewers, or waterways.
Containment & Cleanup	Absorb with inert material. Collect in appropriate waste container. Dispose per applicable regulations.

7 Handling and Storage

Safe Handling	Use with adequate ventilation. Avoid contact with skin, eyes, and clothing. Wash thoroughly after handling. Keep container closed when not in use.
Safe Storage	Store in a cool, dry, well-ventilated area. Use corrosion-resistant containers. Keep away from incompatible materials (see Section 10). Keep containers tightly closed.
Specific Storage Precautions	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.

8 Exposure Controls / Personal Protection

Occupational Exposure Limits

Limit	Value
OSHA PEL	10 ppm TWA
ACGIH TLV	10 ppm TWA / 15 ppm STEL (acetic acid)
NIOSH REL	10 ppm TWA / 15 ppm STEL
IDLH	50 ppm

Engineering Controls	Use adequate ventilation. Provide eyewash stations and quick-drench showers accessible to areas of use.
Eye/Face Protection	Wear chemical safety goggles or face shield.
Skin Protection	Wear chemical-resistant gloves and protective clothing.
Respiratory Protection	Where mist, spray or dust is generated (e.g., spraying, atomization, pressure washing), use a NIOSH-approved half-face air-purifying respirator with combination acid gas / P100 cartridges. Ensure local exhaust ventilation.

Exposure limits sourced from NIOSH Pocket Guide, OSHA 29 CFR 1910.1000 and ACGIH TLVs.

9 Physical & Chemical Properties

Appearance	CLEAR AND FREE OF SUSPENDED MATTER
Odor	Pungent, vinegar-like
Odor Threshold	1 ppm (acetic acid)

pH	Below 2
Melting Point / Freezing Point	not characterized for the solution
Boiling Point	About 107 °C (225 °F)
Flash Point	> 100 °C (> 212 °F), closed cup; not flammable
Evaporation Rate	No data available
Flammability (solid, gas)	No data available
Upper/Lower Flammability or Explosive Limits	No data available
Vapor Pressure	11.4 mmHg at 68 °F ; 20 mmHg at 86 °F (NTP, 1992)
Vapor Density	No data available
Relative Density	1.058 at 20/20 °C (water = 1)
Solubility	Completely miscible with water
Partition Coefficient (n-octanol/water)	No data available
Auto-ignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	No data available
Particle Characteristics	Not applicable
Form	Liquid
Density	1.0562 g/cm^3 at 20 °C

Values shown reflect product-specific canonical data. Lot-specific ranges may vary; see the Certificate of Analysis for the shipped lot.

10 Stability and Reactivity

Reactivity	Not reactive under normal conditions of use and storage.
Chemical Stability	Stable under recommended storage conditions.
Possibility of Hazardous Reactions	None under normal processing conditions.
Conditions to Avoid	Heat and contact with incompatible materials.
Incompatible Materials	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.
Hazardous Decomposition Products	Carbon oxides.

11 Toxicological Information

See below for route-specific acute toxicity data.

Likely Routes of Exposure	Inhalation, skin contact, eye contact, ingestion.
Symptoms	Causes burns to the skin, eyes and mucous membranes; eye contact may cause permanent damage including blindness; ingestion burns the mouth, throat and stomach.
Delayed and Chronic Effects	No delayed or chronic effects identified beyond the classification in Section 2.

Route	Value

Route	Value
LD50 Dermal (rabbit)	1,060–1,112 mg/kg (pure acetic acid); about 2,100 mg/kg for the 50% solution (calculated)

Carcinogen Classification

Agency	Status
IARC	Not listed as carcinogen.
NTP	Not listed as carcinogen.
OSHA	Not listed as carcinogen.

12 Ecological Information

Ecotoxicity	Data not available. Avoid release to the environment.
Persistence & Degradability	Not Available
Bioaccumulative Potential	Not Available
Mobility in Soil	Not Available

13 Disposal Considerations

Dispose of contents/container in accordance with applicable federal, state, and local regulations. Do not dispose of into drains or waterways.

EPA RCRA Waste Codes	D002 (corrosive, pH ≤ 2, 40 CFR 261.22). Acetic acid is not a P- or U-listed waste.

If discarded, this material may be a corrosive hazardous waste (EPA RCRA D002, 40 CFR 261.22): aqueous with pH ≤ 2 or ≥ 12.5, or a liquid that corrodes steel at more than 6.35 mm per year. The waste generator must make the final hazardous-waste determination.

14 Transport Information

US DOT (49 CFR)

UN Number	UN2790
Proper Shipping Name	Acetic acid solution, not less than 50 percent but not more than 80 percent acid, by mass
Hazard Class	8
Packing Group	II
Additional US DOT Requirements	UN2790, Acetic acid solution, not less than 50 percent but not more than 80 percent acid, by mass, 8, II. Not a marine pollutant.

IMDG / IATA classifications may differ from US DOT. Verify current regulations before international shipment.

15 Regulatory Information

Inventory / List	Status
California Proposition 65	Not listed

Inventory / List	Status
US EPA TSCA Active Inventory	Listed
EPCRA SARA 313 (TRI)	Not listed
CERCLA Reportable Quantity (RQ)	Acetic acid (CAS 64-19-7) 5,000 lb (2,270 kg), about 10,000 lb of 50% solution; no single package reaches it.

SARA 311/312 hazard categories correspond to the GHS classification in Section 2. Data retrieved as of: California Proposition 65 2026-11-02; US EPA TSCA Active Inventory 2026-11-02; EPCRA SARA 313 (TRI) 2026-11-02.

16 Other Information

Revision Date	2026-11-12
Format	16-section format per OSHA HCS 2024 (29 CFR 1910.1200, Appendix D), aligned with GHS Rev. 7.

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