

MSDS# 00120

## Section 1 - Chemical Product and Company Identification

MSDS Name: Acetic acid, &gt;96%

Catalog Numbers: AC124040000, AC124040010, AC124040025, AC124040050, AC124040250, AC148930000, AC148930000, AC148930010, AC222140000, AC222140010, AC222140025, AC222140051, AC222140051, AC222140200, AC222142500, AC295320000, AC295320010, AC295320025, AC295320025, AC423220000, 14893-0025, 42322-0025, 42322-5000, A35-500, A35-500LC, A38-212, A38-450LB, A38-500, A38-500LC, A38212LC, A38C-212, A38C212LC, A38J500, A38P-20, A38P500, A38S-212, A38S-500, A38SI-212, A465-1, A465-250, A465-500, A490-212, A491-20, A491-212, A491-212LC, A491-4, A507-212, A507-4, A507-500, A507SK-212, BP1185-500, BP1185500LC, BP2400-500, BP2401-212, BP2401-500, BP2401C-212, BP2401P-20, BP2401S-212, BP2401S-500, BP2401SI-212, NC9011470, S70048-1SC, S70048-2MF, S700481MF

Synonyms: Ethanoic acid; Ethylic acid; Methanecarboxylic acid; Vinegar acid.

Company Identification: Fisher Scientific  
One Reagent Lane  
Fair Lawn, NJ 07410

For information in the US, call: 201-796-7100

Emergency Number US: 201-796-7100

CHEMTREC Phone Number, US: 800-424-9300

## Section 2 - Composition, Information on Ingredients

CAS#: 64-19-7

Chemical Name: Acetic acid

%: >96

EINECS#: 200-580-7

Hazard Symbols: C



Risk Phrases: 10 35

## Section 3 - Hazards Identification

## EMERGENCY OVERVIEW

Danger! Flammable liquid and vapor. May be harmful if absorbed through the skin. Causes severe eye and skin burns. Causes severe digestive and respiratory tract burns. Corrosive to metal. Glacial acetic acid solidifies below 62°F (17°C).  
Target Organs: Teeth, eyes, skin, mucous membranes.

## Potential Health Effects

Eye: Causes severe eye irritation. Contact with liquid or vapor causes severe burns and possible irreversible eye damage.

Skin: Causes skin burns. May be harmful if absorbed through the skin. Contact with the skin may cause blackening and hyperkeratosis of the skin of the hands.

Ingestion: May cause severe and permanent damage to the digestive tract. Causes severe pain, nausea, vomiting, diarrhea, and shock. May cause polyuria, oliguria (excretion of a diminished amount of urine in relation to the fluid intake) and anuria (complete suppression of urination). Rapidly absorbed from the gastrointestinal tract.

- Inhalation: Effects may be delayed. Causes chemical burns to the respiratory tract. Exposure may lead to bronchitis, pharyngitis, and dental erosion. May be absorbed through the lungs.
- Chronic: Chronic exposure to acetic acid may cause erosion of dental enamel, bronchitis, eye irritation, darkening of the skin, and chronic inflammation of the respiratory tract. Acetic acid can cause occupational asthma. One case of a delayed asthmatic response to glacial acetic acid has been reported in a person with bronchial asthma. Skin sensitization to acetic acid is rare, but has occurred.

#### Section 4 - First Aid Measures

- Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid immediately.
- Skin: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid immediately. Wash clothing before reuse.
- Ingestion: If swallowed, do NOT induce vomiting. Get medical aid immediately. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person.
- Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.
- Notes to Physician: Persons with pre-existing skin disorders or impaired respiratory or pulmonary function may be at increased risk to the effects of this substance. Treat symptomatically and supportively.

#### Section 5 - Fire Fighting Measures

- General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Reacts with most metals to form highly flammable hydrogen gas which can form explosive mixtures with air. Flammable liquid and vapor. Vapors are heavier than air and may travel to a source of ignition and flash back. Vapors can spread along the ground and collect in low or confined areas.
- Extinguishing Media: Use water spray, dry chemical, "alcohol resistant" foam, or carbon dioxide.
- Autoignition Temperature: 426 deg C ( 798.80 deg F)
- Flash Point: 39 deg C ( 102.20 deg F)
- Explosion Limits: Lower: 4.0 vol %
- Explosion Limits: Upper: 19.9 vol %
- NFPA Rating: health: 3; flammability: 2; instability: 0;

#### Section 6 - Accidental Release Measures

- General Information: Use proper personal protective equipment as indicated in Section 8.
- Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Wash area with soap and water. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation. Use water spray to cool and disperse vapors, protect personnel, and dilute spills to form nonflammable mixtures. Control runoff and isolate discharged material for proper disposal. Spill may be carefully neutralized with soda ash (sodium carbonate).

#### Section 7 - Handling and Storage

- Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Ground and bond containers when transferring material. Do not get in eyes, on skin, or on clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Discard contaminated shoes. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Use only with adequate ventilation. Keep away from heat, sparks and flame. Do not breathe vapor or mist. Use corrosion-resistant transfer equipment when dispensing.
- Storage: Keep away from heat, sparks, and flame. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances. Do not store near alkaline substances. Acetic acid should be kept above its freezing point of 62°F(17°C) to allow it to be handled as a liquid. It will contract slightly on freezing. Freezing and thawing does not affect product quality.

#### Section 8 - Exposure Controls, Personal Protection

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Acetic acid	10 ppm; 15 ppm STEL	10 ppm TWA; 25 mg/m3 TWA 50 ppm IDLH	10 ppm TWA; 25 mg/m3 TWA

OSHA Vacated PELs: Acetic acid: 10 ppm TWA; 25 mg/m3 TWA

#### Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits. Use a corrosion-resistant ventilation system.

#### Exposure Limits

#### Personal Protective Equipment

Eyes: Wear chemical splash goggles and face shield.

Skin: Wear appropriate gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

### Section 9 - Physical and Chemical Properties

Physical State: Liquid

Color: clear, colorless

Odor: pungent odor - vinegar odor

pH: <.01

Vapor Pressure: 11.4 mm Hg @ 20 deg C

Vapor Density: 2.10 (Air=1)

Evaporation Rate: 0.97 (n-Butyl acetate=1)

Viscosity: 1.22 cP

Boiling Point: 117 - 118 deg C

Freezing/Melting Point: 16.6 deg C ( 61.88°F)

Decomposition Temperature: Not available

Solubility in water: Soluble

Specific Gravity/Density: 1.05 (Water=1)

Molecular Formula: C2H4O2

Molecular Weight: 60.04

### Section 10 - Stability and Reactivity

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions.

Conditions to Avoid: Ignition sources, excess heat, freezing temperatures, confined spaces, Note: Use great caution in mixing with water due to heat evolution that causes explosive spattering. Always add the acid to water, never the reverse..

Incompatibilities with Other Materials: Metals, strong oxidizing agents, bases, chlorine trifluoride, nitric acid, acetaldehyde, chlorosulfonic acid, oleum, bromine pentafluoride, perchloric acid, potassium tert-butoxide, ethyleneimine, 2-aminoethanol, ethylene diamine, phosphorus trichloride, phosphorus isocyanate, chromic acid.

#### Hazardous

Decomposition Products: Carbon monoxide, carbon monoxide, carbon dioxide.

#### Hazardous

Polymerization: Will not occur.

### Section 11 - Toxicological Information

RTECS#: CAS# 64-19-7: AF1225000

RTECS:

**CAS# 64-19-7:** Draize test, rabbit, skin: 50 mg/24H Mild;

LD50/LC50: Inhalation, mouse: LC50 = 5620 ppm/1H;  
Oral, rat: LD50 = 3310 mg/kg;  
Skin, rabbit: LD50 = 1060 uL/kg;

Carcinogenicity: Acetic acid - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Other: See actual entry in RTECS for complete information.

#### Section 12 - Ecological Information

Fish: Fathead Minnow: LC50 = 88 mg/L; 96 Hr; Static bioassay @ 18-22°C  
Fish: Bluegill/Sunfish: LC50 = 75 mg/L; 96 Hr; Unspecified  
Ecotoxicity: Fish: Goldfish: LC50 = 423 mg/L; 24 Hr; Unspecified  
Water flea Daphnia: EC50 = 32-47 mg/L; 24-48 Hr; Unspecified  
Bacteria: Phytobacterium phosphoreum: EC50 = 8.86-11 mg/L; 5,15,25 min; Microtox test

#### Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

#### Section 14 - Transport Information

US DOT

Shipping Name: ACETIC ACID, GLACIAL

Hazard Class: 8

UN Number: UN2789

Packing Group: II

Canada TDG

Shipping Name: ACETIC ACID GLACIAL

Hazard Class: 8.03

UN Number: UN2789

Packing Group: II

USA RQ: CAS# 64-19-7: 5000 lb final RQ; 2270 kg final RQ

#### Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: C

Risk Phrases:

R 10 Flammable.

R 35 Causes severe burns.

Safety Phrases:

S 23 Do not inhale gas/fumes/vapour/spray.

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)

CAS# 64-19-7: 1

Canada

CAS# 64-19-7 is listed on Canada's DSL List

Canadian WHMIS Classifications: E, B3

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

CAS# 64-19-7 is listed on Canada's Ingredient Disclosure List

US Federal

TSCA

CAS# 64-19-7 is listed on the TSCA

Section 16 - Other Information

MSDS Creation Date: 7/21/1999

Revision #13 Date 2/08/2008

Revisions were made in Sections: 14

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.

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