

SAFETY DATA SHEET

Acetic Acid, Glacial

1. IDENTIFICATION OF SUBSTANCE / MIXTURE AND OF SUPPLIER

Product Identifier: High Purity Chemicals
Synonyms: Ethanoic Acid, Methane Carboxylic Acid
Other means of identification: CAS No. 64-19-7
EINECS No. 200-580-7

Recommended use of the chemical and restrictions on use:

Supplier Details:

Greenfield Global USA, Inc.
1101 Isaac Shelby Drive, Shelbyville,
KY 40065, USA.
Tel: 502.232.7600
Fax: 502.633.6100
CCN17213

Greenfield Global USA, Inc.
58 Vale Road, Brookfield,
CT 06804, USA.
Tel: 203.740.3471
Fax: 203.740.3481
CCN17213

Emergency Contact: CHEMTREC: 1.800.424.9300 (USA) / +1.703.527.3887 (International)

2. HAZARDS IDENTIFICATION

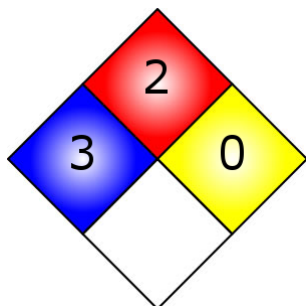
OSHA Hazards:

Combustible liquid, target organ effect, corrosive, Harmful by skin absorption, Skin sensitizer

Target Organs:

Kidney, Teeth

NFPA



GHS label elements, including precautionary statements



**Product Information: 203.740.3471 Emergency Assistance (CHEMTREC): 1.800.424.9300 (USA)
+1.703.527.3887 (INT)**



Signal Word:

DANGER!

Hazard statement(s)

H226 Flammable liquid and vapor
H314 Causes severe skin burns and eye damage.

Precautionary statement(s)

P210 Keep away from heat, sparks, open flames, and hot surfaces. No smoking.
P280 Wear protective gloves and eye and face protection.
P303 + P361 + P353 IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention.
P241 Use explosion-proof electrical, ventilating, and lighting equipment.
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P501 Dispose of contents and container to an approved waste disposal plant.

GHS Classification(s)

Flammable Liquids (Category 3)
Skin corrosion (Category 1A)

Other hazards which do not result in classification:

Potential Health Effects:

Organ	Description
Eyes	Causes eye burns. Causes severe eye burns.
Ingestion	May be harmful if swallowed.
Inhalation	May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
Skin	May be harmful if absorbed through skin. Causes skin burns.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Product Information: 203.740.3471 Emergency Assistance (CHEMTREC): 1.800.424.9300 (USA)

Chemical identity: Acetic Acid **+1.703.527.3887 (INT)**
Common name / Synonym: Glacial acetic acid, ethanoic acid, Methane Carboxylic Acid
CAS number: 64-19-7
EINECS number: 200-580-7
ICSC number: 0363
RTECS #: AF1225000
UN #: UN2789
EC #: 607-002-00-6

% Weight	Material	CAS
100	Acetic Acid	64-19-7

4. FIRST AID MEASURES

General advice

Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid. Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

Skin

Immediately flush affected area with plenty of water while removing contaminated clothing. Wash contaminated clothing before reuse. Contact a doctor. If irritation persists, get medical attention.

Inhalation

Remove person to fresh air. If signs/symptoms continue, get medical attention. Give oxygen or artificial respiration as needed.

Eyes

Thoroughly flush the eyes with large amounts of clean low-pressure water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If irritation persists, seek medical attention.

Ingestion

DO NOT induce vomiting. If vomiting does occur, have victim lean forward to prevent aspiration. Rinse mouth with water. Seek medical attention. Never give anything by mouth to an unconscious individual.

5. FIRE FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media:

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products):

Carbon oxides expected to be the primary hazardous combustion product.

Special protective equipment and precautions for firefighters:



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Wear self-contained breathing apparatus and protective clothing to prevent contact with skin. **1.703.527.5987 (INT)**
unopened containers cool by spraying with water.

Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/hot surface. No smoking.

Flammable Properties

Classification

OSHA/NFPA Class II Flammable Liquid.

Flash point

39 °C (103°F) - closed cup

Autoignition temperature

463°C (867°F)

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Wear respiratory protection. Do not inhale vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

Environmental precautions:

Stop leak. Contain spill if possible and safe to do so. Prevent product from entering drains.

Methods and materials for containment and cleaning up:

Contain spill, then collect with an electrically protected vacuum cleaner or by wet-brushing and put the material into a convenient waste disposal container. Keep container closed.

7. HANDLING AND STORAGE

Precautions for safe handling:

Do not get on skin or in eyes. Do not inhale vapor or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the buildup of electrostatic charge. Open and handle container with care. Metal containers involved in the transfer of this material should be grounded and bonded.

Conditions for safe storage, including any incompatibilities:

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Product Information: 203.740.3471 Emergency Assistance (CHEMTREC): 1.800.424.9300 (USA)
Control parameters, e.g., occupational exposure limit values or biological limit values: +1.703.527.3887 (INT)

Occupational Exposure Limits

Component	Source	Type	Value	Note
Acetic Acid	US (OSHA)	STEL	15 ppm	
Acetic Acid	US (OSHA)	TWA	10 ppm	

Appropriate engineering controls:

General room or local exhaust ventilation is usually required to meet exposure limit(s). Electrical equipment should be grounded and conform to applicable electrical code.

Individual protection measures, such as personal protective equipment:

Respiratory protection:

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection:

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection:

Use chemical safety goggles and/or a full face shield where splashing is possible. Use equipment approved by appropriate government standards, such as NIOSH (US) or EN166 (EU) Maintain eye wash fountain and quick-drench facilities in work area.

Skin and body protection:

Wear impervious, flame retardant, antistatic protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Hygiene measures:

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.)	Liquid. Colorless, clear.
Freezing point	16°C (61 °F)
Initial boiling point and boiling range	117.9°C (244.2°F)
Flash point	39 °C (103°F) - closed cup
Flammability (solid, gas)	Flammable
Upper / Lower flammability or explosive limits	4% (V) / 19.9% (V)
Vapor pressure	15.2 hPa (11.4 mmHg) at 20.0 °C (68.0 °F)

Product Information: 203.740.3471 Emergency Assistance (CHEMTREC): 1.800.424.9300 (USA)

Vapor Density	2.1	+1.703.527.3887 (INT)
Relative Density	1.049 g/mL at 25°C (77 °F)	
Solubility(ies)	soluble	
Auto-ignition temperature	463 °C (867 °F)	
Formula (ACETIC ACID)	C2H4O2	
Molecular Weight (ACETIC ACID)	60.05 g/mol	

10. STABILITY AND REACTIVITY

Possibility of hazardous reactions	No data available
Conditions to avoid (e.g., static discharge, shock or vibration)	Heat, flames, and sparks. Extreme temperatures and direct sunlight.
Incompatible materials	Oxidizing agents, Soluble carbonates and phosphates, Hydroxides, Metals, Peroxides, permanganates, e.g. potassium permanganate, Amines, Alcohols
Hazardous decomposition products	Hazardous decomposition products formed under fire conditions. - Carbon oxides

11. TOXICOLOGICAL INFORMATION

• Acetic Acid 64-19-7

Product Summary:

No data available for the teratogenicity or reproductive effects. Acetic acid is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Ingestion or inhalation of concentrated Acetic Acid causes damage to tissues of the respiratory and digestive tracts.

Acute Toxicity:

LC50 (Inhalation)	Rat	11.4 mg/L	4 hours
LD50 (Dermal)	Rabbit	1,112 mg/kg	
LD50 (Oral)	Rat	3,310 mg/kg	

Irritation:

Eyes

Rabbit- Corrosive to eyes - 24 hours

Signs and Symptoms of Exposure (ACETIC ACID)

Symptoms include: hematemesis, bloody diarrhea, edema and/or perforation of the esophagus and pylorus, pancreatitis, hematuria, anuria, uremia, albuminuria, hemolysis, convulsions, bronchitis, pulmonary edema, pneumonia, cardiovascular collapse, shock, and death. Direct contact or exposure to high concentrations of vapor with skin or eyes can cause: erythema, blisters, tissue destruction with slow healing, skin blackening, hyperkeratosis, fissures, corneal erosion, opacification, iritis, conjunctivitis, and possible blindness.



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Carcinogenicity

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IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Other Hazards

Organ	Description
Eyes	Causes eye burns, Can cause severe eye burns.
Ingestion	Harmful if ingested.
Inhalation	May be harmful if inhaled. Material is extremely damaging to the upper respiratory tract.
Skin	Causes skin burns.

12. ECOLOGICAL INFORMATION

- Acetic Acid 64-19-7

Ecotoxicity (aquatic and terrestrial, where available):

Acute Toxicity to Fish (ACETIC ACID)

LC50 / 96 hours Rainbow Trout - > 1,000 mg/L

LC50 / 96 hours Fathead Minnow - 79- 88 mg/L

Persistence and degradability:

Biodegradation is expected.

Bioaccumulative potential:

No data available

Other adverse effects:

No data available

13. DISPOSAL CONSIDERATIONS



Product Information: 203.740.3471 Emergency Assistance (CHEMTREC): 1.800.424.9300 (USA)

Description of waste residues and information on their safe handling and methods of disposal: 1.763.527.9887 (INT)
disposal of any contaminated packaging:

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

14. TRANSPORT INFORMATION

Description of waste residues and information on their safe handling and methods of disposal:

UN number	UN2789
UN proper shipping name	Acetic Acid, Glacial
Transport hazard class(es)	8 (3)
Packing group (if applicable)	II

Reportable Quantity

5,000 lbs.

IMDG

UN-Number: UN2789 Class: 8 (3) Packing Group: II

EMS-No: F-E, S-C

Proper shipping name: ACETIC ACID, GLACIAL

Marine pollutant: No

IATA

UN-Number: UN2789 Class: 8 (3) Packing Group: II

Proper shipping name: Acetic Acid, Glacial

15. REGULATORY INFORMATION

Safety, health and environmental regulations specific for the product in question:

OSHA Hazards

Combustible liquid, target organ effect, corrosive, Harmful by skin absorption, Skin sensitizer

All ingredients are on the following inventories or are exempted from listing

Country	Notification
Australia	AICS
Canada	DSL
China	IECS
European Union	EINECS
Japan	ENCS/ISHL
Korea	ECL
New Zealand	NZIoC
Philippines	PICCS
United States of America	TSCA

Product Information: 203.740.3471 Emergency Assistance (CHEMTREC): 1.800.424.9300 (USA)

SARA 302 Components

+1.703.527.3887 (INT)

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Acute Health Hazard

Chronic Health Hazard

Fire Hazard

Massachusetts Right To Know Components

Acetic acid CAS-No. 64-19-7 Revision Date 1993-04-24

Pennsylvania Right To Know Components

Acetic acid CAS-No. 64-19-7 Revision Date 1993-04-24

New Jersey Right To Know Components

Acetic acid CAS-No. 64-19-7 Revision Date 1993-04-24

California Prop 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION: INCLUDING INFORMATION ON PREPARATION AND REVISION OF THE SDS

Disclaimer

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