



SAFETY DATA SHEET

ACETIC ACID GLACIAL REAGENT

1. PRODUCT IDENTIFICATION

Emergency Telephone Number - CANUTEC
24-HOUR NUMBER: (613) 996-6666

Product Code: A1055
CAS number: 64-19-7
Molecular Weight : 60.05
Formula: $C_2H_4O_2$
Synonyms: Acetic acid, methane carboxylic acid; ethanoic acid

2. HAZARD(S) IDENTIFICATION

Emergency Overview

Target Organs

Teeth, Kidney,

WHMIS Classification

B3 Combustible Liquid
Combustible Liquid
E Corrosive Material
Corrosive to skin

HMIS Classification

Health hazard: 3
Flammability: 2
Physical hazards: 0

Potential Health Effects

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.
Eyes Causes eye burns. Causes severe eye burns.
Ingestion May be harmful if swallowed.

GHS Classification

Flammable liquids (Category 3)
Acute toxicity, Oral (Category 5)
Skin corrosion/irritation (Sub-category 1A)
Serious eye damage/eye irritation (Category 1)

Pictogram





Signal Word: Danger

Hazard Statement(s)

H226 Flammable liquid and vapour
H303 May be harmful if swallowed
H314 Causes severe skin burns and eye damage
H318 Causes serious eye damage

Precautionary Statement(s)

P210 Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P243 Take precautionary measures against static discharge.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P264 Wash hands thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/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 clothing with water [or shower].
P304 + P340 IF INHALED: Remove victim to fresh air and Keep at rest in a position 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/physician.
P403 + P235 Store in a well-ventilated place. Keep cool.
P501 Dispose of contents/container in accordance with local/ regional/ national/ international regulations.

3. COMPOSITION / INFORMATION ON INGREDIENTS

NAME & CAS-No.	EC-No.	Index-No.	Concentration
Acetic acid 64-19-7	200-580- 7	607-002-00- 6	>99%

4. FIRST-AID MEASURES

If inhaled:

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact:

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

In case of eye contact:

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

If swallowed:

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

Fire:

Flash point: 40°C (104°F) - CC
Autoignition temperature: 427°C (801°F)
Flammable limits in air % by volume: lel: 4.0; uel: 16.0
Flammable Liquid and Vapor!

Conditions of flammability:

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.

Suitable extinguishing media:

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

Special protective equipment for firefighters:
Wear self-contained breathing apparatus for firefighting if necessary.

Hazardous combustion products:
Hazardous decomposition products formed under fire conditions. - Carbon oxides

Explosion data - sensitivity to mechanical impact:
No data available

Explosion data - sensitivity to static discharge:
No data available

Further information:
Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:
Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Environmental precautions:
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods and materials for containment and cleaning up:
Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

7. HANDLING AND STORAGE

Precautions for safe handling:
Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

Conditions for safe storage:
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. Protect from freezing. Store above 17°C (63°F).
Moisture sensitive.

8. EXPOSURE CONTROL/ PERSONAL PROTECTION

Airborne Exposure Limits:
-OSHA Permissible Exposure Limit (PEL): 10 ppm (TWA).
-ACGIH Threshold Limit Value (TLV): 10 ppm (TWA); 15 ppm (STEL).

Ventilation System:
A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, "Industrial Ventilation, A Manual of Recommended Practices", most recent edition, for details.

Personal Respirators (NIOSH Approved):
If the exposure limit is exceeded and engineering controls are not feasible, a half facepiece particulate respirator (NIOSH type N95 or better filters) may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece particulate respirator (NIOSH type N100 filters) may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency, or respirator supplier, whichever is lowest. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:
Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as

appropriate, to prevent skin contact.

Eye Protection:

Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear, colorless liquid.	Boiling Point: 118°C (244°F).
Odor: Strong, vinegar-like.	Melting Point: 16.6°C (63°F).
Solubility: Infinitely soluble.	Vapor Density (Air=1): 2.1 .
Density: 1.05 .	Vapor Pressure (mm Hg): 11 @ 20°C (68°F).
pH: 2.4 (1.0M solution).	Evaporation Rate (BuAc=1): 0.97 .
% Volatiles by volume @ 21°C (70°F): 100 .	

10. STABILITY AND REACTIVITY

Chemical stability:

Stable under recommended storage conditions. Heat and sunlight can contribute to instability. Releases heat and toxic, irritating vapors when mixed with water. Acetic acid contracts slightly upon freezing which may cause the container to burst.

Possibility of hazardous reactions:

No data available

Conditions to avoid:

Heat, flame, ignition sources, freezing, incompatibles.

Materials to avoid:

Oxidizing agents, Soluble carbonates and phosphates, Hydroxides, Metals, Peroxides, permanganates (e.g. potassium permanganate), Amines, Alcohols, Nitric acid

Hazardous decomposition products:

Hazardous decomposition products formed under fire conditions. - Carbon oxides

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50: LD50 Oral - Rat - 3,310 mg/kg

Inhalation LC50: LC50 Inhalation - Mouse - 1 h - 5620 ppm

Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):

Eye:Conjunctive irritation. Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Other. Blood:Other changes.

LC50 Inhalation - Rat - 4 h - 11.4 mg/l

Dermal LD50: LD50 Dermal - Rabbit - 1,112 mg/kg

Other information on acute toxicity:

No data available

Skin corrosion/irritation:

Skin - Rabbit - Causes severe burns.

Serious eye damage/eye irritation:

Eyes - Rabbit - Corrosive to eyes

Respiratory or skin sensitisation:

May cause sensitisation by skin contact.

Germ cell mutagenicity:
No data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible 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.

Reproductive toxicity:
No data available

Teratogenicity:
No data available

Specific target organ toxicity - single exposure (Globally Harmonized System):
No data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System):
No data available

Aspiration hazard:
No data available

Potential health effects

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

Signs and Symptoms of Exposure:

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, Ingestion or inhalation of concentrated acetic acid causes damage to tissues of the respiratory and digestive tracts. 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. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Synergistic effects:
No data available

12. ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish:

semi-static test LC50 - *Oncorhynchus mykiss* (rainbow trout) - > 1,000 mg/l - 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates:

EC50 - *Daphnia magna* (Water flea) - > 300.82 mg/l - 48 h
Method: OECD Test Guideline 202

Persistence and degradability:

Biodegradability aerobic
Result: 99 % - Readily biodegradable
Remarks: Expected to be biodegradable

Bioaccumulative potential:
No data available

Mobility in soil:
No data available

PBT and vPvB assessment:
No data available

Other adverse effects:
Biochemical Oxygen Demand (BOD) 880 mg/g

Additional ecological information:
No data available

13. DISPOSAL CONSIDERATIONS

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations.

Dispose of container and unused contents in accordance with federal, state and local requirements.

14. TRANSPORT INFORMATION

The following information has been verified for: D.O.T., I.M.D.G.(US), I.M.O.(Can), I.A.T.A.(US) & I.C.A.O.(Can);



UN Number: UN2789
Packing Group: II
Limited Quantity: 1L
Hazard Class: 8(3)
UN Name: ACETIC ACID, GLACIAL

15. REGULATORY INFORMATION

WHMIS Classification
B3 Combustible Liquid
E Corrosive Material
Corrosive to skin

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.



16. OTHER INFORMATION

Disclaimer:

We provide the information contained herein in good faith but make no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose.

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