



MATERIAL SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION:

PRODUCT CODE A0277
PRODUCT NAME ACETIC ACID
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FOR EMERGENCIES CALL CHEMTREC: 800-424-9300 (24-HOURS)

2. HAZARD IDENTIFICATION:

Emergency Overview

Combustible Liquid, Target Organ Effect, Corrosive.

Target organs

Teeth., Kidney

Other hazards which do not result in classification

Lachrymator.

GHS Classification

Flammable liquids (Category 3)

Acute toxicity, Oral (Category 5)

Acute toxicity, Inhalation (Category 3)

Acute toxicity, Dermal (Category 4)

Skin corrosion (Category 1A)

Serious eye damage (Category 1)

Skin sensitization (Category 1)

Acute aquatic toxicity (Category 3)

GHS Label elements, including precautionary statements

Signal word Danger

Hazard statement(s)

H226

Flammable liquid and vapor.

H303

May be harmful if swallowed.

H312

Harmful in contact with skin.

H314

Causes severe skin burns and eye damage.

H317

May cause an allergic skin reaction.

H331

Toxic if inhaled.

H402

Harmful to aquatic life.

Precautionary statement(s)

P261

Avoid breathing dust/fume/gas/mist/vapors/spray.

P280 Wear protective gloves/ protective clothing/eye protection/ face protection.
P305 P351 P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.
P310

HMIS Classification

Health hazard 2
Flammability 3
Physical hazards 2

NFPA Rating

Health hazard 2
Fire 3
Reactivity Hazard 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 Causes skin burns.

Eyes Causes eye burns. Causes severe eye burns.

Ingestion May be harmful if swallowed.

3. COMPOSITION AND INFORMATION ON INGREDIENTS:

SYNONYM Glacial acetic acid
Formula $C_2H_4O_2$
Molecular Weight 60.05 g/mol

CAS-No	EC-No	Index No.
64-19-7	200-580-7	607-002-00-6

4. FIRST-AID GUIDE:

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

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. Take victim immediately to hospital. 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 GUIDE:

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 fire-fighters

Wear self contained breathing apparatus for firefighting if necessary.

Hazardous combustion products

Hazardous decomposition products formed under fire conditions-Carbon oxides.

Further information

Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE GUIDE:**Personal precautions**

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

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 contact with skin and eyes. Avoid inhalation of vapor or mist. Keep away from sources of ignition- No smoking. Take measures to prevent the buildup 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.

8. EXPOSURE AND PERSONAL PROTECTION:**Components with workplace control parameters**

Components	CAS No.	Value	Control parameters Basis
Acetic acid	64-19-7	TWA	10ppm USA. ACGIH Threshold Limit Values (TLV).
		STEL	15 ppm USA.ACGIH Threshold Limit Values (TLV).
		TWA	10ppm USA. OSHA-TABLE Z-1 Limits for Air 25mg/m ³ Contaminants- 1910.1000
		TWA	10ppm USA. Occupational Exposure Limits (OSHA)- 25mg/m ³ Table Z-1 Limits for Air Contaminants.
TWA	10ppm USA.NIOSH Recommended Exposure Limits.		

25 mg/m³
ST 15 ppm USA. NIOSH Recommended Exposure Limits.
37 mg/m³

Remarks:

Eye & Upper respiratory tract irritation, pulmonary function

The value in mg/m³ is approximate

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose 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

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance

Form Liquid
Color colorless to pale yellow

Safety data

Boiling point (°C) 118
Flash point (°F) Closed cup 104
Vapor pressure (mm Hg @20 °C) 12
Density @25 °C 1.045
Water solubility SOLUBLE
Relative vapor density 2.1
Odor STRONG PUNGENT

10. STABILITY AND REACTIVITY:

Chemical stability

Stable under recommended storage conditions.

Conditions to avoid

Heat, flames and sparks.

Materials to avoid

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
Other decomposition products - no data available.

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- 4h - 11.4 mg/l

Dermal LD50 -

LD50 Dermal - rabbit - 1,112 mg/kg

Serious eye damage/eye irritation

Eyes - rabbit - Corrosive to eyes.

Respiratory or skin sensitization

May cause sensitization by skin contact.

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.

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.

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

Harmful if swallowed.

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, hock, 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

Additional Information

RTECS: AF1225000

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 EC50- Daphnia magna (Water flea) ->300.82 mg/l - 48 h
and other aquatic Method: OECD Test Guideline 202.
invertebrates

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

Other adverse effects

Biochemical Oxygen Demand (BOD) 880 mg/g

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Harmful to aquatic life.

13. DISPOSAL RECOMMENDATIONS:

Product

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.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORTATION INFORMATION:**DOT (US)**

UN number: 2789 Class: 8 (3) Packing group: II

Proper shipping name: Acetic acid Solution

IMDG

UN number: 2789 Class: 8 (3) Packing group: II

Proper shipping name: Acetic acid Solution

IATA

UN number: 2789 Class: 8 (3) Packing group: II

Proper shipping name: Acetic acid Solution

15. REGULATORY INFORMATION:**OSHA Hazards**

Combustible Liquid, Target Organ Effect, Corrosive.

SARA 302 Components

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

Fire Hazard, Acute Health Hazard, Chronic Health Hazard.

Massachusetts Right To Know Components

Acetic acid	CAS-No.	Revision Date
	64-19-7	2007-03-01

Pennsylvania Right To Know Components

Acetic acid	CAS-No.	Revision Date
	64-19-7	2007-03-01

New Jersey Right To Know Components

Acetic acid	CAS-No.	Revision Date
	64-19-7	2007-03-01

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:

The information in this MSDS was obtained from current and reliable sources. However, the data is provided without any warranty, expressed or implied, regarding its correctness or accuracy. Since the conditions for use, handling, storage and disposal of this product are beyond M&U's control, it is the responsibility of the user both to determine safe conditions for use of this product and to assume liability for loss, damage, or expense arising out of the products improper use. No warranty expressed or implied regarding the product described herein will be created by or inferred from any statement or omission in the MSDS. Various federal, state, or provincial agencies may have specific regulations concerning the transportation, handling, storage, use, or disposal of this product which may not be reflected in the MSDS. The user should review these regulations to ensure full compliance.

Material Safety Data Sheet prepared by: **M & U International LLC**