



Safety Data Sheet

Date of Issue: 06.11.2024

Date of Expiry: 06.11.2029

1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Company Name : ECP Limited
Address : PO Box 34125, Birkenhead, Auckland 0746
Telephone : +64 9 480 4386
Facsimile : +64 9 480 4385
Emergency phone number : 0800 243 622 (24 hours)

Product Name	Acetic acid glacial
Product Code	10401
CAS No.	64-19-7

Recommended use : Laboratory Investigations

2: Hazard's identification

2.1 GHS Classification

Flammable liquids (Category 3)
Corrosive to Metals (Category 1)
Acute toxicity, Oral (Category 4)
Acute toxicity, Inhalation (Category 4)
Acute toxicity, Dermal (Category 4)
Skin corrosion/irritation (Category 1B)
Serious eye damage/eye irritation (Category 1)
Specific target organ toxicity - repeated exposure (Category 2)

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal Word : **Danger**

Hazard Statements

H226 Flammable liquid and vapor.
H290 May be corrosive to metals.
H302 + H312 + H332 Harmful if swallowed, in contact with skin or if inhaled.
H314 Causes severe skin burns and eye damage.
H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary Statements

Prevention

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.
No smoking.
P260 Do not breathe mist or vapors.
P264 Wash skin thoroughly after handling.

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

Response

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

P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.

P305 + P351 + P338 + P310 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/ doctor.

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

2.3 Other hazards

Lachrymator.

3: Composition/information on ingredients

3.2 Mixtures

Synonyms	:	Glacial acetic acid
Formula	:	C ₂ H ₄ O ₂
Molecular weight	:	60.05 g/mol
Concentration	:	> 99 %

4: First aid measures

4.1 Description of first-aid measures

General advice

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. Call in physician.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

In case of eye contact

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

If swallowed

After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Carbon oxides

Not combustible.

Forms explosive mixtures with air at elevated temperatures.

Ambient fire may liberate hazardous vapours.

5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Further information

Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel:

Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation.

Keep away from heat and sources of ignition.

Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains. Risk of explosion.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent and neutralising material. Dispose of properly. Clean up affected area.

6.4 Reference to other sections

For disposal see section 13.

7: Handling and storage

7.1 Precautions for safe handling

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.

Moisture sensitive.

Storage class

Storage class (TRGS 510): 3: Flammable liquids

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits Table

Component	CAS No.	Value	Control parameters	Basis
Acetic acid	64-19-7	WES-TWA	WES-TWA	New Zealand. Workplace Exposure Standards for Atmospheric Contaminants
		WES-STEL	15 ppm 37 mg/m ³	New Zealand. Workplace Exposure Standards for Atmospheric Contaminants

8.2 Exposure controls

Appropriate engineering controls

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

Personal protective equipment

Eye/face protection

Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards.

Skin 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.

Body Protection

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

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type or respirator cartridge 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.

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Risk of explosion.

9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	Clear liquid.
Molecular mass	:	60.05 g/mol
Colour	:	Clear Colourless.

Odour	:	strong, vinegar-like.
Odour threshold	:	No data available
pH	:	2.4 (1.0 M solution)
Relative evaporation rate (butylacetate=1)	:	0.97
Melting point	:	16.2 °C
Freezing point	:	No data available
Boiling point	:	117 – 118 °C
Flash point	:	40 °C
Auto-ignition temperature	:	485 °C
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	Flammable liquid and vapour.
Vapour pressure	:	15.2 hPa at 20°C
Relative vapour density at 20 °C	:	2.1
Relative density	:	No data available
Density	:	1.049 g/cm ³
Solubility : Water	:	Miscible in water
Partition coefficient n-octanol/water (Log Pow)	:	-0.17
Viscosity, kinematic	:	1.163 mm ² /s
Viscosity, dynamic	:	1.22 cP
Explosive properties	:	No data available
Oxidising properties	:	No data available
Lower explosive limit (LEL)	:	4 vol %
Upper explosive limit (UEL)	:	19.9 vol %

10: Stability and reactivity

10.1. Reactivity

Flammable liquid and vapour.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Open flame. Overheating. Sparks. Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11: Toxicological information

11.1 Information on toxicological effects

Mixture

Acute toxicity

Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.

LD50 Oral - Rat - 3,310 mg/kg

Remarks: (RTECS)

Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract

LC50 Inhalation - Mouse - 4 h - 2,819 mg/l - vapor

Remarks: (RTECS)

Dermal: No data available

Skin corrosion/irritation

Remarks: Mixture causes severe burns.

Skin - Rabbit

Result: Causes burns. - 4 h

(OECD Test Guideline 404)

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Serious eye damage/eye irritation

Remarks: Mixture causes serious eye damage.

Risk of blindness!

Eyes - Rabbit

Result: Causes burns. - 4 h

(OECD Test Guideline 405)

Remarks: (IUCLID)

Remarks: Causes serious eye damage.

Respiratory or skin sensitization : No data available

Germ cell mutagenicity

Test Type: Ames test

Test system: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

Test Type: Mutagenicity (mammal cell test): chromosome aberration.

Test system: Chinese hamster ovary cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 473

Result: negative

Test Type: Micronucleus test

Species: Rat

Cell type: Bone marrow

Application Route: inhalation (vapor)

Method: Mutagenicity (micronucleus test)

Result: negative

Carcinogenicity : No data available

Reproductive toxicity : No data available

Specific target organ toxicity - single exposure : No data available

Specific target organ toxicity - repeated exposure : No data available

Aspiration hazard : No data available

11.2 Additional Information

RTECS: AF1225000

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.

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

Components

acetic acid

Acute toxicity

LD50 Oral - Rat - 3,310 mg/kg

Remarks: (RTECS)

LC50 Inhalation - Mouse - 4 h - 2,819 mg/l - vapor

Remarks: (RTECS)

Dermal: No data available

Skin corrosion/irritation

Skin - Rabbit

Result: Causes burns. - 4 h

(OECD Test Guideline 404)

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Causes burns. - 4 h

(OECD Test Guideline 405)

Remarks: (IUCLID)

Remarks: Causes serious eye damage.

Respiratory or skin sensitization

: No data available

Germ cell mutagenicity

Test Type: Ames test

Test system: Salmonella typhimurium

Result: negative

Test Type: Mutagenicity (mammal cell test): chromosome aberration.

Test system: Chinese hamster ovary cells

Result: negative

Method: Mutagenicity (micronucleus test)

Species: Rat - male and female - Bone marrow

Result: negative

Carcinogenicity

: No data available

Reproductive toxicity

: No data available

Specific target organ toxicity - single exposure

: No data available

Specific target organ toxicity - repeated exposure: No data available

Aspiration hazard : No data available

12: Ecological information

12.1 Toxicity

Mixture

Toxicity to fish

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

Toxicity to daphnia and other aquatic invertebrates

static test EC50 - *Daphnia magna* (Water flea) - > 1,000 mg/l - 48 h
(OECD Test Guideline 202)

Toxicity to algae

static test EC50 - *Skeletonema costatum* - > 1,000 mg/l - 72 h
(ISO 10253)

Toxicity to bacteria

EC5 - *Pseudomonas putida* - 2,850 mg/l - 16 h

Remarks: neutral

(maximum permissible toxic concentration)

(Lit.)

microtox test EC50 - *Photobacterium phosphoreum* - 11 mg/l – 15 min

Remarks: (IUCLID)

12.2 Persistence and degradability

Biodegradability Result: 99 % - Readily biodegradable.

(OECD Test Guideline 301D)

Remarks: (HSDB)

Result: 95 % - Readily eliminated from water

(OECD Test Guideline 302B)

Biochemical Oxygen

Demand (BOD)

880 mg/g

Remarks: (Lit.)

Ratio BOD/ThBOD 76 %

Remarks: (IUCLID)

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Endocrine disrupting properties

No data available

12.7 Other adverse effects

Components

acetic acid

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

Toxicity to daphnia and other aquatic invertebrates
 static test EC50 - Daphnia magna (Water flea) - > 1,000 mg/l - 48 h
 (OECD Test Guideline 202)

Toxicity to algae
 static test EC50 - Skeletonema costatum - > 1,000 mg/l - 72 h
 (ISO 10253)

Toxicity to bacteria
 EC5 - Pseudomonas putida - 2,850 mg/l - 16 h
 Remarks: neutral
 (maximum permissible toxic concentration)
 (Lit.)
 microtox test EC50 - Photobacterium phosphoreum - 11 mg/l - 15 min
 Remarks: (IUCLID)

13: Disposal considerations

13.1 Waste treatment methods

Product

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

Contaminated packaging

Dispose of as unused product.

14: Transport Information Table

		ADR/RID – European packaging certification	IMDG International Maritime Dangerous Goods Code	IATA – DGR International Air Travel Association – Dangerous Goods Regulations
14.1	UN Number	2789	2789	2789
14.2	UN Proper Shipping name	ACETIC ACID, GLACIAL	ACETIC ACID, GLACIAL	Acetic acid, glacial
14.3	Transport Hazard Class	8 (3)	8 (3)	8 (3)
14.4	Packaging group	II	II	II
14.5	Environmental Hazards	no	no	no
14.6	Special precautions for user	None		
14.7	Incompatible materials	Oxidizing agents, Soluble carbonates and phosphates, Hydroxides, Metals, Peroxides, permanganates, for example potassium permanganate, Amines, Alcohols, Nitric acid		

Other regulations

Hazchem Code : •2P

15: Regulatory information

15.1 Safety, health, and environmental regulations/legislation specific for the substance or mixture

National regulatory information

HSNO Approval Code: HSR000975

HSNO Group Standard Approval: HSR002596 - Laboratory Chemicals and Reagent Kits Group Standard 2006

Tracking Required: not required

Approved Handler Cert.: not required

16: Disclaimer

The information above is believed to be accurate and represents the best information currently available to us. However, the information is not a guarantee expressed or implied, with respect to such information, and we assume no liability resulting from its use. Anyone using the chemical described here should ensure that he or she has the appropriate training and has the expertise and any equipment required for safe handling. If clarification or further information is required, please contact ECP Ltd or refer to the official handler of dangerous goods within your own company. The user should also make their own investigations to determine the suitability of the product 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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