

Australian statement of hazardous nature: Classified as hazardous according to criteria of Safe Work Australia

### Section 1 - Identification

Product Name Acetic acid, glacial

**CAS No** 64-19-7

Synonyms Ethanoic acid; Glacial acetic acid; Methanecarboxylic acid

Product Code 33252

Address ThermoFisher Scientific Australia Pty Ltd

5 Caribbean Drive, Scoresby VICTORIA 3179, Australia

Emergency Tel. CHEMTREC®

03 9757 4559 or +613 9757 4559

Telephone / Fax Numbers Tel: 1300 735 292

Fax: 1800 067 639

E-mail address ANZinfo@thermofisher.com

Recommended Use Laboratory chemicals.

Uses advised against This product contains one or more substance(s) on the Illicit Drug Precursors/Reagents list.

Verify requirements related to using, handling and storing these substances. This product does not contain any substance(s) subject to Prohibition, Authorization or Restriction. This product does not contain any substance(s) listed on the voluntary National Code of Practice

for Chemicals of Security Concern.

# Section 2 - Hazard(s) Identification

#### Classification under Safe Work Australia

Classified as hazardous according to criteria of Safe Work Australia

Physical hazards

Flammable liquids Category 3

**Health hazards** 

Skin Corrosion/Irritation Category 1 A
Serious Eye Damage/Eye Irritation Category 1

Environmental hazards
No hazards identified

**Label Elements** 

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#### Signal Word

#### **Danger**

#### **Hazard Statements**

H226 - Flammable liquid and vapor

H314 - Causes severe skin burns and eye damage

#### **Precautionary Statements**

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

P233 - Keep container tightly closed

P241 - Use explosion-proof electrical/ ventilating/ lighting equipment

P243 - Take action to prevent static discharges

P264 - Wash face, hands and any exposed skin thoroughly after handling

P271 - Use only outdoors or in a well-ventilated area

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 skin with water or shower

P304 + P340 - IF INHALED: Remove person to fresh air and keep 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

P363 - Wash contaminated clothing before reuse

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

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

P501 - Dispose of contents/ container to an approved waste disposal plant

#### Other information

## Section 3 - Composition and Information on Ingredients

Component	CAS No	Weight %
Acetic acid	64-19-7	>95

### Section 4 - First Aid Measures

**Inhalation** If not breathing, give artificial respiration. Remove from exposure, lie down. Do not use

mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory

medical device. Call a physician immediately.

**Ingestion** Do NOT induce vomiting. Clean mouth with water. Never give anything by mouth to an

unconscious person. Call a physician immediately.

**Skin Contact** Wash off immediately with plenty of water for at least 15 minutes. Remove and wash

contaminated clothing and gloves, including the inside, before re-use. Call a physician

immediately.

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**Eye Contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Immediate medical attention is required.

**General Advice** Show this safety data sheet to the doctor in attendance. Immediate medical attention is

required.

**Self-Protection of the First Aider** Use personal protective equipment as required.

First Aid Facilities Eyewash, safety shower and washroom.

Most important symptoms and

effects

Causes burns by all exposure routes. Ingestion causes severe swelling, severe damage to

the delicate tissue and danger of perforation: Symptoms of overexposure may be

headache, dizziness, tiredness, nausea and vomiting

Notes to Physician Product is a corrosive material. Use of gastric lavage or emesis is contraindicated.

Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. Treat

symptomatically.

## Section 5 - Fire Fighting Measures

#### **Suitable Extinguishing Media**

CO<sub>2</sub>, dry chemical, dry sand, alcohol-resistant foam.

#### Extinguishing media which must not be used for safety reasons

No information available.

#### **Hazardous Decomposition Products**

Carbon monoxide (CO), Carbon dioxide (CO2), Thermal decomposition can lead to release of irritating gases and vapors.

#### **Specific Hazards Arising from the Chemical**

Thermal decomposition can lead to release of irritating gases and vapors. The product causes burns of eyes, skin and mucous membranes.

#### Special protective equipment and precautions for fire fighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

### Section 6 - Accidental Release Measures

#### **Emergency procedures**

Use personal protective equipment as required. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

#### **Environmental Precautions**

Should not be released into the environment.

#### Methods for Containment and Clean Up

#### Clean-up methods - small spillage

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

#### Clean-up methods - large spillage

Typically only supplied is small quantiites as packaged goods.

If extremely toxic or used in larger quantities ensure a spillage action plan is in place. Evacuate area. Control the source and/or contain the spill if safe and able to do so. Use temporary diking, sand bags, dry sand, earth or proprietary booms/absorbent pads if available. Obtain advice on containment, neutralisation and clean-up from local emergency responders.

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#### **Reference to Other Sections**

Refer to protective measures listed in Sections 8 and 13.

### Section 7 - Handling and Storage

#### **Precautions for Safe Handling**

Do not get in eyes, on skin, or on clothing. Wear personal protective equipment/face protection. Use only under a chemical fume hood. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance.

#### Conditions for Safe Storage, Including any Incompatibilities

Corrosives area. Keep away from heat, sparks and flame. Keep containers tightly closed in a dry, cool and well-ventilated place.

AS/NZS 2243.10:2004, Safety in laboratories - Storage of chemicals AS 1940-2004 - The storage and handling of flammable and combustible liquids

# Section 8 - Exposure Controls and Personal Protection

#### **Exposure limits**

AUS - Exposure Standards for Atmospheric Contaminants in the Occupational Environment - Guidance Note on the Interpretation of Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:3008(1995)] Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)] updated in August, 2005. Safe Work Australia ACGIH - Threshold Limit Values - Ceiling (TLV-C) guidelines by the American Conference of Governmental Industrial Hygienists (ACGIH) for controlling worker exposure to airborne chemical concentrations in the workplace. UK - EH40/2005 Work Exposure Limits, Fourth edition. Published 2020. DE - MAK and BAT values of Hazardous Chemical Compounds in the Work Area. Published by German Research Foundation on July 1, 2011

Component	Australia	New Zealand WEL	ACGIH TLV	The United Kingdom	Germany
Acetic acid	STEL: 15 ppm	TWA: 10 ppm	TWA: 10 ppm	STEL: 37 mg/m <sup>3</sup>	TWA: 10 ppm (8
	STEL: 37 mg/m <sup>3</sup>	TWA: 25 mg/m <sup>3</sup>	STEL: 15 ppm	STEL: 15 ppm	Stunden). AGW -
	TWA: 10 ppm	STEL: 15 ppm		TWA: 10 ppm	exposure factor 2
	TWA: 25 mg/m <sup>3</sup>	STEL: 37 mg/m <sup>3</sup>		TWA: 25 mg/m <sup>3</sup>	TWA: 25 mg/m³ (8
					Stunden). AGW -
					exposure factor 2
					TWA: 10 ppm (8
					Stunden). MAK
					TWA: 25 mg/m³ (8
					Stunden). MAK
					Höhepunkt: 20 ppm
					Höhepunkt: 50 mg/m <sup>3</sup>

#### **Biological limit values**

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

#### **Exposure Controls**

#### **Engineering Measures**

Use only under a chemical fume hood. Use explosion-proof electrical/ventilating/lighting equipment. Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

#### Personal protective equipment

**Eye Protection** Tight sealing safety goggles or Face protection shield Goggles (Australian/New Zealand

Standard AS/NZS 1337 - Eye protectors for Industrial applications)

Hand Protection Protective gloves

Glove material	Breakthrough time	Glove thickness	AUS/NZ Standard	Glove comments
Butyl rubber	> 480 minutes	0.7 mm	AS/NZS 2161	(minimum requirement)

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Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

Skin and body protection Long sleeved clothing

**Repiratory Protection** Use an AS/NZS 1716 approved respirator if exposure limits are exceeded or if irritation or

other symptoms are experienced. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained in line with AS/NZS 1715 on the use

explosive air/vapour mixtures possible

and maintenance of repiratory protective devices

Recommended Filter type: Particulates filter conforming to EN 143 Acid gases filter Type E Yellow conforming to

EN14387 (or AUS/NZ equivalent)

Recommended half mask:- Valve filtering: EN405 or Half mask: EN140 plus filter, EN 141 (or AUS/NZ equivalent)

When RPE is used a face piece Fit Test should be conducted

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

**Environmental exposure controls** Prevent product from entering drains.

# Section 9 - Physical and Chemical Properties

#### Information on basic physical and chemical properties

Appearance Colorless Physical State Liquid

Odor vinegar-like
Odor Threshold No data available

**pH** < 2.5 10 g/L aq.sol

Melting Point/Range 16 - 16.5 °C / 60.8 - 61.7 °F

Softening Point No data available

**Boiling Point/Range** 117 - 118 °C / 242.6 - 244.4 °F

Flash Point 40 °C / 104 °F Method - No information available

**Evaporation Rate** 0.97 (Butyl Acetate = 1.0)

Flammability (solid,gas) Not applicable Liquid

Explosion Limits Lower 4 vol% Upper 19.9 vol%

 Vapor Pressure
 1.52 kPa @ 20 °C

 Vapor Density
 2.10

 (Air = 1.0)

Specific Gravity / Density 1.048

Bulk Density Not applicable Liquid

Water Solubility Miscible

Solubility in other solvents No information available

Partition Coefficient (n-octanol/water)

Component log Pow Acetic acid -0.2

Autoignition Temperature427 °C / 800.6 °FDecomposition TemperatureNo data availableViscosity1.53 mPa.s @ 25 °C

Explosive Properties

Oxidizing Properties No information available

Other information

Molecular Formula C2 H4 O2
Molecular Weight 60.05

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# Section 10 - Stability and Reactivity

Reactivity None known, based on information available

**Stability** Stable under normal conditions.

Conditions to Avoid Incompatible products, Excess heat, Keep away from open flames, hot surfaces and

sources of ignition.

**Incompatible Materials** Strong oxidizing agents, Strong bases, Metals.

Hazardous Decomposition Products Carbon monoxide (CO<sub>2</sub>). Thermal decomposition can lead to release

of irritating gases and vapors.

**Hazardous Polymerization** Hazardous polymerization does not occur.

### Section 11 - Toxicological Information

#### Information on Toxicological Effects

#### **Product Information**

(a) acute toxicity;

OralNo data availableDermalNo data availableInhalationNo data available

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Acetic acid	3310 mg/kg (Rat)	-	> 40 mg/L (Rat) 4 h

(b) skin corrosion/irritation; No data available

(c) serious eye damage/irritation; No data available

(d) respiratory or skin sensitization;

**Respiratory Skin**No data available
No data available

(e) germ cell mutagenicity; No data available

Not mutagenic in AMES Test

(f) carcinogenicity; No data available

There are no known carcinogenic chemicals in this product

(g) reproductive toxicity; No data available

(h) STOT-single exposure; No data available

(i) STOT-repeated exposure; No data available

Target Organs No information available.

(j) aspiration hazard; Based on available data, the classification criteria are not met

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delayed

Symptoms / effects, both acute and Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting

## Section 12 - Ecological Information

**Ecotoxicity effects** 

Contains no substances known to be hazardous to the environment or that are not degradable in waste water treatment plants.

degradation in tracto tratter deather.				
Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Acetic acid	Pimephales promelas:	EC50 = 95 mg/L/24h	-	Photobacterium
	LC50 = 88  mg/L/96h	_		phosphoreum: EC50 =
	Lepomis macrochirus:			8.8 mg/L/15 min
	LC50 = 75  mg/L/96h			Photobacterium
				phosphoreum: EC50 =
				8.8 mg/L/25 min
				Photobacterium
				phosphoreum: EC50 =
				8.8 mg/L/5 min

Persistence and Degradability

**Persistence** 

Degradation in sewage treatment plant

**Bioaccumulative Potential** 

Expected to be biodegradable

Miscible with water, Persistence is unlikely, based on information available.

Neutralization is normally necessary before waste water is discharged into water treatment

Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
Acetic acid	-0.2	No data available
Mobility  The product is water soluble, and may spread in water systems. Will likely be mobile		
	environment due to its water solubility Highly mobile in soils	
Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors		
Persistent Organic Pollutant	Organic Pollutant This product does not contain any known or suspected substance	
Ozone Depletion Potential	This product does not contain any known or suspected substance	

## Section 13 - Disposal Considerations

Waste from Residues/Unused **Products** 

Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected. Wastes, including emptied containers, are controlled wastes and should be disposed of in accordance with all federal, E.P.A., state and local regulations. Assure conformity with all applicable regulations.

**Contaminated Packaging** 

Dispose of this container to hazardous or special waste collection point. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep product and empty container away from heat and sources of ignition.

Other Information

Chemical wastes should be disposed through a licensed commercial waste collection service. Do not flush to sewer. Waste codes should be assigned by the user based on the application for which the product was used. Can be landfilled or incinerated, when in compliance with local regulations. Do not empty into drains. Large amounts will affect pH and harm aquatic organisms.

### Section 14 - Transport Information

#### IMDG/IMO

**UN-No** UN2789

**Proper Shipping Name** ACETIC ACID, GLACIAL

**Hazard Class Subsidiary Hazard Class** 3 Ш **Packing Group** 

ADG

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UN-No UN2789

Proper Shipping Name ACETIC ACID, GLACIAL

Hazard Class 8
Subsidiary Hazard Class 3
Packing Group ||

Component	Hazchem Code
Acetic acid	2P
64-19-7 (>95)	2R

#### IATA

UN-No UN2789

Proper Shipping Name ACETIC ACID, GLACIAL

Hazard Class 8
Subsidiary Hazard Class 3
Packing Group II

Environmental hazards No hazards identified

Special Precautions No special precautions required

Additional information None known

# Section 15 - Regulatory Information

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

National Regulations Australia

See section 8 for national exposure control parameters.

#### Standard for the Uniform Scheduling of Medicines and Poisons

Classified as a scheduled poison according to the Standard for Uniform Scheduling of Medicines and Poisons.

Component	Standard for the Uniform Scheduling of Medicines and Poisons
Acetic acid - 64-19-7	Schedule 2 listed
	Schedule 5 listed - except its salts and derivatives;in preparations except when included in Schedule 2
	or 6, or for therapeutic use
	Schedule 6 listed - except its salts and derivatives; except when included in Schedule 2

#### **Australian Industrial Chemicals Introduction Scheme (AICIS)**

	Component	Australian Industrial Chemicals Introduction Scheme (AICIS)	Additional information
ı	Acetic acid - 64-19-7	Present	-

#### Australian - Illicit Drug Precursors/Reagents Substance List

This product contains one or more substance(s) on the Illicit Drug Precursors/Reagents list. Verify requirements related to using, handling and storing these substances.

#### **Chemicals of Security Concern**

This product does not contain any substance(s) listed on the voluntary National Code of Practice for Chemicals of Security Concern

Component	Australian - Illicit Drug	Chemicals of Security Concern
	Precursors/Reagents Substance List	

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Acetic acid - 64-19-7	Category 3	
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#### Legend

Category 3 - Chemicals and apparatus that may be used in the illicit production of drugs. Purchases from this list should alert companies or organizations to seek further indicators of any suspicious orders or enquiries. No official reporting is required for items on this list unless considered warranted

National pollutant inventory Subject to reporting requirements

Component	National pollutant inventory
Acetic acid - 64-19-7	10 tonne/yr. Threshold category 1

#### Prohibition or notification/licensing requirements

Shown below are details of specific prohibition/notifications or licencing requirements when they apply.

This product does not contain any substance(s) subject to Prohibition, Authorization or Restriction.

#### **International Inventories**

Component	AICS	NZIoC	EINECS	ELINCS	TSCA	DSL	NDSL	PICCS	<b>ENCS</b>	ISHL	IECSC	KECL
Acetic acid	X	X	200-580-7	-	Х	Х	-	Χ	Χ	Х	Х	X

Legend: X - Listed. '-' - Not Listed. KECL - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)

#### International Regulations

Ozone Depletion Potential This product does not contain any known or suspected substance

Persistent Organic Pollutant This product does not contain any known or suspected substance

Rotterdam Convention (PIC) Not applicable

#### Basel convention on the control of transboundary movements of hazardous wastes and their dispoal

Take note that wastes may be subject to export, import, or transit controls pursuant to the Basel convention and/or local regulations implementing the Basel convention.

Component	Basel Convention (Hazardous Waste)	Australian Hazardous Waste Act - Categories of Wastes to Be Controlled	
Acetic acid - 64-19-7	Annex I - Y34	Y34 solid or solution	

	Component	CAS No	OECD HPV	Restriction of Hazardous Substances (RoHS)	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements
-	Acetic acid	64-19-7	Listed	Not applicable	Not applicable	Not applicable

#### Authorisation/Restrictions according to EU REACH

Component	. ,	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	
Acetic acid	-	Use restricted. See item 75. (see link for restriction details)	-

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https://echa.europa.eu/substances-restricted-under-reach

### Section 16 - Other Information

#### Legend

AICS - Australian Inventory of Chemical Substances

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

IECSC - Chinese Inventory of Existing Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association

**MARPOL** - International Convention for the Prevention of Pollution from Ships

NZS 5433:2012 - Transport of Dangerous Goods on Land

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50% WEL - Workplace Exposure Limit DNEL - Derived No Effect Level

**POW** - Partition coefficient Octanol:Water **vPvB** - very Persistent, very Bioaccumulative

**VOC** - (Volatile Organic Compound)

NZIoC - New Zealand Inventory of Chemicals

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

ENCS - Japanese Existing and New Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

CAS - Chemical Abstracts Service

**ACGIH** - American Conference of Governmental Industrial Hygienists

Predicted No Effect Concentration (PNEC)

IMO/IMDG - International Maritime Organization/International Maritime

Dangerous Goods Code

ADG Australian Code for the Transport of Dangerous Goods by Road and Rail

**OECD** - Organisation for Economic Co-operation and Development

LC50 - Lethal Concentration 50% ATE - Acute Toxicity Estimate

RPE - Respiratory Protective Equipment

NOEC - No Observed Effect Concentration

**BCF** - Bioconcentration factor

PBT - Persistent, Bioaccumulative, Toxic

#### Key literature references and sources for data

https://echa.europa.eu/information-on-chemicals

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

#### **Training Advice**

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

Chemical incident response training.

Revision Date 18-Nov-2022 Revision Summary Not applicable.

This Safety Data Sheet (SDS) is prepared in accordance to and complies with the requirements of Safe Work Australia - Work Health and Safety Regulations (WHS Regulations).

#### **Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

## **End of Safety Data Sheet**

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