



# SAFETY DATA SHEET

New Zealand

## Section 1. Identification

Product name

**1M Citric Acid**

Catalogue Number

**SH31172**



9 0 S H 3 1 1 7 2

Other means of identification

Not available.

Product type

Liquid.

### Identified uses

For Further Manufacturing or Research Use. Not for Diagnostic or Therapeutic Use.

### Supplier

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### Emergency telephone number

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## Section 2. Hazards identification

HSNO Classification

EYE IRRITATION - Category 2  
SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) -  
Category 3

This material is classified as hazardous according to criteria in the Hazardous Substances (Hazard Classification) Notice 2020.

### GHS label elements

Signal word

Warning

Hazard statements

Causes serious eye irritation.  
May cause respiratory irritation.

### Precautionary statements

Prevention

Wear eye or face protection. Use only outdoors or in a well-ventilated area. Avoid breathing vapour. Wash thoroughly after handling.

Response

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice or attention.

Storage

Store locked up. Store in a well-ventilated place. Keep container tightly closed.

**Disposal**

Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Symbol****Other hazards which do not result in classification**

None known.

### Section 3. Composition/information on ingredients

**Substance/mixture** Mixture

**Other means of identification** Not available.

Ingredient name	% (w/w)	Identifiers
Citric acid	<19.5	CAS: 77-92-9 EC: 201-069-1

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

### Section 4. First aid measures

#### Description of necessary first aid measures

<b>Inhalation</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
<b>Ingestion</b>	Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
<b>Skin contact</b>	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
<b>Eye contact</b>	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

#### Most important symptoms/effects, acute and delayed

##### Potential acute health effects

<b>Inhalation</b>	May cause respiratory irritation.
<b>Ingestion</b>	No known significant effects or critical hazards.
<b>Skin contact</b>	No known significant effects or critical hazards.
<b>Eye contact</b>	Causes serious eye irritation.

##### Over-exposure signs/symptoms

<b>Inhalation</b>	Adverse symptoms may include the following: respiratory tract irritation coughing
<b>Ingestion</b>	No specific data.
<b>Skin</b>	No specific data.
<b>Eyes</b>	Adverse symptoms may include the following: pain or irritation watering redness

#### Indication of immediate medical attention and special treatment needed, if necessary

<b>Specific treatments</b>	Not available.
<b>Notes to physician</b>	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

<b>Protection of first-aiders</b>	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
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See toxicological information (Section 11)

## Section 5. Firefighting measures

### Extinguishing media

<b>Suitable</b>	Use an extinguishing agent suitable for the surrounding fire.
<b>Not suitable</b>	None known.
<b>Specific hazards arising from the chemical</b>	In a fire or if heated, a pressure increase will occur and the container may burst.
<b>Hazardous thermal decomposition products</b>	Decomposition products may include the following materials: carbon dioxide carbon monoxide
<b>Hazchem code</b>	Not available.
<b>Special precautions for fire-fighters</b>	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
<b>Special protective equipment for fire-fighters</b>	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

<b>For non-emergency personnel</b>	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
<b>For emergency responders</b>	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
<b>Environmental precautions</b>	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods and material for containment and cleaning up

<b>Small spill</b>	Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
<b>Large spill</b>	Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. The spilled material may be neutralized with sodium carbonate, sodium bicarbonate or sodium hydroxide. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations.

## Section 7. Handling and storage

### Precautions for safe handling

<b>Protective measures</b>	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from alkalis. Empty containers retain product residue and can be hazardous. Do not reuse container.
<b>Advice on general occupational hygiene</b>	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
<b>Conditions for safe storage, including any incompatibilities</b>	Store between the following temperatures: 15 to 30°C (59 to 86°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Separate from alkalis. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

None.

Biological exposure indices

No exposure indices known.

Appropriate engineering controls

Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection

Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state	Liquid.
Colour	Clear. Colourless.
Odour	Not available.
Odour threshold	Not available.
pH	1 to 2
Melting point/freezing point	Not available.
Boiling point or initial boiling point and boiling range	Not available.
Flash point	[Product does not sustain combustion.]

Ingredient name	Closed cup			Open cup		
	°C	°F	Method	°C	°F	Method
citric acid	100	212				

Burning time	Not applicable.
Burning rate	Not applicable.
Evaporation rate	Not available.
Flammability	Not available.
Lower and upper explosive (flammable) limits	Not available.
Vapour pressure	Not available.

Ingredient name	Vapour Pressure at 20°C			Vapour pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method

	water	17.5	2.3	
	citric acid	0.000000017	0.0000000023	
Relative vapour density	Not available.			
Relative density	Not available.			
Solubility in water	Not available.			
Partition coefficient: n-octanol/ water	Not applicable.			
Auto-ignition temperature	Not available.			
	Ingredient name	°C	°F	Method
	citric acid	1010	1850	
Decomposition temperature	Not available.			
SADT	Not available.			
Viscosity	Dynamic (room temperature): Not available. Kinematic (room temperature): Not available. Kinematic (40°C (104°F)): Not available.			
Flow time (ISO 2431)	Not available.			
<u>Particle characteristics</u>				
Median particle size	Not applicable.			

Section 10. Stability and reactivity

Reactivity	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	No specific data.
Incompatible materials	Attacks many metals producing extremely flammable hydrogen gas which can form explosive mixtures with air. Reactive or incompatible with the following materials: alkalis
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause respiratory irritation.
Ingestion	No known significant effects or critical hazards.
Skin contact	No known significant effects or critical hazards.
Eye contact	Causes serious eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation	Adverse symptoms may include the following: respiratory tract irritation coughing
Ingestion	No specific data.
Skin contact	No specific data.
Eye contact	Adverse symptoms may include the following: pain or irritation watering redness

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Acute toxicity

<b>Product/ingredient name</b>	<b>Result</b>
Citric acid	<b>Rat - Oral - LD50</b> 3 g/kg

Conclusion/Summary[Product] Not available.

Skin corrosion/irritation

<b>Product/ingredient name</b>	<b>Result</b>
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Citric acid

**Rabbit - Skin - Mild irritant**Duration of treatment/exposure: 24 hoursAmount/concentration applied: 500 mg**Rabbit - Skin - Moderate irritant**Amount/concentration applied: 0.5 Ml**Conclusion/Summary[Product]** Not available.**Serious eye damage/eye irritation****Product/ingredient name**

Citric acid

**Result****Rabbit - Eyes - Severe irritant**Duration of treatment/exposure: 24 hoursAmount/concentration applied: 750 ug**Conclusion/Summary[Product]** Not available.**Respiratory corrosion/irritation**

Not available.

**Conclusion/Summary[Product]** Not available.**Respiratory or skin sensitization**

Not available.

**Skin****Conclusion/Summary[Product]** Not available.**Respiratory****Conclusion/Summary[Product]** Not available.**Potential chronic health effects****General** No known significant effects or critical hazards.**Inhalation** No known significant effects or critical hazards.**Ingestion** No known significant effects or critical hazards.**Skin contact** No known significant effects or critical hazards.**Eye contact** No known significant effects or critical hazards.**Carcinogenicity** No known significant effects or critical hazards.**Mutagenicity** No known significant effects or critical hazards.**Developmental effects** No known significant effects or critical hazards.**Fertility effects** No known significant effects or critical hazards.**Chronic toxicity**

Not available.

**Conclusion/Summary[Product]** Not available.**Carcinogenicity**

Not available.

**Conclusion/Summary[Product]** Not available.**Germ cell mutagenicity**

Not available.

**Conclusion/Summary[Product]** Not available.**Reproductive toxicity**

Not available.

**Conclusion/Summary[Product]** Not available.

**Specific target organ toxicity (single exposure)**

Product/ingredient name	Result
1M Citric Acid	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3
Citric acid	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3

**Specific target organ toxicity (repeated exposure)**

Not available.

**Aspiration hazard**

Not available.

**Numerical measures of toxicity**

**Acute toxicity estimates**

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
Citric acid	3000	N/A	N/A	N/A	N/A

**Section 12. Ecological information**

**Ecotoxicity** No known significant effects or critical hazards.

**Aquatic and terrestrial toxicity**

Product/ingredient name	Result
Citric acid	<b>Acute - LC50 - Marine water</b> Crustaceans - Green crab - <i>Carcinus maenas</i> - Adult 160 mg/l [48 hours] <u>Effect</u> : Mortality

**Conclusion/Summary[Product]** Not available.

**Persistence/degradability**

Not available.

**Conclusion/Summary[Product]** Not available.

**Bioaccumulative potential**

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
citric acid	-1.8	-	Low

**Mobility in soil**

**Soil/water partition coefficient** Not available.

**Other adverse effects** No known significant effects or critical hazards.

**Section 13. Disposal considerations**

<b>Disposal methods</b>	The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.
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## Section 14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*
<b>New Zealand Class</b>	Not regulated.	-	-	-
		No.		
<b>IATA Class</b>	Not regulated.	-	-	-
		-		
		No.		
<b>IMDG Class</b>	Not regulated.	-	-	-
		No.		

PG\* : Packing group

<b>Special precautions for user</b>	<b>Transport within user's premises:</b> always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.
<b>Transport in bulk according to IMO instruments</b>	Not available.

## Section 15. Regulatory information

<b>HSNO Approval Number</b>	Not available.
<b>HSNO Group Standard</b>	Not available.
<b>HSNO Classification</b>	EYE IRRITATION - Category 2 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

#### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### Inventory list

<b>New Zealand</b>	All components are listed or exempted.
<b>Australia</b>	All components are listed or exempted.
<b>United States</b>	All components are active or exempted.
<b>Canada inventory</b>	All components are listed or exempted.
<b>China</b>	All components are listed or exempted.
<b>Japan</b>	<b>Japan inventory (CSCL):</b> All components are listed or exempted. <b>Japan inventory (ISHL):</b> Not determined.

## Section 16. Other information

### History

<b>Date of printing</b>	20 November 2025
<b>Date of issue/ Date of revision</b>	20 November 2025
<b>Date of previous issue</b>	9/3/2025
<b>Version</b>	1.01



**Key to abbreviations**

ADG = Australian Dangerous Goods  
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road  
ATE = Acute Toxicity Estimate  
BCF = Bioconcentration Factor  
GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
IATA = International Air Transport Association  
IBC = Intermediate Bulk Container  
IMDG = International Maritime Dangerous Goods  
LogPow = logarithm of the octanol/water partition coefficient  
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail  
UN = United Nations

**References**

Not available.

 Indicates information that has changed from previously issued version.

**Notice to reader**

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.