

---

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

---

### 1.1 Product identifier

**Product name** CITRIC ACID  
**Synonyms** 2-HYDROXY-1,2,3-PROPANETRICARBOXYLIC ACID • CITRIC ACID ANHYDROUS • CITRIC ACID MONOHYDRATE

### 1.2 Uses and uses advised against

**Uses** INDUSTRIAL APPLICATIONS

### 1.3 Details of the supplier of the product

**Supplier name** NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD  
**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA  
**Telephone** +61 8 9410 8200  
**Fax** +61 8 9410 8299  
**Website** <http://www.newpark.com>

### 1.4 Emergency telephone numbers

**Emergency** 1800 127 406 (Australia); +64 4 917 9888 (International)

---

## 2. HAZARDS IDENTIFICATION

---

### 2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

#### Physical Hazards

Not classified as a Physical Hazard

#### Health Hazards

Skin Corrosion/Irritation: Category 2  
Serious Eye Damage / Eye Irritation: Category 2A  
Specific Target Organ Toxicity (Single Exposure): Category 3 (Respiratory Irritation)

#### Environmental Hazards

Not classified as an Environmental Hazard

### 2.2 GHS Label elements

**Signal word** WARNING

#### Pictograms



#### Hazard statements

H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.

#### Prevention statements

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P264 Wash thoroughly after handling.  
P271 Use only outdoors or in a well-ventilated area.  
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

## PRODUCT NAME CITRIC ACID

### Response statements

P302 + P352	IF ON SKIN: Wash with plenty of water.
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.
P312	Call a POISON CENTRE or doctor/physician if you feel unwell.
P321	Specific treatment is advised - see first aid instructions.
P362 + P364	Take off contaminated clothing and wash it before reuse.

### Storage statements

P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

### Disposal statements

P501	Dispose of contents/container in accordance with relevant regulations.
------	------------------------------------------------------------------------

### 2.3 Other hazards

No information provided.

---

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

---

### 3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
CITRIC ACID	77-92-9	201-069-1	>99%
WATER	7732-18-5	231-791-2	<1%

---

## 4. FIRST AID MEASURES

---

### 4.1 Description of first aid measures

<b>Eye</b>	If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.
<b>Inhalation</b>	If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.
<b>Skin</b>	If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.
<b>Ingestion</b>	For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.
<b>First aid facilities</b>	Eye wash facilities and safety shower should be available.

### 4.2 Most important symptoms and effects, both acute and delayed

Irritating to the eyes, skin and respiratory system.

### 4.3 Immediate medical attention and special treatment needed

Treat symptomatically.

---

## 5. FIRE FIGHTING MEASURES

---

### 5.1 Extinguishing media

Dry agent, carbon dioxide, foam or water fog. Prevent contamination of drains or waterways.

### 5.2 Special hazards arising from the substance or mixture

Combustible. May evolve carbon oxides and hydrocarbons when heated to decomposition.

### 5.3 Advice for firefighters

Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

### 5.4 Hazchem code

None allocated.

---

## 6. ACCIDENTAL RELEASE MEASURES

---

## PRODUCT NAME CITRIC ACID

### **6.1 Personal precautions, protective equipment and emergency procedures**

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Ventilate area where possible.

### **6.2 Environmental precautions**

Prevent product from entering drains and waterways.

### **6.3 Methods of cleaning up**

Contain spillage, then collect and place in suitable containers for disposal. Avoid generating dust.

### **6.4 Reference to other sections**

See Sections 8 and 13 for exposure controls and disposal.

---

## 7. HANDLING AND STORAGE

---

### **7.1 Precautions for safe handling**

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### **7.2 Conditions for safe storage, including any incompatibilities**

Store in a cool, dry, well ventilated area, removed from moisture, incompatible substances and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use.

### **7.3 Specific end uses**

No information provided.

---

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

---

### **8.1 Control parameters**

#### **Exposure standards**

No exposure standards have been entered for this product.

**Biological limits** No Biological Limit Value allocated.

### **8.2 Exposure controls**

**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended. Maintain dust levels below the recommended exposure standard.

#### **PPE**

<b>Eye / Face</b>	Wear dust-proof goggles.
<b>Hands</b>	Wear PVC or rubber gloves.
<b>Body</b>	When using large quantities or where heavy contamination is likely, wear coveralls.
<b>Respiratory</b>	At high dust levels, wear a Class P1 (Particulate) respirator.



---

## 9. PHYSICAL AND CHEMICAL PROPERTIES

---

### **9.1 Information on basic physical and chemical properties**

<b>Appearance</b>	WHITE CRYSTALLINE POWDER
<b>Odour</b>	ODOURLESS
<b>Flammability</b>	COMBUSTIBLE
<b>Flash point</b>	174°C
<b>Boiling point</b>	175°C (Decomposes)
<b>Melting point</b>	153°C
<b>Evaporation rate</b>	NOT AVAILABLE
<b>pH</b>	2.2 (0.1M Solution)
<b>Vapour density</b>	NOT AVAILABLE
<b>Relative density</b>	1.665

## PRODUCT NAME CITRIC ACID

### 9.1 Information on basic physical and chemical properties

Solubility (water)	1330 kg/m <sup>3</sup> @ 20°C
Vapour pressure	NOT AVAILABLE
Upper explosion limit	NOT AVAILABLE
Lower explosion limit	NOT AVAILABLE
Partition coefficient	NOT AVAILABLE
Autoignition temperature	345°C
Decomposition temperature	NOT AVAILABLE
Viscosity	NOT AVAILABLE
Explosive properties	NOT AVAILABLE
Oxidising properties	NOT AVAILABLE
Odour threshold	NOT AVAILABLE

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

### 10.2 Chemical stability

Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions

Polymerization is not expected to occur.

### 10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

### 10.5 Incompatible materials

Incompatible with oxidising agents (e.g. hypochlorites) and alkalis (e.g. sodium hydroxide).

### 10.6 Hazardous decomposition products

May evolve carbon oxides and hydrocarbons when heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute toxicity** Based on available data, the classification criteria are not met.  
LD50 (Ingestion): 3000 mg/kg (rat)  
LD50 (Intraperitoneal): 290 mg/kg (rat)  
LD50 (Intravenous): 42 mg/kg (mouse)  
LDLo (Ingestion): 7000 mg/kg (rabbit)

#### Information available for the ingredients:

Ingredient	Oral LD50	Dermal LD50	Inhalation LC50
CITRIC ACID	3000 mg/kg (rat)	> 2000 mg/kg (rat)	--

#### Additional ingredient toxicity values:

CITRIC ACID (77-92-9)	
LD50 (intraperitoneal)	290 mg/kg (rat)
LD50 (intravenous)	42 mg/kg (mouse)
LDLo (oral)	7000 mg/kg (rabbit)

**Skin** Irritating to the skin. Contact may result in irritation, redness, rash and dermatitis.

**Eye** Irritating to the eyes. Contact may result in irritation, lacrimation, pain and redness. May result in burns with prolonged contact.

**Sensitisation** Not classified as causing skin or respiratory sensitisation. However, citric acid has the potential to cause allergic effects.

**Mutagenicity** Insufficient data available to classify as a mutagen.

**Carcinogenicity** Insufficient data available to classify as a carcinogen.

**Reproductive** Insufficient data available to classify as a reproductive toxin.

**STOT - single exposure** Irritating to the respiratory system. Over exposure may result in irritation of the nose and throat, with coughing.

**PRODUCT NAME CITRIC ACID**

**STOT - repeated exposure** Not classified as causing organ damage from repeated exposure.

**Aspiration** This product does not present an aspiration hazard.

---

**12. ECOLOGICAL INFORMATION**

---

**12.1 Toxicity**

LC50 (Leuciscus idus melanotus): 440 mg/L/48hrs.  
LC50 (Daphnia magna (Water flea)): 1.535 mg/L/24hrs.

**12.2 Persistence and degradability**

This product is readily biodegradable.

**12.3 Bioaccumulative potential**

This product does not bioaccumulate.

**12.4 Mobility in soil**

Citric acid is expected to have very high mobility in soil.

**12.5 Other adverse effects**

No information provided.

---

**13. DISPOSAL CONSIDERATIONS**

---

**13.1 Waste treatment methods**

**Waste disposal** Neutralise with lime, anion exchanger or similar. For small amounts, absorb with sand or similar and dispose of to an approved landfill site. Contact the manufacturer/supplier for additional information (if required).

**Legislation** Dispose of in accordance with relevant local legislation.

---

**14. TRANSPORT INFORMATION**

---

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
<b>14.1 UN Number</b>	None allocated.	None allocated.	None allocated.
<b>14.2 Proper Shipping Name</b>	None allocated.	None allocated.	None allocated.
<b>14.3 Transport hazard class</b>	None allocated.	None allocated.	None allocated.
<b>14.4 Packing Group</b>	None allocated.	None allocated.	None allocated.

**14.5 Environmental hazards**

No information provided.

**14.6 Special precautions for user**

**Hazchem code** None allocated.

---

**15. REGULATORY INFORMATION**

---

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

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safe Work Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals (GHS Revision 7).

**Inventory listings** **AUSTRALIA: AIIC (Australian Inventory of Industrial Chemicals)**  
All components are listed on AIIC, or are exempt.

## 16. OTHER INFORMATION

### Additional information

#### PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

#### HEALTH EFFECTS FROM EXPOSURE:

It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

### Abbreviations

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
GHS	Globally Harmonized System
GTEPG	Group Text Emergency Procedure Guide
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m <sup>3</sup>	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

### Report status

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

### Prepared by

Risk Management Technologies  
 5 Ventnor Ave, West Perth  
 Western Australia 6005  
 Phone: +61 8 9322 1711  
 Fax: +61 8 9322 1794  
 Email: info@rmt.com.au  
 Web: www.rmtglobal.com

[ End of SDS ]