

Safety data sheet number MI11350  
Version 7  
Revision date 27/Jul/2015  
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## Safety Data Sheet CITRIC ACID

### 1. Identification of the substance/preparation and of the Company/undertaking

#### 1.1 Product identifier

Product name CITRIC ACID  
Product code MI11350  
Norway Pr. no. 76247  
Denmark Pr. no. 701692

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended use pH modifier  
Uses advised against Consumer use

#### 1.3 Details of the supplier of the safety data sheet

Supplier identification  
M-I Drilling Fluids UK Limited  
C/O Schlumberger  
Enterprise Drive  
Westhill Industrial Estate  
Westhill, AB32 6TQ  
Scotland UK  
+47 51577424  
MISDS@slb.com

#### 1.4 Emergency Telephone Number

Emergency telephone - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 561 1600

### 2. Hazards identification

#### 2.1 Classification of the substance or mixture

Regulation (EC) No. 1272/2008

##### Health hazards

Serious eye damage/eye irritation	Category 2
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Environmental hazards Not classified

Physical Hazards Not classified

#### 2.2 Label Elements



**Signal word**

WARNING

**Hazard statements**

H319 - Causes serious eye irritation

**Precautionary Statements - EU (§28, 1272/2008)**

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

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

P337 + P313 - If eye irritation persists: Get medical advice/ attention

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

**Contains**

Citric acid, monohydrate

**2.3 Other data**

Not classified as PBT/vPvB by current EU criteria

**3. Composition/information on ingredients**

**3.1 Substances**

Component	EC-No.	CAS-No	Weight % - range	Classification (67/548)	Classification (Reg. 1272/2008)	REACH registration number
Citric acid, monohydrate		5949-29-1	100	Xi; R36	Eye Irrit. 2 (H319)	No data available

**3.2 Mixtures**

Not Applicable

## 4. First aid measures

### 4.1 First Aid

<b>Inhalation</b>	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
<b>Ingestion</b>	Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Seek medical attention if irritation occurs.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention if irritation persists.
<b>Eye contact</b>	Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses. Continue to rinse for at least 15 minutes. Get medical attention immediately if symptoms occur.

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

**General advice** The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

#### **Main symptoms**

<b>Inhalation</b>	Please see Section 11. Toxicological Information for further information.
<b>Ingestion</b>	Please see Section 11. Toxicological Information for further information.
<b>Skin contact</b>	Please see Section 11. Toxicological Information for further information.
<b>Eye contact</b>	Please see Section 11. Toxicological Information for further information.

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

## 5. Fire-fighting measures

### 5.1 Extinguishing media

#### **Suitable extinguishing media**

Water Fog, Alcohol Foam, CO<sub>2</sub>, Dry Chemical.

#### **Extinguishing media which shall not be used for safety reasons**

None known.

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

#### **Unusual fire and explosion hazards**

Dust may form explosive mixture in air.

**Hazardous combustion products**

Fire or high temperatures create: Carbon oxides (COx).

**5.3 Advice for firefighters**

**Special protective equipment for fire-fighters**

As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**

Containers close to fire should be removed immediately or cooled with water.

**6. Accidental release measures**

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

Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Use personal protective equipment. See also section 8. If spilled, take caution, as material can cause surfaces to become very slippery.

**6.2 Environmental precautions**

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**

Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

**6.3 Methods and materials for containment and cleaning up**

**Methods for Containment**

Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up**

Sweep up and shovel into suitable containers for disposal. Avoid dust formation. After cleaning, flush away traces with water.

**6.4 Reference to other sections**

See section 13 for more information.

**7. Handling and storage**

**7.1 Precautions for safe handling**

**Handling**

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Avoid dust formation. Remove all sources of ignition. If spilled, take caution, as material can cause surfaces to become very slippery.

**Hygiene measures**

Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product. Remove contaminated clothing.

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

**Technical measures/precautions**

Ensure adequate ventilation. Keep airborne concentrations below exposure limits. Keep away from heat, sparks, and flame.

**Storage precautions** Keep containers tightly closed in a dry, cool and well-ventilated place. Avoid contact with: Strong oxidising agents Strong alkalies. Protect from moisture

**Storage class** Chemical storage.

**Packaging material** Use specially constructed containers only

**7.3 Specific end uses**

See also Section 1.2.

**8. Exposure controls/personal protection**

**8.1 Control parameters**

**Exposure limits** NUI = Nuisance dust, TWA 4mg/m<sup>3</sup> Respirable Dust, 10mg/m<sup>3</sup> Total Dust.

Component	EU OEL - Third List	Austria	Australia	Denmark
Citric acid, monohydrate	Not determined	Not determined	Not determined	Not determined

  

Component	Malaysia	France	Germany	Hungary
Citric acid, monohydrate	Not determined	Not determined	Not determined	Not determined

  

Component	New Zealand	Italy	Netherlands	Norway
Citric acid, monohydrate	Not Determined	Not determined	Not determined	Not determined

  

Component	Poland	Portugal	Romania	Russia
Citric acid, monohydrate	Not determined	Not determined	Not determined	Not determined

  

Component	Spain	Switzerland	Turkey	UK
Citric acid, monohydrate	Not determined	Not determined	Not determined	Not determined

**8.2 Exposure controls**

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering measures to reduce exposure**

Ensure adequate ventilation. Mechanical ventilation or local exhaust ventilation is required.

**Personal protective equipment**

- Eye protection** It is good practice to wear Safety Glasses with Side-shields when handling any chemical.
- Hand protection** Repeated or prolonged contact:, Use protective gloves made of:, Butyl, PVC, Frequent change is advisable.
- Respiratory protection** Respirator must be worn if exposed to dust, Half mask with a particle filter P2 (BS EN 143), At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.
- Skin and body protection** Wear suitable protective clothing, Eye wash and emergency shower must be available at the work place.

**Hygiene measures**

Wash hands before eating, drinking or smoking, Remove and wash contaminated clothing before re-use.



**9. Physical and chemical properties**

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

<b>Physical state</b>	Solid
<b>Appearance</b>	Crystalline Dust
<b>Odour</b>	Odourless
<b>Colour</b>	White
<b>Odor threshold</b>	Not applicable

Property	Values	Remarks
pH	No information available	
pH @ dilution	1.6	@ 100 g/l
Melting/freezing point	153 °C / 307.4 °F	
Boiling point/range	No information available	
Flash Point	No information available	
Evaporation rate	No information available	
Flammability (solid, gas)	Not Applicable	
Flammability Limits in Air		
Upper flammability Limit	Not applicable	
Lower flammability limit	Not applicable	
Vapor pressure	No information available	
Vapor density	No information available	
Specific gravity	No information available	
Bulk density	900 kg/m <sup>3</sup>	

<b>Relative density</b>	1.542 g/cm <sup>3</sup>	@ 20 °C.
<b>Water solubility</b>	Soluble in water	
<b>Solubility in other solvents</b>	No information available	
<b>Autoignition temperature</b>	1010 °C / 1850 °F	
<b>Decomposition temperature</b>	No information available	
<b>Kinematic viscosity</b>	No information available	
<b>Viscosity, dynamic</b>	No information available	
<b>Log Pow</b>	No information available	

<b>Explosive properties</b>	Not Applicable
<b>Oxidizing properties</b>	None known.

#### **9.2 Other information**

<b>Pour point</b>	No information available
<b>Molecular weight</b>	No information available
<b>VOC content(%)</b>	None
<b>Density VALUE</b>	No information available

## **10. Stability and reactivity**

### **10.1 Reactivity**

Dust may form explosive mixture in air.

### **10.2 Chemical stability**

Stable under normal temperature conditions and recommended use.

### **10.3 Possibility of Hazardous Reactions**

#### **Hazardous polymerization**

Hazardous polymerisation does not occur.

### **10.4 Conditions to avoid**

Avoid heat, flames and other sources of ignition. Avoid dust formation. Protect from moisture.

### **10.5 Incompatible materials**

Strong oxidising agents. Strong alkalies.

### **10.6 Hazardous decomposition products**

See also section 5.2.

## **11. Toxicological information**

### **11.1 Information on toxicological effects**

#### **Acute toxicity**

**Inhalation** May cause irritation of respiratory tract.

**Eye contact** Causes serious eye irritation.

**Skin contact** Prolonged contact may cause redness and irritation.

**Ingestion** Ingestion may cause stomach discomfort.

**Unknown acute toxicity** Not Applicable.

**LD50 Oral** 3000 mg/kg (rat)

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Citric acid, monohydrate	No data available	No data available	No data available

**Sensitisation** This product does not contain any components suspected to be sensitizing.

**Mutagenic effects** This product does not contain any known or suspected mutagens.

**Carcinogenicity** This product does not contain any known or suspected carcinogens.

**Reproductive toxicity** This product does not contain any known or suspected reproductive hazards.

**Routes of exposure** None known.

**Routes of entry** No route of entry noted.

**Specific target organ toxicity (single exposure)** Not classified

**Specific target organ toxicity (repeated exposure)** Not classified.

**Aspiration hazard** No hazard from product as supplied.

## 12. Ecological information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Listed on PLONOR list of OSPAR

**Toxicity to algae**  
 See component information below.

**Toxicity to fish**  
 See component information below.

**Toxicity to daphnia and other aquatic invertebrates**

See component information below.

Component	Toxicity to fish	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates
Citric acid, monohydrate	1516 mg/L LC50 (Lepomis macrochirus) = 96 h	No information available	120 mg/L EC50 (Daphnia magna) = 72 h

**12.2 Persistence and degradability**

No product level data available.

**12.3 Bioaccumulative potential**

No product level data available.

**12.4 Mobility in soil**

**Mobility**

Soluble in water.

**12.5 Results of PBT and vPvB assessment**

Not classified as PBT/vPvB by current EU criteria.

**12.6 Other adverse effects.**

None known.

**13. Disposal considerations**

**13.1 Waste treatment methods**

**Waste from residues / unused products**

Dispose of in accordance with local regulations.

**Contaminated packaging**

Empty containers should be transported/delivered using a registered waste carrier for local recycling or waste disposal.

**EWC waste disposal No.** According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used. The following Waste Codes are only suggestions: EWC waste disposal No: 07 01 99. Waste Code: 7134 organic acids.

## 14. Transport information

### 14.1 UN number

Not regulated

### 14.2 Proper shipping name

The product is not covered by international regulation on the transport of dangerous goods

### 14.3. Hazard class(es)

**ADR/RID/ADN/ADG Hazard class** Not regulated

**IMDG Hazard class** Not regulated

**ICAO Hazard class/division** Not regulated

### 14.4 Packing group

**ADR/RID/ADN/ADG Packing Group** Not regulated

**IMDG Packing group** Not regulated

**ICAO Packing group** Not regulated

### 14.5 Environmental hazard

No

### 14.6 Special precautions

Not Applicable

### 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Please contact MISDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory information

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

**Germany, Water Endangering Classes (VwVwS)** Water endangering class = 1

Commission Regulation (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH). Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.

This safety data sheet complies with the requirements of Regulation (EC) No. 1272/2008.

Dutch Mining Regulations: In accordance with Mining Regulations 9.2 and Chapter 4 of the Working Conditions Decree.

#### International inventories

USA, Toxic Substances Control Act inventory (TSCA)	Complies
European Union - EINECS and ELINCS	Complies
Canada, Domestic Substance List (DSL)	Complies
Philippines (PICCS)	Complies
Inventory - Japan - Existing and New Chemicals list	Complies
China (IECSC)	Complies
Australia (AICS)	Complies
Korea (KECL)	Complies
Inventory - New Zealand - Inventory of Chemicals (NZIoC)	Complies

Contact REACH@miswaco.slb.com for REACH information.

#### 15.2 Chemical Safety Report

No information available

### 16. Other information

<b>Prepared by</b>	Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Anne Karin (Anka) Fosse
<b>Supersedes date</b>	28/Feb/2013
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<b>Version</b>	7

**The following sections have been revised:** This SDS have been made in a new database and therefore a new layout. No changes with regard to classification have been made, Updated according to GHS/CLP.

#### Text of R phrases mentioned in Section 3

R36 - Irritating to eyes

#### Full text of H-Statements referred to under sections 2 and 3

H319 - Causes serious eye irritation

**Disclaimer**

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