SAFETY DATA SHEET
CITRIC ACID

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

PRODUCT NAME CITRIC ACID

APPLICATION Oil well drilling fluid additive. pH modifier.

SUPPLIER
M-I Drilling Fluids UK Ltd,
Pocra Quay,
Footdee,
Aberdeen. AB11 5DQ
T -44 (0)1224-584336
F -44 (0)1224-576119

EMERGENCY TELEPHONE +44(0)208 762 8322

2 COMPOSITION/INFORMATION ON INGREDIENTS

Name	EC No.	CAS-No.	Content	Classification
CITRIC ACID	201-069-1	77-92-9	60-100%	Xi;R36.

The Full Text for all R-Phrases are Displayed in Section 16

COMPOSITION COMMENTS

The data shown is in accordance with the latest EC Directives.

3 HAZARDS IDENTIFICATION

Irritating to eyes.

CLASSIFICATION Xi;R36.

4 FIRST-AID MEASURES

INHALATION

Move the exposed person to fresh air at once. Get medical attention if any discomfort continues.

INGESTION

First aid is not normally required. Rinse mouth thoroughly. Drink plenty of water.

SKIN CONTACT

Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention promptly if symptoms occur after washing.

EYE CONTACT

Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes and get medical attention.

5 FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA

Water spray, foam, dry powder or carbon dioxide.

UNUSUAL FIRE & EXPLOSION HAZARDS

High concentrations of dust may form explosive mixture with air.

SPECIFIC HAZARDS

Fire or high temperatures create: Carbon dioxide (CO_2). and Carbon monoxide (CO).

PROTECTIVE MEASURES IN FIRE

Self contained breathing apparatus and full protective clothing must be worn in case of fire.

6 ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS

Wear protective clothing as described in Section 8 of this safety data sheet.

ENVIRONMENTAL PRECAUTIONS

Do not allow to enter drains, sewers or watercourses.

SPILL CLEAN UP METHODS

Shovel into dry containers. Cover and move the containers. Flush the area with water.

7 HANDLING AND STORAGE

USAGE PRECAUTIONS

Do not use contact lenses. Provide good ventilation. Mechanical ventilation or local exhaust ventilation may be required. Avoid handling which leads to dust formation.

STORAGE PRECAUTIONS

Store in tightly closed original container in a dry and cool place.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Name	Std	LT - ppm	LT - mg/m3	ST - ppm	ST - mg/m3
CITRIC ACID	WEL		4 mg/m3 resp.dust		

INGREDIENT COMMENTS

WEL = Workplace Exposure Limits NUI = Nuisance dust, WEL TWA 4mg/m3 Respirable Dust, 10 mg/m3 Total Dust.

PROTECTIVE EQUIPMENT

ENGINEERING MEASURES

Provide adequate general and local exhaust ventilation.

RESPIRATORY EQUIPMENT

Respiratory protection must be used if air contamination exceeds acceptable level. Dust filter P2 (for fine dust).

HAND PROTECTION

Use protective gloves made of: Butyl rubber. or Polyvinyl chloride (PVC).

EYE PROTECTION

Wear dust resistant safety goggles where there is danger of eye contact.

OTHER PROTECTION

Wear appropriate clothing to prevent repeated or prolonged skin contact. Provide eyewash station.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	Crystals or crystalline		
COLOUR	White		
ODOUR	Odourless		
SOLUBILITY	Completely soluble in water		
MELTING POINT (°C)	~135°C	RELATIVE DENSITY	1.542 g/cm3 @ 20 °c
BULK DENSITY	850 kg/m3	pH-VALUE, DILUTED SOLUTION	1.6 (100g/l) @20°C

10 STABILITY AND REACTIVITY

STABILITY

Stable under normal temperature conditions.

MATERIALS TO AVOID

Strong alkalis. and Strong oxidising agents.

HAZARDOUS DECOMPOSITION PRODUCTS

Fire or high temperatures create: Carbon dioxide (CO_2). and Carbon monoxide (CO).

11 TOXICOLOGICAL INFORMATION

INHALATION

Dust may irritate respiratory system or lungs.

INGESTION

May cause discomfort if swallowed.

SKIN CONTACT

Powder may irritate skin.

EYE CONTACT

Particles in the eyes may cause irritation and smarting. May cause severe irritation to eyes.

12 ECOLOGICAL INFORMATION

ECOTOXICITY

Contact M-I Swaco's QHSE Department for ecological information.

13 DISPOSAL CONSIDERATIONS

DISPOSAL METHODS

Recover and reclaim or recycle, if practical. Dispose of waste and residues in accordance with local authority requirements.

14 TRANSPORT INFORMATION

GENERAL

The product is not covered by international regulation on the transport of dangerous goods (IMDG, IATA, ADR/RID).

15 REGULATORY INFORMATION

LABELLING

Irritant

RISK PHRASES

R36	Irritating to eyes.

SAFETY PHRASES

S24/25	Avoid contact with skin and eyes.

UK REGULATORY REFERENCES

Chemicals (Hazard Information & Packaging) Regulations. The Control of Substances Hazardous to Health Regulations

EU DIRECTIVES

Dangerous Substance Directive 67/548/EEC. Dangerous Preparations Directive 1999/45/EC.

GUIDANCE NOTES

Workplace Exposure Limits EH40.

16 OTHER INFORMATION

GENERAL INFORMATION

HMIS Health - 2 HMIS Flammability - 1 HMIS Physical Hazard - 0 E - Safety glasses, Gloves, Dust Respirator

CITRIC ACID

INFORMATION SOURCES

Material Safety Data Sheet, Misc. manufacturers. Product information provided by the commercial vendor(s).

REVISION COMMENTS

General revision. Revised by Bill Cameron

ISSUED BY

Dr. Kirsty Walker

REVISION DATE	27-09-06
REV. NO./REPL. SDS GENERATED	3
SDS NO.	10910

RISK PHRASES IN FULL

R36	Irritating to eyes.

DISCLAIMER

MSDS furnished independent of product sale. While every effort has been made to accurately describe this product, some of the data are obtained from sources beyond our direct supervision. We cannot make any assertions as to its reliability or completeness; therefore, user may rely only at user's risk. We have made no effort to censor or conceal deleterious aspects of this product. Since we cannot anticipate or control the conditions under which this information and product may be used, we make no guarantee that the precautions we have suggested will be adequate for all individuals and/or situations. It is the obligation of each user of this product to comply with the requirements of all applicable laws regarding use and disposal of this product. Additional information will be furnished upon request to assist the user; however, no warranty, either expressed or implied, nor liability of any nature with respect to this product or to the data herein is made or incurred hereunder.