

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING

Product Name: MALEIC ACID

Company name: Nexchem Ltd
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2. HAZARDS IDENTIFICATION

EU Index No.: 607-095-00-3
EC (Eincas) No.: 203-742-5
CAS No.: 110-16-7
Composition Comments: The Data Shown is in accordance with the latest EC Directives.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Harmful if swallowed.

Irritating to eyes, respiratory system and skin

May cause sensitisation by skin contact.

Classification: Xn;R22. Xi;R36/37/38. R43.

Human health: In high concentrations, vapours and spray mists are narcotic and may cause headache, fatigue, dizziness and nausea. Harmful by inhalation and in contact with skin.

4. FIRST AID MEASURES (SYMPTOMS)

General Information: General first aid, rest, warmth and fresh air. Do not give victim anything to drink if they are unconscious. Get medical attention if any discomfort continues. Seek medical attention for all burns, regardless how minor they may seem.

Notes to the Physician: Rescuers must not expose themselves to contact. Personal protective equipment must be worn. Symptoms of poisoning can occur several hours after exposure, medical observation should continue for at least 48 hours.

Inhalation: Place unconscious person on the side in the recovery position and ensure breathing. If respiratory problems, artificial respiration/oxygen. Get medical attention if any discomfort continues.

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Ingestion:	Get medical attention. Immediately rinse mouth and drink plenty of water or milk. Keep person under observation. Do not induce vomiting. If vomiting occurs, keep head low. Transport immediately to hospital and take these instructions.
Skin contact:	Immediately remove contaminated clothing. Wash off promptly and flush contaminated skin with water. Promptly remove clothing if soaked through and flush skin with water.
Eye contact:	Make sure to remove any contact lenses from the eyes before rinsing. Promptly wash eyes with plenty of water while lifting the eye lids. Get medical attention promptly if symptoms occur after washing.

5. FIRE-FIGHTING MEASURES

Extinguishing Media:	This product is not flammable. Fire can be extinguished using: Water spray, fog or mist. Foam, carbon dioxide or dry powder. Dry chemicals, sand, dolomite etc.
Special fire fighters procedures:	Use pressurised air mask if product is involved in a fire. Cool containers exposed to flames with water until well after the fire is out.
Unusual fire & explosion hazards:	Forms explosive mixtures with air.
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. Avoid dust generation. Use a respirator in the event of dust formation. Wear personal protective equipment. Keep all unprotected personnel away.
Environmental precautions:	Spillages or uncontrolled discharges into watercourses must be IMMEDIATELY alerted to the Environmental Agency or other appropriate regulatory body. Do not allow ANY environmental contamination.
Spill clean-up methods:	Absorb in vermiculite, dry sand or earth and place into containers. Wash thoroughly after dealing with a spillage.

7. HANDLING AND STORAGE

Usage precautions:	Avoid spilling, skin and eye contact. Ventilate well, avoid breathing vapours. Use approved respirator if air contamination is above accepted level.
Usage description:	Use with local exhaust ventilation to minimise dust levels. Avoid breathing dust.
Storage precautions:	Store in tightly closed original container in a dry and cool place. Keep in original container.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Ingredient comments:	WEL = Workplace Exposure Limits
Protective equipment:	



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Process conditions:	Provide eyewash station.
Engineering measures:	Provide adequate ventilation, including appropriate local extraction, to ensure that the defined workplace exposure limit is not exceeded. All handling to take place in well-ventilated area.
Respiratory equipment:	Wear mask supplied with: Gas cartridge suitable for organic substances.
Hand protection:	Use protective gloves made of: Neoprene. Nitrile. Rubber (natural, latex).
Eye protection:	Wear splash-proof eye goggles to prevent any possibility of eye contact.
Other protection:	Wear appropriate clothing to prevent any possibility of skin contact.
Hygiene measures:	Do not smoke in work area. Wash at the end of each work shift and before eating, smoking and using the toilet. Promptly remove any clothing that becomes contaminated. Use appropriate skin cream to prevent drying of skin. When using do not eat, drink or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Crystalline powder		
Colour:	White / off-white		
Odour:	Odourless		
Boiling point (°C):	160	Melting point (°C):	132-135
Relative density:	1.59 g/cm ³ 20 deg c	Bulk density:	750-800 kg/m ³
Flash point (°C):	127	Partition coefficient:	-0,79- -0,32
Solubility value:	788 g/l	(N-Octanol/Water)	
(g/100g 788 g/l H ₂ O@20°C)			

10. STABILITY AND REACTIVITY

Stability:	No particular stability concerns. High risk of dust/air mixtures is possible
Conditions to avoid	Avoid contact with strong oxidisers. Avoid contact with: bases
Hazardous decomposition products:	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Carbon monoxide (CO).

11. TOXICOLOGICAL INFORMATION

Toxic dose 1:	LD 50	708 mg/kg (oral rat)
General information:	Prolonged and repeated contact with solvents over a long period may lead to permanent health problems.	
Inhalation:	In high concentrations, vapours may irritate throat and respiratory system and cause coughing. Harmful by inhalation.	
Ingestion:	Gastrointestinal symptoms, including upset stomach.	
Skin contact:	Acts as a defatting agent on skin. May cause cracking of skin, and eczema. Irritating to skin. Harmful in contact with skin.	
Eye contact:	Irritating and may cause redness and pain.	

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12. ECOLOGICAL INFORMATION

Ecotoxicity:	The product is not expected to be hazardous to the environment.
LC 50, 96 Hrs., FISH mg/l	106 mg/l (48hr) (Leuciscus idus)
EC 50, 48 Hrs., DAPHNIA, mg/l	160 mg/l (24hr) (Daphnia magna)
Degradability:	The product is biodegradable.
Water hazard classification	WGK 1

13. DISPOSAL CONSIDERATIONS

General information:	Waste to be treated as controlled waste. Disposal to licensed waste disposal site in accordance with local Waste Disposal Authority.
Disposal methods:	Dispose of waste and residues in accordance with local authority requirements. Make sure containers are empty before discarding (explosion risk). Absorb in vermiculite or dry sand, dispose in licensed special waste.
Waste class:	Local regulations must be observed. Empty containers should be transported/delivered using a registered waste carrier for local recycling or waste disposal

14. TRANSPORT INFORMATION

General information:	The product is not covered by international regulation on the transport of dangerous goods (IMDG, IATA, ADR/RID).
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UK road class:	8		
Proper shipping name:	Corrosive Solid, Acidic, Organic, N.O.S. (Maleic Acid)		
UN No. Road:	3261	UK Road Pack GR.:	III
ADR Class No.:	8	ADR Class:	Class 8: Corrosive substances.
ADR Pack Group:	III	Hazard No. (ADR):	80
ADR Label No.:	8	Hazchem Code:	2X
Cefic TEC(R) No.:	80GC4-II+III	RID Class No.:	8
RID Pack Group:	III	UN No. Sea:	3261
IMDG Class:	8	IMDG Pack GR:	III
EMS:	F-A, S-B	MFAG:	See Guide
Marine Pollutant:	No.	UN No. AIR:	3261
AIR Class:	8	Air Pack GR.:	III

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15. REGULATORY INFORMATION

Labelling:



Harmful

Risk Phrases:

- R22** Harmful if swallowed.
R36/37/38 Irritating to eyes, respiratory system and skin.
R43 May cause sensitisation by skin contact.

SAFETY PHRASES

- S2** Keep out of the reach of children
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S28 After contact with skin, wash immediately with plenty of water.
S37 Wear suitable gloves.
S24 Avoid contact with skin.

National Regulations: The Chemicals (Hazard Information and Packaging for Supply) Regulations 2002. No. 1689.
Workplace Exposure Limits 2005 (EH40)

Note: The regulatory information given above only indicates the principal regulations specifically applicable to the product described in the safety data sheet. The user's attention is drawn to the possible existence of additional provisions which complete these regulations. Refer to all applicable national, international and local regulations or provisions.

16. OTHER INFORMATION

Legal disclaimer:

The information contained in this SDS does not constitute a risk assessment, and should not replace the user's own assessment of risks as required by other health and safety legislation. This advice is given by Nexchem Ltd who accept no legal liability for it except otherwise provided by law. The information contained herein is based on the present state of our knowledge and is intended to describe our products from the point of view of safety requirements. It should not therefore be construed as guaranteeing specific properties.