

SAFETY DATA SHEET

(in accordance with Regulation (EU) 2020/878)

MANGANESE SULPHATE 1-HYDRATE

Version 1 Date of compilation: 17/10/2023

Version 2 (replaces version 1)

Revision date: 17/10/2023

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SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING.

1.1 Product identifier.

Product Name: MANGANESE SULPHATE 1-HYDRATE
Chemical Name: manganese(2+) hydrate sulfate
CAS No: 10034-96-5

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

Different industrial uses
Laboratory use

Uses advised against:

All uses not specified in this section or in section 7.3

1.3 Details of the supplier of the safety data sheet.

Company: **ALQUERA CIENCIA SL**
Address: C/ Vilar de Donas 9
City: 28050 - Madrid
Province: Madrid
Telephone: +34 620 88 75 97
E-mail: info@alquera.com
Web: <https://www.alquera.com>

1.4 Emergency telephone number: +34 620 88 75 97 (Only available during office hours; Monday-Friday; 08:00-17:00)

SECTION 2: HAZARDS IDENTIFICATION.

2.1 Classification of the substance or mixture.

In accordance with Regulation (EC) No 1272/2008:

Aquatic Chronic 2 : Toxic to aquatic life with long lasting effects.

Eye Dam. 1 : Causes serious eye damage.

STOT RE 2 : May cause damage to organs through prolonged or repeated exposure.

2.2 Label elements.

Labelling in accordance with Regulation (EC) No 1272/2008:

Pictograms:



Signal Word:

Danger

Hazard statements:

H318 Causes serious eye damage.
H373 May cause damage to organs through prolonged or repeated exposure.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements:

P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P103 Read carefully and follow all instructions.

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P273 Avoid release to the environment.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor/...
P501 Eliminate the product and package according the regulation local / regional / national / international

2.3 Other hazards.

The substance is not PBT
The substance is not vPvB
Substance does not have endocrine disrupting properties.

In normal use conditions and in its original form, the product itself does not involve any other risk for health and the environment.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS.

3.1 Substances.

Mono-constituent.

Identifiers	Name	Concentrate	(*)Classification - Regulation (EC) No 1272/2008	
			Classification	Specifics concentration limits and Acute toxicity estimate
CAS No: 10034-96-5	manganese(2+) hydrate sulfate	25 - 100 %	Aquatic Chronic 2, H411 - Eye Dam. 1, H318 - STOT RE 2, H373	-

3.2 Mixtures.

Not applicable.

SECTION 4: FIRST AID MEASURES.

4.1 Description of first aid measures.

In case of doubt or when symptoms of feeling unwell persist, get medical attention. Never administer anything orally to persons who are unconscious.

Inhalation.

Take the victim into open air; keep them warm and calm. If breathing is irregular or stops, perform artificial respiration.

Eye contact.

Wash eyes with plenty of clean and cool water for at least 10 minutes while pulling eyelids up, and seek medical assistance. Dont let the person to rub the affected eye.

Skin contact.

Remove contaminated clothing. Wash skin vigorously with water and soap or a suitable skin cleaner. NEVER use solvents or thinners.

Ingestion.

If accidentally ingested, seek immediate medical attention. Keep calm. NEVER induce vomiting.

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

Corrosive Product, contact with eyes or skin can cause burns; ingestion or inhalation can cause internal damage, if this occurs immediate medical assistance is required.

Long-term chronic exposure may result in injury to certain organs or tissues.

Contact with eyes may cause irreversible damage.

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

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In case of doubt or when symptoms of feeling unwell persist, get medical attention. Never administer anything orally to persons who are unconscious. Keep the person comfortable. Turn him/her over to the left side and stay there while waiting for medical care.

SECTION 5: FIREFIGHTING MEASURES.

The product is NOT classified as flammable, in case of fire the following measures should be taken:

5.1 Extinguishing media.

Suitable extinguishing media:

Extinguisher powder or CO₂. In case of more serious fires, also alcohol-resistant foam and water spray.

Unsuitable extinguishing media:

Do not use a direct stream of water to extinguish. In the presence of electrical voltage, you cannot use water or foam as extinguishing media.

5.2 Special hazards arising from the substance or mixture.

Special risks.

Exposure to combustion or decomposition products can be harmful to your health.

5.3 Advice for firefighters.

Use water to cool tanks, cisterns, or containers close to the heat source or fire. Take wind direction into account. Prevent the products used to fight the fire from going into drains, sewers, or waterways. Product residues and extinguishing media may contaminate the aquatic environment.

Fire protection equipment.

According to the size of the fire, it may be necessary to use protective suits against the heat, individual breathing equipment, gloves, protective goggles or facemasks, and boots.

SECTION 6: ACCIDENTAL RELEASE MEASURES.

6.1 Personal precautions, protective equipment and emergency procedures.

For exposure control and individual protection measures, see section 8.

6.2 Environmental precautions.

Product dangerous for the environment, in case of large spills or if the product contaminates lakes, rivers, or sewers, inform the responsible authorities according to local legislation. Prevent the contamination of drains, surface or subterranean waters, and the ground.

6.3 Methods and material for containment and cleaning up.

Contain and collect spillage with inert absorbent material (earth, sand, vermiculite, Kieselguhr...) and clean the area immediately with a suitable decontaminant.

Deposit waste in closed and suitable containers for disposal, in compliance with local and national regulations (see section 13).

6.4 Reference to other sections.

For exposure control and individual protection measures, see section 8.

For later elimination of waste, follow the recommendations under section 13.

SECTION 7: HANDLING AND STORAGE.

7.1 Precautions for safe handling.

For personal protection, see section 8.

In the application area, smoking, eating, and drinking must be prohibited.

Follow legislation on occupational health and safety.

Never use pressure to empty the containers. They are not pressure-resistant containers. Keep the product in containers made of a material identical to the original.

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7.2 Conditions for safe storage, including any incompatibilities.

Store according to local legislation. Observe indications on the label. Store the containers between 5 and 25 ° C, in a dry and well-ventilated place, far from sources of heat and direct solar light. Keep far away from ignition points. Keep away from oxidising agents and from highly acidic or alkaline materials. Do not smoke. Prevent the entry of non-authorised persons. Once the containers are open, they must be carefully closed and placed vertically to prevent spills.

The product is not affected by Directive 2012/18/EU (SEVESO III).

7.3 Specific end use(s).

Not available.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION.

8.1 Control parameters.

Work exposure limit for:

Name	CAS No.	Country	Limit value	ppm	mg/m ³
manganese(2+) hydrate sulfate	10034-96-5	European Union [1]	Eight hours		0,2 (as manganese, inhalable fraction) 0,05 (as manganese, respirable fraction)
			Short term		



[1] According both Binding Occupational Exposure Limits (BOELVs) and Indicative Occupational Exposure Limits (IOELVs) adopted by Scientific Committee for Occupational Exposure Limits to Chemical Agents (SCOEL).

The product does NOT contain substances with Biological Limit Values.

8.2 Exposure controls.

Measures of a technical nature:

Provide adequate ventilation, which can be achieved by using good local exhaust-ventilation and a good general exhaust system.

Concentration:	100 %	
Uses:	Different industrial uses Laboratory use	
Breathing protection:		
PPE:	Particle filter mask	
Characteristics:	«CE» marking, category III. Made of filtering material, it covers nose, mouth and chin.	
CEN standards:	EN 149	
Maintenance:	Check for any tears, defects, etc. before use. Since it is disposable individual protection equipment, it should be replaced after use.	
Observations:	Does not protect worker unless properly adjusted. Follow the manufacturer's instructions regarding suitable use of the equipment.	
Filter Type needed:	P2	
Hand protection:		
PPE:	Protective gloves against chemicals.	
Characteristics:	«CE» marking, category III.	
CEN standards:	EN 374-1, EN 374-2, EN 374-3, EN 420	
Maintenance:	Keep in a dry place, away from any sources of heat, and avoid exposure to sunlight as much as possible. Do not make any changes to the gloves that may alter their resistance, or apply paints, solvents or adhesives.	
Observations:	Gloves should be of the appropriate size and fit the user's hand well, not being too loose or too tight. Always use with clean, dry hands.	

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Material:	PVC (polyvinyl chloride)	Breakthrough time (min.):	> 480	Material thickness (mm):	0,35
Eye protection:					
PPE:	Protective goggles against particle impacts.				
Characteristics:	«CE» marking, category II. Eye protector against dust and smoke.				
CEN standards:	EN 165, EN 166, EN 167, EN 168				
Maintenance:	Visibility through lenses should be ideal. Therefore, these parts should be cleaned daily. Protectors should be disinfected periodically following the manufacturer's instructions.				
Observations:	Some signs of wear and tear include: yellow colouring of the lenses, superficial scratching of the lenses, scraping etc.				
Skin protection:					
PPE:	Protective clothing.				
Characteristics:	«CE» marking, category II. Protective clothing should not be too tight or loose in order not to obstruct the user's movements.				
CEN standards:	EN 340				
Maintenance:	In order to guarantee uniform protection, follow the washing and maintenance instructions provided by the manufacturer.				
Observations:	The protective clothing should offer a level of comfort in line with the level of protection provided in terms of the hazard against which it protects, bearing in mind environmental conditions, the user's level of activity and the expected time of use.				
PPE:	Work footwear.				
Characteristics:	«CE» marking, category II.				
CEN standards:	EN ISO 13287, EN 20347				
Maintenance:	This product adapts to the first user's foot shape. That is why, as well as for hygienic reasons, it should not be used by other people.				
Observations:	Work footwear for professional use includes protection elements aimed at protecting users against any injury resulting from an accident				

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES.

9.1 Information on basic physical and chemical properties.

Physical state: Solid

Colour: Rosa

Odour: Odorless

Odour threshold: Not applicable (Not relevant for this type of product)

Melting point: Not available (Not available because there is not available test).

Freezing point: Not applicable

Boiling point or initial boiling point and boiling range: Not available (Not available because there is not available test).

Flammability: Not applicable (Not relevant for this type of product)

Lower explosion limit: Not applicable (Not relevant for this type of product)

Upper explosion limit: Not applicable (Not relevant for this type of product)

Flash point: Not applicable

Auto-ignition temperature: Not applicable (Not relevant for this type of product)

Decomposition temperature: Not applicable (Not relevant for this type of product)

pH: 6 - 6,5 (10%)

Kinematic viscosity: Not applicable (Not relevant for this type of product)

Solubility: Not applicable (Not relevant for this type of product)

Hydrosolubility: Not applicable (Not relevant for this type of product)

Liposolubility: Not applicable (Not relevant for this type of product)

Partition coefficient n-octanol/water (log value): Not applicable (Not relevant for this type of product)

Vapour pressure: <3000000 Pa

Absolute density: 2947 kg/m³

Relative density: 2,947

Relative vapour density: Not applicable (Not relevant for this type of product)

Particle characteristics: Not available (Not available because there is not available test).

9.2 Other information

Other safety characteristics

Mechanical sensitivity:

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Exothermic decomposition energy: Not available (Not available because there is not available test).
Sensitivity to impact: Not available (Not available because there is not available test).
Sensitivity to friction: Not available (Not available because there is not available test).
Self-accelerating polymerisation temperature: Not available (Not available because there is not available test).
Formation of explosible dust/air mixtures:
Lower explosion limit / minimum explosible concentration: Not available (Not available because there is not available test).
Minimum ignition energy: Not available (Not available because there is not available test).
Deflagration index (Kst): Not available (Not available because there is not available test).
Maximum explosion pressure: Not available (Not available because there is not available test).
Acid/alkaline reserve: Not available (Not available because there is not available test).
Evaporation rate: Not available (Not available because there is not available test).
Miscibility: Not available (Not available because there is not available test).
Conductivity: Not available (Not available because there is not available test).
Corrosiveness: Not available (Not available because there is not available test).
Gas group: Not available (Not available because there is not available test).
Redox potential: Not available (Not available because there is not available test).
Radical formation potential: Not available (Not available because there is not available test).
Photocatalytic properties: Not available (Not available because there is not available test).
Viscosity: Not applicable
Dropping point: Not available (Not available because there is not available test).
Blink: Not applicable

SECTION 10: STABILITY AND REACTIVITY.

10.1 Reactivity.

The product does not present hazards by their reactivity.

10.2 Chemical stability.

Stable under the recommended handling and storage conditions (see section 7).

10.3 Possibility of hazardous reactions.

The product does not present possibility of hazardous reactions.

10.4 Conditions to avoid.

Avoid any improper handling.

10.5 Incompatible materials.

Keep away from oxidising agents and from highly alkaline or acidic materials in order to prevent exothermic reactions.

10.6 Hazardous decomposition products.

No decomposition if used for the intended uses.

SECTION 11: TOXICOLOGICAL INFORMATION.

11.1 Information on hazard classes as defined in Regulation (EC) N° 1272/2008.

Splatters in the eyes can cause irritation and reversible damage.

Toxicological information.

Name	Acute toxicity			
	Type	Test	Kind	Value
manganese(2+) hydrate sulfate	Oral	LD50	Rat	2150 mg/kg [1]
		[1] Indian Journal of Pharmacology. Vol. 23, Pg. 153, 1991.		
	Dermal			
CAS No: 10034-96-5 EC No:	Inhalation			

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a) acute toxicity;
Not conclusive data for classification.

b) skin corrosion/irritation;
Not conclusive data for classification.

c) serious eye damage/irritation;
Product classified:
Serious eye damage, Category 1: Causes serious eye damage.

d) respiratory or skin sensitisation;
Not conclusive data for classification.

e) germ cell mutagenicity;
Not conclusive data for classification.

f) carcinogenicity;
Not conclusive data for classification.

g) reproductive toxicity;
Not conclusive data for classification.

h) STOT-single exposure;
Not conclusive data for classification.

i) STOT-repeated exposure;
Product classified:
Specific target organ toxicity following a repeated exposure, Category 2: May cause damage to organs through prolonged or repeated exposure.

j) aspiration hazard;
Not conclusive data for classification.

11.2 Information on other hazards.

Endocrine disrupting properties

This product does not contain components with endocrine-disrupting properties with effects on human health.

Other information

There is no information available on other adverse health effects.

SECTION 12: ECOLOGICAL INFORMATION.

12.1 Toxicity.

Name	Ecotoxicity			
	Type	Test	Kind	Value
manganese(2+) hydrate sulfate CAS No: 10034-96-5 EC No:	Fish	LC50	Fish	130 mg/l (96 h) [1] [1] Lewis, M. 1978. Acute Toxicity of Copper, Zinc, and Manganese in Single and Mixed Salt Solutions to Juvenile Longfin Dace, <i>Agosia chrysogaster</i> . J.Fish Biol. 13(6):695-700
	Aquatic invertebrates	LC50	Crustaceans	17,6 mg/l (48 h) [1] [1] Kimball, G. 1978. The Effects of Lesser Known Metals and One Organic to Fathead Minnows (<i>Pimephales promelas</i>) and <i>Daphnia magna</i> . Manuscr., Dep.of Entomol., Fish.and Wildl., Univ.of Minnesota, Minneapolis, MN :88 p.
	Aquatic plants			

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12.2 Persistence and degradability.

No information is available regarding the biodegradability

No information is available on the degradability

No information is available about persistence and degradability of the product.

12.3 Bioaccumulative potential.

No information is available regarding the bioaccumulation.

12.4 Mobility in soil.

No information is available about the mobility in soil.

The product must not be allowed to go into sewers or waterways.

Prevent penetration into the ground.

12.5 Results of PBT and vPvB assessment.

No information is available about the results of PBT and vPvB assessment of the product.

12.6 Endocrine disrupting properties.

This product doesn't contain components with environmental endocrine disrupting properties.

12.7 Other adverse effects.

The product is not affected by the Regulation (EC) No 1005/2009 of the European Parliament and of the Council of 16 September 2009 on substances that deplete the ozone layer.

No information is available about other adverse effects for the environment.

SECTION 13: DISPOSAL CONSIDERATIONS.

13.1 Waste treatment methods.

Do not dump into sewers or waterways. Waste and empty containers must be handled and eliminated according to current, local/national legislation.

Follow the provisions of Directive 2008/98/EC regarding waste management.

SECTION 14: TRANSPORT INFORMATION.

Transport following ADR rules for road transport, RID rules for railway, ADN for inner waterways, IMDG for sea, and ICAO/IATA for air transport.

Land: Transport by road: ADR, Transport by rail: RID.

Transport documentation: Consignment note and written instructions

Sea: Transport by ship: IMDG.

Transport documentation: Bill of lading

Air: Transport by plane: ICAO/IATA.

Transport document: Airway bill.

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14.1 UN number or ID number.

UN No: UN3077

14.2 UN proper shipping name.

Description:

ADR/RID: UN 3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS MANGANESE(2+) HYDRATE SULFATE), 9, PG III, (-)

IMDG: UN 3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS MANGANESE(2+) HYDRATE SULFATE), 9, PG III, MARINE POLLUTANT

ICAO/IATA: UN 3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS MANGANESE(2+) HYDRATE SULFATE), 9, PG III

14.3 Transport hazard class(es).

Class(es): 9

14.4 Packing group.

Packing group: III

14.5 Environmental hazards.

Marine pollutant: Yes



Dangerous for the environment

Transport by ship, FEm – Emergency sheets (F – Fire, S - Spills): F-A,S-F

14.6 Special precautions for user.

Labels: 9



Hazard number: 90

Provisions concerning carriage in bulk ADR:

VC1 Carriage in bulk in sheeted vehicles, sheeted containers or sheeted bulk containers is permitted.

VC2 Carriage in bulk in closed vehicles, closed containers or closed bulk containers is permitted.

Proceed in accordance with point 6.

ADR LQ: 5 kg

IMDG LQ: 5 kg

ICAO LQ: 30 kg B

14.7 Maritime transport in bulk according to IMO instruments.

The product is not transported in bulk.

SECTION 15: REGULATORY INFORMATION.

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

The product is not affected by Regulation (EU) No 528/2012 concerning the making available on the market and use of biocidal products.

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The product is not affected by the procedure established Regulation (EU) No 649/2012, concerning the export and import of dangerous chemicals.

15.2 Chemical safety assessment.

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

SECTION 16: OTHER INFORMATION.

Classification codes:

Aquatic Chronic 2 : Chronic effect to the aquatic environment, Category 2
Eye Dam. 1 : Serious eye damage, Category 1
STOT RE 2 : Specific target organ toxicity following a repeated exposure, Category 2

Changes regarding to the previous version:

- Modification in the values of the physical and chemical properties (SECTION 9).

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Physical hazards	On basis of test data
Health hazards	Calculation method
Environmental hazards	Calculation method

It is advisable to carry out basic training with regard to health and safety at work in order to handle this product correctly.

Abbreviations and acronyms used:

ADR/RID: Agreement concerning the International Carriage of Dangerous Goods by Road.
CEN: European Committee for Standardization.
EC50: Half maximal effective concentration.
PPE: Personal protection equipment.
IATA: International Air Transport Association.
ICAO: International Civil Aviation Organization.
IMDG: International Maritime Code for Dangerous Goods.
LC50: Lethal concentration, 50%.
LD50: Lethal dose, 50%.
RID: Regulations Concerning the International Transport of Dangerous Goods by Rail.

Key literature references and sources for data:

<http://eur-lex.europa.eu/homepage.html>
<http://echa.europa.eu/>
Regulation (EU) 2020/878.
Regulation (EC) No 1907/2006.
Regulation (EC) No 1272/2008.

The information given in this Safety Data Sheet has been drafted in accordance with COMMISSION REGULATION (EU) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemical substances and mixtures (REACH).

The information in this Safety Data Sheet on the Preparation is based on current knowledge and on current EC and national laws, as far as the working conditions of the users is beyond our knowledge and control. The product must not be used for purposes other than those that are specified without first having written instructions on how to handle. It is always the responsibility of the user to take the appropriate measures in order to comply with the requirements established by current legislation. The information contained in this Safety Sheet only states a description of the safety requirements for the preparation, and it must not be considered as a guarantee of its properties.