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

MANGAZON SUPER

Version: 1 Date of compilation: 14/10/2015 Version: 3 (replaces version 2) Revision date: 19/01/2023



Page: 1/9 Print date: 19/01/2023

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

1.1 Product identifier.

Product Name: MANGAZON SUPER Product Code: MSDS00231

UFI: AUMO-TORE-8000-MUKP

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

Fertilizer.

Uses advised against:

Uses other than those recommended.

1.3 Details of the supplier of the safety data sheet.

Company: Francisco R. Artal S.L. Address: C/ Villa de Madrid, 14

City: 46988 - Poligono Industrial Fuente del Jarro (Paterna)

Province: Valencia

Telephone: (34) 96 134 03 65 E-mail: infoartal@artal.net Web: www.artal.net

1.4 Emergency telephone number: (34) 96 134 03 65 (Only available during office hours; Monday-Friday; 08:00-18:00)

SECTION 2: HAZARDS IDENTIFICATION.

2.1 Classification of the substance or mixture.

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

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

Eye Dam. 1 : Causes serious eye damage.

2.2 Label elements.

<u>Labelling in accordance with Regulation (EU) No 1272/2008:</u> Pictograms:





Signal Word: Danger

Hazard statements:

H318 Causes serious eye damage.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements:

P102 Keep out of reach of children.

P270 Do not eat, drink or smoke when using this product.

P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing 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.

P310 Immediately call a POISON CENTER/doctor/...

Contains: Zinc sulphate heptahydrate, manganese(II) sulphate monohydrate

2.3 Other hazards.

The mixture does not contain substances classified as PBT.

The mixture does not contain substances classified as vPvB.

The mixture does not contain any endocrine disrupting properties substances.

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

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

MANGAZON SUPER

Version: 1 Date of compilation: 14/10/2015 Version: 3 (replaces version 2) Revision date: 19/01/2023



Page: 2/9 Print date: 19/01/2023

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS.

3.1 Substances.

Not Applicable.

3.2 Mixtures.

Substances posing a danger to health or the environment in accordance with the Regulation (EC) No. 1272/2008, assigned a Community exposure limit in the workplace, and classified as PBT/vPvB or included in the Candidate List:

	Name	Concentrate	(*)Classification - Regulation (EC) No 1272/2008	
Identifiers			Classification	Specifics concentration limits and Acute toxicity estimate
CAS No: 7446-20-0 Registration No: 01-2119474684-27-xxxx	zinc sulphate heptahydrate	3 - 25 %	Acute Tox. 4, H302 - Aquatic Chronic 2, H411 - Eye Dam. 1, H318	-
Index No: 025-003-00-4 CAS No: 10034-96-5 EC No: 232-089-9 Registration No: 01-2119456624-35-xxxx	Manganese(II) sulphate monohydrate	3 - 10 %	Aquatic Chronic 3, H412 - Eye Dam. 1, H318	-
Index No: 016-020-00-8 CAS No: 7664-93-9 EC No: 231-639-5 Registration No: 01-2119458838-20-xxxx	^{[1][2]} sulphuric acid	0 - 5 %	-	-

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.

Wash eyes with plenty of clean and cool water for at least 10 minutes while pulling eyelids up and seek medical assistance. Don't 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.

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. Contact with eyes may cause irreversible damage.

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

Request immediate medical attention. Never administer anything orally to persons who are unconscious. Do not induce vomiting. If the person vomits, clear the respiratory tract. Cover the affected area with a dry sterile bandage. Protect the affected area from pressure or friction.

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.

^(*)The complete text of the H phrases is given in section 16 of this Safety Data Sheet.
[1] Substance with a European Union exposure limit in the workplace (see section 8.1).

^[2] Substance with a national workplace exposure limit (see section 8.1).

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

MANGAZON SUPER

Version: 1 Date of compilation: 14/10/2015 Version: 3 (replaces version 2) Revision date: 19/01/2023



Page: 3/9 Print date: 19/01/2023

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.

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).

Fertilizer.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION.

8.1 Control parameters.

Work exposure limit for:

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

MANGAZON SUPER

Version: 1 Date of compilation: 14/10/2015 Version: 3 (replaces version 2) Revision date: 19/01/2023



Page: 4/9 Print date: 19/01/2023

Name	CAS No.	Country	Limit value	ppm	mg/m³
sulphuric acid 7664-93-9		European Union [1]	Eight hours		0,05
			Short term		
		United Kingdom [2]	Eight hours		0,05
		United Kingdom [2]	Short term		
		Éire [3]	Eight hours		0,05
	7664.02.0		Short term		
	7004-93-9	United States [4] (Cal/OSHA)	Eight hours		0.1
			Short term		3
		United States [5] (NIOSH)	Eight hours		1
			Short term		
		United States [6] (OSHA)	Eight hours		1
		officed States [o] (OSHA)	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).

[2] According Limit Value (IOELV) list in 2nd Indicative Occupational Exposure adopted by Health and Safety Executive.

(HSA).
[4] California Division of Occupational Safety and Health (Cal/OSHA) Permissible Exposure Limits (PELs).
[5] National Institute for Occupational Safety and Health (NOSH Recommendations for occupational safety and health, Compendium of Policy

Documents and Statements, January, 1992, DHHS (NIOSH) Publication No. 92-100.

[6] Occupational Safety and Health Administration, United States Department of Labor. Permissible Exposure limits (PELs), California Division of Occupational Safety and Health (Cal/OSHA) Permissible Exposure Limits (PELs).

The product does NOT contain substances with Biological Limit Values.

Concentration levels DNEL/DMEL:

Name	DNEL/DMEL	Туре	Value
sulphuric acid	DNEL (Workers)	Inhalation, Chronic, Local effects	0,05
CAS No: 7664-93-9			(mg/m³)
EC No: 231-639-5			

DNEL: Derived No Effect Level, level of exposure to the substance below which adverse effects are not anticipated.

DMEL: Derived Minimal Effect Level, exposure level corresponding to a low risk, that risk should be considered a tolerable minimum.

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:	Fertilizer			
Breathing protection:				
PPE:	Filter mask for protection against gases and particles.			
Characteristics:	«CE» marking, category III. The mask must have a wide field of vision and an anatomically designed form in order to be sealed and watertight.			
CEN standards:	EN 136, EN 140, EN 405			
Maintenance:	Should not be stored in places exposed to high temperatures and damp environments before use. Special attention should be paid to the state of the inhalation and exhalation valves in the face adaptor. Read carefully the manufacturer's instructions regarding the equipment's use and maintenance. Attach the			
Observations:	necessary filters to the equipment according to the specific nature of the risk (Particles and aerosols: P1-P2-P3, Gases and vapours: A-B-E-K-AX), changing them as advised by the manufacturer.			
Filter Type needed:	A2			
Hand protection:				
PPE:	Work gloves.			
Characteristics:	«CE» marking, category I.			
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.			
Material:	PVC (polyvinyl chloride) Breakthrough time (min.): > 480 Material thickness (mm): 0,35			
Eye protection:				
PPE:	Protective goggles with built-in frame.			
Characteristics:	«CE» marking, category II. Eye protector with built-in frame for protection against dust, smoke, fog and vapour.			
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.			

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

MANGAZON SUPER

Date of compilation: 14/10/2015 Version: 1 Version: 3 (replaces version 2)



Page: 5/9 Revision date: 19/01/2023 Print date: 19/01/2023

Skin protection: Protective clothing «CE» marking, category II. Protective clothing should not be too tight or loose in order not Characteristics: to obstruct the user's movements. CEN standards: In order to quarantee uniform protection, follow the washing and maintenance instructions provided by the Maintenance: manufacturer. 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 Observations: expected time of use PPF: Work footwear. «CE» marking, category II. EN ISO 13287, EN 20347 Characteristics: CEN standards: This product adapts to the first user's foot shape. That is why, as well as for hygienic reasons, it should not be used Maintenance: by other people. Work footwear for professional use includes protection elements aimed at protecting users against any injury Observations: resulting from an accident

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES.

9.1 Information on basic physical and chemical properties.

Physical state: Liquid Colour: Transparent orange

Odour: Chemical smell, barely perceptible.

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

Boiling point or initial boiling point and boiling range: Not applicable (Not relevant for this type of product) 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 (Not relevant for this type of product)

Auto-ignition temperature: Not applicable (Not relevant for this type of product) Decomposition temperature: Not applicable (Not relevant for this type of product) pH: 2,5 (100%) (pH Meter/potentiometric/electrometric method) ± 1

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

Solubility: Not applicable (Aqueous solution).

Hydrosolubility: Not applicable (Aqueous solution).

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: Not applicable (Not relevant for this type of product) Absolute density: Not applicable (Not relevant for this type of product) Relative density: 1,37 \pm 0,02 (Oscillating densitimer) \pm 0,05 g/cm³

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

9.2 Other information

Viscosity: Not applicable/Not available due to the nature/properties of the product

Explosive properties: Not applicable/Not available due to the nature/properties of the product Oxidizing properties: Not applicable/Not available due to the nature/properties of the product Dropping point: Not applicable/Not available due to the nature/properties of the product

Blink: Not applicable/Not available due to the nature/properties of the product

SECTION 10: STABILITY AND REACTIVITY.

10.1 Reactivity.

The product does not present hazards by their reactivity.

10.2 Chemical stability.

Unstable in contact with:

Bases.

10.3 Possibility of hazardous reactions.

Neutralization can occur on contact with bases.

10.4 Conditions to avoid.

Avoid contact with bases.

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

MANGAZON SUPER

Version: 1 Date of compilation: 14/10/2015 Version: 3 (replaces version 2) Revision date: 19/01/2023



Page: 6/9 Print date: 19/01/2023

10.5 Incompatible materials.

Avoid the following materials:

- Bases.

10.6 Hazardous decomposition products.

Depending on conditions of use, can be generated the following products:

- Corrosive vapours or gases.

SECTION 11: TOXICOLOGICAL INFORMATION.

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

There are no tested data available on the product.

Splatters in the eyes can cause irritation and reversible damage.

a) acute toxicity; Not conclusive data for classification.

Acute Toxicity Estimate (ATE): Mixtures: ATE (Oral) = 4.167 mg/kg

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; Not conclusive data for classification.
- 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.

No information is available regarding the ecotoxicity of the substances present.

12.2 Persistence and degradability.

No information is available regarding the biodegradability of the substances present.

No information is available on the degradability of the substances present.

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

12.3 Bioaccumulative potential.

No information is available regarding the bioaccumulation of the substances present.

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.

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

MANGAZON SUPER

Version: 1 Date of compilation: 14/10/2015 Version: 3 (replaces version 2) Revision date: 19/01/2023



Page: 7/9 Print date: 19/01/2023

12.6 Endocrine disrupting properties.

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

12.7 Other adverse effects.

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

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.

14.1 UN number or ID number.

UN No: UN3082

14.2 UN proper shipping name.

Description:

ADR/RID: UN 3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS ZINC SULFATE HEPTAHYDRATE /

MANGANESE(II) SULFATE MONOHYDRATE), 9, PG III, (-)

IMDG: UN 3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS ZINC SULFATE HEPTAHYDRATE /

MANGANESE(II) SULFATE MONOHYDRATE), 9, PG III, MARINE POLLUTANT UN 3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS ZINC SULFATE HEPTAHYDRATE / ICAO/IATA:

MANGANESE(II) SULFATE MONOHYDRATE), 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 ADR LO: 5 L IMDG LQ: 5 L ICAO LQ: 30 kg B

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

MANGAZON SUPER

Version: 1 Date of compilation: 14/10/2015 Version: 3 (replaces version 2) Revision date: 19/01/2023



Page: 8/9 Print date: 19/01/2023

Provisions concerning carriage in bulk ADR: Not authorized carriage in bulk in accordance with ADR. Proceed in accordance with point 6.

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 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.

Product classification according to Annex I of Directive 2012/18/EU (SEVESO III): N/A

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

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.

Other precautionary statements:

P391 Collect spillage.

P501 Dispose of contents/container to ...

Complete text of the H phrases that appear in section 3:

H302 Harmful if swallowed. H318 Causes serious eye damage.

H411 Toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

Classification codes:

Acute Tox. 4: Acute toxicity (Oral), Category 4

Aquatic Acute 1 : Acute toxicity to the aquatic environment, Category 1 Aquatic Chronic 1 : Chronic effect to the aquatic environment, Category 1 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

Skin Corr. 1A: Skin Corrosive, Category 1A

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

Physical hazards
Health hazards
Environmental hazards
On basis of test data
Calculation method
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: European Agreement concerning the International Carriage of Dangerous Goods by Road.

CEN: European Committee for Standardization.

DMEL: Derived Minimal Effect Level, exposure level corresponding to a low risk, that risk should be

considered a tolerable minimum.

DNEL: Derived No Effect Level, level of exposure to the substance below which adverse effects are not

anticipated.

PPE: Personal protection equipment.

IATA: International Air Transport Association.

ICAO: International Civil Aviation Organization.

IMDG: International Maritime Code for Dangerous Goods.

RID: Regulations Concerning the International Transport of Dangerous Goods by Rail.

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

MANGAZON SUPER

Version: 1Date of compilation: 14/10/2015Version: 3 (replaces version 2)Revision date: 19/01/2023



Page: 9/9 Print date: 19/01/2023

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 (EU) 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.