



SAFETY DATA SHEET
According to 29 CFR 1910.1200

**MANGANESE SULFATE
MONOHYDRATE**

Date of issue: July 1, 2012 Revision date: September 01, 2023 Version: 5

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

1.1 Product identifier

Product form Solid in crystals
Substance name Manganese sulfate monohydrate
CAS No. 10034-96-5
Formula $MnSO_4 \cdot H_2O$
Synonyms Manganese (II) sulfate monohydrate

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

Use of the substance/mixture According to the technical sheet of the product.

1.3 Details of the supplier of the safety data sheet

Pima Chemicals & Fertilizers, LLC
1370 Nogales, Az.
Tel. 011 52 (662) 182-0559
rgutierrez@qpima.com
www.qpima.com

Química Pima, S.A. de C.V.
Del Cobre 20, Parque Industrial Hermosillo.
Hermosillo, Sonora, México. C.P. 83297
Tel. 011 (662) 251-0010 ventas@qpima.com

1.4 Emergency telephone number

Emergency number CHEMTREC (24HR Emergency Telephone), call: 1-800-424-9300

SECTION 2.- HAZARD IDENTIFICATION

2.1. GHS-US classification

Specific target organ systemic toxicity (repeated exposures) 2 H373
Acute aquatic toxicity 2 H401
Chronic aquatic toxicity 2 H411

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US)



Signal word (GHS-US):

Danger

Hazard statement (GHS-US):

H373 It can cause organ damage.
H401 Toxic to aquatic organisms.
H411 Toxic for the aquatic organisms, with lasting noxious effects

Precautionary statements (GHS-US):

P260: Do not breathe dust, fumes, gas, mists. Vapors or aerosols.
P273: Do not disperse in the environment.
P314+P391: Consult a doctor if the person is unwell. Collect spills
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3. Other hazards

ND



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2.4 Unknown acute toxicity (GHS-US) Not applicable.

SECTION 3.- COMPOSICION / INFORMATION OF INGREDIENTS

3.1 Mixture Not applicable

3.2 Substance

Name	Product identifier	%	UN number
Manganese sulfate monohydrate	(CAS No.) 10034-96-5	> 99.9%	3077

SECTION 4.- FIRST AID MEASURE

4.1. Description of first air measure

First-aid measures general	Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice.
First-aid measures after eye contact	Immediately flush eyes with water for at least 15 minutes, and keep the eyelids open to ensure that the entire eye and eyelid tissues are rinsed off. Flushing the eyes in seconds are essential for maximum effectiveness. If you have contact lenses, remove them after the first 5 minutes, and then continue rinsing your eyes. Seek medical advice.
First-aid measures after skin contact	Wash immediately after contact with plenty of soap and water, for at least 15 minutes. Take off contaminated clothing and wash it before reuse.
First-aid measures after inhalation	Remove victim and provide clean air. Keep her calm. If she doesn't breathe, give her artificial respiration. Call the doctor.
First-aid measures after ingestion	DO NOT INDUCE VOMITING. Rinse your mouth with water. Never give anything orally to an unconscious person. Call the doctor. If vomiting occurs spontaneously, lay victim on side to reduce risk of aspiration.

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

Symptoms/injuries after inhalation	The dust can be slightly irritating. It can cause a sore throat or cough.
Symptoms/injuries after skin contact	It can cause slight skin irritation, redness, sensitivity.
Symptoms/injuries after eye contact	May cause irritation, redness and pain.
Symptoms/injuries after ingestion	It can cause abdominal pain, vomiting, and diarrhea.
Chronic symptoms	N.A.

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

Symptomatic treatment. For more information, consult a Poison Center. Intravenous administration of calcium gluconate will partially reverse the effects of acute magnesium toxicity. Ventricular support with calcium chloride infusion and forced manure diuresis has also been successful.

SECTION 5.- FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media	Use the product according to the surrounding materials, since the product is not combustible. Any fire extinguishing media may be used on nearby fires.
Unsuitable extinguishing media	N.A.

5.2. Special hazard arising from the substance or mixture



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Fire hazard	None.
Explosion hazard	None.
Hazard thermal decomposition products	Emits toxic/ irritant fumes (sulfur oxides and other substances derived from incomplete combustion) under fire conditions.
5.3. Advice for firefighters	
Protective equipment	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Emergency procedures	In the event of fire, cool tanks with water spray. Cool containers exposed to flames with water until well after the fire is out.

SECTION 6. - ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Avoid dust formation. In case of exposure to prolonged or high level of airborne dust, wear a personal respirator in compliance with national legislation.

6.2. Environmental precautions

Contain the solid and cover to prevent dispersion. Prevent the product from reaching water courses.

6.3. Methods and material for containment and cleaning up.

Land spill
Vacuum, shovel or sweep up Magnesium Sulfate and place in containers for disposal in accordance with applicable local regulations. Avoid contamination of water bodies during clean up and disposal. The personal protective equipment is needed to clean up land spills.

Spillage into water
Collect the product with a shovel and place it in an appropriate container. Sweep or vacuum, avoiding the dispersion of dust. It may need to be lightly moistened. Thoroughly clean or wash the contaminated area. Dispose of the water and the collected waste in marked containers for disposal as chemical waste.

6.4 Reference to other sections

See sections 8 and 13 for further information.

SECTION 7.- HANDLING AND STORAGE

7.1. Precautions for safe handling

To maintain package integrity and to minimize caking of the product, bags should be handled on a first-in first out basis. Good housekeeping and dust prevention procedures should be followed to minimize dust generation and accumulation. Your supplier can advise you on safe handling, please contact the supplier.

7.2. Conditions for safe storage, including any incompatibilities

Store in a clean, dry, well-ventilated area. Protect from the sun. Keep containers closed.

7.3 Specific end use(s)

The product should be kept away from strong oxidizing agents, acids, aluminum and magnesium.

SECTION 8.- EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Manganese Sulphate	0.2 mg/m ³	5 mg/m ³	500 mg/m ³



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8.2. Exposure controls

Appropriate engineering controls

Eyewash fountains and safety showers should be available in the immediate vicinity of use / handling. Provide exhaust ventilation or other engineering controls to keep vapor or dust concentrations (total / breathable) below the above occupational exposure limits. It is recommended that all dust control equipment such as local ventilation and material transport systems involved in handling this product contain explosion relief vents or an explosion suppression system or an oxygen deficient environment. Make sure that dust handling systems (such as exhaust ducts, dust collectors, containers, and processing equipment) are controlled in a way that prevents dust from escaping into the work area (i.e. no equipment leaks).

Personal protective equipment

Use local exhaust ventilation to keep airborne concentrations of Manganese Sulphate dust below permissible exposure levels. Wash hands before breaks and at the end of the workday. Remove and wash soiled clothing.

Material for protective clothing

Chemical resistant work clothes and safety shoes. Clothes must be washed after the operation.

Hand protection

When handling this product, waterproof PVC or nitrile protective gloves should be worn.

Eye protection

Safety glasses, a chemical splash test should be worn.

Skin and body protection

When handling this product, use waterproof PVC or nitrile protective gloves, work clothes and chemical resistant safety shoes.

Respiratory protection

In case of prolonged exposure to dust wear a personal respirator in compliance with national legislation (make reference to the appropriate CEN standart)

Environmental exposure controls

Avoid release to the environment. Contain the solid and cover to prevent dispersion. Prevent the product from reaching water courses.

SECTION 9.- PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state:	Solid	Appearance:	Solid
Odor:	Odorless	Color:	White or slightly pink
Molecular mass			169.02 g/mol
Odor threshold			No data available.
pH			No data available
Relative evaporation rate (butyl acetate=1)			No data available.
Melting/Freezing point			700°C (1292°F)
Boiling point			850°C (1562 °F)
Flash point			Non flammable
Self ignition temperature			Not applicable.
Decomposition temperature			850°C (1562°F)
Flammability (solid, gas)			No data available.
Vapor pressure			No data available.
Density at 20°C			2.95 g/cm ³
Relative vapor density at 20°C			N.A.



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Relative density	No data available.
Apparent density	1.0 g/ml
Solubility at 20°C	39.3 g/100 ml
Log Pow	Not applicable
Log Kow	No data available.
Viscosity, kinematic	N.A.
Viscosity, dynamic	N.A.
Explosive properties	Non explosive
Oxidizing properties	N.A.
Explosive limits	No data available.

9.2 Other information No additional information available.

SECTION 10.- STABILITY AND REACTIVITY

10.1 Reactivity	Reactions or decomposition of the product are not expected to occur under normal storage conditions. Does not contain organic peroxides. It is not corrosive to metals. It does not react with water.
10.2 Chemical stability	The product is chemically stable and does not require stabilizers.
10.3 Possibility of hazardous reactions	Dangerous reactions are not expected.
10.4 Conditions to avoid	Avoid high temperatures and humidity.
10.5 Incompatible materials	Strong oxidizing agents, acids, aluminum and magnesium.
10.6 Hazardous decomposition products	Decomposes on heating produces sulfur and manganese oxides.

SECTION 11.-TOXICOLOGICAL INFORMATION

11. 1. Information on toxicological effects

Likely routes of exposure Skin and eyes contact; inhalation; ingestion.

Name	LD ₅₀ oral	LD ₅₀ dermal	LC ₅₀ inhalation
Manganese Sulphate	>5,000 mg/kg (rat)	> 5,000 mg/kg (rabbit)	> 5 mg/l

Skin corrosion/irritation	May cause mild skin irritation, redness, tenderness
Serious eye damage/irritation	May cause irritation, redness and pain.
Respiratory or skin sensitization	The dust can be slightly irritating. It can cause a sore throat or cough.
Ingestion	It can cause abdominal pain, vomiting, and diarrhea.
Germ cell mutagenicity	Not classified as mutagenic.
Carcinogenicity	Not classified as carcinogenic.
Reproductive toxicity	N.A.
Specific target toxicity (single exposure)	N.A.
Specific target toxicity (repeat exposure)	N.A.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity



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ETA-CE50 (O. mykiss, calc., 48 h): 10 - 100 mg/l
ETA-CE50 (D. magna, calc., 48 h): 1 - 10 mg/l
ETA-CE50 (P. subcapitata, calc., 48 h): 10 - 100 mg/l
ETA-CE50 (T. pyriformis, calc., 48 h): > 100 mg/l
ETA-CSEO (D. rerio, calc., 14 d): > 1 mg/l
ETA-CSEO (D. magna, calc., 14 d): < 1 mg/l'

12.2 Persistence and degradability

No data available.

12.3 Bioaccumulative potential

No data available.

12.4 Mobility in soil

No data available.

12.5 Other adverse effects

Very toxic to aquatic life with long lasting effects.

Other information

No Data Available

SECTION 13.- DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste treatment methods

Dispose of the product and its container as hazardous waste. Dispose of the content / container in accordance with local, regional, national or international regulations. or throw the waste down the drain. Avoid release to the environment. Obtain specific instructions from the safety data sheet.

SECTION 14.- TRANSPORT INFORMATION

14.1. UN number Not regulated

14.2. UN proper shipping name Not regulated

14.3. Additional information

Other information N.A.

Overland transport N.A.

Transport by sea N.A.

Air transport N.A.

SECTION 15.- REGULATORY INFORMATION

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

TSCA (Toxic Substances Control Act), All ingredients are listed.

Regulaciones Federales de EE.UU., Este producto no contiene productos químicos que están sujetos a los requisitos de información de la Ley y Título 40 del Código de Regulaciones Federales, Parte 372.

Official Mexican Standard NOM-002-SCT / 2011, List of the most commonly transported hazardous substances and materials.

Clean Air Act (Montreal Protocol)

No Data Available



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SECTION 16.- OTHER INFORMATION

NFPA	NFPA health hazard	1	NFPA fire hazard	0	NFPA instability hazard	0	NFPA Special hazard	-
HMIS III	Health	1	Flammability	0	Physical	0	Personal Protection	E

E Safety glasses, gloves and respirator for dust.



Made for: Quimica Pima, S.A. de C.V. Del Cobre No. 20 Parque Industrial. Hermosillo, Sonora, México. 83297.

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Revision note: April 18, 2018. 4th rev. In this latest revision is updated according to 29 CFR 1910.1200.

September 01, 2023. 5th rev. Syntax and spelling improvements and corrections were made.

IMPORTANT NOTE: Information in this SDS is from available published sources and is believed to be accurate, but is not exhaustive and will be used only as a guide, which is based on current knowledge of the chemical substance or mixture and apply to the appropriate product for safety precautions. No warranty, express or implied, is made and Pima Chemicals & Fertilizers, LLC and Quimica Pima, S.A. de C.V. assumes no liability resulting from the use of this SDS. The user must determine suitability of this information for his application.

End of Safety Data Sheet