

# SAFETY DATA SHEET

Date Printed: 05/10/2024

Date Revised: 01/15/2022

## SECTION 1. IDENTIFICATION

**Product Identifier:** (4N) 99.99% Manganese Sulfate Solution

**Product Code:** MN-SAT-04-SOL

**CAS Number:** 15244-36-7

**Relevant identified uses of the substance:** Scientific research and development

Supplier details:

American Elements  
10884 Weyburn Ave.  
Los Angeles, CA 90024  
Tel: +1 310-208-0551  
Fax: +1 310-208-0351  
Emergency telephone number:  
+1 800-424-9300

## SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS)

GHS08 Health hazard

STOT RE 2 H373 May cause damage to the lung, the liver, the blood and the brain through prolonged or repeated exposure. Route of exposure: Oral, Inhalative.

Hazards not otherwise classified No data available.

GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)



Hazard pictograms

GHS08

Signal word Warning

Hazard statements

H373 May cause damage to the lung, the liver, the blood and the brain through prolonged or repeated exposure. Route of exposure: Oral, Inhalative.

Precautionary statements

P260 Do not breathe dust/fume/gas/mist/vapors/spray.

P314 Get medical advice/attention if you feel unwell.

P501 Dispose of contents/container in accordance with local/regional/national/international

regulations.  
WHMIS classification  
D2A - Very toxic material causing other toxic effects  
Classification system  
HMIS ratings (scale 0-4)  
(Hazardous Materials Identification System)  
HEALTH  
FIRE  
REACTIVITY  
1  
0  
1  
Health (acute effects) = 1  
Flammability = 0  
Physical Hazard = 1  
Other hazards  
Results of PBT and vPvB assessment:  
PBT: N/A.  
vPvB: N/A.

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### **SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substances  
CAS No. / Substance Name:  
15244-36-7 Manganese(II) sulfate hydrate  
Identification number(s):  
EC number: 232-089-9  
Index number: 025-003-00-4

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### **SECTION 4. FIRST AID MEASURES**

Description of first aid measures  
If inhaled:  
Supply fresh air. If not breathing, provide artificial respiration. Keep patient warm.  
Seek immediate medical advice.  
In case of skin contact:  
Immediately wash with soap and water; rinse thoroughly.  
Seek immediate medical advice.  
In case of eye contact: Rinse opened eye for several minutes under running water. Consult a physician.  
If swallowed: Seek medical treatment.  
Information for doctor  
Most important symptoms and effects, both acute and delayed No information available.  
Indication of any immediate medical attention and special treatment needed No information available.

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### **SECTION 5. FIREFIGHTING MEASURES**

Extinguishing media  
Suitable extinguishing media Product is not flammable. Use fire-fighting measures that suit the surrounding fire.

Special hazards arising from the substance or mixture  
If this product is involved in a fire, the following can be released:  
Metal oxide fume  
Sulfur oxides (SO<sub>x</sub>)  
Advice for firefighters  
Protective equipment:  
Wear self-contained respirator.  
Wear fully protective impervious suit.

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## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures  
Wear protective equipment. Keep unprotected persons away.  
Ensure adequate ventilation  
Environmental precautions: Do not allow material to be released to the environment without official permits.  
Methods and material for containment and cleanup: Dispose of contaminated material as waste according to section 13.  
Prevention of secondary hazards: No special measures required.  
Reference to other sections  
See Section 7 for information on safe handling  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

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## **SECTION 7. HANDLING AND STORAGE**

Handling  
Precautions for safe handling  
Keep container tightly sealed.  
Store in cool, dry place in tightly closed containers.  
Ensure adequate ventilation.  
Prevent formation of dust.  
Information about protection against explosions and fires: The product is not flammable  
Conditions for safe storage, including any incompatibilities  
Storage  
Requirements to be met by storerooms and receptacles: No special requirements.  
Information about storage in one common storage facility: Store away from oxidizing agents.  
Further information about storage conditions:  
Keep container tightly sealed.  
Store in cool, dry conditions in well-sealed containers.  
Specific end use(s) No information available.

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## **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Additional information about design of technical systems:  
Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.  
Control parameters  
Components with limit values that require monitoring at the workplace:  
15244-36-7 Manganese(II) sulfate hydrate (100.0%)

PEL (USA) Ceiling limit value: 5 mg/m<sup>3</sup>  
as Mn  
REL (USA) Short-term value: 3 mg/m<sup>3</sup>  
Long-term value: 1 mg/m<sup>3</sup>  
as Mn  
TLV (USA) Long-term value: 0.02\* 0.1\* mg/m<sup>3</sup>  
as Mn; \*respirable \*\*inhalable fraction  
EL (Canada) Long-term value: 0.2 mg/m<sup>3</sup>  
as Mn; R  
Additional information: No data  
Exposure controls  
Personal protective equipment  
Follow typical general protective and industrial hygiene measures for handling chemicals.  
Keep away from foodstuffs, beverages and feed.  
Remove all soiled and contaminated clothing immediately.  
Wash hands before breaks and at the end of work.  
Breathing equipment: Use suitable respirator when high concentrations are present.  
Protection of hands:  
Impervious gloves  
Inspect gloves prior to use.  
The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer.  
Penetration time of glove material (in minutes) No data available.  
Eye protection: Safety glasses  
Body protection: Protective work clothing.

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance:

Form: Crystalline

Color: Pink

Odor: Odorless

Odor threshold: No data available.

pH-value (50 g/l) at 20 °C (68 °F): 3-3.5

Melting point/range: No data available.

Boiling point/range: No data available.

Sublimation temperature / start: No data available.

Flash point: N/A

Flammability (solid, gas): No data available.

Ignition temperature: No data available.

Decomposition temperature: No data available.

Auto igniting: No data available.

Danger of explosion: Product does not present an explosion hazard.

Explosion limits:

Lower: No data available.

Upper: No data available.

Vapor pressure: N/A.

Density: No data available.

Relative density No data available.

Vapor density N/A.

Evaporation rate N/A.

Solubility in / Miscibility with

Water: Soluble  
Partition coefficient (n-octanol/water): No data available.  
Viscosity:  
Dynamic: N/A.  
Kinematic: N/A.  
Other information No information available.

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## **SECTION 10. STABILITY AND REACTIVITY**

Reactivity No data available.  
Chemical stability Stable under recommended storage conditions.  
Thermal decomposition / conditions to be avoided: Decomposition will not occur if used and stored according to specifications.  
Possibility of hazardous reactions No dangerous reactions known  
Conditions to avoid No information available.  
Incompatible materials: Oxidizing agents  
Hazardous decomposition products:  
Metal oxide fume  
Sulfur oxides (SO<sub>x</sub>)

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## **SECTION 11. TOXICOLOGICAL INFORMATION**

Information on toxicological effects  
Acute toxicity: N/A  
LD/LC50 values that are relevant for classification: No data  
Skin irritation or corrosion: Irritant to skin and mucous membranes.  
Eye irritation or corrosion: Irritating effect.  
Sensitization: No sensitizing effects known.  
Germ cell mutagenicity: N/A  
Carcinogenicity: No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.  
Reproductive toxicity: N/A  
Specific target organ system toxicity - repeated exposure:  
May cause damage to the lung, the liver, the blood and the brain through prolonged or repeated exposure. Route of exposure: Oral, Inhalative.  
Specific target organ system toxicity - single exposure: N/A  
Aspiration hazard: N/A  
Subacute to chronic toxicity: N/A  
Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

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## **SECTION 12. ECOLOGICAL INFORMATION**

Toxicity  
Aquatic toxicity: No information available.  
Persistence and degradability: No information available.  
Bioaccumulative potential: No information available.  
Mobility in soil: No information available.  
Ecotoxicological effects:  
Remark: Toxic for aquatic organisms

Additional ecological information:

General notes:

Do not allow product to reach ground water, water course or sewage system.

Toxic for aquatic organisms

Do not allow material to be released to the environment without official permits.

Danger to drinking water if even small quantities leak into the ground.

Also poisonous for fish and plankton in water bodies.

Toxic to aquatic life.

May cause long lasting harmful effects to aquatic life.

Avoid transfer into the environment.

Results of PBT and vPvB assessment:

PBT: N/A.

vPvB: N/A.

Other adverse effects No information available.

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## SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Recommendation: Consult state, local or national regulations to ensure proper disposal.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

Recommended cleansing agent: Water, if necessary with cleansing agents.

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## SECTION 14. TRANSPORT INFORMATION

UN-Number

DOT, IMDG, IATA UN3077

UN proper shipping name

DOT Environmentally hazardous substances, solid, n.o.s. (Manganese(II) sulfate hydrate)

IMDG ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

(Manganese(II) sulfate hydrate), MARINE POLLUTANT

IATA ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

(Manganese(II) sulfate hydrate)

Transport hazard class(es)

DOT, IMDG, IATA

Class 9 Miscellaneous dangerous substances and articles.

Label 9

Class 9 (M7) Miscellaneous dangerous substances and articles

Label 9

Packing group

DOT, IMDG, IATA III

Environmental hazards:

Marine pollutant (IMDG): Symbol (fish and tree)

Special marking (ADR): Symbol (fish and tree)

Special marking (IATA): Symbol (fish and tree)

Special precautions for user Warning: Miscellaneous dangerous substances and articles

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code N/A.

Transport/Additional information:

DOT

Marine Pollutant (DOT): No

Remarks: Special marking with the symbol (fish and tree).

UN "Model Regulation": UN3077, Environmentally hazardous substances, solid, n.o.s. (Manganese(II) sulfate hydrate), 9, III

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## SECTION 15. REGULATORY INFORMATION

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

GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)

Hazard pictograms

GHS08

Signal word Warning

Hazard statements

H373 May cause damage to the lung, the liver, the blood and the brain through prolonged or repeated exposure. Route of exposure: Oral, Inhalative.

Precautionary statements

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P314 Get medical advice/attention if you feel unwell.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

National regulations

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

All components of this product are listed on the Canadian Domestic Substances List (DSL).

SARA Section 313 (specific toxic chemical listings)

15244-36-7 Manganese(II) sulfate hydrate

California Proposition 65

Prop 65 - Chemicals known to cause cancer Substance is not listed.

Prop 65 - Developmental toxicity Substance is not listed.

Prop 65 - Developmental toxicity, female Substance is not listed.

Prop 65 - Developmental toxicity, male Substance is not listed.

Information about limitation of use: For use only by technically qualified individuals.

Other regulations, limitations and prohibitive regulations

Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006.

Substance is not listed.

The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the

market and use must be observed.

Substance is not listed.

Annex XIV of the REACH Regulations (requiring Authorisation for use) Substance is not listed.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

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## 16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED

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