

SECTION 1: Identification

1.1. Identification

Product form	: Substance
Substance name	: Manganous Sulfate, Monohydrate, ACS
Chemical name	: Manganese (II) Sulfate Monohydrate
CAS-No.	: 10034-96-5
Product code	: LC16555
Formula	: $\text{MnSO}_4 \cdot \text{H}_2\text{O}$

1.2. Recommended use and restrictions on use

Use of the substance/mixture	: For laboratory and manufacturing use only.
Recommended use	: Laboratory chemicals
Restrictions on use	: Not for food, drug or household use

1.3. Supplier

LabChem Inc
Jackson's Pointe Commerce Park Building 1000, 1010 Jackson's Pointe Court
Zelienople, PA 16063 - USA
T 412-826-5230 - F 724-473-0647
info@labchem.com - www.labchem.com

1.4. Emergency telephone number

Emergency number	: CHEMTREC: 1-800-424-9300 or 011-703-527-3887
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SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

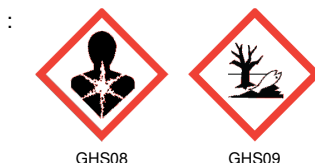
GHS-US classification

Specific target organ toxicity (repeated exposure)	H373	May cause damage to organs (central nervous system) through prolonged or repeated exposure (Inhalation)
Hazardous to the aquatic environment - Chronic Hazard Category 2	H411	Toxic to aquatic life with long lasting effects
Full text of H statements : see section 16		

2.2. GHS Label elements, including precautionary statements

GHS-US labeling

Hazard pictograms (GHS-US)



GHS08

GHS09

Signal word (GHS-US)	: Warning
Hazard statements (GHS-US)	: H373 - May cause damage to organs (central nervous system) through prolonged or repeated exposure (Inhalation) H411 - Toxic to aquatic life with long lasting effects
Precautionary statements (GHS-US)	: P260 - Do not breathe dust P273 - Avoid release to the environment P314 - Get medical advice and attention if you feel unwell P391 - Collect spillage P501 - Dispose of contents/container to comply with local, state and federal regulations

2.3. Other hazards which do not result in classification

Other hazards not contributing to the classification	: None under normal conditions.
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2.4. Unknown acute toxicity (GHS US)

Not applicable

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SECTION 3: Composition/Information on ingredients

3.1. Substances

Substance type : Mono-constituent

Name	Product identifier	%	GHS-US classification
Manganous Sulfate, Monohydrate, ACS (Main constituent)	(CAS-No.) 10034-96-5	100	STOT RE 2, H373 Aquatic Chronic 2, H411

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

- First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
- First-aid measures after inhalation : Allow victim to breathe fresh air. Allow the victim to rest.
- First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.
- First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists.
- First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Most important symptoms and effects (acute and delayed)

- Symptoms/effects : Causes damage to organs (central nervous system) (Inhalation).
- Symptoms/effects after ingestion : Nausea. Vomiting. Diarrhoea.

4.3. Immediate medical attention and special treatment, if necessary

Obtain medical assistance.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.
- Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

No additional information available

5.3. Special protective equipment and precautions for fire-fighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Protective equipment : Safety glasses. Gloves. Dust mask.
- Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.
- Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : On land, sweep or shovel into suitable containers. Minimize generation of dust. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Avoid breathing dust.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep container closed when not in use.
Incompatible products : Strong bases. Strong oxidizers. Strong reducing agents. Peroxides.
Incompatible materials : Sources of ignition. Direct sunlight.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Manganous Sulfate, Monohydrate, ACS (10034-96-5)		
ACGIH	ACGIH TWA (mg/m ³)	0.2 mg/m ³
OSHA	OSHA PEL (Ceiling) (mg/m ³)	5 mg/m ³
IDLH	US IDLH (mg/m ³)	500 mg/m ³ As Mn
NIOSH	NIOSH REL (TWA) (mg/m ³)	1 mg/m ³
NIOSH	NIOSH REL (STEL) (mg/m ³)	3 mg/m ³

8.2. Appropriate engineering controls

Appropriate engineering controls : Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Gas mask. Gloves. Safety glasses.



Hand protection:

Wear protective gloves

Eye protection:

Chemical goggles or safety glasses

Respiratory protection:

Gas mask

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Solid
Color : pink
Odor : None.
Odor threshold : No data available
pH : No data available
pH solution : 5 (3 - 3.5) %
Melting point : 700 °C
Freezing point : No data available

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Boiling point	: 850 °C
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Non flammable.
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: 3.25
Molecular mass	: 169.02 g/mol
Solubility	: No data available
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: 850 °C
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Hygroscopic.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong oxidizers. Strong bases. Strong reducing agents. Peroxides.

10.6. Hazardous decomposition products

Sulfur compounds.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Likely routes of exposure : Inhalation; Skin and eye contact

Acute toxicity : Not classified

Manganous Sulfate, Monohydrate, ACS (10034-96-5)

LD50 oral rat	2150 mg/kg
ATE US (oral)	2150 mg/kg body weight

Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Not classified

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity – single exposure : Not classified

Specific target organ toxicity – repeated exposure : May cause damage to organs (central nervous system) through prolonged or repeated exposure (Inhalation).

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Aspiration hazard	: Not classified
Potential Adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.
Symptoms/effects after ingestion	: Nausea. Vomiting. Diarrhoea.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - water	: Toxic to aquatic life with long lasting effects.
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12.2. Persistence and degradability

Manganous Sulfate, Monohydrate, ACS (10034-96-5)

Persistence and degradability	May cause long-term adverse effects in the environment.
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12.3. Bioaccumulative potential

Manganous Sulfate, Monohydrate, ACS (10034-96-5)

Bioaccumulative potential	Not established.
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12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Other information	: Avoid release to the environment.
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SECTION 13: Disposal considerations

13.1. Disposal methods

Waste disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to comply with local, state and federal regulations.
Ecology - waste materials	: Avoid release to the environment.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT
Not regulated

SECTION 15: Regulatory information

15.1. US Federal regulations

Manganous Sulfate, Monohydrate, ACS (10034-96-5)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory
Subject to reporting requirements of United States SARA Section 313

SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard
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All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory except for:

Manganous Sulfate, Monohydrate, ACS	CAS-No. 10034-96-5	100%
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Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

Manganous Sulfate, Monohydrate, ACS	CAS-No. 10034-96-5	100%
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15.2. International regulations

CANADA

Manganous Sulfate, Monohydrate, ACS (10034-96-5)

Not listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

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National regulations

Manganous Sulfate, Monohydrate, ACS (10034-96-5)

Listed on the Canadian IDL (Ingredient Disclosure List)

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

Revision date : 11/08/2017

Other information : None.

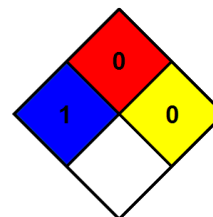
Full text of H-phrases: see section 16:

H373	May cause damage to organs through prolonged or repeated exposure
H411	Toxic to aquatic life with long lasting effects

NFPA health hazard : 1 - Materials that, under emergency conditions, can cause significant irritation.

NFPA fire hazard : 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



Hazard Rating

Health : 1 Slight Hazard - Irritation or minor reversible injury possible

Flammability : 0 Minimal Hazard - Materials that will not burn

Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Personal protection : E
E - Safety glasses, Gloves, Dust respirator

SDS US LabChem

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