

SAFETY DATA SHEET

Creation Date 26-Sep-2009

Revision Date 14-Feb-2020

Revision Number 2

1. Identification

Product Name Manganese(II) perchlorate hexahydrate

Cat No. : 12309

CAS-No 15364-94-0

Synonyms Perchloric acid, manganese(2+) salt, hexahydrate.

Recommended Use Laboratory chemicals.

Uses advised against Food, drug, pesticide or biocidal product use.

Details of the supplier of the safety data sheet

Company

Alfa Aesar
Thermo Fisher Scientific Chemicals, Inc.
30 Bond Street
Ward Hill, MA 01835-8099
Tel: 800-343-0660
Fax: 800-322-4757
Email: tech@alfa.com
www.alfa.com

Emergency Telephone Number

During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660.
After normal business hours, call Carechem 24 at (866) 928-0789.

2. Hazard(s) identification

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Oxidizing solids

Category 2

Label Elements

Signal Word

Danger

Hazard Statements

May intensify fire; oxidizer

**Precautionary Statements****Prevention**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Keep/Store away from clothing/ other combustible materials
Take any precaution to avoid mixing with combustibles
Wear protective gloves/protective clothing/eye protection/face protection

Fire

In case of fire: Use CO₂, dry chemical, or foam for extinction

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

None identified

3. Composition/Information on Ingredients

| Component | CAS-No | Weight % |
|---------------------------------------|------------|----------|
| Manganese(II) Perchlorate Hexahydrate | 15364-94-0 | 99 |

4. First-aid measures

| | |
|--|---|
| Eye Contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention. |
| Skin Contact | Wash off immediately with plenty of water for at least 15 minutes. Get medical attention. |
| Inhalation | Remove to fresh air. If not breathing, give artificial respiration. Get medical attention. |
| Ingestion | Do NOT induce vomiting. Get medical attention. |
| Most important symptoms and effects | . Central nervous system disorders |
| Notes to Physician | Treat symptomatically |

5. Fire-fighting measures

| | |
|---------------------------------------|--------------------------|
| Suitable Extinguishing Media | Water. |
| Unsuitable Extinguishing Media | No information available |
| Flash Point | No information available |
| Method - | No information available |
| Autoignition Temperature | No information available |
| Explosion Limits | |
| Upper | No data available |
| Lower | No data available |
| Oxidizing Properties | Oxidizer |

Sensitivity to Mechanical Impact No information available
Sensitivity to Static Discharge No information available

Specific Hazards Arising from the Chemical

Burning produces obnoxious and toxic fumes. Oxidizer: Contact with combustible/organic material may cause fire. May ignite combustibles (wood paper, oil, clothing, etc.).

Hazardous Combustion Products

Thermal decomposition can lead to release of irritating gases and vapors. Oxygen.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA

Health
1

Flammability
0

Instability
2

Physical hazards
OX

6. Accidental release measures

Personal Precautions

Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation.

Environmental Precautions

Should not be released into the environment.

Methods for Containment and Clean Up

Sweep up and shovel into suitable containers for disposal. Avoid dust formation. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Sweep up and shovel into suitable containers for disposal.

7. Handling and storage

Handling

Ensure adequate ventilation. Wear personal protective equipment/face protection. Avoid contact with skin and eyes. Do not breathe dust. Do not ingest. If swallowed then seek immediate medical assistance. Minimize dust generation and accumulation. Wash hands before breaks and immediately after handling the product. Keep away from clothing and other combustible materials.

Storage

Keep in a dry, cool and well-ventilated place. Refer product specification and/or product label for specific storage temperature requirement. Keep container tightly closed. Do not store near combustible materials. Keep containers tightly closed in a dry, cool and well-ventilated place.

8. Exposure controls / personal protection

Exposure Guidelines

This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

| Component | ACGIH TLV | OSHA PEL | NIOSH IDLH | Mexico OEL (TWA) |
|---------------------------------------|---|--|--|----------------------------|
| Manganese(II) Perchlorate Hexahydrate | TWA: 0.02 mg/m ³ TWA: 0.1 mg/m ³ | (Vacated) Ceiling: 5 mg/m ³ Ceiling: 5 mg/m ³ | IDLH: 500 mg/m ³ TWA: 1 mg/m ³ STEL: 3 mg/m ³ | TWA: 0.2 mg/m ³ |

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: NIOSH - National Institute for Occupational Safety and Health

Engineering Measures

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment

| | |
|---------------------------------|---|
| Eye/face Protection | Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166. |
| Skin and body protection | Wear appropriate protective gloves and clothing to prevent skin exposure. |
| Respiratory Protection | Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. |
| Hygiene Measures | Handle in accordance with good industrial hygiene and safety practice. |

9. Physical and chemical properties

| | |
|---|--|
| Physical State | Solid |
| Appearance | Light red |
| Odor | No information available |
| Odor Threshold | No information available |
| pH | No information available |
| Melting Point/Range | 165 °C / 329 °F |
| Boiling Point/Range | No information available |
| Flash Point | No information available |
| Evaporation Rate | Not applicable |
| Flammability (solid,gas) | No information available |
| Flammability or explosive limits | |
| Upper | No data available |
| Lower | No data available |
| Vapor Pressure | No information available |
| Vapor Density | Not applicable |
| Specific Gravity | No information available |
| Solubility | No information available |
| Partition coefficient; n-octanol/water | No data available |
| Autoignition Temperature | No information available |
| Decomposition Temperature | No information available |
| Viscosity | Not applicable |
| Molecular Formula | Cl ₂ Mn O ₈ · 6 H ₂ O |
| Molecular Weight | 361.93 |

10. Stability and reactivity

| | |
|---|---|
| Reactive Hazard | No |
| Stability | Hygroscopic. Oxidizer: Contact with combustible/organic material may cause fire. |
| Conditions to Avoid | Incompatible products. Exposure to moist air or water. Combustible material. Avoid dust formation. Excess heat. |
| Incompatible Materials | Strong acids, Reducing Agent, Finely powdered metals, Strong reducing agents, Combustible material |
| Hazardous Decomposition Products | Thermal decomposition can lead to release of irritating gases and vapors, Oxygen |
| Hazardous Polymerization | Hazardous polymerization does not occur. |
| Hazardous Reactions | None under normal processing. |

11. Toxicological information

Acute Toxicity

| | |
|----------------------------|---|
| Product Information | No acute toxicity information is available for this product |
|----------------------------|---|

Component Information**Toxicologically Synergistic** No information available**Products****Delayed and immediate effects as well as chronic effects from short and long-term exposure****Irritation** May cause skin, eye, and respiratory tract irritation**Sensitization** No information available**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Component | CAS-No | IARC | NTP | ACGIH | OSHA | Mexico |
|---|------------|------------|------------|------------|------------|------------|
| Manganese(II) Perchlorate Hexahydrate | 15364-94-0 | Not listed | Not listed | Not listed | Not listed | Not listed |

Mutagenic Effects No information available**Reproductive Effects** No information available.**Developmental Effects** No information available.**Teratogenicity** No information available.**STOT - single exposure** None known**STOT - repeated exposure** None known**Aspiration hazard** No information available**Symptoms / effects, both acute and delayed** Central nervous system disorders**Endocrine Disruptor Information** No information available**Other Adverse Effects** The toxicological properties have not been fully investigated.**12. Ecological information****Ecotoxicity**

Do not empty into drains.

Persistence and Degradability Soluble in water Persistence is unlikely based on information available.**Bioaccumulation/ Accumulation** No information available.**Mobility** Will likely be mobile in the environment due to its water solubility.**13. Disposal considerations****Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.**14. Transport information****DOT**

| | |
|-----------------------------|--|
| UN-No | UN1481 |
| Proper Shipping Name | PERCHLORATES, INORGANIC, N.O.S. |
| Technical Name | Manganese (II) perchlorate hexahydrate |
| Hazard Class | 5.1 |
| Packing Group | II |

TDG

| | |
|--------------|--------|
| UN-No | UN1481 |
|--------------|--------|

| | |
|-----------------------------|---------------------------------|
| Proper Shipping Name | PERCHLORATES, INORGANIC, N.O.S. |
| Hazard Class | 5.1 |
| Packing Group | II |
| IATA | |
| UN-No | UN1481 |
| Proper Shipping Name | PERCHLORATES, INORGANIC, N.O.S. |
| Hazard Class | 5.1 |
| Packing Group | II |
| IMDG/IMO | |
| UN-No | UN1481 |
| Proper Shipping Name | PERCHLORATES, INORGANIC, N.O.S. |
| Hazard Class | 5.1 |
| Packing Group | II |

15. Regulatory information

United States of America Inventory

| Component | CAS-No | TSCA | TSCA Inventory notification - Active/Inactive | TSCA - EPA Regulatory Flags |
|---------------------------------------|------------|------|---|-----------------------------|
| Manganese(II) Perchlorate Hexahydrate | 15364-94-0 | - | - | - |

Legend:

TSCA - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

TSCA 12(b) - Notices of Export Not applicable

International Inventories

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Australia (AICS), China (IECSC), Korea (ECL).

| Component | CAS-No | DSL | NDSL | EINECS | PICCS | ENCS | AICS | IECSC | KECL |
|---------------------------------------|------------|-----|------|--------|-------|------|------|-------|------|
| Manganese(II) Perchlorate Hexahydrate | 15364-94-0 | - | - | - | - | - | - | - | - |

U.S. Federal Regulations

SARA 313 Not applicable

| Component | CAS-No | Weight % | SARA 313 - Threshold Values % |
|---------------------------------------|------------|----------|-------------------------------|
| Manganese(II) Perchlorate Hexahydrate | 15364-94-0 | 99 | 1.0 |

SARA 311/312 Hazard Categories See section 2 for more information

CWA (Clean Water Act) Not applicable

Clean Air Act Not applicable

| Component | HAPS Data | Class 1 Ozone Depletors | Class 2 Ozone Depletors |
|---------------------------------------|-----------|-------------------------|-------------------------|
| Manganese(II) Perchlorate Hexahydrate | X | | - |

OSHA - Occupational Safety and Health Administration Not applicable

CERCLA Not applicable

California Proposition 65 This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Not applicable

| Component | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|--|---------------|------------|--------------|----------|--------------|
| Manganese(II) Perchlorate Hexahydrate | - | X | X | X | - |

U.S. Department of Transportation

Reportable Quantity (RQ): N
DOT Marine Pollutant N
DOT Severe Marine Pollutant N

U.S. Department of Homeland Security

This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available

16. Other information

Prepared By Health, Safety and Environmental Department
Email: tech@alfa.com
www.alfa.com

Creation Date 26-Sep-2009
Revision Date 14-Feb-2020
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Revision Summary SDS authoring systems update, replaces ChemGes SDS No. 15364-94-0/2.

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS