

Manganese(II) sulfate pentahydrate,
JUNSEI CHEMICAL CO., LTD.,83590jis_J_E2-3,19/May/2026

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Safety Data Sheet

Section 1. Identification of the substance/mixture and of the company/undertaking

Product identifier:

Product name: Manganese(II) sulfate pentahydrate

Reference number(SDS):83590jis_J_E2-3

Product type:

Reagent

Recommended use of the chemical and restrictions on use

Recommended uses: Research and Development

Restrictions on uses: Do not use for other purposes.

Details of the supplier of the safety data sheet

Manufacturer/Supplier: JUNSEI CHEMICAL CO., LTD.

Address: 1-6, Ohmano-cho, Koshigaya-shi, Saitama 343-0844, Japan

Division: Quality Assurance Department

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Section 2. Hazards identification

Classification of the substance or mixture

HEALTH HAZARDS

Acute toxicity (Oral): Category 4

Germ cell mutagenicity: Category 2

Reproductive toxicity: Category 1B

Specific target organ toxicity – repeated exposure: Category 1 (nervous system, respiratory organs)

ENVIRONMENT HAZARDS

Hazardous to the aquatic environment, short-term (acute): Category 3

Hazardous to the aquatic environment, long-term (chronic): Category 3

(Note) GHS classification without description: Not classified/Classification not possible

Label elements

Hazard pictograms:



Signal word: Danger

Hazard statements

H302-Harmful if swallowed

H341-Suspected of causing genetic defects

H360-May damage fertility or the unborn child

H372-Causes damage to organs through prolonged or repeated exposure

H402-Harmful to aquatic life

H412-Harmful to aquatic life with long lasting effects

Precautionary statements

Prevention

Obtain, read and follow all safety instructions before use.

Avoid release to the environment.

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

Wash hands thoroughly after handling.

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

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

Response

IF exposed or concerned, get medical advice.

Get medical help if you feel unwell.

IF SWALLOWED: Rinse mouth. Get medical help.

Storage

Store locked up.

Disposal

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

Section 3. Composition/information on ingredients

Substance/mixture:

Substance

Ingredient name:Manganese(II) sulfate pentahydrate

Content (%):100

Chemical formula:MnO₄S•5H₂O

ENCS:1-477

CAS No.:15244-36-7 [7785-87-7(anh)]

MW:241.08

EC No.:232-089-9

Note : The figures shown above are not the specifications of the product.

Section 4. First aid measures

Descriptions of first aid measures

General measures

IF exposed or concerned, get medical advice.

Get medical help if you feel unwell.

Call emergency medical service.

IF INHALED

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Give artificial respiration if victim is not breathing.

Administer oxygen if breathing is difficult.

Get medical help if you feel unwell.

IF INHALED: Get medical help.

IF ON SKIN

IF ON SKIN: Take off immediately all contaminated clothing. Immediately rinse with water for several minutes.

If skin irritation or rash occurs: Get medical help.

IF IN EYES

IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical help.

IF SWALLOWED

Rinse mouth.

IF SWALLOWED: Get medical help.

Most important symptoms and effects, both acute and delayed

Specific information on symptom and effect are unknown.

Indication of any immediate medical attention and special treatment needed

Information on indication of any immediate medical attention and special treatment needed is not available.

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Use appropriate extinguishing media suitable for surrounding facilities.

The product is non-flammable.

Unsuitable extinguishing media

Unsuitable extinguishing media data is not available.

Specific hazards arising from the substance or mixture

Containers may explode when heated.

Fire may produce irritating, corrosive and/or toxic gases.

Runoff from fire control or dilution water may cause pollution.

Advice for firefighters

Special extinguishing method

Evacuate non-essential personnel to safe area.

Special protective equipment and precautions for fire-fighters

Wear fire resistant or flame retardant clothing.

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

Firefighters should wear self-contained breathing apparatus with a full facepiece operated in the positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unauthorized personnel away.

In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.

Ventilate area until material pick up is complete.

Wear proper protective equipment.

Do not touch or walk through spilled material.

Environmental precautions

Avoid release to headsprings, rivers, lakes, ocean and groundwater.

Methods and materials for containment and cleaning up

Sweep up, place in a bag and hold for waste disposal.

Preventive measures for secondary accident

Collect spillage.

Stop leak if you can do it without risk.

Reference to other sections

Refer to section 8

Refer to section 13

Section 7. Handling and storage

Engineering measures

(Measures to prevent operator exposure)

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

(Measures to prevent fire and explosion)

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

(Local ventilation/general ventilation)

Exhaust/ventilator should be available.

(Precautions)

Avoid contact with skin.

Avoid contact with eyes.

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Advice on safe handling

- Obtain, read and follow all safety instructions before use.
- Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
- Use personal protective equipment as required.
- When using do not eat, drink or smoke.

Avoidance of contact

- See Section 10: Stability and Reactivity.

Advice on general occupational hygiene

- Do not get in eyes, on skin, or on clothing.
- Wash hands thoroughly after handling.
- Do not eat, drink or smoke when using this product.

Conditions for safe storage

- Keep container tightly closed.
- Keep cool.
- Store in accordance with local/regional/national/international regulations regulation.
- Store locked up.
- Protect from sunlight. Store in a well-ventilated place.
- Storage temperature upper limit: 10°C
- Storage temperature lower limit: 2°C

Incompatible substances

- Refer to Section 10. Stability and reactivity.

Container and packaging materials for safe handling data is not available.

Specific end use(s)

- See information in Section 7.1 and 7.2 for handling and storage recommendations. See Section 8 for exposure controls and personal protection recommendations.

Section 8. Exposure controls/personal protection

Permissible concentration

Control value and Concentration standard value under ISHA

Japan control value 0.05mg-Mn/m³

Occupational exposure limit values

JSOH

0.02mg-Mn/m³ (respirable dust); 0.1mg-Mn/m³ (total dust)

ACGIH

TWA: 0.02mg-Mn/m³(R); TWA: 0.1mg-Mn/m³(I) (CNS impair)

Exposure controls

Appropriate engineering controls

- Do not use in areas without adequate ventilation.
- Eye wash station should be available.
- Washing facilities should be available.

Individual protection measures, such as personal protective equipment

Respiratory protection

- Select and wear respiratory protection in accordance with approved standards (e.g. JIS T8150).

Hand protection

- Wear protective gloves.
- Inspect before use and replace worn or damaged gloves.
- Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions.
- Chemical-resistant, impervious gloves complying with an approved standard (e.g. JIS T8116) should be used.

Eye/face protection

- Wear safety glasses with side-shields or chemical safety goggle.
- Wear eye/face protection in accordance with approved standards (e.g. JIS T8147).

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Skin and body protection

Wear impervious clothing and boots in case of repeated or prolonged treatment.
Personal protective equipment for the body and skin should be selected based on the task being performed and the risks involved.

Section 9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state: Crystals or crystalline powder
Color: Pale red~Red
Odor data is not available.
Odor threshold data is not available.
Melting point/Freezing point: >=ca. 30°C
Boiling point, initial boiling point, or boiling range data is not available.
Flammability: Non-flammable
Lower and upper explosion limit data is not available.
Flash point: Non-flammable
Auto-ignition temperature data is not available.
Decomposition temperature: 850°C
pH: 4.0~6.5 (50g/L, 25°C)
Kinematic viscosity data is not available.
Solubility:
 Solubility in water: Soluble
 Solubility in solvent: Practically insoluble in ethanol.
Partition coefficient n-octanol/water data is not available.
Vapor pressure data is not available.
Density and/or relative density data is not available.
Relative vapor density (Air=1) data is not available.
Particle characteristics data is not available.

Section 10. Stability and Reactivity

Reactivity

Runaway polymerization will not occur.

Chemical stability

Stable under normal storage/handling conditions.
Hygroscopic.

Possibility of hazardous reactions

Possibility of hazardous reactions data is not available.

Conditions to avoid

Avoid direct sunlight, fire, flame, high temperature.
Contact with incompatible materials.
Moisture.

Incompatible materials

Oxidizing agents

Hazardous decomposition products

Sulfur oxides, Manganese oxides.

Section 11. Toxicological Information**Information on toxicological effects****Acute toxicity****Acute toxicity (Oral)****[Product]**

Category 4, Harmful if swallowed

[Data for components of the product]**[NITE-CHRIP]**

(Manganese(II) sulfate)

rat LD50: 782 mg/kg (source: NITE)

Acute toxicity (Dermal)**[Product]**

Classification not possible (Insufficient data available or no data available).

[Data for components of the product]

No data available.

Acute toxicity (Inhalation)**[Product]**

Classification not possible (Insufficient data available or no data available).

[Data for components of the product]

No data available.

Skin corrosion/irritation**[Product]**

Classification not possible (Insufficient data available or no data available).

[Data for components of the product]

No data available.

Serious eye damage/irritation**[Product]**

Classification not possible (Insufficient data available or no data available).

[Data for components of the product]

No data available.

Respiratory or skin sensitization**Respiratory sensitization****[Product]**

Classification not possible (Insufficient data available or no data available).

[Data for components of the product]

No data available.

Skin sensitization**[Product]**

Classification not possible (Insufficient data available or no data available).

[Data for components of the product]

No data available.

Germ cell mutagenicity**[Product]**

Category 2, Suspected of causing genetic defects

[Data for components of the product]**[NITE-CHRIP]**

(Manganese(II) sulfate)

Category 2 (source: NITE)

Carcinogenicity**[Product]**

Classification not possible (Insufficient data available or no data available).

[Data for components of the product]**[ACGIH]**

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(Manganese(II) sulfate)

A4(as Mn): Not Classifiable as a Human Carcinogen

Reproductive toxicity

[Product]

Category 1B, May damage fertility or the unborn child

[Data for components of the product]

[NITE-CHRIP]

(Manganese(II) sulfate)

Category 1B (source: NITE)

Specific target organ toxicity – single exposure

[Product]

Classification not possible (Insufficient data available or no data available).

[Data for components of the product]

No data available.

Specific target organ toxicity – repeated exposure

[Product]

Category 1, Causes damage to organs through prolonged or repeated exposure

[Data for components of the product]

[NITE-CHRIP]

(Manganese(II) sulfate)

Category 1 (nervous system, respiratory system) (source: NITE)

Aspiration hazard

[Product]

Classification not possible (Insufficient data available or no data available).

Information on other hazards

Reference data : The anhydride of this product (CAS No. 7785-87-7)

Section 12. Ecological Information

Ecotoxicity

Aquatic toxicity

[Product]

Category 3, Harmful to aquatic life

Category 3, Harmful to aquatic life with long lasting effects

[Data for components of the product]

Hazardous to the aquatic environment, short-term (acute)

[NITE-CHRIP]

(Manganese(II) sulfate)

Crustacea (*Daphnia magna*) 48-hour EC50: 22.8 mg/L (converted value 8.28 mg Mn/L) (source: NITE)

Hazardous to the aquatic environment, long-term (chronic)

[NITE-CHRIP]

(Manganese(II) sulfate)

Fish (*Oncorhynchus mykiss*) 100-day NOEC (survival rate): 2.1 mg/L (converted value 0.77 mg Mn/L)

(source: NITE)

Persistence and degradability

Persistence and degradability data is not available.

Bioaccumulative potential

Bioaccumulative potential data is not available.

Mobility in soil

Mobility in soil data is not available.

Other adverse effects

Ozone depleting chemical data is not available.

Additional information

Reference data : The anhydride of this product (CAS No. 7785-87-7)

Section 13. Disposal considerations**Waste treatment methods****Waste from residues**

- Disposal should be in accordance with local, national, and international laws and regulations.
- Comply with relevant laws and regulations as well as local municipal standards.
- Avoid release to the environment.
- Do not dump into sewers, on the ground or into any body of water.

Contaminated packing

- Disposal should be in accordance with local, national, and international laws and regulations.
- Comply with relevant laws and regulations as well as local municipal standards.
- Dispose of container after using the contents completely.

Section 14. Transport Information**UNRTDG**

- UN number : Not regulated
- UN Proper Shipping Name : Not regulated
- Transport hazard class(es) : Not regulated
- Packing group : Not regulated

IMDG Code (International Maritime Dangerous Goods Regulations)

- UN number : Not regulated
- UN Proper Shipping Name : Not regulated
- Transport hazard class(es) : Not regulated
- Packing group : Not regulated

IATA (Dangerous Goods Regulations)

- UN number : Not regulated
- UN Proper Shipping Name : Not regulated
- Transport hazard class(es) : Not regulated
- Packing group : Not regulated

Environmental hazards

- Marine pollutants (yes/no) : no
- Environmentally hazardous substance/mixture (yes/no) : no

Special precautions for user

- No information available.

Maritime transport in bulk according to IMO instruments

Not applicable to Transport in bulk according to Annex II of MARPOL and the IBC Code

MARPOL Annex V – HME (Harmful to the Marine Environment)

- Reproductive toxicity: cat.1, 1A, 1B
- Manganese(II) sulfate pentahydrate
- Specific target organ toxicity – repeated exposure: cat.1
- Manganese(II) sulfate pentahydrate

Section 15. Regulatory Information**Labor Standards Act, Japan**

Chemical substances or compounds (including alloys) causing disease (item (iv)–1 of Appended Table 1–2 of Regulation)

Manganese(II) sulfate pentahydrate

U.S. Toxic Substances Control Act (TSCA) Inventory

Chemicals listed in TSCA Inventory

15244–36–7 [7785–87–7(anh)]

All components are listed or exempted.

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Superfund Amendments and Reauthorizations Act (SARA), Title III
SARA 313 (TRI)

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Other regulatory information

We are not able to check up the regulatory information with regard to the substances in your country or region, therefore, we request this matter would be filled by your responsibility.

Regulatory information with regard to this substance in your country or in your region should be examined by your own responsibility.

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

Regulatory information in this section are limited to intentional ingredient(s), but does not contain information on non-intentional ingredients or impurities which are not informed by supplier(s).

Chemical safety assessment

Advice on safe handling for this product can be found in sections 7 and 8 of this SDS.

Section 16. Other information

GHS classification and labelling

H302–Acute toxicity, Category 4: H302 Harmful if swallowed

H341–Germ cell mutagenicity, Category 2: H341 Suspected of causing genetic defects

H360–Reproductive toxicity, Category 1B: H360 May damage fertility or the unborn child

H372–Specific target organ toxicity – Repeated exposure, Category 1: H372 Causes damage to organs through prolonged or repeated exposure

H402–Hazardous to the aquatic environment, short-term (acute), Category 3: H402 Harmful to aquatic life

H412–Hazardous to the aquatic environment, long-term (chronic), Category 3: H412 Harmful to aquatic life with long lasting effects

References and sources for data

Globally Harmonized System of classification and labelling of chemicals, UN

Recommendations on the TRANSPORT OF DANGEROUS GOODS 23rd edit., 2023 UN

IMDG Code, 2024 Edition (Incorporating Amendment 42–24)

IATA Dangerous Goods Regulations (67th Edition) 2026

2024 EMERGENCY RESPONSE GUIDEBOOK (US DOT)

2026 TLVs and BEIs. (ACGIH)

JIS Z 7252 : 2025

JIS Z 7253 : 2025

Recommendation of occupational exposure limits (2024–2025) (JSOH)

Notification No. 0111–1 (January 11, 2022), Chemical Hazards Control Division, Industrial Safety and Health Department, Labour Standards Bureau, MHLW in Japan

Supplier's data/information

Chemicals safety data management system "GHS Assistant" Version 4.38 (<https://www.asahi-ghs.com/>)

NITE Chemical Risk Information Platform "NITE-CHRIIP"

(https://www.chem-info.nite.go.jp/en/chem/chrip/chrip_search/systemTop)

GHS Classification Guidance for Enterprises 2019 Revised Edition (Ver. 2.1) (May. 2024, METI)

Abbreviations and acronyms

ACGIH – American Conference of Governmental Industrial Hygienists;

anh – anhydride;

ATE – Acute Toxicity Estimate;

BCF – Bioconcentration Factor;

BOD – Biochemical Oxygen Demand;

Cat. – Category;

Ceiling–C – Ceiling value;

COD – Chemical Oxygen Demand;

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CSCL – Chemical Substances Control Law in Japan;

DSEN – Dermal Sensitization;

EC No. – The European Community number;

EC50 – Effective Concentration 50;

ENCS – Existing and New Chemical Substances Inventory under CSCL

EPA – US Environmental Protection Agency;

EU – European Union;

GHS – Globally Harmonized System of Classification and Labelling of Chemicals;

IARC – International Agency for Research on Cancer;

IATA – International Air Transport Association;

IBC Code – International Code for the Construction and Equipment of Ships carrying

Dangerous Chemicals in Bulk;

IMDG Code – International Maritime Dangerous Goods Code;

ISHA – Industrial Safety and Health Act in Japan;

JSOH – Japan Society for Occupational Health;

LC50 – Lethal Concentration 50;

LD50 – Lethal Dose 50;

logPow – n-Octanol/water Partition Coefficient;

MARPOL – International Convention for the Prevention of Pollution from Ships;

METI – Ministry of Economy, Trade and Industry in Japan;

MHLW – Ministry of Health, Labour and Welfare in Japan;

MOE – Ministry of the Environment in Japan

NOEC – No Observed Effect Concentration;

NTP – US National Toxicology Program;

REACH – Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation
(EC) No.1907/2006;

RSEN – Respiratory Sensitization;

Skin – Danger of cutaneous absorption;

STEL – Short-term Exposure Limit;

STOT – Specific target organ toxicity;

SVHC – Substance of Very High Concern under REACH;

TWA – time-weighted average;

UN – United Nations;

UNRTDG – United Nations Recommendations on the Transport of Dangerous Goods;

General Disclaimer

The information relates to this specific material. It may not be valid for this material, if used in combination with any other materials or in any process. It is the user's responsibility to satisfy him-selves as to the suitability and completeness of this information for his own particular use.

This data sheet was created based on the information we currently have and may be revised according to new information. In addition, the precautions apply only to normal handling, and in the case of special handling, please make adequate countermeasure to maintain your safety.

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.

The GHS classification data given here is based on current Data published in Japan (National Institute of Technology and Evaluation (NITE) Chemical Risk Information Platform (NITE-CHRIIP), up to FY2024).