Date of issue: 20/10/2017
Date of revision: 07/10/2020

Safety Data Sheet

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

Product identifier:

Product name: Manganese(II)sulfate, 5-hydrate

SDS No. : 4752E-3

Details of the supplier of the safety data sheet

Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.
Address: 3-1, Honmachibashi, Chuo-ku,Osaka ,JAPAN
Division: Safety Management Dept. of Chemicals
Telephone number: +81-6-6946-8061
FAX: +81-6-6946-1607
e-mail address: kagakuhinanzenkanri@kishida.co.jp

2. Hazards identification

GHS classification and label elements of the product

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(nerve/nervous system; respiratory apparatus)

ENVIRONMENT HAZARDS

Hazardous to the aquatic environment (Acute): Category 3

Hazardous to the aquatic environment (Long-term): Category 3

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

Label elements

Signal word: Danger

HAZARD STATEMENT

Harmful if swallowed

Suspected of causing genetic defects

May damage fertility or the unborn child

Causes damage to organs through prolonged or repeated exposure(nerve/nervous system; respiratory apparatus)

Harmful to aquatic life

Harmful to aquatic life with long lasting effects

PRECAUTIONARY STATEMENT

Prevention

Avoid release to the environment.

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

Wash contaminated parts thoroughly after handling.

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

Response

Get medical advice/attention if you feel unwell.

IF exposed or concerned: Get medical advice/attention.

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
IF SWALLOWED: Rinse mouth.

Disposal

Dispose of contents/container in accordance with local/national regulation.

3. Composition/information on ingredients

Mixture/Substance selection:

Substance

Ingredient name:Manganese(II)sulfate, 5-hydrate
Content (%):98(min)
Chemical formula:$MnSO_4 \cdot 5H_2O$
Chemicals No, Japan:1-477
CAS No.:13465-27-5
MW:241.08

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

4. First-aid measures

Descriptions of first-aid measures

General measures

Get medical attention/advice if you feel unwell.

IF INHALED

Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER or doctor/physician if you feel unwell.

IF ON SKIN (or hair)

Take off immediately all contaminated clothing. Rinse skin with water/shower.
If skin irritation or rash occurs: Get medical advice/attention.

IF IN EYES

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.

IF SWALLOWED

Rinse mouth.
Call a POISON CENTER or doctor/physician if you feel unwell.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Use appropriate extinguishing media suitable for surrounding facilities.
Unsuitable extinguishing media data is not available.

Advice for firefighters

Specific fire-fighting measures

Evacuate non-essential personnel to safe area.

Special protective equipment and precautions for fire-fighters

Wear fire/flame resistant/retardant clothing.
Wear protective gloves/protective clothing/eye protection/face protection.
Firefighters should wear self-contained breathing apparatus with full face peace operated positive pressure mode.

6. Accidental release measures

Personnel precautions, protective equipment and emergency procedures

Ventilate area until material pick up is complete.

Wear proper protective equipment.

Environmental precautions

Prevent spills from entering sewers, watercourses or low areas.

Avoid raising dust.

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.

7. Handling and storage

Precautions for safe handling

Preventive measures

(Exposure Control for handling personnel)

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

(Protective measures against fire and explosion)

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

(Exhaust/ventilator)

Exhaust/ventilator should be available.

(Safety treatments)

Avoid contact with skin.

Avoid contact with eyes.

Safety Measures

Wear protective gloves, protective clothing or face protection.

When using do not eat, drink or smoke.

Any incompatibilities

See "10.Stability and Reactivity"

Advice on general occupational hygiene

Wash contaminated parts thoroughly after handling.

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

Storage

Conditions for safe storage

Keep container tightly closed.

Store in a cool, dry place. Do not store in direct sunlight.

Container and packaging materials for safe handling

Glass

Polyethylene

8. Exposure controls/personal protection

Control parameters

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

Respiratory protection

Wear respiratory protection.

Hand protection

Wear protective gloves.

Eye protection

Wear eye/face protection.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state: Crystals to crystalline powder

Color: Light red

Odor: Odorless

Melting point/Freezing point: ≧30℃

Boiling point or initial boiling point data is not available.

Boiling range data is not available.

Flammability (gases, liquids and solids) data is not available.

Lower and upper explosion limit/flammability limit data is not available.

Flash point data is not available.

Auto-ignition temperature data is not available.

Decomposition temperature data is not available.

pH: 4.0～6.5 (50g/L, 25℃)

Kinematic viscosity data is not available.

Solubility:

Solubility in water: Soluble

n-Octanol/water partition coefficient 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.

No Particle characteristics data is not available.

10. Stability and Reactivity

Reactivity

Not available.

Chemical stability

Stable under normal storage/handling conditions.

Possibility of hazardous reactions

May react with oxidizing agent.

Conditions to avoid

Contact with incompatible materials.

Contact with fire source.

Incompatible materials

Oxidizing agents

Hazardous decomposition products

Sulfur oxides, Manganese oxide

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[Company proprietary data]

(Manganese(II)sulfate, 5-hydrate)

(As manganese(II) sulfate, anhydrous) rat LD50=782mg/kg (ATSDR, 2012)

Irritant properties

Skin corrosion/irritation data is not available.

Serious eye damage/irritation data is not available.

Allergenic and sensitizing effects data is not available.

Germ cell mutagenicity

[Company proprietary data]
(Manganese(II)sulfate, 5-hydrate)
(As manganese(II) sulfate, anhydrous) cat. 2; NITE primary risk assessment, 2008; ATSDR, 2012; CICAD 12, 1999

Carcinogenicity

[Company proprietary data]
(Manganese(II)sulfate, 5-hydrate)
(As manganese(II) sulfate, anhydrous) ACGIH-A4(2012) : Not Classifiable as a Human Carcinogen (Inorganic Mn)

Reproductive toxicity

[Company proprietary data]
(Manganese(II)sulfate, 5-hydrate)
(As manganese(II) sulfate, anhydrous) cat. 1B; NITE primary risk assessment, 2008; JSOH, 2016

STOT

STOT-single exposure data is not available.

STOT-repeated exposure

[cat.1]

[Company proprietary data]
(Manganese(II)sulfate, 5-hydrate)
(As manganese(II) sulfate, anhydrous) nerve/nervous system; respiratory apparatus (NITE primary risk assessment, 2008; SIDS, 2012; ATSDR, 2012)

Aspiration hazard data is not available.

Additional data

May cause lung disorders by massive inhalation of powdered substance.
-e.g. fibrosis of lung tissue, cough, sputum, breath shortness, dyspnea, decline of lung function, interstitial lung disease, pneumothorax

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12. Ecological Information

Ecotoxicity

Aquatic toxicity

Harmful to aquatic life
Harmful to aquatic life with long lasting effects

Hazardous to the aquatic environment (Acute)

[Company proprietary data]
(Manganese(II)sulfate, 5-hydrate)
(As manganese(II) sulfate, anhydrous) Crustacea (Daphnia magna) EC50=8.3mg/L/48hr (8.28mg-Mn/L, calc.) (MOE Japan, 2008; NITE primary risk assessment, 2008)

Hazardous to the aquatic environment (Long-term)

[Company proprietary data]
(Manganese(II)sulfate, 5-hydrate)
(As manganese(II) sulfate, anhydrous) Fish (Rainbow trout) NOEC (Survival rate)=2.1mg/L/100days (0.77mg-Mn/L Conv.) (NITE primary risk assessment, 2008)

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.

13. Disposal considerations

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging

Waste treatment methods

Avoid release to the environment (- if this is not the intended use).

Dispose of contents/container in accordance with local/national regulation.

14. Transport Information

Not applicable to UN No., UN CLASS

Not applicable to IMDG Code

Not applicable to IATA Dangerous Goods Regulations

Environmental hazards

MARPOL Annex III - Prevention of pollution by harmful substances

Marine pollutants (yes/no) : no

MARPOL Annex V - Prevention of pollution by garbage discharge

Reproductive toxicity: cat.1, 1A, 1B

Manganese(II)sulfate, 5-hydrate

Specific target organ toxicity - repeated exposure: cat.1

Manganese(II)sulfate, 5-hydrate

15. Regulatory Information

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

US Federal Regulations

Chemicals listed in TSCA Inventory

Manganese(II)sulfate, 5-hydrate

Other regulatory information

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

16. Other information

GHS classification and labelling

Acute Tox. 4: H302 Harmful if swallowed

Muta. 2: H341 Suspected of causing genetic defects

Repr. 1B: H360 May damage fertility or the unborn child

STOT RE 1: H372 Causes damage to organs through prolonged or repeated exposure

Aquatic Acute 3: H402 Harmful to aquatic life

Aquatic Chronic 3: H412 Harmful to aquatic life with long lasting effects

Reference Book

Globally Harmonized System of classification and labelling of chemicals, (7th revised edition, 2017), UN

Recommendations on the TRANSPORT OF DANGEROUS GOODS 20th edit., 2017 UN

IMDG Code, 2018 Edition (Incorporating Amendment 39-18)

IATA Dangerous Goods Regulations (61th Edition) 2020

Classification, labelling and packaging of substances and mixtures (Table 3 ECNO6182012)

2016 EMERGENCY RESPONSE GUIDEBOOK (US DOT)

2020 TLVs and BEIs. (ACGIH)

http://monographs.iarc.fr/ENG/Classification/index.php

Supplier's data/information

General Disclaimer

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 Japan official data (NITE published in 2019).