

Safety Data Sheet

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

Product identifier:

Product name: Iron(II) chloride tetrahydrate

Product code(SDS NO): 18570jis_E1-2

Details of the supplier of the safety data sheet

Manufacturer/Supplier: JUNSEI CHEMICAL CO., LTD.

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

Division: Quality Assurance Department

Telephone number: +81-48-986-6161

FAX: +81-48-989-2787

e-mail address: shiyaku-t@junsei.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

Serious eye damage/eye irritation: Category 1

ENVIRONMENT HAZARDS

Hazardous to the aquatic environment – acute hazard: Category 3

(Note) GHS classification without description: Not applicable/Out of classification/Not classifiable

Label elements



Signal word: Danger

HAZARD STATEMENT

Harmful if swallowed

Causes serious eye damage

Harmful to aquatic life

PRECAUTIONARY STATEMENT

Prevention

Avoid release to the environment.

Wash contaminated parts thoroughly after handling.

Wear eye protection/face protection.

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

Response

Immediately call a POISON CENTER or doctor/physician.

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

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

Disposal

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

3. Composition/information on ingredients

Substance/Mixture:

Substance

Common name, synonyms: Ferrous chloride tetrahydrate

Ingredient name: Iron(II) chloride tetrahydrate

Content(%): 99.0~102.0

Chemical formula: $\text{Cl}_2\text{FeH}_8\text{O}_4$

Chemicals No, Japan: 1-213

CAS No.: 13478-10-9 [7758-94-3(anh)]

MW: 198.81

ECNO: 231-843-4(anh)

4. First-aid measures

Descriptions of first-aid measures

General measures

Immediately call a POISON CENTER or doctor/physician.

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.

The product is non-flammable.

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

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 piece operated positive pressure mode.

6. Accidental release measures

Personnel precautions, protective equipment and emergency procedures

Ventilate area after material pick up is complete.

Wear proper protective equipment.

Environmental precautions

Avoid release to the rivers, lakes, ocean, 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.

7. Handling and storage**Precautions for safe handling****Preventive measures**

(Protective measures against fire & 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.

Avoid breathing dust, vapor, mist, or gas.

Safety Measures/Incompatibility

Wear protective gloves, protective clothing or face protection.

Wear eye protection/face protection.

Use personal protective equipment as required.

When using do not eat, drink or smoke.

Conditions for safe storage, including any incompatibilities**Recommendation for storage**

Store in a well-ventilated place. Keep container tightly closed.

Keep cool. Protect from sunlight.

8. Exposure controls/personal protection**Control parameters****Adopted value**

ACGIH(1990) TWA: 1mg-Water-soluble Fe/m³ (URT & skin irr)

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.

Safety and Health measures

Wash ... thoroughly after handling.

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

9. Physical and Chemical Properties**Information on basic physical and chemical properties****Physical properties**

Appearance: Crystals or crystalline powder

Color: Light blue~Blue-green

Odor data N.A.

pH: 2.5 (100g/L, 20°C)

Phase change temperature

Initial Boiling Point/Boiling point: 102°C

Melting point/Freezing point: 105°C

Decomposition temperature: 105~110°C (This product loses water of crystallization)

Flash point data N.A.

Auto-ignition temperature data N.A.

Explosive properties data N.A.

Vapor pressure data N.A.

Vapor density data N.A.

Specific gravity/Density: 1.93g/cm³

Solubility

Solubility in water: Soluble

n-Octanol /water partition coefficient data N.A.

10. Stability and Reactivity

Chemical stability

Stable under normal storage/handling conditions.

Deliquescent.

Possibility of hazardous reactions

Reacts violently with alcohols, strong oxidants and strong reducing agents.

Attacks many metals in the presence of water.

On combustion, forms toxic and corrosive gases including hydrogen chloride.

Conditions to avoid

Contact with incompatible materials.

Heat. Air.

Incompatible materials

Strong oxidizing agents, Strong reducing agents, Alcohols

Hazardous decomposition products

Hydrogen chloride, Chloride, Oxides of iron.

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[GHS Cat. Japan, base data]

(Iron(II) chloride) rat LD₅₀ = 300~2000mg/kg (SIDS, 2004)

Acute toxicity (Dermal)

[GHS Cat. Japan, base data]

(Iron(II) chloride) rat LD₅₀ >2000mg/kg (SIDS, 2004)

Irritant properties

Skin corrosion/irritation

[GHS Cat. Japan, base data]

(Iron(II) chloride) rabbit : The skin irritancy was low. Only weak edema was induced on application sites.

Serious eye damage /irritation

[GHS Cat. Japan, base data]

(Iron(II) chloride) rabbit : corrosive irritant (SIDS, 2004)

No Allergenic and sensitizing effects data available

No Mutagenic effects data available

No Carcinogenic effects data available
No Teratogenic effects data available
No reproductive toxicity data available
No STOT-single/repeated exposure data available
No Aspiration hazard data available

12. Ecological Information

Toxicity

Aquatic toxicity

Harmful to aquatic life

Aquatic acute toxicity component(s) data

[GHS Cat. Japan, base data]

(Iron(II) chloride) Crustacea(Daphnia magna) EC50=19.0mg/L/48hr (SIDS, 2004)

Water solubility

(Iron(II) chloride) 62.5 g/100 ml (20°C) (ICSC, 2009)

No Persistence and degradability data available

Bioaccumulative potential

(Iron(II) chloride) log Pow=-0.15 (ICSC, 2009)

13. Disposal considerations

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

UN No, UN CLASS

UN number: 3260

UN proper shipping name: CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.

Transport hazard class(es): 8

Packing group: III

ERG GUIDE NO.: 154

15. Regulatory Information

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

US major regulations

TSCA

Iron(II) chloride

Other regulatory information

We are not able to check up the regulatory information in 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.

16. Other information

GHS classification and labelling

Acute Tox. 4: H302 Harmful if swallowed

Eye Dam. 1: H318 Causes serious eye damage

Iron(II) chloride tetrahydrate, JUNSEI CHEMICAL CO., LTD., 18570jis_E1-2, 17/08/2016

Aquatic Acute 3: H402 Harmful to aquatic life

Reference Book

Globally Harmonized System of classification and labelling of chemicals, (5th ed., 2013), UN
Recommendations on the TRANSPORT OF DANGEROUS GOODS 18th edit., 2013 UN
Classification, labelling and packaging of substances and mixtures (table 3-1 ECNO 6182012)
2012 EMERGENCY RESPONSE GUIDEBOOK (US DOT)
2015 TLVs and BEIs. (ACGIH)
<http://monographs.iarc.fr/ENG/Classification/index.php>
Supplier's data/information
Chemical Risk Information Platform (CHRIP) (NITE) <http://www.safe.nite.go.jp/japan/db.html>
GHS Classification Guidance for Enterprises 2013 Revised Edition (August, 2013, METI)

General Disclaimer

This information contained in this data sheet represents the best information currently available to us. However, no warranty is made with respect to its completeness and we assume no liability resulting from its use. It is advised to make their own tests to determine the safety and suitability of each such product or combination for their own purposes.

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 2014).