

# MATERIAL SAFETY DATA SHEET (MSDS)

\_\_\_\_\_ Tsurumi Soda Co., Ltd. Hydrochloric acid (hydrogen chloride) 1/5 \_\_\_\_\_

## 1. PRODUCT IDENTIFICATION AND SUPPLIER INFORMATION

[PRODUCT NAME: Anhydrous ferric chloride]

SUPPLIER/MANUFACTURER'S NAME: Tsurumi Soda Co., Ltd.

ADDRESS: 1-7 Suehiro Cho, Tsurumi-Ku, Yokohama, JAPAN

DIVISION IN CHARGE: Sales Headquarters, Tsurumi Soda Co., Ltd.

ADDRESS: 2-12-15 Simbashi Minato-ku, Tanaka-Tamuracho Building, Tokyo, JAPAN

TEL: 03-3503-0856 FAX: 03-3503-4595

EMERGENCY PHONE: CALL 045-503-7326 (Main Plant of the Headquarters)

DOCUMENT NUMBER: S-A-06

DATE OF PREPARATION: 1993/3/1 REVISION DATE: 2002/6/30

## 2. COMPOSITION AND INFORMATION ON INGREDIENTS

CHEMICAL NAME: Ferric chloride

COMPONENT and CONTENT: Ferric chloride >=98.0%;

CHEMICAL FORMULA or STRUCTURAL DIAGRAM: FeCl<sub>3</sub>

DOCUMENT NUMBER of OFFICIAL GAZETTE NOTICE:

Number 1-213 of the Existing Chemical Substances under the Law Concerning Examination and Regulation of Manufacture, etc. of Chemical Substances  
Industrial Health and Safety Law: No number assigned

CAS #: 7705-08-0

PRTR LAW: Not Applicable

PRODUCT SUBJECT TO THE NOTIFICATION PURSUANT TO THE INDUSTRIAL HEALTH AND SAFETY LAW:

Ferric chloride >=98.0%

## 3. EMERGENCY OVERVIEW:

Classification Name: Acute toxic substance, corrosive substance

PHYSICAL HAZARDS: Corrodes metal, and dissolve.

BIOLOGICAL HAZARDS: Contact of the liquid with the eyes and/or skin can lead to inflammation. Stimulate mucosa such as a throat, a nose, and lead to coughing.

## 4. FIRST-AID MEASURES

EYE EXPOSURE: Immediately flush eyes (including all the areas under the eyelid) with running water for MINIMUM OF 15 MINUTES, then consult an ophthalmologist for

required treatment in the first opportunity.

SKIN EXPOSURE: Rinse it with ample water. Seek medical attention.

Do not neutralize with alkali solutions.

INHALATION EXPOSURE: Perform oxygen inhalation for 15 TO 30 MINUTES. Seek medical attention. Seek immediate medical attention.

INGESTION EXPOSURE: Give victim(s) ample water to drink, and seek medical attention in the first opportunity.

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## 5. FIRE-FIGHTING MEASURES (IN CASE OF NEIGHBORING FIRE)

The product is non-flammable; however keep away from fire source in case of fire.

FIRE-FIGHTING MEASURES: Not applicable: non-flammable.

FIRE EXTINGUISHING AGENTS TO BE USED: Not applicable: non-flammable.

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## 6. SPILL AND LEAK RESPONSE

Retrieve in a container, and then rinse it with ample water.

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## 7. HANDLING and STORAGE

HANDLING: Use required personal protective equipment to protect from its dehydrating ability and protein substance coagulation. Avoid high temperature high humidity, and do not give impulsive shocks including falling on the floor.

STORAGE: Due to its high moisture sorption ability, the product should be stored in an air tight container.

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## 8. EXPOSURE CONTROLS and PERSONAL PROTECTION

ACCEPTABLE CONCENTRATION:

Japan Society for Occupational Health (1992): Not described

The threshold - air: 1 mg/m<sup>3</sup> (iron conversion):

FACILITIES MEASURES: Total/spot exhaust ventilation systems

PERSONAL PROTECTIVE EQUIPMENTS

RESPIRATOR: Self-contained-compressed air breathing apparatus

PROTECTION GLASSES: Goggles style

PROTECTION GLOVES: Rubber glove

PERSONAL PROTECTIVE CLOTHING: Rubber boots, Splash suit with rubber lining

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## 9. PHYSICAL and CHEMICAL PROPERTIES

APPEARANCE, ETC.: Powder in dark brown-green color

BOILING POINT: 319°C

MELTING POINT: 304°C

SPECIFIC GRAVITY: 2.804

SOLUBILITY: High solubility in water, alcohol, ether, and acetone

MOLECULAR WEIGHT: 162.20

## 10. STABILITY and REACTIVITY

OXIDIZABILITY: Oxidizes and corrodes most of the metals.

STABILITY and REACTIVITY: Deliquescent

## 11. TOXICOLOGICAL INFORMATION (INCLUDING BIOLOGICAL / EPIDEMIOLOGICAL INFORMATION)

CORROSIVENESS: When applied to skin, it irritates the skin and causes a variety of chemical wounds including inflammations on the skin..

IRRITANCY (skin, eye): Stimulates and inflames mucosa.

ACUTE TOXICITY (including 50% lethal dose):

FeCl <sub>3</sub>	Vein - Rabbit	LDL <sub>0</sub>	7 mg/kg
FeCl <sub>3</sub> · 6H <sub>2</sub> O	Oral - Rat	LDL <sub>0</sub>	900 mg/kg
	Peritoneal cavity - Mouse	LD <sub>50</sub>	260 mg/kg
	Vein - Rabbit	LDL <sub>0</sub>	7 mg/kg

## 12. ECOLOGICAL INFORMATION

FISH TOXICITY: Nothing specific to be reported.

## 13. DISPOSAL CONSIDERATIONS

Neutralize, or ask professional industrial waste disposer for management.

## 14. TRANSPORT INFORMATION

UN HAZ CLASS: Class 8

UN IDENTIFICATION NUMBER: 1773

TRANSPORT INFORMATION: Implement all the required measures for falling prevention.

## 15. REGULATORY INFORMATION

- 1) Annexed Table 3 for Article 3: Corrosive Substance, Ordinance on Shipment by Vessels and Storage of the Hazardous Substances
- 2) First Hazardous Substance Class C on the Annexed Table of Ordinances, Law Relating to the Prevention of Marine Pollution and Maritime Disasters
- 3) The 11<sup>th</sup> Annexed Table of Notification related to the Article 194: Corrosive Substance, Ordinance on the Implementation of the Civil Aeronautics Law
- 4) Article 12: Hazardous Corrosive Substance, Port Regulation Law
- 5) The first article Prime Minister's Office Order (the second separate table) to determine five the third article) Water Pollution Control Law enforcement order waste water quality standards
- 6) Article 57 section 2: Substance Requiring Notification, Occupational Safety and Health Law

REFERENCE LAWS AND ORDINANCES (The equivalent measures/handling of the substances stipulated in the following is desirable for the product, due to the strength as an acid and in its corrosiveness, regardless of this product not being subject to the following legislation)

- 1) Category 3 Substance: Annexed Table 3 Specified Chemical Substance
- 2) Article 2 Section 2: Deleterious Substance, Toxic Substance and Deleterious Substance Control Law

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## 16. OTHER INFORMATION (CONTACT INFORMATION REGARDING THIS STATEMENT, WORKS CITED, ETC.)

A REFERENCE OF MENTION CONTENTS: Sales Headquarters, Tsurumi Soda Co., Ltd.

TEL. 03-3503-0856 FAX. 03-3503-4595

### WORKS CITED

- 1) *Kagaku Dai Jiten* (Great Chemistry Dictionary,) Kyoritsu Publishing (1964)
  - 2) *Kagaku Binran* (Chemistry Handbook,) Japan Chemistry Association (1977)
  - 3) *RTECS* (1985-86)
  - 4) *Dokugekibutsu Kijyun Kankei Tsuchisho* (Information of the Related Standards of the Toxic/Deleterious Substances), Yakumu Kouhousya
  - 5) *A COMPREHENSIVE TREATISE ON INORGANIC AND THEORETICAL CHEMISTRY* LONGMANS, J. W. MELLOR (1961)
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6) *13599 No Kagaku Syouhin* (13599 Chemical Merchandise Items), Nippon Chemical Industrial Co., Ltd.(1999)

**"CAUTION"**

Albeit the information contained herein was prepared based on the references, information, and data available at the time of the preparation, no warranty is expressed or implied regarding the accuracy and completeness of this information.

All the precautions included herein were for ordinary use, operation of the substance, and wherefore additional safety measures that deemed fit to the purpose must be employed for any special operation of the substance.