

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013

**SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**
**Product Identifier**

Perihal Produk: **Iron, sponge**  
 Product Description: **Iron, sponge**  
 Cat No. : 43240  
 CAS No 7439-89-6  
 Molecular Formula Fe

**Relevant identified uses of the substance or mixture and uses advised against**

Recommended Use Laboratory chemicals.  
 Uses advised against No Information available

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**Supplier**

**E-mail address** Enquiry.my@thermofisher.com

**Emergency Telephone Number** Tel: +03-5525 7888  
 CHEMTREC Malaysia **1-800-815-308** (Malay)  
 CHEMTREC Malaysia (Kuala Lumpur) **+(60)-327884561** (Malay)

**SECTION 2: HAZARDS IDENTIFICATION**
**Classification of the substance or mixture**

Self-heating substances/mixtures	Category 1 (H251)
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**Label Elements**

**Signal Word**
**Danger**
**Hazard Statements**

H251 - Self-heating: may catch fire

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## Precautionary Statements

### Prevention

P235 + P410 - Keep cool. Protect from sunlight

P280 - Wear protective gloves/protective clothing/eye protection/face protection

### Storage

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

P407 - Maintain air gap between stacks/pallets

P420 - Store away from other materials

### Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

## Other Hazards

May form combustible dust concentrations in air

May form explosible dust-air mixture if dispersed

This product does not contain any known or suspected endocrine disruptors

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No	Weight %
Iron, powder, reduced	7439-89-6	> 95

## SECTION 4: FIRST AID MEASURES

### Description of first aid measures

#### General Advice

If symptoms persist, call a physician.

#### 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.

#### Ingestion

Get medical attention if symptoms occur. Clean mouth with water and drink afterwards plenty of water.

#### Inhalation

Remove to fresh air. If breathing is difficult, give oxygen. Get medical attention.

#### Self-Protection of the First Aider

Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

### Most important symptoms and effects, both acute and delayed

None reasonably foreseeable.

### Indication of any immediate medical attention and special treatment needed

#### Notes to Physician

Treat symptomatically.

## SECTION 5: FIREFIGHTING MEASURES

### Extinguishing media

Suitable Extinguishing Media

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Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

## **Extinguishing media which must not be used for safety reasons**

No information available.

## **Special hazards arising from the substance or mixture**

Risk of ignition. Dust can form an explosive mixture with air. Containers may explode when heated. Keep product and empty container away from heat and sources of ignition. Self-heating; exposure to air may cause substance to self-heat without an energy supply.

## **Hazardous Combustion Products**

Hydrogen.

## **Advice for fire-fighters**

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

## **SECTION 6: ACCIDENTAL RELEASE MEASURES**

### **Personal Precautions, Protective Equipment and Emergency Procedures**

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

### **Environmental precautions**

Should not be released into the environment. Do not flush into surface water or sanitary sewer system. See Section 12 for additional Ecological Information.

### **Methods and Material for Containment and Cleaning Up**

Sweep up and shovel into suitable containers for disposal. Keep in suitable, closed containers for disposal.

### **Reference to Other Sections**

Refer to protective measures listed in Sections 8 and 13.

## **SECTION 7: HANDLING AND STORAGE**

### **Precautions for Safe Handling**

Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid ingestion and inhalation. Avoid dust formation. Do not get in eyes, on skin, or on clothing.

### **Conditions for Safe Storage, Including any Incompatibilities**

Keep containers tightly closed in a dry, cool and well-ventilated place.

### **Specific End Uses**

Use in laboratories.

## **SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

### **Control Parameters**

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## Exposure Controls

### **Engineering Measures**

Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting equipment. Ensure that eyewash stations and safety showers are close to the workstation location.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

### **Personal protective equipment**

#### **Eye Protection**

Wear safety glasses with side shields (or goggles)

#### **Hand Protection**

Protective gloves

#### **Skin and body protection**

Long sleeved clothing

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves.

(Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g.

sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

#### **Respiratory Protection**

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators

#### **Recommended Filter type:**

Particulates filter conforming to EN 143

To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

When RPE is used a face piece Fit Test should be conducted

### **Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice

### **Environmental exposure controls**

Prevent product from entering drains

## **SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

### **Information on basic physical and chemical properties**

#### **Appearance**

Grey

#### **Physical State**

Powder Solid

#### **Odor**

Odorless

#### **Odor Threshold**

No data available

#### **pH**

No information available

#### **Melting Point/Range**

1535 °C / 2795 °F

#### **Softening Point**

No data available

#### **Boiling Point/Range**

3000 °C / 5432 °F

@ 760 mmHg

#### **Flash Point**

No information available

**Method -** No information available

#### **Evaporation Rate**

Not applicable

Solid

#### **Flammability (solid,gas)**

No information available

#### **Explosion Limits**

No data available

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Vapor Pressure	No data available	
Vapor Density	Not applicable	Solid
Specific Gravity / Density	No data available	
Bulk Density	No data available	
Water Solubility	Insoluble	
Solubility in other solvents	No information available	

## Partition Coefficient (n-octanol/water)

Autoignition Temperature	No data available	
Decomposition Temperature	No data available	
Viscosity	Not applicable	Solid
Explosive Properties	No information available	
Oxidizing Properties	No information available	

Molecular Formula	Fe
Molecular Weight	55.84

## SECTION 10: STABILITY AND REACTIVITY

### Reactivity

Yes.

### Chemical Stability

Moisture sensitive.

### Possibility of Hazardous Reactions

Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions	None under normal processing.

### Conditions to Avoid

Avoid dust formation. Incompatible products. Excess heat. Exposure to moist air or water.

### Incompatible Materials

Strong oxidizing agents. Acids. Fluorine. halogenated agents. Halogens. oxygen. nitriles. Aldehydes.

### Hazardous Decomposition Products

Hydrogen.

## SECTION 11: TOXICOLOGICAL INFORMATION

### Information on Toxicological Effects

Product Information	See actual entry in RTECS for complete information.
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**(a) acute toxicity;**

Oral

Based on available data, the classification criteria are not met

Dermal

No data available

Inhalation

No data available

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Iron, powder, reduced	30 g/kg ( Rat )	-	-

**(b) skin corrosion/irritation;**

No data available

**(c) serious eye damage/irritation;**

No data available

**(d) respiratory or skin sensitization;**

Respiratory

No data available

Skin

No data available

**(e) germ cell mutagenicity;**

No data available

**(f) carcinogenicity;**

No data available

There are no known carcinogenic chemicals in this product

**(g) reproductive toxicity;**

No data available

**(h) STOT-single exposure;**

No data available

**(i) STOT-repeated exposure;**

No data available

Target Organs

No information available.

**(j) aspiration hazard;**

Not applicable

Solid

**Other Adverse Effects**

Tumorigenic effects have been reported in experimental animals. See actual entry in RTECS for complete information

**Symptoms / effects, both acute and delayed**

No information available.

**Endocrine Disrupting Properties**

Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors.

## SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity effects**

Do not empty into drains. Contains a substance which is: Harmful to aquatic organisms. The product contains following substances which are hazardous for the environment.

**Persistence and degradability**

Persistence

Insoluble in water.

Degradability

Not relevant for inorganic substances.

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**Degradation in sewage treatment plant**

Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

**Bioaccumulative potential**

May have some potential to bioaccumulate

**Mobility in soil**

Spillage unlikely to penetrate soil. Is not likely mobile in the environment due its low water solubility.

**Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

**Other adverse effects**

No information available

## SECTION 13: DISPOSAL CONSIDERATIONS

**Waste treatment methods**  
**Waste from Residues/Unused Products**

Waste is classified as hazardous Dispose of in accordance with the European Directives on waste and hazardous waste Dispose of in accordance with local regulations

**Contaminated Packaging**

Dispose of this container to hazardous or special waste collection point. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous Keep product and empty container away from heat and sources of ignition

**Other Information**

Do not flush to sewer Waste codes should be assigned by the user based on the application for which the product was used Can be landfilled or incinerated, when in compliance with local regulations

## SECTION 14: TRANSPORT INFORMATION

**IMDG/IMO**

UN-No	UN3190
Hazard Class	4.2
Packing Group	II
Proper Shipping Name	Self-heating solid, inorganic, n.o.s. Iron powder

**Road and Rail Transport**

UN-No	UN3190
Hazard Class	4.2
Packing Group	II
Proper Shipping Name	Self-heating solid, inorganic, n.o.s. Iron powder

**IATA**

UN-No	UN3190
Hazard Class	4.2
Packing Group	II
Proper Shipping Name	Self-heating solid, inorganic, n.o.s. Iron powder

**Special Precautions for User**

No special precautions required

## SECTION 15: REGULATORY INFORMATION

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

### International Inventories

X = listed

Component	EINECS	TSCA	DSL	PICCS	ENCS	ISHL	IECSC	AICS	KECL
Iron, powder, reduced	231-096-4	X	X	X	X		X	X	KE-21059

### National Regulations

#### Persistent Organic Pollutant Ozone Depletion Potential

This product does not contain any known or suspected substance

This product does not contain any known or suspected substance

## SECTION 16: OTHER INFORMATION

### Legend

**CAS** - Chemical Abstracts Service

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**IECSC** - Chinese Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List

**ENCS** - Japanese Existing and New Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**NZIoC** - New Zealand Inventory of Chemicals

**WEL** - Workplace Exposure Limit

**ACGIH** - American Conference of Governmental Industrial Hygienists

**RPE** - Respiratory Protective Equipment

**LC50** - Lethal Concentration 50%

**POW** - Partition coefficient Octanol:Water

**TWA** - Time Weighted Average

**IARC** - International Agency for Research on Cancer

**LD50** - Lethal Dose 50%

**EC50** - Effective Concentration 50%

**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road

**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code

**OECD** - Organisation for Economic Co-operation and Development

**BCF** - Bioconcentration factor

**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association

**MARPOL** - International Convention for the Prevention of Pollution from Ships

**ATE** - Acute Toxicity Estimate

**VOC** - (Volatile Organic Compound)

#### Key literature references and sources for data

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

#### Prepared By

Health, Safety and Environmental Department

#### Revision Date

26-Mar-2025

#### Revision Summary

Not applicable.

**In accordance with local and national regulations: Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013**

### 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,



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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 Safety Data Sheet**