

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Revision Date 26.05.2017

Version 11.2

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

### 1.1 Product identifier

Catalogue No.	103819
Product name	Iron for analysis reduced, particle size 10 µm EMSURE®
REACH Registration Number	01-2119462838-24-xxxx
CAS-No.	7439-89-6

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Reagent for analysis For additional information on uses please refer to the Merck Chemicals portal ( <a href="http://www.merckgroup.com">www.merckgroup.com</a> ).
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### 1.3 Details of the supplier of the safety data sheet

Company	Merck KGaA * 64271 Darmstadt * Germany * Phone:+49 6151 72-0
Responsible Department	LS-QHC * e-mail: <a href="mailto:prodsafe@merckgroup.com">prodsafe@merckgroup.com</a>

1.4 Emergency telephone number	Please contact the regional company representation in your country.
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## SECTION 2. Hazards identification

### 2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Flammable solid, Category 1, H228

Self-heating substances, Category 1, H251

For the full text of the H-Statements mentioned in this Section, see Section 16.

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## 2.2 Label elements

### Labelling (REGULATION (EC) No 1272/2008)

#### *Hazard pictograms*



#### *Signal word*

Danger

#### *Hazard statements*

H228 Flammable solid.

H251 Self-heating: may catch fire.

#### *Precautionary statements*

##### Prevention

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P260 Do not breathe dust.

##### Response

P370 + P378 In case of fire: Use powder for extinction.

### Reduced labelling (≤125 ml)

#### *Hazard pictograms*



#### *Signal word*

Danger

#### *Hazard statements*

H251 Self-heating: may catch fire.

#### *Precautionary statements*

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P370 + P378 In case of fire: Use powder for extinction.

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CAS-No. 7439-89-6

## 2.3 Other hazards

None known.

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## SECTION 3. Composition/information on ingredients

### 3.1 Substance

Formula	Fe	Fe (Hill)
EC-No.	231-096-4	
Molar mass	55,85 g/mol	

Remarks	No disclosure requirement according to Regulation (EC) No. 1907/2006.
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### 3.2 Mixture

Not applicable

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## SECTION 4. First aid measures

### 4.1 Description of first aid measures

After inhalation: fresh air.

After skin contact: wash off with plenty of water. Remove contaminated clothing.

After eye contact: rinse out with plenty of water.

After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

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

irritant effects, Diarrhoea, Nausea, Vomiting, Irregular cardiac activity

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

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No information available.

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## SECTION 5. Firefighting measures

### 5.1 Extinguishing media

*Suitable extinguishing media*

Special powder against metal fire, Sand, Cement

*Unsuitable extinguishing media*

Water, Foam

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

Combustible.

Risk of dust explosion.

Potential for spontaneous combustion.

May not get in touch with:

Water

Caution! in contact with water product releases:

Hydrogen

### 5.3 Advice for firefighters

*Special protective equipment for firefighters*

In the event of fire, wear self-contained breathing apparatus.

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## SECTION 6. Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

### 6.2 Environmental precautions

Do not let product enter drains. Risk of explosion.

### 6.3 Methods and materials for containment and cleaning up

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Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly.

Clean up affected area. Avoid generation of dusts.

## 6.4 Reference to other sections

Indications about waste treatment see section 13.

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## SECTION 7. Handling and storage

### 7.1 Precautions for safe handling

#### *Advice on safe handling*

Observe label precautions.

#### *Advice on protection against fire and explosion*

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

#### *Hygiene measures*

Change contaminated clothing. Wash hands after working with substance.

### 7.2 Conditions for safe storage, including any incompatibilities

#### *Storage conditions*

Keep under nitrogen. Dry.

Tightly closed. Keep away from heat and sources of ignition.

Recommended storage temperature see product label.

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

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## SECTION 8. Exposure controls/personal protection

### 8.1 Control parameters

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## Derived No Effect Level (DNEL)

Worker DNEL, longterm	Local effects	inhalation	3 mg/m <sup>3</sup>
Consumer DNEL, longterm	Systemic effects	oral	0,71 mg/kg Body weight
Consumer DNEL, longterm	Local effects	inhalation	1,5 mg/m <sup>3</sup>

## 8.2 Exposure controls

### Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

### Individual protection measures

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

#### *Eye/face protection*

Safety glasses

#### *Hand protection*

full contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	> 480 min

splash contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	> 480 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 741 Dermatril® L (full contact), KCL 741 Dermatril® L (splash contact).

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The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

This recommendation applies only to the product stated in the safety data sheet<(>,<)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

### *Other protective equipment*

protective clothing

### *Respiratory protection*

required when dusts are generated.

Recommended Filter type: Filter P 1 (acc. to DIN 3181) for solid particles of inert substances

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

### **Environmental exposure controls**

Do not let product enter drains.

Risk of explosion.

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## **SECTION 9. Physical and chemical properties**

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

Form	solid
Colour	grey
Odour	odourless
Odour Threshold	No information available.
pH	7 - 9
Melting point	1.535 °C

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Boiling point/boiling range	3.000 °C at 1.013 hPa
Flash point	No information available.
Evaporation rate	No information available.
Flammability (solid, gas)	The substance or mixture is a flammable solid with the category 1.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapour pressure	No information available.
Relative vapour density	No information available.
Density	7,87 g/cm <sup>3</sup> at 20 °C
Relative density	No information available.
Water solubility	at 20 °C insoluble
Partition coefficient: n-octanol/water	No information available.
Auto-ignition temperature	Self-heating: may catch fire.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.



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Oxidizing properties none

## 9.2 Other data

Ignition temperature > 100 °C

Bulk density 3.000 - 4.000 kg/m<sup>3</sup>

Particle size Particle size  
< 10 µm

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## SECTION 10. Stability and reactivity

### 10.1 Reactivity

Risk of dust explosion.

danger of spontaneous combustion!

### 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### 10.3 Possibility of hazardous reactions

Violent reactions possible with:

ammonium compounds, Oxidizing agents, halogen-halogen compounds, nitril compounds, nitrates, Fluorine, oils, hydrogen peroxide, hydrogen sulphide, Acetaldehyde

Generates dangerous gases or fumes in contact with:

Water, acids

Risk of explosion with:

ammonium nitrate, Ammonium peroxodisulfate, potassium dichromate, perchlorates, Air, nitrates, performic acid, chlorine acid

oils, with, Water

Risk of ignition or formation of inflammable gases or vapours with:

Peroxides, nitril compounds, hydrogen sulphide, nitrogen dioxide, hydrogen peroxide, halogens

oils, with, Air

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## 10.4 Conditions to avoid

Heating.

Exposure to moisture

## 10.5 Incompatible materials

no information available

## 10.6 Hazardous decomposition products

no information available

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## SECTION 11. Toxicological information

### 11.1 Information on toxicological effects

*Acute oral toxicity*

LD50 Rat: 30.000 mg/kg

(RTECS)

Symptoms: Vomiting, Nausea, Diarrhoea

*Acute inhalation toxicity*

Symptoms: Irritation symptoms in the respiratory tract.

*Acute dermal toxicity*

This information is not available.

*Skin irritation*

This information is not available.

*Eye irritation*

slight irritation

*Sensitisation*

This information is not available.

*Germ cell mutagenicity*

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## *Genotoxicity in vitro*

Ames test

Result: negative

(Lit.)

## *Carcinogenicity*

This information is not available.

## *Reproductive toxicity*

This information is not available.

## *Teratogenicity*

This information is not available.

## *Specific target organ toxicity - single exposure*

This information is not available.

## *Specific target organ toxicity - repeated exposure*

This information is not available.

## *Aspiration hazard*

This information is not available.

## 11.2 Further information

Systemic effects:

After absorption of large quantities:

change in weight, Cardiac irregularities, drop in blood pressure

No toxic effects are to be expected when the product is handled appropriately.

Handle in accordance with good industrial hygiene and safety practice.

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## SECTION 12. Ecological information

### 12.1 Toxicity

No information available.

### 12.2 Persistence and degradability

#### *Biodegradability*

The methods for determining the biological degradability are not applicable to inorganic substances.

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## 12.3 Bioaccumulative potential

No information available.

## 12.4 Mobility in soil

No information available.

## 12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

## 12.6 Other adverse effects

Discharge into the environment must be avoided.

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## SECTION 13. Disposal considerations

### *Waste treatment methods*

See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

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## SECTION 14. Transport information

### Land transport (ADR/RID)

14.1 UN number UN 3089

14.2 Proper shipping name METAL POWDER, FLAMMABLE, N.O.S.

14.3 Class 4.1

14.4 Packing group III

14.5 Environmentally hazardous --

14.6 Special precautions for user yes

Tunnel restriction code E

### Inland waterway transport (ADN)

Not relevant

### Air transport (IATA)

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14.1 UN number	UN 3089
14.2 Proper shipping name	METAL POWDER, FLAMMABLE, N.O.S.
14.3 Class	4.1
14.4 Packing group	III
14.5 Environmentally hazardous	--
14.6 Special precautions for user	no

## Sea transport (IMDG)

14.1 UN number	UN 3089
14.2 Proper shipping name	METAL POWDER, FLAMMABLE, N.O.S.
14.3 Class	4.1
14.4 Packing group	III
14.5 Environmentally hazardous	--
14.6 Special precautions for user	yes

EmS	F-G S-G
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14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code  
Not relevant

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## SECTION 15. Regulatory information

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

#### *EU regulations*

Major Accident Hazard	SEVESO III
Legislation	Not applicable

Occupational restrictions	Take note of Dir 94/33/EC on the protection of young people at work.
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Regulation (EC) No 1005/2009 on substances that deplete the ozone layer      not regulated

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Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC not regulated

Substances of very high concern (SVHC) This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of  $\geq 0.1\%$  (w/w).

## National legislation

Storage class 4.2

## 15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

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## SECTION 16. Other information

### Full text of H-Statements referred to under sections 2 and 3.

H228 Flammable solid.  
H251 Self-heating: may catch fire.

### Training advice

Provide adequate information, instruction and training for operators.

### Labelling

#### Hazard pictograms



#### Signal word

Danger

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## *Hazard statements*

H228 Flammable solid.

H251 Self-heating: may catch fire.

## *Precautionary statements*

Prevention

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P260 Do not breathe dust.

Response

P370 + P378 In case of fire: Use powder for extinction.

## **Key or legend to abbreviations and acronyms used in the safety data sheet**

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

## **Regional representation**

This information is given on the authorised Safety Data Sheet for your country.

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*The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.*