

## Chemical Safety Data Sheet MSDS / SDS

## Iron

Revision Date:2025-05-03 Revision Number:1

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

## Product identifier

Product name : Iron  
CBnumber : CB8280013  
CAS : 7439-89-6  
EINECS Number : 231-096-4  
Synonyms : Fe,iron

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

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.  
Uses advised against : none

## Company Identification

Company : Chemicalbook  
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing  
Telephone : 010-86108875

## SECTION 2: Hazards identification

## GHS Label elements, including precautionary statements

Symbol(GHS)



Signal word

Danger

## Precautionary statements

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

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

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

P304+P340 IF INHALED: Remove victim to fresh air and Keep at rest in a position comfortable for breathing.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continuerinsing.

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

P405 Store locked up.

## Hazard statements

H228 Flammable solid

H319 Causes serious eye irritation  
H335 May cause respiratory irritation

---

## SECTION 3: Composition/information on ingredients

### Substance

|              |             |
|--------------|-------------|
| Product name | : Iron      |
| Synonyms     | : Fe,iron   |
| CAS          | : 7439-89-6 |
| EC number    | : 231-096-4 |
| MF           | : Fe        |
| MW           | : 55.85     |

---

## SECTION 4: First aid measures

### Description of first aid measures

#### General advice

Show this material safety data sheet to the doctor in attendance.

#### If inhaled

After inhalation: fresh air.

#### In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

#### In case of eye contact

After eye contact: rinse out with plenty of water. Remove contact lenses.

#### If swallowed

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

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

No data available

---

## SECTION 5: Firefighting measures

### Extinguishing media

#### Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the

#### Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

### Special hazards arising from the substance or mixture

Iron oxides

Not combustible.

Vapors are heavier than air and may spread along floors. Ambient fire may liberate hazardous vapours.

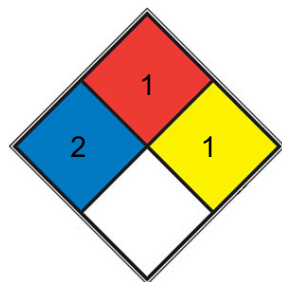
### Advice for firefighters

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

### Further information

Suppress (knock down) gases/vapors/mists with a water spray jet.

### NFPA 704



☒ HEALTH 2 Intense or continued but not chronic exposure could cause temporary incapacitation or possible residual injury (e.g. [diethyl ether](#), ammonium phosphate, iodine)

☒ FIRE 1 Materials that require considerable preheating, under all ambient temperature conditions, before ignition and combustion can occur. Includes some finely divided suspended solids that do not require heating before ignition can occur. Flash point at or above 93.3 °C (200 °F). (e.g. [mineral oil](#), ammonia)

☒ REACT 1 Normally stable, but can become unstable at elevated temperatures and pressures (e.g. [propene](#))

☐ SPEC.

☐ HAZ.

## SECTION 6: Accidental release measures

### 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.

For personal protection see section 8.

### Environmental precautions

Do not let product enter drains. Risk of explosion.

### Methods and materials for containment and cleaning up

Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

### Reference to other sections

## SECTION 7: Handling and storage

### Precautions for safe handling

### 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. For precautions see section 2.2.

### Conditions for safe storage, including any incompatibilities

### Storage conditions

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

Store under inert gas. Moisture sensitive.

### Specific end use(s)

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

---

## SECTION 8: Exposure controls/personal protection

### control parameter

### Hazard composition and occupational exposure limits

Does not contain substances with occupational exposure limits.

### Exposure controls

### Personal protective equipment

#### Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

#### Skin protection

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)).

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm Break through time: 480 min

Material tested: KCL 741 Dermatrill? L

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)).

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm Break through time: 480 min

Material tested:KCL 741 Dermatril? L

#### Body Protection

Flame retardant antistatic protective clothing.

#### Respiratory protection

required when dusts are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type: Filter type P1

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.

#### Control of environmental exposure

Do not let product enter drains. Risk of explosion.

---

## SECTION 9: Physical and chemical properties

### Information on basic physicochemical properties

|                                              |                                                                               |
|----------------------------------------------|-------------------------------------------------------------------------------|
| Appearance                                   | gray powder                                                                   |
| Odour                                        | odorless                                                                      |
| Odour Threshold                              | Not applicable                                                                |
| pH                                           | No data available                                                             |
| Melting point/freezing point                 | Melting point/range: 1.535 °C                                                 |
| Initial boiling point and boiling range      | 2.750 °C                                                                      |
| Flash point                                  | >230 °F                                                                       |
| Evaporation rate                             | No data available                                                             |
| Flammability (solid, gas)                    | The substance or mixture is a flammable solid with the category 2.            |
| Upper/lower flammability or explosive limits | No data available                                                             |
| Vapour pressure                              | No data available                                                             |
| Vapour density                               | No data available                                                             |
| Relative density                             | 7.86                                                                          |
| Water solubility                             | insoluble                                                                     |
| Partition coefficient: n-octanol/water       | No data available                                                             |
| Autoignition temperature                     | The substance or mixture is classified as self heating with the category 2.   |
| Decomposition temperature                    | No data available                                                             |
| Viscosity                                    | Viscosity, kinematic: No data available Viscosity, dynamic: No data available |
| Explosive properties                         | No data available                                                             |
| Oxidizing properties                         | No data available                                                             |
| resistivity                                  | 9.71 µΩ-cm                                                                    |

## Other safety information

No data available

---

## SECTION 10: Stability and reactivity

### Reactivity

No data available

### Chemical stability

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

### Possibility of hazardous reactions

Violent reactions possible with:

ammonium compounds Oxidizing agents

halogen-halogen compounds nitryl 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

nitryl compounds hydrogen sulphide nitrogen dioxide hydrogen peroxide halogens

oils

with Air

### Conditions to avoid

Exposure to moisture. Heat, flames and sparks. no information available

### Incompatible materials

Strong acids

### Hazardous decomposition products

In the event of fire: see section 5

---

## SECTION 11: Toxicological information

## Information on toxicological effects

### Acute toxicity

LD50 Oral - Rat - 30.000 mg/kg

Remarks: (RTECS) Inhalation

### Skin corrosion/irritation

No data available

### Serious eye damage/eye irritation

No data available

### Respiratory or skin sensitization

No data available

### Germ cell mutagenicity

No data available

### Carcinogenicity

No data available

### Reproductive toxicity

No data available

### Specific target organ toxicity - single exposure

No data available

### Specific target organ toxicity - repeated exposure

No data available

### Aspiration hazard

No data available

### Toxicity

LD50 oral in rat: 30gm/kg

---

## SECTION 12: Ecological information

### Toxicity

No data available

### Persistence and degradability

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

### Bioaccumulative potential

No data available

### Mobility in soil

No data available

### Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### Other adverse effects

No data available

---

## SECTION 13: Disposal considerations

### Waste treatment methods

### Product

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.

---

## SECTION 14: Transport information

### UN number

ADR/RID: 3089 IMDG: 3089 IATA: 3089

### UN proper shipping name

ADR/RID: METAL POWDER, FLAMMABLE, N.O.S. IMDG: METAL POWDER, FLAMMABLE,  
N.O.S.

IATA: Metal powder, flammable,  
n.o.s.

|      |                                       |              |
|------|---------------------------------------|--------------|
| 14.3 | Transport hazard class(es)            |              |
|      | ADR/RID: 4.1 IMDG: 4.1                | IATA:<br>4.1 |
| 14.4 | Packaging group                       |              |
|      | ADR/RID: III IMDG: III                | IATA: III    |
| 14.5 | Environmental hazards                 |              |
|      | ADR/RID: no IMDG Marine pollutant: no | IATA: no     |

### 14.6 Special precautions for user

No data available

---

## SECTION 15: Regulatory information

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

#### Regulations on the Safety Management of Hazardous Chemicals

China Catalog of Hazardous chemicals 2015:Not Listed. website: <https://www.mem.gov.cn/>

#### Measures for Environmental Management of New Chemical Substances

Chinese Chemical Inventory of Existing Chemical Substances (China IECSC):Listed. website: <https://www.mee.gov.cn/>

EC Inventory:Listed.

European Inventory of Existing Commercial Chemical Substances (EINECS):Listed. website: <https://echa.europa.eu/>

Korea Existing Chemicals List (KECL):Listed. website: <http://ncis.nier.go.kr>



New Zealand Inventory of Chemicals (NZIoC): Listed. website: <https://www.epa.govt.nz/>

Philippines Inventory of Chemicals and Chemical Substances (PICCS): Listed. website: <https://emb.gov.ph/>

United States Toxic Substances Control Act (TSCA) Inventory: Listed. website: <https://www.epa.gov/>

Vietnam National Chemical Inventory: Listed. website: <https://chemicaldata.gov.vn/>

---

## SECTION 16: Other information

### Abbreviations and acronyms

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

CAS: Chemical Abstracts Service

EC50: Effective Concentration 50%

IATA: International Air Transportation Association

IMDG: International Maritime Dangerous Goods

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

STEL: Short term exposure limit

TWA: Time Weighted Average

### References

【1】 CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>

【2】 ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>

【3】 ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

【4】 eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website:

[http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)

【5】 ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>

【6】 Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>

【7】 HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>

【8】 IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>

【9】 IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>

【10】 Sigma-Aldrich, website: <https://www.sigmaaldrich.com/>

#### Disclaimer:

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.