# Materials Safety Data Sheet

Iron Metal Solid (Foil,Granules,Target)

## 1. Product and Company Identification

Product Name: Iron
Formula: Fe
CAS: 7439-89-6
EC No.: 231-096-4
Synonyms: None

Recommended Use: Laboratory chemicals, Scientific research
Uses advised against: No specific uses advised against have been identified

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## 2. Hazards Identification

**Classification of the substance or mixture**
The substance is not classified as hazardous.

**GHS Label elements, including precautionary statements**
Pictogram: None
Signal Word: None
Hazard statement(s): None
Precautionary Statement(s): None

**Other hazards:** Processing operations that generate fine dust may create combustible dust-air mixtures, which may present a fire or explosion hazard in the presence of an ignition source.

## 3. Composition

| Components | CAS | Classification (H) | Concentration |
|---|---|---|---|
| Iron metal (Fe) | 7439-89-6 | Not classified | <= 100% |

## 4. First Aid Procedures

**Description of first aid measures**

**General Treatment:** If symptoms persist, call a physician.

**Inhalation:** Remove victim to fresh air. If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions.

**Ingestion:** Never give anything by mouth to an unconscious person. Rinse mouth with water. Seek medical attention if you feel unwell.

**Skin:** Take off immediately all contaminated clothing. Rinse skin with water/shower. Seek medical attention.

**Eyes:** Rinse with pure water for at least 15 minutes. Remove contact lenses, if present and easy to do. Seek medical attention.

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

Most important symptoms and effects, both acute and delayed, are included on labelling (Section 2) and in Section 11.

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

Based on the symptoms that appear, provide targeted treatment. Be aware that symptoms may be delayed.

## 5. Firefighting Measures

**Extinguishing Media:** Use extinguishing agent most appropriate to extinguish surrounding fire.

**Unsuitable extinguishing media:** Water

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

Iron metal is not classified as flammable in solid piece form. Heating or fire may generate iron oxides. Dust generated during processing may form combustible dust-air mixtures in the presence of an ignition source.

**Advice for firefighters**

As in any fire, wear self-contained breathing apparatus (pressure-demand, MSHA/NIOSH approved or equivalent) and full protective gear. Fight fire from a safe distance and with adequate protection. Do not allow firefighting water to enter drains or watercourses. Collect contaminated firefighting water separately.

**Further information**

No data available.

## 6. Accidental Release Measures

**Personal precautions, protective equipment and emergency procedures**

For non-emergency personnel: Remove persons to safety. Use personal protective equipment as required. Avoid dust formation. Ensure adequate ventilation. For emergency responders: Wear breathing apparatus if exposed to vapours/dust/spray/gases.

**Environmental precautions**

Keep away from drains, surface and groundwater. Retain contaminated washing water and dispose of it.

**Methods and materials for containment and cleaning up**

Cover drains. Take up mechanically. Take care not to raise dust. Place in suitable containers for disposal. Ventilate the affected area.

**Reference to other sections**

Refer to protective measures listed in Sections 8 and 13.

## 7. Handling and Storage

**Precautions for safe handling**

Handle in accordance with good industrial hygiene and safety practices. Avoid dust formation and unnecessary inhalation exposure. Wear appropriate personal protective equipment and ensure adequate ventilation during handling. Keep away from ignition sources and incompatible materials.

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

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

Storage class: Non-combustible solids.

**Specific end use(s)**

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

## 8. Exposure Controls/Personal Protection

**Exposure controls**

**Appropriate engineering controls**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

**Personal protective equipment**

**Eye/face protection**

Wear safety glasses with side shields (or goggles) (European standard - EN 166) and face protection.

**Skin protection**

Protective gloves (The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.) Wear appropriate protective gloves and clothing to prevent skin exposure. Wash hands thoroughly after handling.

**Body Protection**

Wear appropriate protective clothing to prevent skin exposure.

**Respiratory protection**

No protective equipment is needed under normal use conditions. Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. Recommended filter type: Particulates filter. Small scale/Laboratory use: Maintain adequate ventilation.

**Control of environmental exposure**

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and groundwater.

## 9. Physical and Chemical Characteristics

**Information on basic physical and chemical properties**

Appearance

Form: Solid (Foil,Granules,Target)

Colour: Silvery gray

Odor: Odorless

pH: No data available

Melting point/range: 1535 °C

Boiling point/range: 2750 °C

Flash point: No data available

Evaporation rate: Not applicable - Solid

Flammability (solid, gas): No data available

Upper/lower flammability or explosive limits: No data available

Vapor pressure: No data available

Relative density: 7.86 $g/cm^3$

Water solubility: Insoluble

Partition coefficient: No data available

Auto-ignition temperature: No data available

Decomposition temperature: No data available

Viscosity: No data available

**Other information**

Molecular formula: Fe

Molecular weight: 55.85 g/mol

## 10. Stability and reactivity

**Reactivity**

None known, based on information available.

**Chemical stability**

Stable under recommended storage conditions.

**Possibility of hazardous reactions**

No information available.

**Conditions to avoid**

Avoid excessive dust generation, incompatible materials, and prolonged exposure to moisture.

**Incompatible materials**

Strong acids. Strong oxidizing agents

**Hazardous decomposition products**

In the event of fire: see section 5

## 11. Toxicological Information

**Information on toxicological effects**

**Acute toxicity**

No data available.

**Skin corrosion/irritation**

No data available.

**Serious eye damage/eye irritation**

No data available.

**Respiratory or skin sensitisation**

No data available.

**Germ cell mutagenicity**

No data available.

**Carcinogenicity**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**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**

Not applicable. Solid.

**Additional Information**

This product does not contain any known or suspected endocrine disruptors.

## 12. Ecological Information

**Toxicity**

No data available.

**Persistence and degradability**

No data available.

**Bioaccumulative potential**

No data available.

**Mobility in soil**

No data available.

**Results of PBT and vPvB assessment**

In accordance with Annex XIII of the REACH Regulation, inorganic substances do not require assessment.

**Other adverse effects**

## 13. Disposal Considerations

**Waste treatment methods**

Dispose of in accordance with all applicable local and national regulations. Use recovery/recycling where feasible, otherwise incineration is the recommended method of disposal. Empty containers may contain hazardous residues. Do not cut, puncture or weld on or near the container. Labels should not be removed from containers until they have been cleaned. Contaminated containers must not be treated as household waste. Containers should be cleaned by appropriate methods and then re-used or disposed of by landfill or incineration as appropriate. Do not incinerate closed containers.

## 14. Transportation Information

**ADR**

Not classified as hazardous for transport.

**IMDG**

Not classified as hazardous for transport.

**IATA**

Not classified as hazardous for transport.

## 15. Regulatory information

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

Regulation (EC) 1907/2006, REACH, Annex XIV list of substances subject to authorisation: Not applicable

Regulation (EC) 1907/2006, REACH, Annex XVII restrictions on the manufacture, placing on the market and use of certain dangerous substances: Not applicable

Regulation (EC) 1005/2009 on substances that deplete the ozone layer: Not applicable

Regulation (EU) 2019/1021 on persistent organic pollutants (POPs), as amended: Not applicable.

**Chemical Safety Assessment**

No Chemical Safety Assessment has been carried out for this substance.

## 16. Other information

**Revision Date:**

2026-10-14

**Version:**

1.0

**Disclaimer**

The information of this safety data sheet is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.
This Safety Data Sheet is prepared in accordance with Regulation (EC) No 1907/2006 (REACH), Annex II.