Materials Safety Data Sheet

Iron Metal Powder

1. Product and Company Identification

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

Recommended Use: Scientific research
Uses advised against: N/A

Supplier: UltraPurMat Group Co., Ltd
Address: Room 307, Building 2, Tengfei Innovation Center, No38 Gaoxin 6th Road, High-tech Zone, Xi'an Shaanxi China
Tel: +86-29-88993870
Email: sales@ulpmat.com
Website: www.ulpmat.com

24-Hour Emergency Contact: +86-13572830939

2. Hazards Identification

Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP). Physical hazards: Flammable solids Category 1 (H228). Health hazards: Not classified. Environmental hazards: Not classified.

GHS Label elements, including precautionary statements

Pictogram:



Signal Word: Danger
Hazard statement(s):
H228 Flammable solid.
Precautionary Statement(s):
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P501 - Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards: According to the results of its assessment, this substance is not a PBT or a vPvB. This product does not contain any known or suspected endocrine disruptors.

3. Composition

Components	CAS	Classification(H)	Concentration
Iron metal (Fe)	7439-89-6	H228	<= 100%

4. First Aid Procedures

Description of first aid measures
General Treatment: Seek medical attention if symptoms persist.
Inhalation: Remove victim to fresh air. Supply oxygen if breathing is difficult.
Ingestion: Seek Medical Attention.
Skin: Wash affected area with mild soap and water. Remove any contaminated clothing.
Eyes: Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.
Indication of any immediate medical attention and special treatment needed
No data available

5. Firefighting Measures

Extinguishing media
Extinguishing Media: Use extinguishing agent most appropriate to extinguish surrounding fire.
Unsuitable extinguishing media: Water
Special hazards arising from the substance or mixture
Iron powder may present a fire hazard. Heating or fire may produce iron oxides and other airborne decomposition products.
Advice for firefighters

Use full-face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. See section 10 for decomposition products.

Further information

No data available

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Use appropriate personal protective equipment. Avoid dust formation and inhalation of dust. Ensure adequate ventilation and evacuate personnel from the affected area when necessary. For personal protection, see Section 8.

Environmental precautions

Isolate runoff to prevent environmental pollution.

Methods and materials for containment and cleaning up

Pickup and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

Reference to other sections

For disposal see section 13.

7. Handling and Storage

Precautions for safe handling

Ensure adequate ventilation. Avoid ingestion and inhalation. Avoid formation of dust. Do not get in eyes, on skin, or on clothing. Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feedingstuffs. For precautions see section 2.

Conditions for safe storage, including any incompatibilities

Store in a cool dry place in a tightly sealed container.

Storage class (TRGS 510): Class 4.1.

Specific end use(s)

Apart from the uses mentioned in section 1 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

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

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).

Body Protection

Protective work clothing. Wear close-toed shoes and long sleeves/pants.

Respiratory protection

Use suitable respiratory protective equipment when required by the exposure assessment. Select equipment that complies with the applicable standards and is appropriate for the airborne dust concentration and the specific working conditions. Engineering controls should be used to minimize dust exposure.

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

9. Physical and Chemical Characteristics

Information on basic physical and chemical properties

Appearance

Form: Solid. Powder

Colour: 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): Flammable solid in accordance with GHS criteria

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: Not applicable

Other information

Molecular formula: Fe

Atomic 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

Heat, flames and sparks. Extremes of temperature and direct sunlight.

Incompatible materials

Acids, Oxygen, Strong oxidizing agents, Halogens, Phosphorus

Hazardous decomposition products

In the event of fire: see section 5 (Iron oxides).

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Oral: LD50 - rat - 30,000 mg/kg.

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

No data available

Additional Information

No data available

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

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

Other adverse effects

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

13. Disposal Considerations

Waste treatment methods

Dispose of the material in accordance with applicable local and national regulations. Where feasible, consider recovery or recycling through an authorized waste management facility. The disposal method should be determined according to the material's properties and applicable requirements.

14. Transportation Information

ADR

UN number: UN3089

UN Proper shipping name: Metal powders, flammable, n.o.s. (Iron)

Transport hazard class(es): 4.1

Packaging group: III

IMDG

UN number: UN3089

UN Proper shipping name: Metal powders, flammable, n.o.s. (Iron)

Transport hazard class(es): 4.1

Packaging group: III

IATA

UN number: UN3089

UN Proper shipping name: Metal powders, flammable, n.o.s. (Iron)

Transport hazard class(es): 4.1

Packaging group: III

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: Not applicable.

Chemical Safety Assessment

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

16. Other information

Revision Date：
2026-09-22
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.