# Materials Safety Data Sheet

Iron Silicide Powder

## 1. Product and Company Identification

Product Name: Iron Silicide
Formula: $FeSi_2$
CAS: 12022-99-0
EC No.: 234-671-8
Synonyms: Iron disilicide

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

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

## 3. Composition

| Components | CAS | Classification (H) | Concentration |
|---|---|---|---|
| Iron silicide ($FeSi_2$) | 12022-99-0 | 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:** Clean mouth. Seek medical attention if you feel unwell.

**Skin:** Remove contaminated clothing and wash the affected area with plenty of water.

**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**

The most important known 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**

Treatment should be provided according to the symptoms observed. Symptoms may be delayed.

## 5. Firefighting Measures

**Extinguishing Media:** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable extinguishing media:** N/A

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

The product is not flammable. Thermal decomposition or combustion of surrounding materials may generate hazardous fumes.

**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 water courses. Collect contaminated firefighting water separately.

**Further information**

Standard procedure for chemical fires.

## 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. Do not use compressed air for cleaning.
For emergency responders: Wear appropriate respiratory protection if dust exposure occurs.

**Environmental precautions**

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

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

Covering of drains. Take up mechanically.
Sweep up and shovel. Take care not to raise dust. Place in appropriate containers for disposal.
Ventilate affected area.

**Reference to other sections**

Refer to protective measures listed in Sections 8 and 13.

## 7. Handling and Storage

**Precautions for safe handling**

Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid ingestion and inhalation. Avoid formation of dust. Do not get in eyes, on skin, or on clothing. Normal measures for preventive fire protection. Handle in accordance with good industrial hygiene and safety practices. Wash hands after handling and before breaks**.**

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

Keep containers tightly closed in a dry, cool and well-ventilated place. Storage class 13.
Incompatible materials: Oxidizing agent.

**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**

Wear safety glasses with side shields (or goggles) (European standard - EN166) and face protection.

**Skin protection**

Hand Protection: Protective gloves (The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN374 derived from it.). Other protection measures: Wear appropriate protective gloves and clothing to prevent skin exposure. Wash hands thoroughly after handling.

**Body Protection**

Wear appropriate protective gloves and clothing to prevent skin exposure.

**Respiratory protection**

Under normal handling conditions, respiratory protection is not required. Use appropriate respiratory protection if dust concentrations exceed occupational exposure limits or if irritation occurs.

**Control of environmental exposure**

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

## 9. Physical and Chemical Characteristics

**Information on basic physical and chemical properties**

Appearance

Form: Powder

Colour: Gray

Odor: Odorless

pH: No data available

Melting point/range: 1220 °C

Boiling point/range: No data available

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: 4.75 g/cm³

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: $FeSi_2$

Molecular weight: 112.02 g/mol

## 10. Stability and reactivity

**Reactivity**

None known, based on information available.

**Chemical stability**

No data available.

**Possibility of hazardous reactions**

No information available.

**Conditions to avoid**

No data available.

**Incompatible materials**

Oxidizing agent.

**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: The substance is not classified as carcinogenic by IARC.

OSHA: Not listed.

**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**

May cause long-term adverse effects in the environment.

**Persistence and degradability**

Persistence: Insoluble in water. Degradability: Not relevant for inorganic substances.

**Bioaccumulative potential**

May have some potential to bioaccumulate.

**Mobility in soil**

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

**Results of PBT and vPvB assessment**

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

**Other adverse effects**

This product does not contain any known or suspected substance.

## 13. Disposal Considerations

**Waste treatment methods**

Dispose of in accordance with all applicable local and national regulations. Use recovery/recycling where feasible. 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:**

This Safety Data Sheet is prepared in accordance with Commission Regulation (EC) 1907/2006, amended by Commission Regulation (EU) 2020/878.

Authorisations/Restrictions: 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 (EC) 850/2004 on persistent organic pollutants, amended by (EU) No 2019/1021: 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 datasheet 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.