Materials Safety Data Sheet

Zirconium Silicide Powder

1. Product and Company Identification

Product Name：Zirconium Silicide
Formula：$ZrSi_2$
CAS: 12039-90-6
EC No.: 234-911-1
Synonyms: Zirconium disilicide, Zirconium(IV) silicide

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, No.38 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: No data available.

3. Composition

Components	CAS	Classification （H）	Concentration
Zirconium silicide ($ZrSi_2$)	12039-90-6	None	⩽100%

4. First Aid Procedures

Description of first aid measures

General Treatment: If symptoms persist, call a physician.

Inhalation: Remove to fresh air. Seek medical attention immediately if symptoms occur.

Ingestion: Clean mouth with water and drink afterwards plenty of water. Seek medical attention if symptoms occur.

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

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 water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media: N/A

Special hazards arising from the substance or mixture

No data available

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 personal protective equipment. Avoid dust formation. Avoid breathing Vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

For personal protection see section 8.

Environmental precautions

Isolate runoff to prevent environmental pollution.

Methods and materials for containment and cleaning up

Pick up 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 feeding stuffs. For precautions see section 2.

Conditions for safe storage, including any incompatibilities

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

Storage class (TRGS 510): Class 13

Store apart from materials and conditions listed in section 10.

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

If dust is generated or exposure limits are exceeded, use an appropriate particulate respirator in accordance with applicable standards. The need for respiratory protection should be determined by a risk assessment. Only use respirators tested and approved under applicable standards.

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: Powder

Colour: Grey

Odor: Odorless

pH: No data available

Melting point/range: No data available

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: 4.88 g/cm^3

Water solubility: Insoluble

Partition coefficient: n-octanol/water: not relevant (inorganic)

Auto-ignition temperature: No data available

Decomposition temperature: No data available

Viscosity: No data available

Other information

Molecular formula: $ZrSi_2$

Molecular weight: 147.39 g/mol

10. Stability and reactivity

Reactivity

This material is not reactive under normal ambient conditions.

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

No known hazardous reactions

Conditions to avoid

No data available

Incompatible materials

Oxidizing agents.

Hazardous decomposition products

Zirconium oxides, Silicon oxides

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

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

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

No data available

Other adverse effects

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

13. Disposal Considerations

Waste treatment methods

Dispose of in accordance with all applicable local and national regulations. Recover or recycle the material where feasible. Otherwise, dispose of it through an authorized waste treatment facility. Empty containers may contain hazardous residues. Do not cut, puncture or weld on or near to

the container. Labels should not be removed from containers until they have been cleaned. Contaminated containers must not be treated as household waste.

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: Not applicable.
Chemical Safety Assessment
No Chemical Safety Assessment has been carried out for this substance

16. Other information

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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.