



Materials Safety Data Sheet

Niobium Disilicide Powder

1. Product and Company Identification

Product Name: Niobium Disilicide

Formula: NbSi_2

CAS No.: 12034-80-9

EC No.: 234-812-3

Synonyms: Niobium Silicide

Recommended Use: Laboratory chemicals, Scientific research

Uses advised against: N/A

Supplier: UltraPurMat Group Co., Ltd

Address: Room307, Building2, Tengfei Innovation Center, No38Gaoxin 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)

Serious eye damage/eye irritation, Category 2 (H319);

Specific target organ toxicity - single exposure, Category 3 (H335).

GHS Label elements, including precautionary statements

Pictogram:



Signal Word: Warning

Hazard statement(s):

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

Precautionary Statement(s):

P280 Wear protective gloves/protective clothing.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P312 Call a POISON CENTER or doctor if you feel unwell.

P337+P313 If eye irritation persists: Get medical advice/attention.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards: Dust may cause mechanical irritation to eyes, skin and respiratory tract.

3. Composition

Components	CAS	Classification (H)	Concentration
Niobium Silicide (NbSi ₂)	12034-80-9	H319; H335	≤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. Seek medical attention if symptoms occur.

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 dry powder, sand or appropriate extinguishing media suitable for surrounding fire.

The product itself does not burn.

Unsuitable extinguishing media: N/A

Special hazards arising from the substance or mixture

Niobium oxides. Silicon oxides. Non-flammable. Ambient fires may release harmful 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 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

Use personal protective equipment. Avoid dust formation. 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

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

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

Use a respirator with type N95 (USA) or PE (EN 143) cartridges as a backup to engineering controls. Risk assessment should be performed to determine if purifying respirators are appropriate. Only use equipment tested and approved under appropriate government 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: Gray-black

Odor: Odorless

pH: No data available

Melting point/range: 1950 °C

Boiling point/range: Not applicable

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: 5.7 g/cm³

Water solubility: Insoluble.

Solubility in other solvents: No data available.

Partition coefficient: n-octanol/water: No data available

Auto-ignition temperature: No data available

Decomposition temperature: No data available

Viscosity: Not applicable

Other information

Molecular formula: NbSi₂

Molecular weight: 149.08 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 hazardous polymerization is expected. No hazardous reactions are known under normal storage and handling conditions.

Conditions to avoid

No data available

Incompatible materials

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

Not classified. Dust may cause mechanical irritation.

Serious eye damage/eye irritation

Causes serious eye irritation

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 a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

No data available

Specific target organ toxicity -single exposure

May cause respiratory irritation

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 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 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

UN number : Not applicable

UN Proper shipping name : Not classified as hazardous for transport.

Transport hazard class(es) : Not applicable

Packaging group : Not applicable

IMDG

UN number : Not applicable

UN Proper shipping name : Not classified as hazardous for transport.

Transport hazard class(es) : Not applicable

Packaging group : Not applicable

IATA

UN number : Not applicable

UN Proper shipping name : Not classified as hazardous for transport.

Transport hazard class(es) : Not applicable

Packaging group : Not applicable

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 (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

2026-09-14

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.