

Silicon Nanoparticles (Si)

Material Safety Data Sheet

1 Identification of substance:

Product details:

- **Trade name:** Silicon powder

Company: SAT NANO TECHNOLOG MATERIAL CO, LTD

Contact information

Contact:13929258449

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2 Composition/Data on components:

Chemical characterization:

Description: (CAS#)

Silicon (CAS# 7440-21-3), 99% to 99.9%

Identification number(s):

EINECS Number: 231-130-8

3 Hazards identification

Hazard description:

Xi Irritant

Information pertaining to particular dangers for man and environment

R 36/37/38 Irritating to eyes, respiratory system and skin.

4 First aid measures

After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm.

Seek immediate medical advice.

After skin contact

Immediately wash with water and soap and rinse thoroughly.
Seek immediate medical advice.

After eye contact

Rinse opened eye for several minutes under running water.
Then consult a doctor.

After swallowing Seek immediate medical advice.

5 Fire fighting measures

Suitable extinguishing agents Extinguishing powder. Do not use water. Class D Fire: Use dry powder, dry sand, or carbon dioxide to smother Fire

For safety reasons unsuitable extinguishing agents

Water Carbon dioxide

Protective equipment:

Wear self-contained respirator.

Wear fully protective impervious suit.

6 Accidental release measures

Person-related safety precautions:

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Keep away from ignition sources

Measures for environmental protection:

Do not allow material to be released to the environment without proper governmental permits.

Measures for cleaning/collecting:

Ensure adequate ventilation.

Keep away from ignition sources.

Additional information:

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

Handling

Information for safe handling:

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation at the workplace.

Information about protection against explosions and fires:

Keep ignition sources away.

Protect against electrostatic charges.

Storage

Requirements to be met by storerooms and receptacles:

Store in a cool location.

Information about storage in one common storage facility:

Store away from oxidizing agents.

Store away from halogens.

Store away from water/moisture.

Do not store together with acids.

Further information about storage conditions:

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

8 Exposure controls and personal protection

Additional information about design of technical systems:

Components with limit values that require monitoring at the workplace:

Additional information: No data

Personal protective equipment

General protective and hygienic measures

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Breathing equipment:

Use suitable respirator when high concentrations are present.

Protection of hands: Impervious gloves

Eye protection: Safety glasses

Body protection: Protective work clothing.

9 Physical and chemical properties:

Form: Solid Powder

• **Color:** Yellow Brown

Odor: Odorless

	<u>Value/Range</u>	<u>Unit</u>	<u>Method</u>
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Change in condition

Melting point/Melting range: 1440. ° C

Boiling point/Boiling range:

Sublimation temperature / start: Not determined

Flash point: Not applicable

Flammability (solid, gaseous) Not applicable

Ignition temperature: Not determined

Decomposition temperature: Not determined

Explosion limits:

- Lower:** Not determined
- Upper:** Not determined
- Vapor pressure:** Not determined
- Density:** at 20 ° C 2.329 g/cm³
- Solubility in / Miscibility with**
- Water:** Insoluble

10 Stability and reactivity

- **Stability:** Stable
- **Hazardous Polymerization:** Will Not occur
- **Incompatibilities:** Acids and strong bases
- **Instable Conditions:** Excessive temperatures (see Incompatibilities).
- **Decomposition Temperature:** N/A
- **Decomposition products:** N/A

11 Toxicological information

- Acute toxicity:**
LD/LC50 values that are relevant for classification:
Oral: LD50: 3160 mg/kg (rat)
Irritation of eyes: mild: 3 mg (rbt)
- Primary irritant effect:**
- on the skin:** Irritant to skin and mucous membranes.
- on the eye:** Irritating effect.
- Sensitization:** No sensitizing effects known.
- Subacute to chronic toxicity:**
Elementary silicon is an inert material that seems to have

little adverse effect on lungs and does not appear to produce significant organic disease or toxic effects when exposures are kept under reasonable control.

Additional toxicological information:

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

12 Ecological information:

General notes:

Do not allow material to be released to the environment without proper governmental permits.

13 Disposal considerations

Product:

Recommendation

Consult state, local or national regulations for proper disposal.

Uncleaned packagings:

Recommendation:

Disposal must be made according to official regulations.

14 Transport information

DOT regulations:

Hazard class: N/A

Identification number: N/A

Packing group: N/A

Proper shipping name (technical name):
Silicon Powder

Land transport ADR/RID (cross-border)

ADR/RID class: N/A

- Item:** N/A
- Danger code (Kemler):** N/A
- UN-Number:** N/A
- Description of goods:** Silicon powder

- Maritime transport IMDG:**
- IMDG Class:**
- UN Number:**
- Packaging group:**
- Proper shipping name:** Silicon Powder

- Air transport ICAO-TI and IATA-DGR:**
- ICAO/IATA Class:**
- UN/ID Number:**
- Packaging group:**
- Proper shipping name:** Silicon Powder

15 Regulations

- Product related hazard informations:**
- Hazard symbols:**
Xi Irritant
- Risk phrases:**
36/37/38 Irritating to eyes, respiratory system and skin.
- Safety phrases:**
26 In case of contact with eyes, rinse immediately

with plenty of water and seek medical advice.
36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

National regulations

Information about limitation of use:

For use only by technically qualified individuals.

16 Other information:

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.