

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: **Silicon Nanoparticles A50**

Catalog Number: NovaNP-Si-A50

Formula: Si

Diameter: ~50nm

Supplier: Novarials Corporation
19 Crosby Drive, Suite 290
Bedford, MA 01730

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Telephone: +1 617-276-5642

2. HAZARDS IDENTIFICATION

Emergency Overview

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable solids (Category 2), H228

GHS Label elements, including precautionary statements



Pictogram

Signal word Warning

Hazard statement(s)

H228 Flammable solid.

Precautionary statement(s)

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P240 Ground/bond container and receiving equipment.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

HMIS Ratings

Health Hazard: 1

Chronic Health Hazard: *

Flammability: 2

Physical Hazard: 2

NFPA Ratings

Health Hazard: 0
Fire Hazard: 0
Reactivity Hazard: 2

Hazards not otherwise classified (HNOC) or not covered by GHS - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : Silicon
Formula: Si
Molecular Weight: 28.09 g/mol

Component		Concentration
Silver		
CAS-No.	7440-21-3	
EC-No.	231-130-8	

4. FIRST AID MEASURES**General advice**

Move out of dangerous area. Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIREFIGHTING MEASURES**Suitable extinguishing media**

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

Special protective equipment for firefighters

Wear self contained breathing apparatus for firefighting if necessary.

Hazardous combustion products

Silicon oxides

6. ACCIDENTAL RELEASE MEASURES**Personal precautions**

Use personal protective equipment. Avoid dust formation. Ensure adequate ventilation. Avoid breathing dust. Avoid breathing vapors, mist or gas. Remove all sources of ignition. Evacuate personnel to safe

areas.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Risk of explosion.

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.

7. HANDLING AND STORAGE

Precautions for safe handling

Provide appropriate exhaust ventilation at places where dust is formed.

Conditions for safe storage

Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

8. PERSONAL PROTECTION

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye 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).

Body protection

Impervious clothing, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures

General industrial hygiene practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Form	powder
Color	brown

Safety data

pH	no data available
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Melting point/freezing point	no data available
Boiling point	no data available
Flash point	no data available
Ignition temperature	no data available
Auto ignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapour pressure	no data available
Water solubility	no data available
Partition coefficient: n-octanol/water	no data available
Relative vapour density	no data available
Odour	no data available
Odour Threshold	no data available
Evaporation rate	no data available

10. STABILITY AND REACTIVITY

Reactivity

no data available

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

no data available

Conditions to avoid

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

Materials to avoid

Strong oxidizing agents, Alkali carbonates, Calcium, cobalt difluoride, manganese trifluoride

Hazardous decomposition products

Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50

no data available

Inhalation LC50

no data available

Dermal LD50

no data available

Other information on acute toxicity

no data available

Skin corrosion/irritation

no data available

Serious eye damage/eye irritation

no data available

Respiratory or skin sensitization

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.
ACGIH:	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP:	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA:	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

Teratogenicity

no data available

Specific target organ toxicity -single exposure (Globally Harmonized System)

No data available

Specific target organ toxicity -repeated exposure (Globally Harmonized System)

No data available

Aspiration hazard

no data available

Additional Information

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12. ECOLOGICAL INFORMATION

Toxicity

no data available

Persistence and degradability

no data available

Bioaccumulative potential

no data available

Mobility in soil

no data available

PBT and vPvB assessment

no data available

Other adverse effects

no data available

13. DISPOSAL CONSIDERATIONS**Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION**DOT (US)**

UN number: 1346 Class: 4.1 Packing group: III

Proper shipping name: Silicon powder, amorphous

Poison Inhalation Hazard: No

IMDG

UN number: 1346 Class: 4.1 Packing group: III EMS-No: F-A, S-G

Proper shipping name: Silicon powder, amorphous

IATA

UN number: 1346 Class: 4.1 Packing group: III

Proper shipping name: Silicon powder, amorphous

15. REGULATORY INFORMATION**OSHA Hazards**

No known OSHA hazards

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Fire Hazard

Massachusetts Right To Know Components

Silicon

CAS-No. 7440-21-3

Pennsylvania Right To Know Components

Silicon

CAS-No. 7440-21-3

New Jersey Right To Know Components

Silicon

CAS-No. 7440-21-3

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. DISCLAIMER

Novarials Corporation believes that the information in this Safety Data Sheet is accurate and represents the best and most current information available to us. Novarials Corporation makes no representations or warranties either express or implied, regarding the suitability of the materials for any purpose or the accuracy if the information contained within this document. Accordingly, Novarials Corporation and its affiliates shall not be held liable for any damage resulting from shipping, handling, storage, use of the above product.