STANFORD ADVANCED MATERIALS

SAFETY DATA SHEET

Date Accessed: 25/08/2023

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SECTION 1. IDENTIFICATION

Product Name: Silicon Oxide Wafer

CAS #: 60676-86-0

Relevant identified uses of the substance: Scientific research and development

Supplier details:

Stanford Advanced Materials

E-mail: sales@samaterials.com

Tel: (949) 407-8904

Address: 23661 Birtcher Dr., Lake Forest, CA 92630 U.S.A.

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

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

Eye irritation (Category 2A), H319

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

Specific target organ toxicity - repeated exposure, Inhalation (Category 2), Lungs, H373

2.2 GHS Label elements, including precautionary statements

Pictogram

Signal word Warning

Hazard statement(s)

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H373 May cause damage to organs (Lungs) through prolonged or repeated exposure if inhaled.

Precautionary statement(s)

P260 Do not breathe dust/ fume/ gas/ mist/ Vapors/ spray.

P264 Wash skin thoroughly after handling.P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/ eye protection/ face protection.

P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P314 Get medical advice/ attention if you feel unwell.

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

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

P501 Dispose of contents/ container to an approved waste disposal plant.

HMIS Rating

Health hazard: 2

Chronic Health Hazard: *

Flammability: 0

Physical Hazard 0

NFPA Rating

Health hazard: 2

Fire Hazard: 0

Reactivity Hazard: 0

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

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SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Synonyms : Silica

Quartz

Sand

Cristobalite

Formula : O2Si

Molecular weight : 60.08 g/mol

CAS-No. : 60676-86-0

EC-No. : 262-373-8

Hazardous components

Component Classification Concentration

Silica, vitreous

Eye Irrit. 2A; STOT SE 3;

STOT RE 2; H319, H335,

H373, H319, H335, H373

<= 100 %

STOT RE Specific target organ toxicity - repeated exposure

STOT SE Specific target organ toxicity - single exposure

SECTION 4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice

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

If inhaled

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

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 for at least 15 minutes and consult a physician.

If swallowed

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

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2)

and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

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

5.2 Special hazards arising from the substance or mixture

Nature of decomposition products not known.

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

No data available

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 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. Avoid breathing dust.

For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 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.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

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

7.3 Specific end use(s)Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Component: Silica, vitreous

CAS-No. : 60676-86-0

Value | Control parameters | Basis

TWA | 20.000000 Million particles per cubic foot | USA. Occupational Exposure Limits (OSHA) - Table

Z-3 Mineral Dusts

Remarks: Millions of particles per cubic foot of air, based on impinger samples counted by light-field techniques.

mppcf X 35.3 = million particles per cubic meter = particles per c.c

See table Z-3

TWA | 20.000000 Million particles per cubic foot | USA. Occupational Exposure Limits (OSHA) - Table

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Millions of particles per cubic foot of air, based on impinger samples

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TWA | 80.000000 mg/m3 / %SiO2 | USA. Occupational Exposure Limits (OSHA) - Table Z-3 Mineral Dusts

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Z-3 Mineral Dusts

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TWA | 80.000000 mg/m3 / %SiO2 | USA. Occupational Exposure Limits

(OSHA) - Table Z-3 Mineral Dusts

TWA | 0.050000 mg/m3 | USA. NIOSH Recommended Exposure Limits

Potential Occupational Carcinogen

See Appendix A

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See Appendix A

TWA | 6.000000 mg/m3 | USA. NIOSH Recommended Exposure Limits

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SECTION 8. EXPOSURE CONTROLS/PERSONAL

PROTECTION

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

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin 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.Suitability of gloves should be determined both by material and quality, the latter of which may vary by

manufacturer.

Material of gloves

Nitrile rubber, NBR

Penetration time of glove material (in minutes)

No data available

Body Protection

impervious clothing, The type of protective equipment must be selected according to the concentration

and amount of the dangerous substance at the specific workplace.

Respiratory protection

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level

protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Do not let product enter drains.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a) Appearance Form: Powder, pieces, or solid in various forms

b) Odor No data available

c) Odor Threshold No data available

d) pH No data available

e) Melting point/freezing

point

Melting point/range: 1,610 °C (2,930 °F) - lit.

f) Initial boiling point and

boiling range

No data available

g) Flash point N/A

h) Evaporation rate No data available

i) Flammability (solid, gas) No data available

j) Upper/lower

flammability or

explosive limits

No data available

k) Vapor pressure No data available

l) Vapor density No data available

m) Relative density 2.6 g/mL at 25 °C (77 °F)

n) Water solubility No data available

o) Partition coefficient: noctanol/

water

No data available

p) Auto-ignition

temperature

No data available

q) Decomposition

temperature

No data available

r) Viscosity No data available

s) Explosive properties No data available

t) Oxidizing properties No data available9.2 Other safety information

No data available

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

No data available

10.6 Hazardous decomposition products

Other decomposition products - No data available

In the event of fire: see section 5

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

No data available

Inhalation: No data available

Dermal: No data available

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

Carcinogenicity - Rat - Implant

Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Gastrointestinal: Tumors.
Tumorigenic:

Tumors at site or application.

IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Silica, vitreous)

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1 - Group 1: Carcinogenic to humans (Silica, vitreous)

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3 - Group 3: Not classifiable as to its carcinogenicity to humans (Silica, vitreous)

1 - Group 1: Carcinogenic to humans (Silica, vitreous)

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: Known to be human carcinogen (Silica, vitreous)

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 toxicityNo data available

No data available

Specific target organ toxicity - single exposure

Inhalation - May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

Inhalation - May cause damage to organs through prolonged or repeated exposure. - Lungs

Aspiration hazard

No data available

Additional Information

RTECS: VV7328000

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

investigated.

Stomach - Irregularities - Based on Human Evidence

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

No data available

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

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.

SECTION 14. TRANSPORT INFORMATION

DOT (US)

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

SECTION 15. REGULATORY INFORMATION

SARA 302 Components

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

Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

Silica, vitreous

CAS-No.

60676-86-0

Revision Date

1993-04-24

Pennsylvania Right To Know Components

Silica, vitreous

CAS-No.

60676-86-0

Revision Date

1993-04-24

New Jersey Right To Know Components

Silica, vitreous

CAS-No.

60676-86-0

Revision Date

1993-04-24

California Prop. 65 Components

WARNING! This product contains a chemical known to the State of California to cause cancer.

Silica, vitreous

CAS-No.

60676-86-0

Revision Date

2007-09-28

SECTION 16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the

properties of the product.