



Advanced Materials Technologies & Services

Material Safety Data Sheet Silicon Nitride Products

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Section 1: Product and Company Identification

PRODUCT NAME: Silicon Nitride Products
CHEMICAL FAMILY: Silicates
CHEMICAL NAME: Silicon Compound
MANUFACTURER: Materion Brewster LLC
PO Box 1950
Brewster, NY 10509-8950

EMERGENCY TELEPHONE: 845-279-0900 CHEMTREC 800-424-9300 (24 hour)

Section 2: Composition/Ingredients

MATERIAL	CAS NO.	% wt.	* TLV, ACGIH	* PEL, OSHA
Silicon Nitride	12033-89-5	96	10 Total Dust	10 Magnesium oxide
1309-48-4	4	10 Total Dust	10	

*All exposure limits are in milligram per cubic meter of air (mg/m³)

Section 3: Hazard Identification

EMERGENCY OVERVIEW:

The products as sold in solid form are generally not considered hazardous. However, if the process involves grinding, melting, cutting or any other process that causes a release of dust or fumes, hazardous levels of airborne particulate could be generated.

PRIMARY ROUTES OF ENTRY: Inhalation, Skin contact.

TARGET ORGANS: Respiratory tract; Skin

HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE:

Listed below are certain potential health hazards, which apply to the hazardous ingredients, found in the subject Material.

Silicon: Inhalation - Respiratory irritant. Accumulation in lungs may be responsible for benign pneumoconiosis. Prolonged inhalation may cause pulmonary fibrosis known as silicosis
Ingestion - Moderately toxic by ingestion
Eye/Skin - Eye irritant

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

Individuals who may have had allergic reactions to metals or sensitivity, may encounter skin rash or dermatitis, if skin contact with this product occurs. Persons with impaired pulmonary functions, may incur further impairment if dust or fumes are inhaled

CARCINOGENIC REFERENCES:

The National Toxicology Program (NTP), the International Agency for Research on Cancer (IARC) and OSHA, does not list material as a carcinogen



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Section 4: First Aid Measures

- FIRST AID FOR EYES:** Dust or powder should be flushed from the eyes with running water for 15 minutes. If irritation persists obtain medical assistance.
- FIRST AID FOR SKIN:** Skin cuts and abrasions can be treated by standard first aid. Skin contamination with dust or powder can be removed with soap and water. If irritation persists obtain medical assistance.
- FIRST AID FOR INGESTION:** Obtain medical assistance at once.
- FIRST AID FOR INHALATION:** Breathing difficulty, caused by inhalation of dust or fume requires removal to fresh air. If breathing has stopped perform artificial respiration and seek medical assistance at once.

Section 5: Fire Fighting Measures

- FLASH POINT:** Non-flammable as a solid,
- EXTINGUISHING MEDIA:** This material is non-combustible. For surrounding fires use appropriate extinguishing agent. Do not use water to extinguish fires around operations involving molten metal, due to the potential for steam explosion.
- SPECIAL FIRE FIGHTING PROCEDURES:** Self-contained breathing apparatus should be worn when fighting metal dust fires. High levels of dust or fine particles in the air may ignite or explode.

Section 6: Accidental Release Measures

- SPILL OR LEAK PROCEDURES:** In solid form this material poses no special clean-up problems. Use normal clean up procedures; wet sweeping or HEPA vacuum, for clean up of dust or powder. Do not use compressed air for cleaning.

Section 7: Storage and Handling

- In solid form this material poses no special problems. Store metal in a dry area. Do not store adjacent to acids.

Section 8: Exposure Control/Personal Protection

- EYE PROTECTION REQUIREMENTS:** Safety glasses are recommended.
- SKIN PROTECTION REQUIREMENTS:** Protective gloves are recommended, to prevent mechanical irritation.
- RESPIRATORY PROTECTION:** Not normally required. Use an appropriate NIOSH approved respirator if airborne dust concentration exceed the OSHA, PEL or ACGIH , TLV
- OTHER PROTECTIVE EQUIPMENT:** Eye wash fountain should be readily available in areas of use or handling.
- EXPOSURE LIMITS:** Not established for product as whole. Refer to Section 2.
- VENTILATION REQUIREMENTS:**



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LOCAL EXHAUST: Recommended, when cutting, grinding or melting or any other operation where dust or fumes are created

GENERAL: Recommended

ENVIRONMENTAL SURVEILLANCE: If the operation generates dust or fumes, exposure to airborne materials should be determined by having air samples taken in the employees breathing zone and work area.

Section 9: Physical and Chemical Properties

PHYSICAL FORM:	Solid	COLOR:	Gray
ODOR:	None	MELT POINT:	1900°
SOLUBILITY IN WATER:	Insoluble	SPECIFIC GRAVITY:	N/A
VOLATILE BY WEIGHT:	Essentially zero	VAPOR PRESSURE:	N/A
DENSITY:	3.44 g/cm ³		

Section 10: Reactivity

STABILITY: This is a stable material. HAZARDOUS POLYMERIZATION: Will not occur.

INCOMPATIBILITIES: No hazardous reactions known.
DECOMPOSITION PRODUCTS: None under proper usage conditions.
CONDITIONS TO AVOID: Conditions which create dust or fumes.

Section 11: Toxicological Information

There is no information on the toxicity of this alloy. Under normal use of the solid form of this material there are few health hazards. Welding, cutting grinding or any process creating dust, fume or oxide may cause hazardous levels of certain elements, as addressed in Section 2.

Section 12: Ecological Information

In solid form this material poses no special environmental problems. Powder or dust may have significant impact on air and water quality. Emissions, spills and releases to the environment should be controlled immediately.

Section 13: Disposal Considerations

Because of its high intrinsic value this material should be reclaimed. Dispose of in accordance with all applicable Federal, State and Local Regulations.

Section 14: Transportation Information

D.O.T. SHIPPING NAME:	Not regulated	TECHNICAL SHIPPING NAME:	Metal Alloy
D.O.T. HAZARD CLASS:	None	UN/NA NUMBER:	None
PRODUCT RQ:	None		

IATA, Dangerous Goods Regulations: Not Regulated, in solid form

Section 15: Regulatory Information

OSHA STATUS: No specific regulations. The Hazard Communication Standard of the Occupational Safety and Health Administration, 29 CFR 1910.1200, considers components of this product a Hazardous Substance.



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TSCA STATUS:

These products are a mixture. Components of these products are listed on the TSCA Chemical Substance Inventory of Existing Chemical Substances.

SARA TITLE III: The constituents of this alloy contain hazardous substances, above one(1) percent, and are subject to the reporting requirements under SARA Title III Section 313.

SUBSTANCE	CAS No.	PERCENT MAXIMUM
None		

INTERNATIONAL REGULATIONS

CANADA – WHMIS Disclosure List:

Substance does not fall into any sections of SOR/DORS-88-66

EUROPEAN UNION

Risk Phrase:

R-20

Section 16: Other Information

PREPARED BY: Lee Oman, CECM

DATE OF REVISION: September 2004

This MSDS has been revised following the guidelines outlined in the American National Standard for Hazardous Materials Z400.1.1393 “Material Safety Data Sheets – Preparation”

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