MATERIAL SAFETY DATA SHEET

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Emergency Phone Numbers:
CHEMTREC: 800/424-9300
POISON CENTER: 800/562-8236

Date of Last Revision: 12-4-90

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SECTION 1
PRODUCT IDENTIFICATION

CHEMICAL NAME(S) AND SYNONYM(S): Silicon Nitride, FORMULA: Si (3) N(4)
Trisilicon Tetranitride

CHEMICAL FAMILY: Metal Nitride

TSCA: Product is listed.

CAL. MOLECULAR WEIGHT: 140.286

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SECTION 2
INGREDIENTS/SUMMARY OF HAZARDS

INGREDIENT(S)       CAS #     %     TLV     OSHA PEL
Silicon Nitride     12033-89-5 100   10mg/m³ 10mg/m³ -- As Si
                             0.1mg/m³ -- As SiO(2)

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SECTION 3
PHYSICAL DATA

BOILING POINT (°C): ND          DENSITY (gm/cc): 3.44
VAPOR PRESSURE: NA              % VOLATILE BY VOLUME: NA
REACTION WITH WATER: Exothermic EVAPORATION RATE: NA
SOLUBILITY WITH WATER: Insoluble MELTING POINT (°C): 1900
APPEARANCE/ODOR: Grayish white amorphous powder. Slight ammonia odor.

OTHER:

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SECTION 4
FIRE AND EXPLOSION HAZARD DATA

FLASH POINT/ METHOD: NA
AUTOIGNITION TEMP (°C): NA
FLAMMABILITY: Non-flammable
EXTINGUISHING MEDIA: ( ) Water    ( ) Foam    ( ) Class D Extinguisher
( ) Dry Chemical    ( ) CO2
( ) Other (specify):

SPECIAL FIRE FIGHTING PROCEDURES: Wear NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Material may emit fumes if involved in a fire or on contact with acid or acidic fumes.

SECTION 5
HEALTH HAZARD DATA

TOXICITY DATA: No data on this compound.

ROUTE(S) OF ENTRY: (x) Inhalation    (x) Skin    (x) Ingestion

EFFECTS OF OVEREXPOSURE (acute and chronic)

INHALATION: A respiratory irritant. May cause irritation to the mucous membranes of the nose and throat.

DERMAL/EYE CONTACT: Irritation and inflammation possible. May cause dermatitis.

OTHER (specify): ** See Attached Sheet **

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Respiratory disorders.

CARCINOGENICITY: none   NTP: no   IARC MONOGRAPHS: no   OSHA REGULATED: no

EMERGENCY AND FIRST AID PROCEDURES:

INGESTION: Induce vomiting. Seek Medical attention.
INHALATION: Remove victim to fresh air. Administer oxygen. Seek medical attention.

SKIN: Brush material off skin. Wash affected area with soap and water.

EYES: Flush eyes with water for 15 mins. Seek medical attention.

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SECTION 6
REACTIVITY DATA

STABILITY: ( ) Stable (x) Unstable
CONDITIONS CONTRIBUTING TO UNSTABILITY: Air and moisture.

INCOMPATIBILITY (materials to avoid):
(x) Water ( ) Combustible materials (x) Strong bases
( ) Reducing Agents ( ) Strong oxidizing materials (x) Strong acids
( ) Other (specify):

HAZARDOUS DECOMPOSITION PRODUCTS: SiOx, NH3

HAZARDOUS POLYMERIZATION: ( ) May occur (x) Will not occur

CONDITIONS TO AVOID: Heat, air, water/moisture and incompatible materials.

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SECTION 7
SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Wearing full protective clothing, isolate the area and insure proper ventilation. Vacuum up spill and place in a container for proper disposal.

WASTE DISPOSAL METHOD: In accordance with regulations.

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SECTION 8
SPECIAL PROTECTIVE INFORMATION

RESPIRATORY PROTECTION: (Specify type) NIOSH/MSHA approved respirator
VENTILATION: LOCAL EXHAUST: Maintain exposure below TLV
MECHANICAL (General): Recommended
SPECIAL: Handle in a dry, inert, controlled atmosphere.

PROTECTIVE GLOVES: Neoprene

EYE PROTECTION: (x) Safety Glasses with Side Shields
( ) Chemical Workers Dust-Proof Goggles (under dusting conditions)
( ) Gas-Tight Goggles or Equivalent
( ) Other (specify):

OTHER PROTECTIVE EQUIPMENT: Maintain sink, safety shower and eyewash fountain in the work area. Wear full protective clothing at all times.

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SECTION 9
SPECIAL PRECAUTIONS AND TRANSPORTATION REGULATIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Store in tightly closed containers in a cool, dry place. Wash hands and face thoroughly.

TRANSPORTATION REQUIREMENTS: No D.O.T. regulations classified.

DOT CLASS:
UN NUMBER:
IMCO CLASS:
OTHER: SPC, Corrosive.

ND = No Data Found NA = Not Applicable
The action of crystalline silica on the lungs results in the production of a diffuse, modular fibrosis in which the parenchyma and the lymphatic system are involved. This fibrosis is, to a certain extent, progressive and may continue to increase for several years after exposure is terminated. When the pulmonary reserve is sufficiently reduced, the worker complains of shortness of breath or exertion. This is the first and most common symptom in cases of uncomplicated silicosis. If severe, it may incapacitate the worker for heavy or even light physical exertion and in extreme cases, there may be shortness of breath even while at rest.

The details of the toxicity of nitrides as a group are unknown. However, many nitrides react with moisture to evolve NH3. This gas is an irritant to the mucous membranes.

**MATERIAL SAFETY DATA SHEET**

Employers should use this information only as a supplement to other information gathered by them and should make independent judgment 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.