


**ELECTRONIC SPACE PRODUCTS INTERNATIONAL**

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**MATERIAL SAFETY DATA SHEET**
**I PRODUCT IDENTIFICATION**

**Trade Name:** Silicon IV Nitride  
**Formula:** Si<sub>3</sub>N<sub>4</sub>

**Chemical Family:** Nitride  
**CAS #:** 12033-89-5

**II HAZARDOUS INGREDIENTS**

<u>%</u>	<u>PEL</u>	<u>TLV</u>
100	Not Established	Not Established

**III PHYSICAL DATA**

<b>Boiling Point:</b>	N/A	<b>Melting Point:</b>	1900 °C (sublimes)
<b>Specific Gravity (H<sub>2</sub>O = 1):</b>	3.44	<b>Vapor Pressure:</b>	N/A
<b>% Volatiles by Volume:</b>	N/A	<b>Solubility in H<sub>2</sub>O:</b>	Insoluble
<b>Calc. Molecular weight:</b>	140.28	<b>Vapor Density (Air = 1):</b>	N/A
<b>Appearance and Odor:</b>	Gray powder, odorless		

**IV FIRE AND EXPLOSION HAZARDS DATA**

**Flash Point (Method Used):** N/A  
**Flammable Limits in Air:** Lower: N/A Upper: N/A

**Autoignition Temperature:** N/A

**Extinguishing Media:** Use water, carbon dioxide, dry chemical, dry chemical extinguishing agents, dry sand or dry ground dolomite.

**Special Fire Fighting Procedures:** No special fire-fighting procedures needed. Use normal procedures which include

wearing NIOSH/MSHA approved self-contained breathing apparatus, flame and chemical resistant clothing; hats, boots and gloves. If without risk, remove material from fire area. Cool container with water from maximum distance.

**Unusual Fire & Explosion Hazard:** None known

## V HEALTH HAZARD INFORMATION

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**Effects of over Exposure: Acute:**

**Ingestion:** May be harmful, effects not known.

**Skin Contact:** May cause irritation.

**Eye Contact:** May cause irritation.

**Inhalation:** Dust may cause irritation to upper respiratory tract.

**Medical Conditions, if any, Aggravated by the Chemical:** None known.

**Other Health Hazards:** None known.

**Chronic Effects:** None known.

**Carcinogenicity:** NTP: No      IARC: No      OSHA: No      EPA: No

## EMERGENCY AND FIRST AID PROCEDURES

**INHALATION:** Remove to fresh air. If not breathing, give artificial respiration. Call physician immediately.

**EYES:** Immediately flush eyes, including under eyelids, with large amounts of water. If irritation persists seek medical attention.

**SKIN:** Remove contaminated clothing, flood skin with large amounts of water. If irritation persists seek medical attention.

**INGESTION:** No specific information available, but one should obtain medical attention.

## VI REACTIVITY DATA

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**Stability:** Stable

**Conditions to Avoid:** None known

**Incompatibility (Material to Avoid):** None known

**Hazardous Decomposition Products:** None known

**Hazardous Polymerization:** Will not occur

## VII SPILL OR LEAK PROCEDURES

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**Steps to Be Taken in Case Material Is Released or Spilled:** Wearing full protective equipment, cover spill with dry sand or vermiculite. Mix well and carefully transfer to a container.

**Waste Disposal Method:** Consult state, local or federal EPA regulations for proper disposal.

## VIII SPECIAL PROTECTION INFORMATION

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**Respiratory Protection:** Use a NIOSH/MSHA approved dust respirator.

**Ventilation:** Laboratory fume hood.

**Protective Gloves:** Rubber

**Eye Protection:** ANSI approved safety goggles.

**Other Protective Equipment:** Normal laboratory wear.

## IX SPECIAL PRECAUTIONS

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**Handling and Storage:** Keep container tightly closed. Store in a cool, dry, well-ventilated area. Wash thoroughly after use.

**Other Precautions:** Lab coat and apron, flame and chemical resistant coveralls, eyewash capable of sustained flushing, safety drench shower and hygienic facilities for washing. Caution: Dust may irritate skin and eyes.

The above information is believed to be correct, but does not purport to be all inclusive and shall be used only as a guide. ESPI shall not be held liable for any damage resulting from handling or from contact with the above product.

Prepared By: S. Dierks  
Dated: May 1996