Material Safety Data Sheet  
Silicon Metal Lump

ACC# 88532

Section 1 - Chemical Product and Company Identification

MSDS Name: Silicon Metal Lump  
Catalog Numbers: S76782  
Synonyms: None.  
Company Identification:  
Fisher Scientific  
1 Reagent Lane  
Fair Lawn, NJ 07410  
For information, call: 201-796-7100  
Emergency Number: 201-796-7100  
For CHEMTREC assistance, call: 800-424-9300  
For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name</th>
<th>Percent</th>
<th>EINECS/ELINCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>7440-21-3</td>
<td>Silicon</td>
<td>100.0</td>
<td>231-130-8</td>
</tr>
</tbody>
</table>

Section 3 - Hazards Identification

EMERGENCY OVERVIEW
Appearance: silver-gray solid.  
Caution! May cause eye and skin irritation. May cause respiratory and digestive tract irritation.  
Moisture sensitive.  
Target Organs: Lungs.

Potential Health Effects
Eye: May cause eye irritation.  
Skin: May cause skin irritation.  
Ingestion: May cause irritation of the digestive tract. 
Inhalation: May cause respiratory tract irritation.  
Chronic: Not available.

Section 4 - First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.  
Skin: Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists. Wash clothing before reuse.  
Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water.
Get medical aid.

**Inhalation:** Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.

**Notes to Physician:** Treat symptomatically and supportively.

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### Section 5 - Fire Fighting Measures

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Dusts at sufficient concentrations can form explosive mixtures with air. Dousing metallic fires with water may generate hydrogen gas, an extremely dangerous explosion hazard.

**Extinguishing Media:** Use water spray, dry chemical, carbon dioxide, or chemical foam. Do NOT get water inside containers.

**Flash Point:** Not applicable.

**Autoignition Temperature:** Not applicable.

**Explosion Limits, Lower:** Not available.

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: 1; Flammability: 0; Instability: 0

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### Section 6 - Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Vacuum or sweep up material and place into a suitable disposal container. Very fine particles can cause a fire or explosion. Eliminate all ignition sources. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation. Do not get water inside containers.

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### Section 7 - Handling and Storage

**Handling:** Minimize dust generation and accumulation. Avoid contact with skin and eyes. Avoid ingestion and inhalation. Do not allow contact with water. Use only in a chemical fume hood. Keep from contact with moist air and steam.

**Storage:** Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Store protected from moisture.

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### Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Good general ventilation should be sufficient to control airborne levels. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

**Exposure Limits**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA - Final PELs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silicon</td>
<td>none listed</td>
<td>10 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable dust)</td>
<td>15 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)</td>
</tr>
</tbody>
</table>

**OSHA Vacated PELs:** Silicon: 10 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)

**Personal Protective Equipment**
**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear a chemical apron. Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** A NIOSH/MSHA approved air purifying dust or mist respirator or European Standard EN 149.

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**Section 9 - Physical and Chemical Properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Solid</td>
</tr>
<tr>
<td>Appearance</td>
<td>silver-gray</td>
</tr>
<tr>
<td>Odor</td>
<td>Not available</td>
</tr>
<tr>
<td>pH</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Not available</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not available</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>2355 deg C</td>
</tr>
<tr>
<td>Freezing/Melting Point</td>
<td>1410 deg C</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Solubility</td>
<td>Insoluble in water</td>
</tr>
<tr>
<td>Specific Gravity/Density</td>
<td>Not available</td>
</tr>
<tr>
<td>Molecular Formula</td>
<td>Si</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>28.0855</td>
</tr>
</tbody>
</table>

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**Section 10 - Stability and Reactivity**

**Chemical Stability:** Stable under normal temperatures and pressures.

**Conditions to Avoid:** Incompatible materials, dust generation, moisture, excess heat.

**Incompatibilities with Other Materials:** Moisture, strong oxidizing agents.

**Hazardous Decomposition Products:** Irritating and toxic fumes and gases, oxides of silicon.

**Hazardous Polymerization:** Has not been reported.

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**Section 11 - Toxicological Information**

**RTECS#:**

**CAS# 7440-21-3:** VW0400000

**LD50/LC50:**

**CAS# 7440-21-3:**

- Draize test, rabbit, eye: 3 mg Mild; Oral, rat: LD50 = 3160 mg/kg;

**Carcinogenicity:**

CAS# 7440-21-3: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

**Epidemiology:** IARC has concluded there is inadequate evidence to describe amorphous silica as carcinogenic in animals or in humans. Crystalline silica has been designated as a probable human carcinogen.

**Teratogenicity:** No information found
**Reproductive Effects:** No information found  
**Mutagenicity:** No information found  
**Neurotoxicity:** No information found  

**Other Studies:**

### Section 12 - Ecological Information

No information available.

### Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.  
**RCRA P-Series:** None listed.  
**RCRA U-Series:** None listed.

### Section 14 - Transport Information

<table>
<thead>
<tr>
<th></th>
<th>US DOT</th>
<th>Canada TDG</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Shipping Name:</strong></td>
<td>Not regulated as a hazardous material</td>
<td>No information available.</td>
</tr>
<tr>
<td><strong>Hazard Class:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>UN Number:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Packing Group:</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Section 15 - Regulatory Information

**US FEDERAL**

**TSCA**  
CAS # 7440-21-3 is listed on the TSCA inventory.  

**Health & Safety Reporting List**  
None of the chemicals are on the Health & Safety Reporting List.  

**Chemical Test Rules**  
None of the chemicals in this product are under a Chemical Test Rule.  

**Section 12b**  
None of the chemicals are listed under TSCA Section 12b.  

**TSCA Significant New Use Rule**  
None of the chemicals in this material have a SNUR under TSCA.  

**CERCLA Hazardous Substances and corresponding RQs**  
None of the chemicals in this material have an RQ.  

**SARA Section 302 Extremely Hazardous Substances**  
None of the chemicals in this product have a TPQ.  

**Section 313**  
No chemicals are reportable under Section 313.  

**Clean Air Act:**  
This material does not contain any hazardous air pollutants.  
This material does not contain any Class 1 Ozone depleters.  
This material does not contain any Class 2 Ozone depleters.  

**Clean Water Act:**
None of the chemicals in this product are listed as Hazardous Substances under the CWA.
None of the chemicals in this product are listed as Priority Pollutants under the CWA.
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:
None of the chemicals in this product are considered highly hazardous by OSHA.

STATE
CAS# 7440-21-3 can be found on the following state right to know lists: New Jersey, Pennsylvania, Minnesota, Massachusetts.

California Prop 65
California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols:
Not available.
Risk Phrases:
Safety Phrases:

WGK (Water Danger/Protection)
CAS# 7440-21-3: No information available.

Canada - DSL/NDSL
CAS# 7440-21-3 is listed on Canada's DSL List.

Canada - WHMIS
This product has a WHMIS classification of D2B.
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Section 16 - Additional Information

MSDS Creation Date: 12/12/1997
Revision #7 Date: 2/18/2008

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.