



MATERIAL SAFETY DATA SHEET  
COMPLIES WITH 29 CFR 1910.1200.  
OSHA HAZARD COMMUNICATION RULE

DATE OF LAST REVISION: 05-2-03

## CHEMICAL IDENTITY

|                              |                      |  |
|------------------------------|----------------------|--|
| LABEL IDENTITY               | <b>SILICON METAL</b> |  |
| CHEMICAL NAME/SYNONYMS       | <b>SILICON METAL</b> |  |
| FORMULA                      | <b>Si</b>            |  |
| CHEMICAL FAMILY              | <b>NON METAL</b>     |  |
| HAZARDOUS INGREDIENTS        | <b>SILICON METAL</b> |  |
| %: <b>100</b> CAS: 7740-21-3 | TLV: <b>10 mg/m3</b> | OSHA/PEL: 15 mg/m3<br>(for Si as total dust) |

## PHYSICAL AND CHEMICAL PROPERTIES

|                          |  |
|--------------------------|--|
| COLOR, FORM AND ODOR     | <b>Steel grey crystalline powder, or pieces; no odor</b> |
| BOILING POINT            | <b>2355-2600° C</b>                                      |
| DENSITY (gm/cc)          | <b>2.32 - 2.34</b>                                       |
| VAPOR PRESSURE @ 20°     | <b>1 mm at 1724° C</b>                                   |
| REACTION WITH WATER      | <b>None</b>  |
| EVAPORATION RATE (H2O=1) | <b>NA</b>  |
| SOLUBILITY IN WATER      | <b>Insoluble</b>   |
| MELTING POINT            | <b>1410 - 1420° C</b>                                    |

## FIRE AND EXPLOSION HAZARD DATA

|                                  |  |
|----------------------------------|--|
| FLASH POINT                      | <b>NA</b>  |
| AUTOIGNITION TEMPERATURE (°C)    | <b>NA</b>  |
| FLAMMABILITY                     | <b>May be flammable (in fine powder form)</b>  |
| EXTINGUISHING MEDIA              | <b>Agents for metal fires (graphite, sand, MET-L-X, TEC) - DO NOT USE WATER !!!</b>                                  |
| SPECIAL FIRE FIGHTING PROCEDURES | <b>Wear a self-contained breathing apparatus and full protective clothing to prevent contact with skin and eyes.</b> |
| UNUSUAL FIRE & EXPLOSION HAZARDS | <b>A potentially flammable metal in the fine powder form. May generate toxic fumes if involved in a fire.</b>        |

## HEALTH HAZARD INFORMATION

- **No data on this compound \***

HMIS RATING:

HEALTH: **1\*** FLAMMABILITY: **1** REACTIVITY: **0** PERSONAL PROTECTION: **D**



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### ROUTES OF ENTRY:

INHALATION: **Yes** SKIN: **Yes** INGESTION: **No**

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: **Previous respiratory or dermal disorders.**

### EFFECTS OF OVEREXPOSURE (acute and chronic):

INHALATION: **Mild pulmonary irritation. A nuisance dust.**

DERMAL/EYE: **Mild irritation to the eye. No reports of injury or illness from ingestion or skin contact.**

INGESTION: **Silicon is toxicologically inert. No reports of injury or illness from ingestion.**

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CARCINOGENICITY: **No** NTP: **No** IARC MONOGRAPHS: **No** OSHA REGULATE: **No**

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### EMERGENCY FIRST AID PROCEDURES:

INGESTION: **Administer water and induce vomiting, seek medical attention.**

INHALATION: **Remove to fresh air, seek medical attention.**

SKIN CONTACT: **Wash affected area with soap and water, seek medical attention.**

EYE CONTACT: **Flush eyes for at least 15 minutes with lukewarm water, seek medical.**

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### REACTIVITY DATA

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|  |   |
|--|---|
| STABILITY                              | <b>Stable</b>   |
| CONDITIONS CONTRIBUTING TO UNSTABILITY | <b>ND</b>   |
| INCOMPATIBILITY (MATERIALS TO AVOID)   | <b>Ca, C12, CoF2, F2, MnF3, Rb2C2, AgF, Na, K, interhalogens, acids, bases, Strong oxidizers: Metal acetylides, alkali metal carbonates, metal hexafluorides.</b> |
| HAZARDOUS DECOMPOSITION PRODUCTS       | <b>None</b>   |
| HAZARDOUD POLYMERZATION                | <b>Will Not Occur</b>   |
| CONDITIONS TO AVOID                    | <b>None</b>   |

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### SAFE HANDLING AND USE

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### STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

**Wear self-contained breathing apparatus and full protective clothing, vacuum spill and place in container for proper disposal. Take care not to raise dust.**

### WASTE DISPOSAL METHOD:

**Dispose of in accordance with applicable federal, state and local regulations.**

RESPIRATORY CAUTIONS (TYPES) USE ONLY NIOSH APPROVED: NIOSH-approved respirator for dusts, mists, and fumes.



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### SPECIAL PROTECTIVE INFORMATION

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|                            |  |
|----------------------------|--|
| LOCAL EXHAUST              | <b>Use with adequate ventilation to keep exposure below TLV.</b>             |
| MECHANICAL (general)       | <b>Recommended</b>   |
| SPECIAL                    | <b>NA</b>  |
| OTHER                      | <b>NA</b>  |
| PROTECTIVE GLOVES          | <b>Neoprene</b>  |
| EYE PROTECTION             | <b>Safety glasses</b>  |
| OTHER PROTECTIVE EQUIPMENT | <b>Wear protective clothing to prevent contamination of skin and clothes</b> |

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### SPECIAL PRECAUTIONS

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#### PRECAUTIONS TO BE TAKEN IN HANDLING/STORAGE:

**Flammable metal as a fine powder. Store in dry, tightly closed containers, away from incompatible materials. Wash hands and face thoroughly after handling and before eating.**

TRANSPORTATION REQUIREMENTS: (for powder <325 mesh; not classified for coarser powders/pieces)

|             |                        |
|-------------|------------------------|
| DOT CLASS:  | <b>Flammable solid</b> |
| UN NUMBER:  | <b>1346</b>            |
| IMCO CLASS: | <b>4.1</b>             |
| OTHER:      | <b>SPC</b>             |

PRECAUTIONARY LABELING NONE

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THE ABOVE INFORMATION IS ACCURATE TO THE BEST OF OUR KNOWLEDGE. HOWEVER, SINCE DATA, SAFETY STANDARDS AND GOVERNMENT REGULATIONS ARE SUBJECT TO CHANGE THE CONDITIONS OF HANDLING AND USE, OR MISUSE ARE BEYOND OUR CONTROL, **ANGSTROM SCIENCES** MAKE NO WARRANTY, EITHER EXPRESSED OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND DISCLAIMS ALL LIABILITY FOR THE RELIANCE THEREON. USER SHOULD SATISFY HIMSELF THAT HE HAS ALL CURRENT DATA RELEVANT TO HIS PARTICULAR USE.

NA= NOT APPLICABLE

ND= NO DATA FOUND