

MATERIAL SAFETY DATA SHEET

Printing Date: 12/10/2009

Revision: 01

1 Substance and Company Identification

- **Product Detail:**
 - Trade Name: Silicon Metal
 - Chemical Name: Silicon
 - Formula: Si
 - Chemical Family: Silicon and compounds / inorganic silicon compound
- **Manufacturer:**

Silicon Smelters
Beyersnek Road
Polokwane
South Africa
0699
- **Information in case of emergency:** +27 (0) 15 3000

2 Hazards identification

- **Hazard description:**

Not applicable.
- **Information concerning particular hazards for human and environment:**

No hazards to be particularly mentioned. Please note the information of this Material Safety Data Sheet. Please observe the conditions of storage and use. Under abnormal storage conditions, in the presence of water, the product can release small quantities of toxic and flammable gases.
- **Classification system:**

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

3 Composition/information on ingredients

- **Description:** Silicon powder
- **Dangerous components:**

CAS: 7440-21-3 EINECS: 231-130-8	SILICON	>98%
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- **Additional information:**

Reminder: The alloy does not present the same properties and dangers as pure components taken separately or simply mixed. For the wording of the listed risk phrases refer to section 16.

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4 First aid measures

- **General information:** No special measures required.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**
 - Generally the product does not irritate the skin.
 - After contact with the molten product, cool rapidly with cold water.
 - Immediate medical treatment necessary. Failure to treat burns can prevent wounds from healing.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.

5 Fire-fighting measures

- **Suitable extinguishing agents:** Special powder for metal fires. Do not use water.
- **For safety reasons unsuitable extinguishing agents:**
 - Water with full jet
 - Water
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

- **Person-related safety precautions:**
 - Ensure adequate ventilation
 - Avoid formation of dust.
 - Wear protective equipment. Keep unprotected persons away.
- **Measures for environmental protection:**
 - Do not allow to enter sewers/ surface or ground water.
 - In case of gas release or seepage into the ground inform responsible authorities.
- **Measures for cleaning/collecting:**
 - Pick up mechanically.
 - Dispose of the material collected according to regulations.
- **Additional information:**
 - See Section 7 for information on safe handling.
 - See Section 13 for disposal information.

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7 Handling and storage

- **Handling:**
 - **Information for safe handling:**
 - Prevent formation of dust.
 - Any unavoidable deposit of dust must be regularly removed.
 - Use only in well ventilated areas.
 - Provide suction extractors if dust is formed.
 - **Information about fire - and explosion protection:**
 - Keep ignition sources away - Do not smoke.
 - Avoid the formation of dust who can form a flammable mixture in contact with air
- **Storage:**
 - **Requirements to be met by storerooms and receptacles:** Store in a cool location.
 - **Information about storage in one common storage facility:**
 - Store away from water.
 - Store away from flammable substances.
 - Do not store together with reducing agents, heavy-metal compounds, acids and alkalis.
 - **Further information about storage conditions:**
 - Caution when reopening receptacles with broken seal.
 - Store receptacle in a well ventilated
 - Protect from humidity and water.

8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Ingredients with limit values that require monitoring at the workplace:**

7440-21-3 silicon	WEL (Great Britain)	Long-term value: 10* 4** mg/m ³ *inhalable dust **respirable dust
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- **Personal protective equipment:** traditional equipment in the metallurgical foundries and industries
- **General protective and hygienic measures:** Avoid skin contact with the liquefied material.
- **Respiratory protection:** Use suitable respiratory protective device in case of insufficient ventilation.
- **Protection of hands:** Protective gloves



- **Eye protection:** Tightly sealed goggles



- **Body protection:** Protective work clothing

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9 Physical and chemical properties

General	
• Form	Lumps
• Colour	Grey
• Odour	Odourless
Change in Condition	
• Melting point/Melting range:	1414°C
• Boiling point/Boiling range:	Undetermined
Flash Point	Not Applicable
Self-igniting	Product is not self igniting.
Danger of explosion:	Product does not present an explosion hazard.
Density at 20°C:	2.4 g/cm ³
Solubility in / Miscibility with water:	Insoluble.
Organic solvents:	0%
Solids content:	100%

10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:** Avoid humidity and high temperatures.
- **Dangerous reactions**
 - Decomposes with water, acids and alkalis.
 - Contact with water releases flammable gases.
 - Contact with water releases toxic gases.
- **Dangerous decomposition products:**
 - Hydrogen
 - PH₃
 - AsH₃

11 Toxicological information

- **Acute toxicity:** none
- **Primary irritant effect:**
 - **Skin:** No irritant effect.
 - **Eye:** No irritating effect.
- **Sensitisation:** No sensitizing effects known.
- **Additional toxicological information:**

The product is not subject to classification according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version. When used and handled according to specifications, the product does not have any harmful effects to our experience and the information provided to us.

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TRADE NAME: Silicon Powder**12 Ecological information****General notes:**

Negative ecological effects are, according to the current state of knowledge, not expected.

13 Disposal considerations

- **Product:** Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:** Disposal must be made according to official regulations.

14 Transport information• **Land transport ADR/RID (cross-border)**• **ADR/RID class:** - (-)

Cannot be considered as being part of the 4.3 classification (*)

• **Maritime transport IMDG:**• **IMDG Class:** Cannot be considered as being part of the 4.3 classification (*)• **Marine pollutant:** No• **Air transport ICAO-TI and IATA-DGR:**• **ICAO/IATA Class:** Cannot be considered as being part of the 4.3 classification (*)• **UN/ID Number:** -**Transport/Additional information:**

(*) Material tested according to the UN recommendations on carrying dangerous materials (test for material which, in contact with water, releases flammable gases) : this resulted in not including this material in such a classification

15 Regulatory information• **Labelling according to EU guidelines:**

Although this product is not subject to identification regulations, we recommend that the safety suggestions are observed. The product has not been classified and marked in accordance with EU Directives / respective national laws.2004/73/CE ; 2006/8/CE

• **Special labelling of certain preparations:**

Safety data sheet available for professional user on request.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.