



Infosafe No™	1CH5Z	Issue Date : December 2013	RE-ISSUED by CHEMSUPP
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Product Name : **SILICON**

Not classified as hazardous

**1. Identification**

<b>GHS Product Identifier</b>	SILICON		
<b>Company Name</b>	CHEM-SUPPLY PTY LTD (ABN 19 008 264 211)		
<b>Address</b>	38 - 50 Bedford Street GILLMAN SA 5013 Australia		
<b>Telephone/Fax Number</b>	Tel: (08) 8440-2000 Fax: (08) 8440-2001		
<b>Recommended use of the chemical and restrictions on use</b>	Alloying agent for steels, aluminium, bronze, copper, and iron (ferrosilicon); production of halogenated silanes; organosilicon compounds (silicone resins); silicon carbide; spring steels; deoxidizer in steel manufacture; semiconductor in integrated circuits, rectifiers, transistors, diodes, solar batteries, other solid state devices (single crystals doped with boron or phosphorus); special refractories.		
<b>Other Names</b>	<u>Name</u>		<u>Product Code</u>
	SILICON METAL POWDER TG		ST054
	Silicon powder		
<b>Other Information</b>	EMERGENCY CONTACT NUMBER: +61 08 8440 2000 Business hours: 8:30am to 5:00pm, Monday to Friday.		

Chem-Supply Pty Ltd does not warrant that this product is suitable for any use or purpose. The user must ascertain the suitability of the product before use or application intended purpose. Preliminary testing of the product before use or application is recommended. Any reliance or purported reliance upon Chem-Supply Pty Ltd with respect to any skill or judgement or advice in relation to the suitability of this product of any purpose is disclaimed. Except to the extent prohibited at law, any condition implied by any statute as to the merchantable quality of this product or fitness for any purpose is hereby excluded. This product is not sold by description. Where the provisions of Part V, Division 2 of the Trade Practices Act apply, the liability of Chem-Supply Pty Ltd is limited to the replacement of supply of equivalent goods or payment of the cost of replacing the goods or acquiring equivalent goods.

**2. Hazard Identification**

<b>GHS classification of the substance/mixture</b>	Flammable Solids: Category 2
<b>Signal Word (s)</b>	WARNING
<b>Hazard Statement (s)</b>	H228 Flammable solid.
<b>Pictogram (s)</b>	Flame



<b>Precautionary statement – Prevention</b>	P210 Keep away from heat/sparks/open flames/hot surfaces. – No smoking. P240 Ground/bond container and receiving equipment. P241 Use explosion-proof electrical/ventilating/lighting/.../equipment.
<b>Precautionary statement – Response</b>	P280 Wear protective gloves/protective clothing/eye protection/face protection. P370+P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

**3. Composition/information on ingredients**

<b>Chemical Characterization</b>	Solid.				
<b>Ingredients</b>	<u>Name</u>	<u>CAS</u>	<u>Proportion</u>	<u>Hazard Symbol</u>	<u>Risk Phrase</u>
	Silicon	7440-21-3	100 %		

**4. First-aid measures**

<b>Inhalation</b>	Remove victim to fresh air. Seek medical advice.
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<b>Ingestion</b>	Give water to drink. DO NOT induce vomiting. Seek immediate medical assistance.
<b>Skin</b>	Wash affected areas with copious quantities of water. Wash skin with water using soap if available. Seek medical advice if effects persist.
<b>Eye contact</b>	Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open. Seek medical advice.
<b>Advice to Doctor</b>	Treat symptomatically.
<b>Other Information</b>	For advice, contact the National Poisons Information Centre (Phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor.

**5. Fire-fighting measures**

<b>Specific Methods</b>	DO NOT USE WATER, FOAM or CO2. Dousing a metallic fire with water may generate hydrogen gas, an extremely dangerous explosion hazard, particularly if fire is in a confined area (e.g. building, cargo hold, etc.) Use DRY sand, dry chemical, graphite powder, dry sodium chloride based or alcohol-resistant foam extinguishers. Confining or smothering metal fire is preferable to applying water. If safe to do so, move undamaged containers from the fire area.
<b>Specific hazards arising from the chemical</b>	May explode on heating, shock, friction or contamination. May be ignited by friction, heat, sparks or flame. Dust or fumes may form explosive mixtures with air. Will burn with intense heat. May re-ignite after fire is extinguished. Fire may produce irritating, poisonous and/or corrosive gases. Containers may explode when heated. May react explosively with water.
<b>Hazchem Code</b>	1[Z]
<b>Precautions in connection with Fire</b>	SCBA and structural firefighter's uniform may provide limited protection.

**6. Accidental release measures**

<b>Spills &amp; Disposal</b>	Eliminate all ignition sources (no smoking, flares, sparks or flame) within at least 25m. Do NOT touch or walk through spilled material. Stop leak if safe to do so. Prevent entry into waterways, drains, confined areas. SEEK EXPERT ADVICE ON HANDLING AND DISPOSAL.
<b>Personal Precautions</b>	Avoid contact with skin, eyes, nose, mouth. Do not breathe dust.
<b>Personal Protection</b>	Wear protective clothing specified for normal operations (see Section 8)
<b>Clean-up Methods - Small Spillages</b>	Sweep up (avoid generating dust) and remove to a suitable, clearly labelled container for disposal in accordance with local regulations.

**7. Handling and storage**

<b>Precautions for Safe Handling</b>	Avoid ingestion and inhalation of dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure. Minimize dust generation and accumulation. Keep containers closed when not in use. Work in fumehood and use only with adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Wear suitable protective clothing. Contaminated clothing should be removed and washed before re-use. Wash hands and face thoroughly after working with material. Keep container dry.
<b>Conditions for safe storage, including any incompatibilities</b>	Keep away from heat and other sources of ignition. Keep in a cool, dry, well-ventilated place. Keep container tightly closed

**8. Exposure controls/personal protection**

Occupational exposure limit values	Name	STEL		TWA		Footnote
		mg/m3	ppm	mg/m3	ppm	
	Silicon			10		
<b>Other Exposure Information</b>	A time weighted average (TWA) has been established for Silicon (Safe Work Australia) of 10 mg/m3. The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week.					
<b>Appropriate engineering controls</b>	In industrial situations maintain the concentrations values below the TWA. This may be achieved by process modification, use of local exhaust ventilation, capturing substances at the source, or other					



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<b>Respiratory Protection</b>	methods. Where ventilation is not adequate, respiratory protection may be required. Avoid breathing dust, vapours or mists. Respiratory protection should comply with AS 1716 - Respiratory Protective Devices and be selected in accordance with AS 1715 - Selection, Use and Maintenance of Respiratory Protective Devices. Filter capacity and respirator type depends on exposure levels. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.
<b>Eye Protection</b>	The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate.
<b>Hand Protection</b>	Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336. Hand protection should comply with AS 2161, Occupational protective gloves - Selection, use and maintenance.
<b>Footwear</b>	Safety boots in industrial situations is advisory, foot protection should comply with AS 2210, Occupational protective footwear - Guide to selection, care and use.
<b>Body Protection</b>	Clean clothing or protective clothing should be worn, preferably with and apron. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.
<b>Hygiene Measures</b>	Always wash hands before smoking, eating or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

**9. Physical and chemical properties**

<b>Form</b>	Solid.
<b>Appearance</b>	Dark brown powder.
<b>Odour</b>	Odourless.
<b>Melting Point</b>	1410 °C
<b>Boiling Point</b>	2355 °C
<b>Solubility in Water</b>	Insoluble
<b>Solubility in Organic Solvents</b>	Soluble in a mixture of nitric and hydrofluoric acids and in alkalis. Insoluble in nitric acid, and hydrochloric acid.
<b>Specific Gravity</b>	2.329 (water = 1)
<b>Flammability</b>	Flammable in powder form.
<b>Molecular Weight</b>	28.08

**10. Stability and reactivity**

<b>Chemical Stability</b>	Stable.
<b>Conditions to Avoid</b>	Heat, ignition sources, incompatible materials.
<b>Incompatible Materials</b>	Alkali carbonates, aluminium plus lead oxide, calcium, cesium carbide, chlorine, fluorine, sodium-potassium alloy, oxidizers, metallic halides, interhalogens, acids, strong bases, powdered metals, CoF <sub>2</sub> , MnF <sub>3</sub> , Rb <sub>2</sub> C <sub>2</sub> . When heated, will react with water or steam to produce hydrogen gas.
<b>Hazardous Decomposition Products</b>	Silicon dioxide and hydrogen gas.
<b>Hazardous Polymerization</b>	Will not occur.

**11. Toxicological Information**

<b>Acute Toxicity - Oral</b>	LD50 (rat): 3160 mg/kg
<b>Ingestion</b>	Harmful if ingested. May cause gastroenteritis with abdominal pain, nausea, vomiting and diarrhea. Systemic effects may follow and may include ringing of the ears, dizziness, elevated blood pressure, blurred vision and tremors.
<b>Inhalation</b>	Harmful if inhaled. May cause irritation to the mucous membranes and respiratory tract. Symptoms may be coughing, shortness of breath, sore throat and runny nose.
<b>Skin</b>	Causes irritation, redness, swelling, itching and pain.
<b>Eye</b>	May cause irritation, conjunctivitis, redness, swelling, itching, pain and tearing.
<b>Carcinogenicity</b>	No evidence of carcinogenic properties.
<b>Chronic Effects</b>	High concentrations of dust may cause pulmonary irritation. Powder of dust may cause eye irritation or conjunctivitis.



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**Mutagenicity** No evidence of mutagenic properties.**12. Ecological information****Ecotoxicity** No ecological data available for this product.**13. Disposal considerations****Disposal Considerations** Dispose of according to relevant local, state and federal government regulations.**14. Transport information****U.N. Number** 1346**UN proper shipping name** SILICON POWDER, AMORPHOUS**Transport hazard class(es)** 4.1**Hazchem Code** 1[Z]**Packaging Method** 3.8.4.1**Packing Group** III**EPG Number** 4A1**IERG Number** 29**15. Regulatory information****Regulatory Information** Listed in the Australian Inventory of Chemical Substances (AICS).**Poisons Schedule** Not Scheduled**16. Other Information**

**Literature References**

'Standard for the Uniform Scheduling of Medicines and Poisons No. 3', Commonwealth of Australia, June 2012.

Lewis, Richard J. Sr. 'Hawley's Condensed Chemical Dictionary 13th. Ed.', Rev., John Wiley and Sons, Inc., NY, 1997.

National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.', 2007.

'Labelling of Hazardous Workplace Chemicals, Code of Practice' Safe Work Australia.

Standards Australia 'AS 1940-2004 The Storage and Handling of Flammable and Combustible Liquids.

Standards Australia, 'SAA/SNZ HB 76:2010 Dangerous Goods - Initial Emergency Response Guide', Standards Australia/Standards New Zealand, 2010.

Worksafe Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008(2004)]'.

Worksafe Australia, 'Hazardous Substances Information System, 2005'.

Worksafe Australia, 'National Code of Practice for the Labelling of Workplace Hazardous Substances (2011)'.

Worksafe Australia, 'National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)]'.

**Contact Person/Point**Paul McCarthy Ph. (08) 8440 2000 **DISCLAIMER STATEMENT:**

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**Empirical Formula & Structural Formula****User Codes****User Field Title****User Code**

CAS No.

7440-21-3

...End Of MSDS...



chem-supply

# Safety Data Sheet

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