

Material Safety Data Sheet

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Infosafe No™ LPW5B

Issue Date : March 2008

ISSUED by BSLPKS

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Product Name **STEEL FURNACE SLAG**

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Chemical Product and Company Identification Approval no: 832

Product Name STEEL FURNACE SLAG

Company Name BlueScope Steel Limited (ABN 19 000 019 625)

Address Port Kembla Steelworks, PO BOX 1854 WOLLONGONG
NSW 2500 Australia

Emergency Tel. 131126 Poison Info

Telephone/Fax Number Tel: 02 4275 7522
Fax: 02 4275 7159

Recommended Use Steel furnace slag is used as a construction material in asphalt, sealing and roadbase applications. It is also used for rail ballast.

Additional Information Steel Furnace Slag (SFS) is the non-metallic product consisting essentially of calcium silicates and ferrites combined with fused oxides of iron, aluminium, manganese, calcium and magnesium, that is developed in a molten condition simultaneously with steel in a basic oxygen furnace. Steel furnace slag results from the basic oxygen steelmaking process and is a solid rock-like material

Molten slag is poured into pots which are picked up by pot carrier, tipped into bays adjacent to the furnace and allowed to solidify under atmospheric conditions. Cooling may be accelerated by application of water to the solidified surface, after which the slag is dug, crushed and screened to produce various products.

2. HAZARDS IDENTIFICATION

Hazard Classification Not classified as Hazardous according to criteria of National Occupational Health & Safety Commission, Australia (NOHSC).
Not classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.

Safety Phrase(s) S22 Do not breathe dust.
S37/39 Wear suitable gloves and eye/face protection.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	Name	CAS	Proportion
	Calcium oxide	1305-78-8	30-60 %
	Iron (II) oxide	1345-25-1	10-30 %
	Magnesium oxide	1309-48-4	5-20 %
	Silica	60676-86-0	5-20 %
	Manganese oxide	1344-43-0	3-10 %
	Aluminium oxide	1344-28-1	0.5-5 %
	Vanadium oxide (V2O3)	11099-11-9	0.5-2 %
	Vanadium oxide (VO2)	12036-21-4	0.5-1 %
	Vanadium pentoxide (V2O5)	1314-62-1	0.1-0.3 %
	Sulphur	7704-34-9	0-0.2 %

Other Information This product also contains small amounts of Titanium dioxide, Phosphorous oxide, Sodium oxide, Potassium oxide, Chromium oxide and Free lime.

4. FIRST AID MEASURES

Inhalation If inhaled, remove to fresh area. Keep at rest until recovered. If symptoms persist seek medical attention.

Ingestion Do not induce vomiting. Wash out mouth and lips thoroughly with water. Seek medical attention.

Skin Remove all contaminated clothing. Wash gently and thoroughly with water and non-abrasive soap. Ensure contaminated clothing is washed before re-use or discard. If irritation develops or persists, seek medical attention.

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Eye If in eyes, hold eyelids apart and flush the eyes continuously with running water. Continue flushing for several minutes until all contaminants are washed off completely. Seek medical attention.

First Aid Facilities Normal washroom facilities.

Advice to Doctor Treat symptomatically.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media Use appropriate fire extinguisher for surrounding environment.

Special Protective Equipment for fire fighters Full protective clothing and self-contained breathing apparatus.

Specific Hazards Non-combustible solid.

6. ACCIDENTAL RELEASE MEASURES

Emergency Procedures Wear sufficient respiratory protection and protective clothing to minimise inhalation, skin and eye exposure. Collect the spillage mechanically and transfer to a truck or a holding area. The collected material is normally recyclable. Dispose of unrecycled or waste product according to applicable local and national regulations.

7. HANDLING AND STORAGE

Precautions for Safe Handling Use with adequate ventilation. Avoid creating dusty conditions. Avoid inhalation of fine dust. Wear appropriate protective clothing/equipment to minimise inhalation, and skin and eye contact. Maintain good personal hygiene; always wash hands after handling the product, and before eating, drinking or smoking.

Conditions for Safe Storage The product is stored via normal stockpiling methods.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

National Exposure Standards	Name	STEL		TWA		Footnote
		mg/m3	ppm	mg/m3	ppm	
	Calcium oxide			2		
	Magnesium oxide			10		
	Manganese oxide			1	Manganese, dust & compounds (as Mn)	
	Aluminium oxide			10		
	Vanadium pentoxide (V2O5)			0.05		
Biological Limit Values	No biological limit allocated.					
Other Exposure Information	No exposure standards have been established for this material by the National Occupational Health And Safety Commission (NOHSC), Australia. However, the exposure standards for ingredients are stated above. Additionally, according to NOHSC the exposure limit for dust not otherwise specified is TWA 10 mg/m ³ (inspirable fraction).					
Engineering Controls	As published by the National Occupational Health and Safety Commission (NOHSC), Australia. TWA (Time Weighted Average): The average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day week. STEL (Short Term Exposure Limit): The average airborne concentration over a 15 minute period which should not be exceeded at any time during a normal eight-hour workday.					
	Use with good general ventilation. If dust is generated local exhaust ventilation should be used.					

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Respiratory Protection	Where sufficient ventilation is not available, avoid breathing dust by wearing an AS 1716 approved P1 or P2 particulate filter respirator. Final choice of appropriate breathing protection is dependant upon actual airborne concentrations and the type of breathing protection required will vary according to individual circumstances. Expert advice may be required to make this decision. Reference should be made to Australian Standards AS/NZS 1715, Selection, Use and maintenance of Respiratory Protective Devices; and AS/NZS 1716, Respiratory Protective Devices.
Eye Protection	Safety glasses with side shields, goggles or full-face shield as appropriate recommended. Final choice of appropriate eye/face protection will vary according to individual circumstances i.e. methods of handling or engineering controls and according to risk assessments undertaken. Eye protection should conform with Australian/New Zealand Standard AS/NZS 1337 - Eye Protectors for Industrial Applications.
Hand Protection	Wear gloves of impervious material. Final choice of appropriate gloves will vary according to individual circumstances i.e. methods of handling or according to risk assessments undertaken. Reference should be made to AS/NZS 2161.1: Occupational protective gloves - Selection, use and maintenance.
Body Protection	Suitable protective workwear, e.g. cotton overalls buttoned at neck and wrist. Industrial clothing should conform to the specifications detailed in AS/NZS 2919: Industrial clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Dark grey/black coloured rock type material consisting of angular to roughly cubical shaped particles.
Odour	May have a very faint sulphurous odour.
Melting Point	1300-1400°C
Boiling Point	Not available.
Solubility in Water	Not available.
Specific Gravity	Not available.
pH Value	Not available.
Vapour Pressure	Not available.
Vapour Density (Air=1)	Not available.
Density	Bulk density: 1.60 - 1.90 t/m ³
Flash Point	Not applicable.
Flammability	Non-combustible solid.
Flammable Limits - Lower	Not applicable.
Flammable Limits - Upper	Not applicable.

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under normal conditions of storage and handling.
Conditions to Avoid	Dusty conditions.
Incompatible Materials	Not available.
Hazardous Decomposition Products	None known.
Hazardous Reactions	
Hazardous Polymerization	Will not occur.

11. TOXICOLOGICAL INFORMATION

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Toxicology Information	No toxicity data is available for this product.
Inhalation	Inhalation of fine dust may irritate the respiratory system.
Ingestion	Ingestion of this product may irritate the gastric tract causing nausea and vomiting.
Skin	Skin contact may cause mechanical irritation resulting in redness and itching.
Eye	Eye contact may cause mechanical irritation. May result in corneal abrasion.
Chronic Effects	Repeated or prolonged inhalation of fine dust may cause respiratory disorders. Prolonged or repeated contact with the skin in the absence of proper hygiene, may cause dryness and dermatitis.

12. ECOLOGICAL INFORMATION

Ecotoxicity	No ecological data available for this product.
Persistence / Degradability	Not available.
Mobility	Not available.
Environ. Protection	Do not allow product to enter drains, waterways or sewers.

13. DISPOSAL CONSIDERATIONS

Disposal Considerations	The disposal of the waste material must be done in accordance with applicable local and national regulations.
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14. TRANSPORT INFORMATION

Transport Information	Not classified as Dangerous Goods, according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.
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15. REGULATORY INFORMATION

Poisons Schedule	Not Scheduled
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16. OTHER INFORMATION

Date of preparation or last revision of MSDS	MSDS Reviewed: March 2008 Supersedes: January 2008
Contact Person/Point	BlueScopesteel Safety Health and Risk Department Telephone: (02) 4275 7522 Fax: (02) 4275 7159 EMERGENCY TELEPHONE NUMBERS Poisons Information Centre Sydney: 13 11 26 ...End Of MSDS...

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