

SAFETY DATA SHEET

Ground Granulated Blast Furnace Slag

Ground Granulated Blast Furnace Slag SDS Issued: 04/07/2019



1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1 Product identifier

Product name Ground Granulated Blast Furnace Slag

Synonym(s) GGBFS, Ground Slag, Milled Slag

1.2 Uses and uses advised against

Use(s) Ground Granulated Blast Furnace Slag is a supplementary cementitious material that is a partial replacement for Portland Cement in concrete and other similar products.

1.3 Details of the supplier of the product

Supplier name Sunstate Cement Limited.

Address 8 Bulk Terminals Drive Port of Brisbane Qld 4178 AUSTRALIA

Telephone (07) 3895 9800

Email sales@sunstatecement.com.au

Website www.sunstatecement.com.au

1.4 Emergency telephone number(s)

Emergency 13 11 26 (Poisons Information Centre)
000 (Emergency Services)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

GHS classification(s)

2.2 Label elements

Signal word No Signal word, pictograms, hazard or precautionary statements have been allocated.

Pictogram(s)

Hazard statement(s)

Prevention statement(s)

Response statement(s)

Storage statement(s)

Disposal statement(s)

2.3 Other hazards

Dust may cause mechanical irritation to the eyes and respiratory system. Leachate may show alkalinity of pH9-11 after prolonged exposure to water. Prolonged exposure to wet material may cause skin and eye irritation.

3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances / Mixtures

| Ingredient | CAS Number | EC Number | Content |
|--------------------------------------|------------|-----------|---------|
| Ground Granulated Blast Furnace Slag | 65996-69-2 | 266-002-0 | 95-100% |
| Gypsum | 13397-24-5 | 603-783-2 | <5% |

4. FIRST AID MEASURES

4.1 Description of first aid measures

| | |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Eyes | If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes. |
| Inhalation | If inhaled, remove from contaminated area. Apply artificial respiration if not breathing. |
| Skin | If skin or hair contact occurs, remove contaminated clothing and brush off loose particles before flushing skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor. |
| Ingestion | For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (immediately). If swallowed, do not induce vomiting. |
| First aid facilities | Eye wash facilities and safety shower should be available. |

4.2 Most important symptoms and effects, both acute and delayed

Irritating to the eyes, skin and respiratory system

4.3 Immediate medical attention and special treatment needed

Treat symptomatically.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Use an extinguishing agent suitable for the surrounding fire.

5.2 Special hazards arising from the substance or mixture

Non flammable. May evolve toxic gases if strongly heated.

5.3 Advice for firefighters

No fire or explosion hazard exists.

5.4 Hazchem code

None allocated.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Contact emergency services where appropriate.

6.2 Environmental precautions

Prevent product from entering drains and waterways.

6.3 Methods of cleaning up

Contain spillage, then collect and place in suitable containers for reuse or disposal. Avoid generating dust.

6.4 Reference to other sections

See Sections 8 and 13 for exposure controls and disposal.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well-ventilated area, removed from moisture, incompatible substances and foodstuffs. Ensure packages are adequately labelled, protected from physical damage and sealed when not in use.

7.3 Specific end use(s)

No information provided.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Exposure standards

| Ingredient | Reference | TWA | | STEL | |
|---------------------------|-----------|-----|-------------------|------|-------------------|
| | | ppm | mg/m ³ | ppm | mg/m ³ |
| Nuisance dust | SWA (AUS) | -- | 10 | -- | -- |
| Gypsum (Calcium sulphate) | SWA (AUS) | -- | 10 | -- | -- |

Biological limits

No biological limit values have been entered for this product.

8.2 Exposure controls

Engineering controls

Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended. Maintain dust levels below the recommended exposure standard.

PPE

Eye / Face

Wear safety glasses or dust-proof goggles when handling material to avoid contact with eyes.

Hands

Wear suitable gloves when handling material to prevent skin contact.

Body

Wear long sleeved shirt and full-length trousers.

Respiratory

Where an inhalation risk exists wear a Class P1 (Particulate) respirator, dependent on a site specific risk assessment.



9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

| | |
|---------------------------|--------------------------------|
| Appearance | FINE WHITE TO DARK GREY POWDER |
| Odour | ODOURLESS |
| Flammability | NON FLAMMABLE |
| Flash point | NOT RELEVANT |
| Boiling point | NOT AVAILABLE |
| Melting point | > 1200°C |
| Evaporation rate | NOT AVAILABLE |
| pH | NOT AVAILABLE |
| Vapour density | NOT AVAILABLE |
| Specific gravity | 2.9 to 3.2 |
| Solubility (water) | < 10 g/L |
| Vapour pressure | NOT AVAILABLE |
| Upper explosion limit | NOT RELEVANT |
| Lower explosion limit | NOT RELEVANT |
| Partition coefficient | NOT AVAILABLE |
| Autoignition temperature | NOT RELEVANT |
| Decomposition temperature | NOT AVAILABLE |
| Viscosity | NOT AVAILABLE |
| Explosive properties | NOT AVAILABLE |
| Oxidising properties | NOT AVAILABLE |
| Odour threshold | NOT AVAILABLE |

9.2 Other information

| | |
|---------|---------------------------------------------------------|
| Density | 1100 kg/m ³ to 1500 kg/m ³ (Bulk) |
|---------|---------------------------------------------------------|

10. STABILITY AND REACTIVITY

10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6

10.2 Chemical stability

Stable under recommended conditions of storage

10.3 Possibility of hazardous reactions

Polymerization is not expected to occur

10.4 Conditions to avoid

Avoid moisture

10.5 Incompatible materials

Incompatible with oxidising agents (e.g. hypochlorites), ethanol, acids (e.g. hydrofluoric acid) and interhalogens (e.g. chlorine trifluoride). Water contact may increase product temperature 2°C to 3°C.

10.6 Hazardous decomposition products

May evolve toxic gases if heated to decomposition.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

| | |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Acute toxicity | No known toxicity data available for this product. Based on available data, classification criteria are not met |
| Skin | Irritating to the skin. Contact with powder or wetted form may result in irritation, rash and dermatitis |
| Eye | Irritating to the eyes. Contact may result in irritation, lacrimation, pain, redness, corneal burns and possible permanent damage |
| Sensitization | This product is not classified as a skin or respiratory sensitiser |
| Mutagenicity | Insufficient data available to classify as a mutagen |
| Carcinogenicity | The criteria for classification is not met |
| Reproductive | Insufficient data available to classify as a reproductive toxin |
| STOT – single exposure | Irritating to the respiratory system. Over exposure may result in irritation of the nose and throat, with coughing. High level exposure may result in breathing difficulties. |
| STOT – repeated exposure | As for above |
| Aspiration | This product is a solid and aspiration hazards are not expected to occur |

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Based on available data, classification criteria is not met, and there is a high probability that the product is not acutely harmful to aquatic organisms.

12.2 Persistence and degradability

Not applicable for inorganic substances.

12.3 Bioaccumulative potential

This product is not expected to bioaccumulate.

12.4 Mobility in soil

A low mobility would be expected in a landfill situation.

12.5 Other adverse effects

Avoid contamination of drains and waterways.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Waste disposal Reuse or recycle where possible. Alternatively, dispose of to an approved landfill site. Contact the manufacturer/supplier for additional information (if required).

Legislation Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION

NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA

| | LAND TRANSPORT (ADG) | SEA TRANSPORT (IMDG / IMO) | AIR TRANSPORT (IATA / ICAO) |
|-----------------------------|-------------------------|-------------------------------|--------------------------------|
| 14.1 UN Number | None Allocated | None Allocated | None Allocated |
| 14.2 Proper Shipping Name | None Allocated | None Allocated | None Allocated |
| 14.3 Transport hazard class | None Allocated | None Allocated | None Allocated |
| 14.4 Packing Group | None Allocated | None Allocated | None Allocated |

14.5 **Environmental hazards** No information provided

14.6 **Special precautions for user**

Hazchem code None Allocated

15. REGULATORY INFORMATION

15.1 **Safety, health and environmental regulations/legislation specific for the substance or mixture**

Poison schedule A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

Inventory listing(s) **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**
All components are listed on AICS, or are exempt.

16. OTHER INFORMATION

Additional information

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

Abbreviations

| | |
|-------------------|-------------------------------------------------------------------------------------------------|
| ADG | Australian Dangerous Goods code |
| AICS | Australian Inventory of Chemical Substances |
| CAS # | Chemical Abstract Service number - used to uniquely identify chemical compounds |
| EC No. | EC No - European Community Number |
| GHS | Globally Harmonized System |
| IARC | International Agency for Research on Cancer |
| IATA | International Air Transport Association |
| ICAO | International Civil Aviation Organisation |
| IMDG | International Maritime Dangerous Goods code |
| mg/m ³ | Milligrams per cubic metre |
| OEL | Occupational Exposure Limit |
| pH | Relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). |
| ppm | Parts Per Million |
| STEL | Short-Term Exposure Limit |
| STOT-RE | Specific target organ toxicity (repeated exposure) |
| STOT-SE | Specific target organ toxicity (single exposure) |
| SUSMP | Standard for the Uniform Scheduling of Medicines and Poisons |
| SWA | Safe Work Australia |
| TLV | Threshold Limit Value |
| TWA | Time Weighted Average |

Report status

Sunstate Cement Ltd believes the information in this document to be accurate as at the date of preparation noted below, but, to the maximum extent permitted by law, Sunstate Cement Ltd accepts no responsibility for any loss or damage caused by any person acting or refraining from action because of this information.

The provision of this information should not be construed by anyone as a recommendation to use this product. In particular, no one should use any product in violation of any patent or other intellectual proprietary rights or in breach of any statute or regulation.

Users should rely on their own knowledge and inquiries and make their own determination as to the applicability of this information in relation to their particular purposes and specific circumstances. Each user should read this SDS and consider the information in the context of how the product will be handled and used in the workplace and in conjunction with other substances or product.