

Slag

1. Identification

Product Name: Slag

Other names: Ground Granulated Blast Furnace Slag, Slag cement, GGFBS

Supplier information:

Name: NZIC

Phone: 027 316 5615

Address: 22 McAlpine Street, Christchurch, 8042

Website: nzindependentcement.co.nz

Proper Shipping Name: Not applicable

Recommended Use: Not applicable

UN Number: Not applicable

Emergency Contacts: Emergency Services (Fire, Ambulance, Police) – Dial 111

Company Contact – 0800 692 3636 (0800 NZ CEMENT)

National Poisons Information Centre – 0800 764 766 (0800 POISON)

2. Hazard Identification

Statement of Hazardous Nature: This preparation is not classified as a health or environmental hazard according to the Hazardous Substances (Minimum Degrees of Hazard) Notice 2017. Not classified as a Dangerous Good according to NZS 5433

Other hazards: Dust of product can cause mechanical irritation to the eyes and respiratory system. Leachate may show alkalinity of pH 9 – 11, after long-term contact with water.

3. Composition & Information on Ingredients

Ingredient	CAS Number	Concentration (%)
Blast furnace slag	65996-69-2	100%
<i>Granulated blast furnace slag is an amorphous substance, but the following ingredients may crystallise in part.</i>		
Melilite	-	Not confirmed
Calcium silicate	1344-95-2	Not confirmed

4. First Aid Measures

New Zealand Poisons & Hazardous
Chemicals National Information Centre
Phone 0800 POISON – 0800 764 766

Inhalation: IF INHALED, remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTRE or doctor/physician if you feel unwell or experience breathing difficulties.

Ingestion: IF SWALLOWED, rinse mouth and lips with water. Do NOT induce vomiting. Immediately call a POISON CENTRE or doctor/physician.

Skin: IF ON SKIN (or hair), wash with plenty of soap and water. Take off contaminated clothing and wash before re-use. If skin irritation or rash occurs, seek medical advice/attention.

Eyes: IF IN EYES, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Do not rub eyes as this may cause possible corneal damage by mechanical stress. Immediately call a POISON CENTRE or doctor/ physician.

Advice to Doctor: Treat symptomatically. Wet cement is corrosive to skin and eye tissue and may cause caustic type burns. Cement burns with little warning – little heat is sensed.

5. Fire Fighting Measures

Flammability: Non-combustible, non-explosive.

Hazardous Combustion products: May evolve toxic gases if strongly heated. Carbon and nitrogen oxides may be formed in any fire.

Extinguishing media: Use appropriate for surrounding materials. Prevent contamination of drains or water ways.

Instructions to firefighters: None specified.

6. Accidental Release Measures

Spills: This product is solid. Avoid inhalation of dust and contact with skin. Recover material by sweeping in collecting in suitable containers. Wet sweeping or vacuuming techniques can be used to minimise airborne dust generation. If airborne dust occurs, wear appropriate protective equipment (e.g. protective gloves, safety glasses, particulate respirator etc). Collect and place in sealable, labelled containers for later use or disposal.

Environmental precautions: Prevent spill from entering storm water/ sewer drains and watercourses. Leachate from this product may cause an increase in water pH if it flows into surrounding water areas (rivers, lakes etc).

If product is spilt into a waterway notify the Regional Council.

7. Handling & Storage

Safe Handling:

Avoid breathing dust.

Wear appropriate protective equipment to avoid eye and skin contact.

Ensure adequate ventilation if handling material indoors or use respiratory protection.

Wash hands and any exposed skin thoroughly after handling.

Prohibit eating, drinking, and smoking in work areas.

Certified Handler: Not required.

Storage:

Avoid generation or occurrence of dust in storage areas.

Care should be made so that leachate does not directly flow into surrounding water bodies (e.g. rivers, lakes) as leachate may disrupt alkalinity levels.

8. Exposure Controls & Personal Protection

Exposure Standards

If you are unsure whether dust levels will exceed the exposure standards consult an occupational hygienist.

Workplace Exposure Standards (WES):

Ingredient	CAS Number	TWA
Dust (not otherwise classified)	-	10 mg/m ³
- Inhalable		3 mg/m ³
- Respirable		

Biological Exposure Indices (BEI): No biological limit allocated.

Engineering Controls:

Ventilation: Ensure adequate ventilation – optimise natural airflows. Local exhaust ventilation should be used to prevent excessively dusty conditions and to maintain dust levels below exposure levels, where necessary. Work areas should be cleaned regularly.

Personal Protection (PPE)

Eyes/Face: If generation of airborne dust is likely, protective eyewear (e.g. Safety glasses with side shields, safety goggles) is recommended. Safety eyewear should comply with AS/NZS 1337.

Skin: If generation of excessive dust is likely, the use of protective gloves is recommended. Consult your glove supplier for additional information on glove selection. Gloves should be selected in accordance with AS/NZS 2161.

Respiratory protection: May be required dependant on use. If engineering controls are insufficient to control airborne dust exposure, the use of a suitable Class P2 or P3 particulate respirator is recommended. At high dust levels, greater protection may be required. Respiratory protection must comply with AS/NZS 1716 and be maintained in accordance with AS/NZS 1715

9. Physical & Chemical Properties

Appearance: Granulated, ash white solid.

Odour: none

Odour threshold: Not applicable.

pH: Leachate may show alkalinity of pH 9-11, after long term contact with water.

Boiling point: No data available. Melting point: Not applicable.

Flash point: Not applicable.

Autoignition Temp: Not applicable.

Decomposition Temp: Not applicable.

Flammability: Not classified as a flammable substance.

Lower Flammability Limit (LEL): Not applicable

Upper Flammability Limit (UEL): Not applicable

Vapour pressure: Not applicable.

Vapour density (Air =1): Not applicable.

Specific gravity (H₂O=1): Not applicable.

Solubility (water): Low with water

Viscosity (dynamic): Not applicable.

Viscosity (kinematic): Not applicable.

Evaporation rate: Not applicable

Mass of unit volume: 1.3 – 1.9 t/m³

Partition coefficient (n-octanol/water):
No Data Available

10. Stability & Reactivity

Stability:

Stable under normal conditions of use and storage. Product may consolidate in case of long-term storage in the presence of water/moisture.

This product is not classified as a metal corrosive substance. The corrosion surface of aluminium and steel test specimen exposed to steel-making slag were max. 0.19 mm/year and 0.06 mm/year, respectively; not exceed 6.25 mm/year when tested in accordance with immersion corrosion test of metal.

United Nations Manual of Test and Criteria, Part 3, Section 37 (data provided in HNB003 SDS Granulated blast furnace slag, 5th edition, 29.10.2018).

Conditions to avoid: Excessive dust generation. Incompatible / Materials to avoid: No data available.

Hazardous decomposition products: No data available.

Hazardous polymerisation: No data available.

11. Toxicological Information

Health Effects / Symptoms of Exposure

Acute Exposure (short term)

Overview: Excessive exposure to airborne dust may reduce visibility and/or cause unpleasant deposits in the eyes, ears and nose. Prolonged and continuous exposure to excessive concentrations of dust of any kind may have an adverse pulmonary effect on some people.

Eyes: May cause mechanical irritation to the eyes.

Inhalation: May cause mechanical irritation to the respiratory system.

Aspiration hazard: This product is a solid and aspiration hazards are not expected to occur.

Ingestion: No data available.

Skin: No data available.

Chronic Exposure (long term)

Respiratory / Skin sensitisation: Not classified.

Mutagenicity: Not classified to be a mutagen.

Carcinogenicity: Not classified as a carcinogen.

Reproductive Toxicity: Not classified as a reproductive toxicity substance/product.

Specific Target Organ Toxicity (STOT): Not classified as a reproductive toxin.

Toxicological Data: No toxicological data available for the product or its ingredients.

Biological Exposure Indices: No biological exposure indices allocated.

12. Ecological Information

Take necessary measure for the environment, including preventing material from entering waterways as leachate may influence the alkalinity of waterbodies in contact with water. No negative ecological effects from product are expected according to present state of knowledge.

Persistence in environment: No data available.

Bioaccumulation: No evidence for bioaccumulation potential.

Biodegradability: No data available.

Ecotoxicological Data

Blast furnace slag	LC50 (Leuciscus idus, 96-hr) =	>100 mg/L
	EC50 (Daphnia magna, 48-hr) =	>100 mg/L
	LD50 (Pseudokirchneriella subcapitata, 72-hr) =	>100 mg/L

Data source: HNB003 SDS Granulated blast furnace slag, 5th edition, 29.10.2018

13. Disposal Considerations

If practicable, spilled materials should be returned to the container for later use if it is not contaminated. Small amounts of material can be disposed of as trade waste or landfill in accordance with local authority guidelines. Bulk or contaminated product may be disposed of through an approved hazardous waste contractor. Disposal waste contractors must comply with the New Zealand Hazardous Substances (Disposal) Notice 2017. Containers/packaging may only be recycled if clean and free of residue as to be non-hazardous. Prevent material from entering storm water and sewer drains.

14. Transport Information

Not classified as a Dangerous Good according to NZS 5433:200

15. Regulatory Information

HSNO Approval

HSNO Group Standard: Not Applicable, the product is considered non-hazardous. All ingredients are listed on the NZIoC.

16. Other Information

Abbreviations / Terminology:

AS/NZS	Joint Australian New Zealand Standard
AS/NZS 1337	Personal eye-protection
AS/NZS 1715	Selection, use and maintenance of respiratory protective equipment
AS/NZS 1716	Respiratory protective devices
AS/NZS 2161	Occupational protective gloves
CAS#	Chemical Abstract Service number (a unique identifier for chemicals)

EC50	Median effect concentration, being a statistically derived concentration of a substance that can be expected to cause an adverse reaction or reduction in growth/growth rate in 50 percent of organisms.
AS/NZS 1716	(New Zealand) Hazardous Substances and New Organisms Act
HSNO	
LC50	Median lethal concentration, being a statistically derived concentration of a substance that can be expected to cause death in 50 percent of organisms.
NZIoC	New Zealand Inventory of Chemicals
NZS 5433	Transport of Dangerous Goods on Land
TWA	Time Weighted Average
WES	Workplace Exposure Standard

Prepared with reference to: Hazardous Substances (Safety Data Sheets) Notice 2017 published by Environmental Protection Authority, New Zealand.

Current Version: 30th August 2024

Revision Information: SDS may be revised from time to time, please ensure you have a current copy. This revision: Updated overseas SDS to NZ requirements.
Previous revision dated: 29 October 2018

Disclaimer:

This safety data sheet attempts to describe as accurately as possible the potential exposures associated with normal use of the product described herein. Health and safety precautions in the data sheet may not be adequate for all individuals and/or situations. Users have the responsibility to evaluate and use this product safely and to comply with all applicable laws and regulations.

Whilst the information contained in this document is based on data, which, to the best of our knowledge, was accurate and reliable at the time of preparation, no warranty or responsibility can be accepted by us for errors and omissions. The provision of this information should not be construed as a recommendation to use any of our products in violation of any patent rights or in breach of

any statute or regulation. Users are advised to make their own determination as to the suitability of this information in relation to their particular purposes and specific circumstances. Since the information contained in this document may be applied under conditions beyond our control, no responsibility can be accepted by us for any loss or damage caused by any person acting or refraining from action as a result of this information.

--END OF SDS