

1. Identification of Substance & Company

Product

| | |
|-----------------------------|--|
| Product name | ECO-CEM |
| Generic names | Granulated Ground Blast Furnace Slag (GGBFS) |
| HSNO approval | Non hazardous |
| Approval description | Non hazardous |
| UN number | NA |
| Proper Shipping Name | NA |
| DG class | NA |
| Packaging group | NA |
| Hazchem code | NA |
| Uses | Raw material for cement industry |

Company Details

| | |
|------------------|---|
| Company | HR CEMENT LTD |
| Address | 60 Aerodrome Road, Mount Maunganui 3116, New Zealand |
| Telephone | 0508 CEMENT |

Emergency Telephone Number: 0800-764 766

2. Hazard Identification

Approval

This product is not considered hazardous under the Hazardous Substances and New Organisms Act (HSNO), according to the criteria in the Hazardous substances (Hazard Classification) Notice 2020.

GHS 7 Classes

None

Hazard Statements

SYMBOLS

Other Classifications

No other classifications are known to apply.

Precautionary Statements

| | |
|-------------------|---|
| Prevention | P103 - Read label before use. |
| Response | None |
| Storage | None |
| Disposal | P501 - Dispose of contents/container in accordance with local/regional/national/international regulation. |

3. Composition / Information on Ingredients

| Component | CAS/ Identification | Concentration |
|-------------------------------------|---------------------|---------------|
| GGBFS- may contain the following: | 65996-69-2 | 97% |
| Silicic acid, calcium salt | 1344-95-2 | not specified |
| Iron oxide | 1332-37-2 | not specified |
| Silicate minerals, e.g. Melilite | mixture | not specified |
| Calcium sulphate dihydrate (gypsum) | 10101-41-4 | <3% |

This is a commercial product whose exact ratio of components may vary slightly. Trace quantities of impurities are also likely.

4. First Aid

General Information

If medical advice is needed, have product container or label at hand. You should call the National Poisons Centre if you feel that you may have been harmed or irritated by this product. The number is 0800 764 766 (0800 POISON) (24 hr emergency service).

Recommended first aid facilities Ready access to running water is recommended. Accessible eyewash is recommended.

Exposure

Swallowed IF SWALLOWED: Do NOT induce vomiting. Rinse mouth. Contact a doctor if you feel unwell.

Eye contact IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Skin contact This product is non-irritating to skin. Wash affected area with plenty of soap and water.

Inhaled Generally, inhalation of fumes/vapours/dusts is unlikely to result in adverse health effects. If coughing, dizziness or shortness of breath is experienced, remove the patient to fresh air immediately. If patient is unconscious, place in the recovery position (on the side) for transport and contact a doctor.

Advice to Doctor

Treat symptomatically.

5. Firefighting Measures

Fire and explosion hazards: There are no specific risks for fire/explosion for this chemical. It is non-combustible.

Suitable extinguishing substances: Not applicable.

Unsuitable extinguishing substances: Unknown.

Products of combustion: Product does not burn. Dust may form irritating atmosphere. Product will react exothermically with water. Contaminated water will be strongly alkaline. Product may decompose in a fire and produce toxic or corrosive fumes.

Protective equipment: Self-contained breathing apparatus. Safety boots, non-flammable overalls, gloves, hat and eye protection.

Hazchem code: NA

6. Accidental Release Measures

Containment Prevent spillage from spreading or entering soil, waterways or drains.

Emergency procedures If a significant spill occurs:
Stop leak if safe/necessary; Isolate area. Collect spill – see below; Transfer to container for disposal. Dispose of according to guidelines below (Section 13).

Clean-up method Collect and seal in properly labelled containers or drums for disposal. If contamination of crops, sewers or waterways has occurred advise local emergency services.

Disposal Sweep up and collect recoverable material into labelled containers for recycling or salvage. Recycle containers wherever possible. This material may be suitable for approved landfill. Dispose of only in accord with all regulations.

Precautions The dust may form irritating atmosphere. Contaminated water will be alkaline. Do not allow contaminated water to enter the environment. Wear protective equipment to prevent skin and eye contamination and the inhalation of dust. Work up wind or increase ventilation.

7. Storage & Handling

Storage Avoid storage of harmful substances with food. Store out of reach of children. Containers should be kept closed in order to minimise contamination. Keep in a cool, dry place. Avoid contact with incompatible substances as listed in Section 10.

Handling Keep exposure to a minimum, and minimise the quantities kept in work areas. Minimise dust generation and accumulation. See section 8 with regard to personal protective equipment requirements. Avoid skin and eye contact and inhalation of dust.

8. Exposure Controls / Personal Protective Equipment
Workplace Exposure Standards

A workplace exposure standard (WES) has not been established by WorkSafe NZ for this product. There is a general limit of 3mg/m³ for respirable particulates and 10mg/m³ for inhalable particulates when limits have not otherwise been established.

| NZ Workplace Exposure Stds | Ingredient | WES-TWA | WES-STEL |
|----------------------------|-------------|--------------------------------------|------------------|
| | Cement | 3mg/m ³ (respirable dust) | data unavailable |
| | Iron oxides | 5mg/m ³ (as Fe) | data unavailable |

Engineering Controls

In industrial situations, it is expected that employee exposure to hazardous substances will be controlled to a level as far below the WES as practicable by applying the hierarchy of control required by the Health and Safety at Work Act (2015) and the Health and Safety at Work (General Risk and Workplace Management) Regulations 2016. Exposure can be reduced by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods. If you believe air borne concentrations of mists, dusts or vapours are high, you are advised to modify processes or increase ventilation.

Personal Protective Equipment

General

Personal Protective Equipment (PPE) should not be used as the primary means of exposure protection, except in the event of an accident or emergency situation or where all other means of protection have proven to inadequate.

Clean PPE after use or dispose of as appropriate. Store PPE for re-use in a clean place. Regular training on the correct use of PPE should be provided. In particular the correct fitting and use of respirators and where applicable the cleaning of respirators should be undertaken.

Eyes



Avoid contact with eyes. Use safety glasses and or chemical splash goggles if dusts are possible. Select eye protection in accordance with AS/NZS 1337.

Skin



Avoid repeated or prolonged skin contact. Wear overalls, waterproof boots and impervious alkali-resistant gloves (e.g., nitrile, PVC, rubber, neoprene). Protective gloves or suitably resistant material must comply with AS 2161. Replace frequently. Gloves should be checked for tears or holes before use. Protective clothing must comply with AS 2919, AS3765.1 or AS3765.2. PVC or rubber boots must comply with AS/NZS 2210.2 and selected and maintained in accordance with AS/NS2210.1.

Respiratory

To prevent irritation from dust a well fitted dust mask should be used (this is not recommended when exposure is close to the WES). A fine particulate half or full face respirator with an effective seal is recommended when airborne concentrations approach the WES (section 8).

WES Additional Information

Not applicable

9. Physical & Chemical Properties

| | |
|---|----------------------------------|
| Appearance | granulated particles, ash white |
| Odour | no odour |
| Odour Threshold | no data |
| pH | leachate may be alkaline pH 9-11 |
| Freezing/melting point | no data |
| Boiling Point | no data |
| Flashpoint | non flammable |
| Flammability | non flammable |
| Upper & lower flammable limits | no LEL or UEL |
| Vapour pressure | no data |
| Vapour density | no data |
| Specific gravity/density | 1.3-1.9t/m3 |
| Solubility | low solubility in water |
| Partition coefficient | no data |
| Auto-ignition temperature | no data |
| Decomposition temperature | no data |
| Viscosity | no data |
| Particle Characteristics | no data |

10. Stability & Reactivity

Stability

This product is unlikely to react or decompose under normal storage conditions. This product will not undergo polymerisation reactions. Keep dry until used. Leachate may be alkaline (pH 9-11).

Conditions to be avoided

Containers should be kept closed in order to avoid contamination.

Incompatible groups

Strong acids, ammonium salts, and aluminum metal.

Substance Specific Incompatibility

Silicates react with powerful oxidizers such as fluorine, chlorine, trifluorides, and oxygen difluoride.

Hazardous decomposition products

Does not readily decompose.

Hazardous reactions

Will not polymerise

11. Toxicological Information

Summary

IF SWALLOWED: large amounts of dust may result in abdominal discomfort and irritation and burns to the gastrointestinal tract.

IF IN EYES: Contact with dust can be irritating. (mechanical irritation)0

IF ON SKIN: no effect anticipated.

IF INHALED: dusts may cause coughing and irritation (mechanical irritation).

Supporting Data

| | | |
|----------------|--|--|
| Acute | Oral | The estimated LD ₅₀ (oral, rat) for the mixture is > 2,000 mg/kg. |
| | Aspiration | This mixture is not considered an aspiration hazard. |
| | Dermal | Using LD ₅₀ 's for ingredients, the Acute Toxicity Estimate (ATE) (dermal) for the mixture is >2,000 mg/kg. |
| | Inhaled | Using LD ₅₀ 's for ingredients, the Acute Toxicity Estimate (ATE) (inhalation) for the mixture is >5.9mg/L/4h. |
| | Eye | Blast furnace slag is not considered to be an eye corrosive/irritant. |
| | Skin | Blast furnace slag is not considered to be a skin irritant. |
| Chronic | Sensitisation | No ingredient present at concentrations > 0.1% is considered a sensitizer. |
| | Mutagenicity | No ingredient present at concentrations > 0.1% is considered a mutagen. |
| | Carcinogenicity | No evidence of carcinogenicity for any ingredients present >0.1%. |
| | Reproductive / Developmental | No data for mixture is available. No ingredient present at concentrations > 0.1% is considered a reproductive or developmental toxicant or have any effects on or via lactation. |
| | Systemic Aggravation of existing conditions | No evidence of system target organ toxicity for any ingredients present >1%. None known. |

12. Ecological Data

Summary

This substance is not considered to be harmful towards the environment. However the leachate is alkaline and may affect aquatic organisms. Do not allow product to enter drains and waterways.

Supporting Data

| | |
|---------------------------------|---|
| Aquatic | No data for mixture is available. Using EC ₅₀ 's for ingredients, the estimated EC ₅₀ for the mixture is > 100 mg/L. Water contaminated with this product is alkaline and should not be allowed to enter the environment. |
| Bioaccumulation | Not applicable |
| Degradability | Not applicable (predominantly natural products) |
| Soil | No data available for the mixture. The soil toxicity value for the mixture is estimated to be ≥ 100 mg/kg. |
| Terrestrial vertebrate | See acute toxicity. |
| Terrestrial invertebrate | The mixture is not considered harmful to terrestrial invertebrates. |
| Biocidal | Not designed as a biocide. |

13. Disposal Considerations

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|-------------------------------|--|
| Restrictions | There are no product-specific restrictions, however, local council and resource consent conditions may apply, including requirements of trade waste consents. |
| Disposal method | Disposal of this product must comply with the Hazardous Substances (Disposal) Notice 2017 and the requirements of the Resource Management Act for which approval should be sought from the Regional Authority. The substance must be treated and therefore rendered non-hazardous before discharge to the environment. |
| Contaminated packaging | Disposal of contaminated packaging must comply with the Hazardous Substances (Disposal) Notice 2017 clause 12. Ensure that the package is rendered incapable of containing any substance and is disposed in a manner that is consistent with the requirements of the substance it contained and the material of the package. If possible reuse or recycle packaging. |

14. Transport Information

Land Transport Rule: Dangerous Goods 2005 - NZS 5433:2007

This mixture is not considered a hazardous substance for transport on land.

| | | | |
|---------------------|----|------------------------------|----|
| UN number: | NA | Proper shipping name: | NA |
| Class(es) | NA | Packing group: | NA |
| Precautions: | NA | Hazchem code: | NA |

15. Regulatory Information

This substance is not considered to be hazardous under GHS 7.

All ingredients appear on the NZIoC.

Specific Controls

Key workplace requirements are:

| | |
|---------------------------------|---|
| SDS | Not required (non hazardous), but best practice to have the SDS available. |
| Inventory | An inventory of all hazardous substances must be prepared and maintained. |
| Packaging | All hazardous substances should be appropriately packaged including substances that have been decanted, transferred or manufactured for own use or have been supplied |
| Labelling | Must comply with the Hazardous Substances (Labelling) Notice 2017. |
| Emergency plan | Not required. |
| Certified handler | Not required. |
| Tracking | Not required. |
| Bunding & secondary containment | Not required. |
| Signage | Not required. |
| Location compliance certificate | Not required. |
| Flammable zone | Not required. |
| Fire extinguisher | Not required. |

Note: The above workplace requirements apply if only this particular substance is present. The complete set of controls for a location will depend on the classification and total quantities of other substances present in that location.

Other Legislation

In New Zealand, the use of this product may come under the Resource Management Act and Regulations, the Health and Safety at Work Act 2015 and the Health and Safety at Work (General Risk and Workplace Management) Regulations 2016, local Council Rules and Regional Council Plans.

16. Other Information

Abbreviations

| | |
|------------------------|---|
| Approval Code | not applicable – non hazardous. |
| CAS Number | Unique Chemical Abstracts Service Registry Number |
| EC₅₀ | Ecotoxic Concentration 50% – concentration in water which is fatal to 50% of a test population (e.g. daphnia, fish species) |
| EPA | Environmental Protection Authority (New Zealand) |
| GHS | Globally Harmonised System of Classification and Labelling of Chemicals, 7 th revised edition, 2017, published by the United Nations. |
| HAZCHEM Code | Emergency action code of numbers and letters that provide information to emergency services, especially fire fighters |
| HSNO | Hazardous Substances and New Organisms (Act and Regulations) |
| IARC | International Agency for Research on Cancer |
| LEL | Lower Explosive Limit |
| LD₅₀ | Lethal Dose 50% – dose which is fatal to 50% of a test population (usually rats). |
| LC₅₀ | Lethal Concentration 50% – concentration in air which is fatal to 50% of a test population (usually rats) |
| NZIoC | New Zealand Inventory of Chemicals |
| STEL | Short Term Exposure Limit - The maximum airborne concentration of a chemical or biological agent to which a worker may be exposed in any 15 minute period, provided the TWA is not exceeded |
| STOT RE | System Target Organ Toxicity – Repeated Exposure |
| STOT SE | System Target Organ Toxicity – Single Exposure |
| TWA | Time Weighted Average – generally referred to WES averaged over typical work day (usually 8 hours) |
| UEL | Upper Explosive Limit |
| UN Number | United Nations Number |

WES Workplace Exposure Standard - The airborne concentration of a biological or chemical agent to which a worker may be exposed during work hours (usually 8 hours, 5 days a week). The WES relates to exposure that has been measured by personal monitoring using procedures that gather air samples in the worker's breathing zone.

References

Data Unless otherwise stated comes from the EPA HSNO chemical classification information database (CCID).
Controls EPA notices, www.epa.govt.nz, Health and Safety at Work (Hazardous Substances) Regulations 2017, www.legislation.govt.nz
WES The latest NZ Workplace Exposure Standards, published by WorkSafe NZ and available on their web site – www.worksafe.govt.nz.
Other References: Suppliers SDS

Review

Date Reason for review
May 2023 Not applicable - New SDS

Disclaimer

This SDS was prepared by Datachem LTD and is based on our current state of knowledge, including information obtained from suppliers. The SDS is given in good faith and constitutes a guideline (not a guarantee of safety). The level of risk each substance poses is relevant to its properties (as summarised in the SDS) AND HOW THE SUBSTANCE IS USED. While guidelines are given for personal protective equipment, such precautions must be relevant to the use. The likely GHS 7 classifications for this SDS have been estimated based on general information from the supplier (e.g., hazard, toxicological). This SDS is copyright Datachem and must not be copied, edited or used for other than intended purpose. To contact the SDS author, email info@datachem.co.nz or phone: **+64 21 1040951**.

