

Regen GGBS

Material Safety Data Sheet (MSDS)



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

1.1. Product identifier

Identification on the label/tradename: Ground Granulated Blast Furnace Slag GGBS/Regen

EINICS No: 266-002-0

CAS No: 65996-69-2

REACH Registration No: UK-01-8706475375-6-0005

1.2. Relevant identified uses of the substance or mixture and uses advised against

Constituent of standard cements (EN 197-1) and special binders, concrete preparation and road construction.

Any uses not mentioned above, are advised against.

1.3. Details of the supplier of the safety data sheet

Hanson Cement Ltd

Ketton, Stamford, Lincolnshire, PE9 3SX

Hanson Cement Customer Services

Tel: 0330 123 4525 - E-mail: cement.customer.services@hanson.biz

1.4. Emergency telephone number

Emergency telephone number: 0330 123 2074

Hours of operation: 08:45-17:00 (Monday-Thursday) 08:45-16:00 (Friday)

Service is provided in English

Emergency telephone number is not available outside office hours

2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

2.1.1 Classification according to Regulation (EC) No 1272/2008 (CLP)

Not classified as hazardous under to the Classification, Labelling and Packaging of substances and mixtures (CLP) regulations (EC 1272/2008).

2.1.2 Additional information

For full text of Hazard – EU Hazard statements: see section 16

2.2. Label elements

Label in accordance with (EC) No. 1272/2008:



Signal word

Danger

Hazard Statements

H319 Causes serious eye irritation

H335 May cause respiratory irritation

Precautionary Statements

P280 Wear protective gloves/protective clothing/eye protection/face protection

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.3 Other hazards

Dust of granulated slag can act as an irritant and cause mechanical irritation to the eyes and respiration system.

3. COMPOSITION/INFORMATION ON INGREDIENTS**3.1 Substances**

Substance related information:

Slags, ferrous metal, blast furnace

EINICS No: 266-002-0

CAS No: 65996-69-2

REACH Registration No: 01-2119487456-25

Complex Ca-Mg-Al-silicate composition

Further information:

Granulated slag is a vitrified substance, which is a by-product of iron production in a blast furnace. The structure of the granulated slag depends on the temperature during cooling.

3.2 Mixtures

Not applicable

4. FIRST AID MEASURES**4.1 Description of First aid measures****Inhalation:**

Move affected person into fresh air. Seek medical advice if irritation persists.

Skin contact:

Wash with soap and water.

Eye contact:

Do not rub eyes as material is abrasive and may scratch the surface of the eye. Immediately and thoroughly irrigate with eye wash solution or clean water. If symptoms develop or persist, seek medical attention.

Ingestion:

Rinse mouth and drink plenty of water. Seek medical advice if symptoms persists.

4.2 Most important symptoms and effects, both acute and delayed**Eyes**

Eye contact with GGBS (dry or wet) may cause irritation to the eyes.

Inhalation

Repeated inhalation of dust of GGBS over a long period of time increases the risk of developing lung diseases.

Environment

Under normal use, GGBS is not hazardous to the environment.

4.3 Indication of any immediate medical attention and special treatment needed

When contacting a physician, take this MSDS with you.

5. FIRE-FIGHTING MEASURES

GGBS is not flammable and is not combustible.

5.1. Extinguishing media

GGBS is not flammable

5.2. Special hazards arising from the substance or mixture

GGBS is non-combustible and non-explosive and will not facilitate or sustain the combustion of other materials.

5.3. Advice for fire fighters

GGBS poses no fire-related hazards. No need for special protective equipment for fire fighters.

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel

Avoid breathing in dust. Keep dust out of eyes. See Section 8 for guidance on personal protective equipment. See Section 7 for guidance on handling the product.

6.1.2 For emergency responders

Emergency procedures are not required. However, respiratory protection is needed in situations with high dust levels.

6.2. Environmental precautions

The product should not be dumped in nature but collected and delivered in accordance with local regulations. Do not wash down sewage and drainage systems or into bodies of water, e.g. streams.

6.3. Methods for material containment and cleaning up

Pick up mechanically, avoid disturbing dust. Use dust reducing cleaning method.

6.4 Reference to other sections

See section 8 and 13 for more details

7. HANDLING AND STORAGE

7.1. Precautions for safe handling

7.1.1 Protective measures

Follow the recommendations given under section 8

Measures to prevent fire

Not applicable

Measures to prevent aerosol and dust generation

Do not sweep. Use dry clean up methods such as vacuum clean-up or vacuum extraction, which do not cause airborne dispersion.

Measures to protect the environment

No special measures required.

7.1.2 Information on general occupational hygiene

Do not handle or store near food and beverages or smoking materials. In dusty environment, wear dust mask and protective goggles. Use protective gloves to avoid skin contact.

7.2. Conditions for safe storage including any incompatibilities

The product should be stored in silos that are waterproof, dry (i.e. with internal condensation minimised), clean and protected from contamination. Engulfment hazard: To prevent engulfment or suffocation, do not enter a confined space, such as a silo, bin, bulk truck, or other storage container or vessel that stores or contains GGBS without taking the proper safety measures. GGBS can build-up or adhere to the walls of a confined space. The GGBS can release, collapse or fall unexpectedly.

7.3 Specific end uses

No additional information for specific end uses (see section 1.2)

7.4 Control of soluble Cr (VI)

Not applicable

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1.1. Exposure limit values (Workplace Exposure limits WEL)

Name	Limit value
	8 h ml/ m3 mg/m ³
Dust, respirable	4
Dust, inhalable	10

8.2. Exposure controls

8.2.1 Appropriate engineering controls

Measures to reduce generation of dust and to avoid dust propagating in the environment such as dedusting, exhaust ventilation and dry clean-up methods which do not cause airborne dispersion.

8.2.2 Individual protection measures such as protection equipment

General

Do not eat, drink or smoke when working with GGBS to avoid contact with skin or mouth. Avoid inhalation of dust

8.2.2.1 & 8.2.2.2 Personal protective equipment

Eye/face protection



Wear approved glasses or safety goggles according to EN 166 when handling dry or wet cement to prevent contact with eyes.

Skin protection



Overalls to protect skin and clothes. The use of skin barrier cream is also recommended. Hands should be washed thoroughly before handling or eating food or drink.

Respiratory protection

When a person is potentially exposed to dust levels above exposure limits, use appropriate respiratory protection. The type of respiratory protection should be adapted to the dust level and conform to the relevant EN standard, (e.g. EN 149, EN 140, EN 14387, EN 1827) or national standard.

Thermal hazards

Not applicable

8.2.3 Environmental exposure controls**Air**

Environmental exposure control for the emission of GGBS particles into air has to be in accordance with the available technology and regulations for the emission of general dust particles. Storing, loading or unloading GGBS in bulk prior to further transportation in bulk, blending GGBS in bulk or using GGBS in bulk other than at a construction site, requires a permit under the Environmental Permitting Regulations 2010.

Water

Do not wash GGBS into sewage systems or into bodies of water,

Soil and terrestrial environment

No special emission control measures are necessary for the exposure to the terrestrial environment.

9. PHYSICAL AND CHEMICAL PROPERTIES**9.1 Information on basic physical and chemical properties**

- a) Appearance: GGBS is a finely ground solid inorganic material (grey powder). Main particle size: Granulated: 0/5 mm
- b) Odour: Odourless
- c) Odour threshold: No odour threshold, odourless
- d) pH: 10 -12 (DEV-S4-eluate according EN 12457-4)
- e) Melting point > 1000°C
- f) Initial boiling point and boiling range: Not applicable as under normal atmospheric conditions
- g) Flash point: Not applicable as is not a liquid
- h) Evaporation rate: Not applicable as is not a liquid
- i) Flammability (solid, gas): Not applicable as is a solid which is non-combustible and does not cause or contribute to fire through friction
- j) Upper/lower flammability or explosive limits: Not applicable as is not a flammable gas
- k) Vapour pressure: Not applicable as melting point > 1000°C
- l) Vapour density: Not applicable as melting point > 1000°C
- m) Relative density: Approx. 2.4 - 3 g/cm³ (20 °C)
- n) Solubility(ies) in water <1 g/l
- o) Partition coefficient: n-octanol/water: Not applicable as is inorganic mixture
- p) Auto-ignition temperature: Not applicable (no pyrophoricity – no organo-metallic, organo-metalloid or organo-phosphine bindings or of their derivatives, and no other pyrophoric constituent in the composition)
- q) Decomposition temperature: Not applicable as no organic peroxide present
- r) Viscosity: Not applicable as not a liquid
- s) Explosive properties: Not applicable. Not explosive or pyrotechnic. Not in itself capable by chemical reaction of producing gas at such temperature and pressure and at such a speed as to cause damage to the surroundings. Not capable of a self- sustaining exothermic chemical reaction.
- t) Oxidising properties: Not applicable as does not cause or contribute to the combustion of other materials

9.2 Other information

Not applicable

10. STABILITY AND REACTIVITY

10.1. Reactivity

No known reactivity under standard usage conditions.

10.2. Chemical Stability

Stable under normal ambient and anticipated storage and handling conditions.

10.3. Possibility of hazardous reactions

None

10.4. Conditions to avoid

None

10.5. Incompatible materials

Materials to avoid: acids

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. TOXICOLOGICAL INFORMATION

11.1 Information

(a) acute toxicity; No lethality - No data available

(b) skin corrosion/irritation; No known health affects when in contact with skin – No Data available

(c) serious eye damage/irritation; Direct contact with eye may cause minor irritation

(d) respiratory or skin sensitisation; No known health effects - No Data available

(e) germ cell mutagenicity; No indication - No Data available

(f) carcinogenicity; Not carcinogenic - No Data available

(g) reproductive toxicity; No indication - No Data available

(h) STOT-single exposure; GGBS may irritate the throat and respiratory tract. Coughing, sneezing, and shortness of breath may occur following exposures in excess of occupational exposure limits. Overall, the pattern of evidence clearly indicates that occupational exposure to GGBS dust has produced deficits in respiratory function. However, evidence available at the present time is insufficient to establish with any confidence the dose-response relationship for these effects.

(i) STOT-repeated exposure; There is an indication of COPD. The effects are acute and due to high exposures. No chronic effects or effects at low concentration have been observed. Based on available data, the classification criteria are not met.

(j) aspiration hazard. Inhalation: Not applicable as GGBS is not used as an aerosol.

11.2 Information on other hazards

Not applicable

12. ECOLOGICAL INFORMATION

12.1. Toxicity

Short-term fish toxicity, tested substance GBS

OECD 203, *Leuciscus idus*

LC0 (96 h) > 1000 g/l

LC50 (96 h) > 1000 g/l CSR

Short-term toxicity aquatic invertebrates, tested substance GBS

OECD 202, *Daphnia magna*

EC0 (48 h) > 1000 g/l

EC50 (48 h) > 1000 g/l CSR

Algae toxicity, tested substance GBS

OECD 201, Scenedesmus subspicatus

IC10 (72 h) > 100 g/l

IC50 (72 h) > 100 g/l CSR

Micro-organism toxicity, tested substance ABS

OECD 209, activated sludge

EC10 (3h) >10g/l

EC50 (3h) >10g/l

EC100 (3h) >10g/l CSR

Long-term toxicity aquatic invertebrates, tested substance ABS

OECD 211, Daphnia magna

EC10 (21d) 5g/l

EC20 (21d) >5g/l

EC50 (21d) >5g/l CSR

12.2. Persistence and degradability

This product is not readily biodegradable.

12.3. Bioaccumulative potential

No evidence for bioaccumulation potential.

12.4. Mobility in soil

Not data.

12.5. Results of PBT and vPvB assessment

This product does not contain any PBT or vPvB substances.

12.6. Other adverse effects

No negative ecological effects are expected according to the present state of knowledge.

12.7. Additional information

None.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

GGBS is classed as inert and should be disposed of in accordance with local and national legal requirements.

Waste classification due to trade and processing. Disposal is possible as follows:

EWC-Code: 10 02 01: waste from the processing of slags.

14. TRANSPORT INFORMATION

14.1. UN Number

GGBS is not covered by internal regulation on the transport of dangerous goods.

14.2. UN proper shipping name

Not classified for transportation.

14.3. Transport hazard class(es)

Not classified for transportation.

14.4. Packing group

Not classified for transportation.

14.5. Environmental hazards

Environmentally hazardous substances/marine pollutant: no.

14.6. Special precautions for user

Not classified for transportation.

14.7. Transport in bulk according to Annex II of Marpol (73/78) and the IBC code

Not applicable.

15. REGULATORY INFORMATION

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

Health & Safety at Work, etc. Act 1974

Control of Substances Hazardous to Health Regulations (COSHH) 2002 (As amended)

Environmental Protection Act 1990

HSE Guidance Note EH40 2005 (Workplace Exposure Limits)

PPE Regulations 1992

Classification, Labelling and Packaging Regulations (CLP) EC1272/2008 See national legislation.

15.2. Chemical safety assessment:

Not applicable.

16. OTHER INFORMATION

16.1 Indication of changes:

This MSDS (Version February 2021) replaces Version 6 'Material Safety Data Sheet – Regen GGBS' which was published in May 2015.

The MSDS has been revised in order to bring in line with ECHA guidance and REACH Annex II June 2020

16.2 Abbreviations and acronyms:

n.d.a. No data available

n.a. Not applicable

ABS Air-cooled blast furnace slag GBS = Granulated Blast Furnace Slag

GGBS Ground Granulated Blast Furnace Slag

CSR Chemical Safety Report Ferrous Slags

STOT Specific target organ toxicity

WEL Workplace exposure limit

16.3 Training Advice:

Wear and use of PPE

Disclaimer

The information in this Safety Data Sheet was believed to be correct at the time of issue. It does not, however give assurances of product properties and establishes no contract legal rights.

If you have purchased this product for supply to a third party for use at work, it is your duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet.

If you are an employer, it is your duty to tell your employees and others who may be affected of any hazards described in this sheet and any of the precautions which should be taken.

This Safety Data Sheet does not constitute the user's own assessment of workplace risk, and it is the user's sole responsibility to take all necessary safety precautions when using this product.

The product is to be used exclusively for the applications named in the technical leaflet or in the processing instructions. The receiver of our product is singularly responsible for adhering to existing laws and regulations.