



GGBS

Material Safety data sheet

According to The REACH etc. (Amendment etc.) (EU Exit) Regulations 2019

Section 1: Identification of the substance/mixture 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 EN 197-5) 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

Heidelberg Materials

Second floor

Arena Court

Crown Lane

Maidenhead

Berkshire

SL6 8QZ

1.4 Heidelberg Materials Customer Services

Tel: 0330 123 4525

E-mail: cement.customer.services@uk.heidelbergmaterials.com

1.4 Emergency telephone number

Emergency telephone number: 0330 123 4520

Hours of operation: 06.30 – 18.00 (Monday-Friday) 06.30 – 12.00 (Saturday)

Service is provided in English

Emergency telephone number is not available outside office hours.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

2.1.1 According to Retained CLP Regulation (EU) No. 1272/2008 as amended for Great Britain

Not classified as hazardous under to the Classification, Labelling and Packaging of substances and mixtures GB CLP regulations.

2.1.2 Additional information

None

2.2 Label elements

According to Regulation GB CLP: Not classified

2.3 Other hazards

Ground granulated blast furnace slag does not meet the criteria for PBT or vPvB in accordance with Annex XIII of The REACH etc. (Amendment etc.) (EU Exit) Regulations 2019.

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

SECTION 3: Composition/information on ingredients

3.1 Substances

Substance related information:

Slags, ferrous metal, blast furnace

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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.

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3.2 Mixtures

Not applicable

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

No personal protective equipment is needed for first aid responders. Change contaminated clothing.

Following inhalation

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

Following skin contact

Wash off with water and soap.

Following 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.

Following Ingestion

Rinse mouth and drink plenty of water.

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.

Skin

Prolonged exposure may cause skin irritation.

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Inhalation

Dust may irritate the respiratory system. 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.

SECTION 5: Fire-fighting measures

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.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment, and emergency procedures

6.1.1 For non-emergency personnel

Wear protective equipment as described under Section 8 and follow the advice for safe handling and use given under Section 7.

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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

Do not wash GGBS down sewage and drainage systems or into bodies of water (e.g. streams).

6.3 Methods and material for containment and cleaning up

Collect the spillage in a dry state if possible.

Use clean up methods such as vacuum clean-up or vacuum extraction (Industrial portable units, equipped with high efficiency air filters (EPA and HEPA filters, EN 1822) or equivalent technique) which do not cause airborne dispersion. Never use compressed air. Alternatively, wipe-up the dust by mopping, wet brushing or by using water sprays or hoses (fine mist to avoid that the dust becomes airborne) and remove slurry. If not possible, remove by slurring with water. When wet cleaning or vacuum cleaning is not possible and only dry cleaning with brushes can be done, ensure that the workers wear the appropriate personal protective equipment and prevent dust from spreading. Avoid inhalation and contact with skin. Place spilled materials into a container.

6.4 Reference to other sections

See Sections 8 and 13 for more details.

SECTION 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

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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, 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 use(s)

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

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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

8.1.1 Exposure limit values (Workplace Exposure Limits WEL)

Substance	Long Term Exposure Limit (8hr TWA Reference Method)	Legal Reference
Inhalable dust	10 mg/m ³	COSHH 2022 & HSE EH40/2005
Respirable dust	4 mg/m ³	

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 personal protection equipment

General

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

Eye/face protection



Wear approved glasses or safety goggles according to EN 166 where there is danger of eye contact.

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Skin protection



Wear gloves. Overalls to protect skin and clothes. 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, (EN 149) 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 (England and Wales) Regulations 2016.

Water

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

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Soil and terrestrial environment

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

For further information, refer to Section 6 on 'Accidental release measures.'

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- a) Physical state: GGBS is a finely ground solid inorganic material
- b) Colour: Grey powder
- c) Odour: Odourless
- d) Melting point > 1000°C
- e) Initial boiling point and boiling range: Not applicable as under normal atmospheric conditions
- f) Flammability: Not applicable as not a liquid
- g) Upper and lower explosion limit: Not applicable as not a flammable gas
- h) Flash point: Not applicable as not a liquid
- i) Auto-ignition temperature: not applicable (no pyrophoricity – no organo metallic, organo-metalloid or organo-phosphine bindings or of their derivatives, and no other pyrophoric constituents in the composition)
- j) Decomposition temperature: Not applicable as no organic peroxide present
- k) pH: 10-12 (DEV-S4-eluated according to EN 12457-4)
- l) Kinematic viscosity: Not applicable as not a liquid
- m) Solubility(ies) in water <1 g/l
- n) Partition coefficient: n-octanol/water: Not applicable as is inorganic mixture
- o) Vapour pressure: Not
- p) Density and/or relative density: Approx. 2.4 - 3 g/cm³ (20 °C)
- q) Relative vapour density: Not applicable as melting point > 1000°C
- r) Particle characteristics: typical particle size 5-30 micron

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9.2 Other information

9.2.1 Information with regard to physical hazard classes

Not applicable.

9.2.2 Other safety characteristics

Not applicable.

SECTION 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

Humid conditions during storage may cause lump formation and loss of product quality.

10.5 Incompatible materials

Materials to avoid: acids

10.6 Hazardous decomposition products

GGBS will not decompose into any hazardous products.

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SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation GB CLP

(a) acute toxicity:

Oral – not classified according to ECHA Dossier
Dermal – not classified according to ECHA Dossier
Inhalation – not classified according to ECHA Dossier

(b) skin corrosion/irritation: not irritating according to ECHA Dossier

(c) serious eye damage/irritation: not irritating according to ECHA Dossier

(d) respiratory or skin sensitisation: not sensitising according to ECHA Dossier

(e) germ cell mutagenicity: not classified according to ECHA Dossier

(f) carcinogenicity: not classified according to ECHA Dossier

(g) reproductive toxicity: not classified according to ECHA Dossier

(h) STOT – single exposure: not classified as STOT after single exposure

(i) STOT – repeated exposure: not classified as STOT after repeated exposure

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

Medical conditions aggravated by exposure

Inhaling GGBS dust may aggravate existing respiratory system disease(s) and/or medical conditions such as emphysema or asthma and/or existing skin and/or eye conditions.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Not applicable.

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Customer services:

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11.2.2 Other information

Not applicable.

SECTION 12: Ecological information

12.1 Toxicity

GGBS is not toxic based on the following studies.

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

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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

Not relevant. 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 Endocrine disrupting properties

Not relevant.

12.7 Other adverse effects

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

12.8 Additional information

None.

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SECTION 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.

SECTION 14: Transport information

GGBS is not covered by the international regulation on the transport of dangerous goods (IMDG, IATA, ADR/RID), therefore no classification is required.

No special precautions are needed apart from those mentioned under Section 8.

14.1 UN number or ID number

Not relevant

14.2 UN proper shipping name

Not relevant

14.3 Transport hazard class(es)

Not relevant

14.4 Packing group

Not relevant

14.5 Environmental hazards

Not relevant

14.6 Special precautions for user

Not relevant

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14.7 Maritime transport in bulk according to IMO instruments

Not relevant

SECTION 15: Regulatory information

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

National regulatory information

Health & Safety at Work, etc. Act 1974

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

Hazardous to Health (Amendment) Regulations 2004

Environmental Protection Act 1990

HSE Guidance Note EH40 (Workplace Exposure Limits)

The Environmental Permitting (England and Wales) Regulations 2016

15.2 Chemical Safety Assessment

No chemical safety assessment has been carried out for this mixture by the supplier.

SECTION 16: Other information

(i) Indication of changes:

This MSDS (Version 10 January 2024) replaces Version 9 'Material Safety Data Sheet – Regen GGBS' which was published in August 2022.

The company name (Heidelberg Materials) and address (section 1.3) has been updated.

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(ii) Abbreviations and acronyms:

GGBS - Ground Granulated Blast Furnace Slag

STOT - Specific target organ toxicity

WEL - Workplace exposure limit

(iii) Key literature references and sources for data

ECHA Database [Registration Dossier - ECHA \(europa.eu\)](https://echa.europa.eu) (accessed 28/07/2022)

(iv) Classification and procedure used to derive the classification for mixtures according to Regulations (EC) 1272/2008 [CLP]

GGBS is not classified.

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.

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