

Non-hazardous material safety data sheet for

## Granulated Blast Furnace Slag (GBS)

This generic SDS is provided by LKAB Minerals to give information to assist with material handling of the products listed which are not classified as hazardous under the GHS and / or the CLP regulations.

### SECTION 1: Identification of the substance/mixture of the company/undertaking

#### 1.1 Product identifier

Product name: Granulated Blast Furnace Slag (GBS)  
 Synonyms / trade names: Slags, ferrous metal, blast furnace (granulated)  
 REACH registration number: 01-2119487456-25  
 CAS No: 65996-69-2  
 EC No: 266-002-0

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

Identified uses: Constituent of standard cements (EN197-1) and special binders, concrete preparation, road construction

#### 1.3 Details of the supplier of the safety data sheet

LKAB Minerals Ltd,  
 The White House, Gurney Slade, Radstock, Somerset, BA3 4UU, England  
 minerals.sds@lkab.com

#### 1.4 Emergency telephone number of supplier

LKAB Minerals Ltd (United Kingdom) +44 1749 841146, +44 1724 277411 or +44 1332 673131  
 Hours of operation: 09.00 – 16.00 (local business hours)

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

Classification (EC 1272/2008): Physical and chemical hazards: not classified  
 Human health: not classified  
 Environment: not classified

The full text for all R-phrases and hazard statements are displayed in section 16.

#### 2.2 Label elements

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

#### 2.3 Other hazards

This product does not contain any PBT or vPvB substances. Handling and/or processing of this material may generate a dust which may cause mechanical irritation of the eyes, skin, nose and throat.

### SECTION 3: Composition/information on ingredients

#### 3.1 Substances

Product / ingredient name	%	CAS No	EC No	Classification
				Regulation (EC) No. 1272/2008 [CLP]
Slags, ferrous metal (Ca-Mg-Al complex)	100	65996-69-2	266-002-0	Not classified

The full text for all R phrases and hazard statements are displayed in section 16.

REACH Registration number: 01-2119487456-25

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

Inhalation:	Move the exposed person to fresh air at once. Get medical attention if any discomfort continues.
Ingestion:	Rinse mouth thoroughly. Get medical attention if any discomfort continues.
Skin contact:	Wash skin with soap and water. Get medical attention if irritation persists after washing.
Eye contact:	Make sure to remove any contact lenses from the eyes before rinsing. Rinse eye with water immediately. Get medical attention if any discomfort continues.

### 4.2 Most important symptoms and effects, both acute and delayed

Inhalation:	Dust may irritate the respiratory system.
Ingestion:	No specific symptoms noted.
Skin contact:	Prolonged exposure may cause skin irritation.
Eye contact:	Dust may irritate the eyes.

### 4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically

## SECTION 5: Fire fighting measures

### 5.1 Extinguishing media

This product is not flammable. Use fire extinguishing media appropriate for surrounding materials.

### 5.2 Special hazards arising from the substance or mixture

Hazardous combustion products: None under normal conditions

### 5.3 Advice for firefighters

Special fire-fighting procedures: No specific fire-fighting procedures given

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Follow precautions for safe handling described in this safety data sheet

### 6.2 Environmental precautions

The product should not be dumped in nature but collected and delivered according to agreement with the local authorities. Entry into watercourses should be avoided

### 6.3 Methods and material for containment and cleaning up

Avoid dust formation. Water spray to prevent airborne dust where possible. Avoid dry sweeping which creates dust if possible. Transfer to a container for disposal.

### 6.4 Reference to other sections

For personal protection see section 8. For waste disposal see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Avoid handling which leads to dust formation. Avoid contact with skin and eyes. Observe occupational exposure limits and minimise the risk of inhalation of dust. Use appropriate PPE. Handle in accordance with good industrial hygiene measures.

### 7.2 Conditions for safe storage, including any incompatibilities

May be stored in piles, does not require covered storage. If stored in stockpile at dry and windy weather keep slags moist to avoid dust formation. Keep away from food and drinking water.

### 7.3 Specific end use(s)

The identified uses for this product are detailed in section 1.2

## SECTION 8: Exposure controls / personal protection

### 8.1 Control parameters

Name	STD	TWA – 8hrs		STEL – 15mins	Notes
Dust	WEL	4 mg/m <sup>3</sup> respirable dust	10 mg/m <sup>3</sup> total dust		

WEL = Workplace Exposure Limit

### 8.2 Exposure controls

Protective equipment



Engineering measures:

Provide adequate ventilation. Observe occupational exposure limits and minimise the risk of inhalation of dust.

Respiratory equipment:

No specific recommendation made, but respiratory protection must be used if the general level exceeds the recommended occupational exposure limit. Wear dust masks (FFP2 according to the EN149) in dusty areas.

Hand protection:

Wear protective gloves.

Eye protection:

Wear eye protection with side protection (standard EN166 Eye Protection) where there is a danger of eye contact.

Other protection:

Provide eyewash station.

Hygiene measures:

Wash hands at the end of each work shift and before eating, smoking and using the toilet.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic and physical and chemical properties

Appearance:	Dust, granules (grain size 0 – 6.3mm)
Colour:	Grey-brown
Odour:	Odourless
Melting Point:	>1000°C
Solubility:	<1g/l <sup>-1</sup> ; not soluble in organic solvents
Relative Density:	@2.4- 3 gcm <sup>-3</sup>
Bulk Density:	1.1 – 1.3 gcm <sup>-3</sup>
pH-Value:	10-12

### 9.2 Other information

Not relevant

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No specific reactivity hazards associated with this product.

### 10.2 Chemical stability

Stable under normal temperature conditions.

### 10.3 Possibility of hazardous reactions

Not relevant

### 10.4 Conditions to avoid

Avoid generation of dust.

### 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

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Other health effects:	This substance has no evidence of carcinogenic properties.
Acute toxicity	The product is not classified as acutely toxic.
Acute toxicity (Oral LD50):	Not relevant
Acute toxicity (Dermal LD50):	Not relevant
Acute toxicity (Inhalation LC50):	Not relevant
Inhalation:	The product is not classified as a respiratory sensitizer.
Ingestion:	May cause discomfort if swallowed.
Skin contact:	The product is not classified as a skin sensitizer..
Eye contact:	Particles in the eyes may cause mechanical irritation and smarting.

## SECTION 12: Ecological information

**Ecotoxicity:** Not regarded as dangerous for the environment.

### 12.1 Short-term fish toxicity, tested substance GBS

OECD 203, *Leuciscus idus*  
 LC0 (96h) >1000 g/l  
 LC50 (96h) >1000 g/l

### Short-term toxicity aquatic invertebrates, tested substance GBS

OECD 202, *Daphnia magna*  
 EC0 (48h) >1000 g/l  
 EC50 (48h) >1000 g/l

### Algae toxicity, tested substance GBS

OECD 201, *Scenedesmus subspicatus*  
 IC10 (72h) >100 g/l  
 IC50 (72h) >100 g/l

### Microorganism toxicity, tested substance ABS

OECD 209, activated sludge  
 EC10 (3h) >10 g/l  
 EC50 (3h) > 10 g/l  
 EC100 (3h) >10 g/l

### Long-term toxicity aquatic invertebrates, tested substance ABS

OECD 211, *Daphnia magna*  
 EC10 (21d) 5 g/l  
 EC20 (21d) >5 g/l  
 EC50 (21d) >5 g/l

### 12.2 Persistence and degradability

Degradability: The product is not readily biodegradable.

### 12.3 Bioaccumulative potential:

The product is not bioaccumulating.

### 12.4 Mobility in soil:

Not relevant, due to the form of the product.

### 12.5 Results of PBT and vPvB assessment:

This product does not contain any PBT or vPvB substances.

### 12.6 Other adverse effects:

None known

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods:

Dispose of waste and residues in accordance with local authority requirements

**SECTION 14: Transport considerations**

Road transport notes:	Not classified
Rail transport notes:	Not classified
Sea transport notes:	Not classified
Air transport notes:	Not classified
<b>14.1 UN Number:</b>	The product is not covered by international regulation on the transport of dangerous goods (IMDG, IATA, ADR/RID).
<b>14.2 UN proper shipping name:</b>	Not classified for transportation.
<b>14.3 Transport and hazard class(es):</b>	Not classified for transportation.
<b>14.4 Packing group:</b>	Not classified for transportation.
<b>14.5 Environmental hazards</b>	
Environmentally hazardous substances / marine pollutant:	no
<b>14.6 Special precautions for user:</b>	Not classified for transportation.
<b>14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	
	Not applicable

**SECTION 15: Regulatory information**

<b>15.1 Safety, health and environmental regulations / legislation specific for the substance or mixture</b>	
Approved code of practice:	Classification and labelling of substances and preparations dangerous for supply. Safety data sheets for substances and preparations.
Guidance notes:	Workplace Exposure Limits EH40.
EU Legislation:	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulations (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments. Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 with amendments.
<b>15.2 Chemical Safety Assessment:</b>	Not applicable. No chemical safety assessment has been carried out.

**SECTION 16: Other information**

Revision date:	05/06/2019
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Document no:	12-01EN,19-06
Risk phrases in full:	NC – not classified

**Abbreviations**

ABS - Air-cooled blast furnace slag  
 GGBS - Ground granulated blast furnace slag  
 IC50 Inhibitory Concentration. Concentration that is expected to produce an inhibitory effect defined in 50% of a population of organisms in specific conditions.  
 LC50 Lethal Concentration of a compound on air or water killing 50% of organisms under study in specific conditions.  
 EC50 Statistically calculated concentration that is expected to produce a non-lethal effect defined in 50% of a population of organisms in specific conditions.

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