EC SAFETY DATA SHEET

In accordance with Art 32 (Non-hazardous substances) of Regulation (EC) No 2020/878 modifying 1907/2006 (REACH)

Date written: January 2012 Date of last revision: August 2024 Version: 5

SECTION 1: Identification of the substance and company.

1.1 Product identifier

Substance Name:	blast furane slag
Common name:	Granulated blast furnace slag (GBS)
Registered trademark:	Calumite®
CAS NO:	65996-69-2
EINECS:	266-002-0
Reach status:	UVCB (Unknown or variable composition complex reaction product of biological origin)
Reach number:	**01_2119487456_25**

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

Raw material for the glass industry (treated blast furnace slag)

1.3 Information concerning the supplier of the safety data sheet.

Supplier:	CALUMITE. SA
Address:	zi Um Monkeler, L-4149 ESCH SUR ALZETTE Grand Duchy of LUXEMBOURG
Telephone :	+ 352 57 37 57 1
Fax :	+ 352 57 37 60
Email	info@calumite.lu

1.4 Emergency number.

European emergency number	112
Poison Control Centre Luxembourg / Belgium:	+32.70.245 245
Centre anti-poison France:	+33.3. 83.32.36.36
Supplier's telephone number:	+352.57.37.57.1

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SECTION 2: Hazard identification.

2.1 Classification of the substance or mixture

Classification of the substance:	This substance is not classified as dangerous within the meaning of European Directive 67/548/EEC on dangerous substances and CLP Regulation 1272/2008/EC.
Effects on human health:	Slightly alkaline substance. Risk of irritation to dust.
Skin contact:	Acute effects: risk of irritation in the event of prolonged contact.
Contact with eyes:	Acute effects: risk of irritation
Inhalation:	Acute effects: risk of respiratory tract irritation if dust is inhaled.
Ingestion:	Risk of irritation.
Environmental effects:	This substance is not classified as dangerous according to European Directive 67/548/EEC on dangerous substances and CLP Regulation 1272/2008/EC.

2.2 Labelling information in accordance with Regulation (EC) No 1272/2008

Not concerned

2.3 Other hazards

Irritation of the eyes and respiratory tract by mechanical

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SECTION 3: Composition/information on ingredients.

3.1 Substance.

EINECS:	266-002-0
CAS NO.	65996-69-2
Substance name:	Blast furnace slag, bonded Ca/Mg/Al complex silicate compound
Impurities:	no impurities affecting classification or labelling

3.2 Mixing. No mixing.

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SECTION 4: First aid.

4.1 First aid description.

Particular risk: Alkaline dusts, Risk of formation of irritant dusts

Eye contact: In case of contact with eyes, use a neutralizing solution: l Diphoterine ®. Rinse immediately with water. Seek medical advice.

Inhalation: In the event of an accident by inhalation, move the victim away from the contaminated area, taking all necessary precautions, and leave him/her to rest. If consciousness is impaired, place the victim on their side in a safe position while awaiting medical assistance. In the event of breathing difficulties, provide respiratory assistance while awaiting medical assistance. Consult a doctor.

Skin contact: Use a neutralizing solution such as Diphoterine®. Wash with plenty of water. Do not use solvents or thinners. If skin irritation occurs or if contamination is extensive and prolonged, consult a doctor.

Protective equipment: Wear suitable gloves, respiratory protection (dust) and safety goggles.

4.2 Main symptoms and effects, acute and delayed.

See 2.1

4.3 Identification of any immediate medical care and special treatment required

See 4.1

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SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Foam (alcohol resistant), carbon dioxide powder, spray (water). The product is not flammable. Adapt extinguishing measures to the flammable environment.

5.2 Special hazards arising from the substance or mixture.

Fire: None.
Explosion: None.
Reactivity: None.

5.3 Advice for firefighters

No specific advice.

5.4 Other information

In all cases, wear self-contained breathing apparatus, do not breathe vapours and move away from the cloud of fumes.

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SECTION 6: Accidental release measures.

6.1 Personal precautions, protective equipment and emergency procedures.

For non-rescuers: Keep unprotected people away and stay downwind.
Avoid generating dust.

For first aiders: Wear personal protective equipment.
Make sure there is plenty of ventilation.

6.2 Environmental precautions

Do not discharge directly into drains or the natural environment

6.3 Methods and equipment for containment and cleaning up

Collect mechanically, avoiding the formation of dust (the product can be moistened beforehand)

Large quantities of dust can make the floor slippery. Sweep and wash the floor, and collect the residues.

6.4 Reference to other sections.

None.

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SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid dust formation.
Avoid contact with skin and eyes.
Wear appropriate work clothing, respiratory protection, gloves and safety glasses. Do not eat or drink during handling.
Avoid inhalation of dust.

7.2 Conditions for safe storage, including any incompatibilities

Store the substance in a dry place

7.3 Specific end use(s)

See 1.2 The chemical safety report has been prepared by the manufacturer with the conclusion that, in all its intended uses, including use in the glass industry, the slag does not possess hazardous properties.

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SECTION 8: Exposure controls/personal protection.

8.1 Control parameters.

DNEL: the value is not determined: the substance is not dangerous.

PNEC: the value is not determined: the substance is not dangerous.

8.2 Exposure controls.

Appropriate technical controls.

Respiratory protection:	must wear a respiratory protection mask (in case of dust formation) EN149 FFP2 filter
Hand protection:	wear work gloves suitable for alkaline products. Use only gloves complying with 89/686/EEC.
Eye protection:	safety glasses
Skin protection:	wear work clothing suitable for alkaline products
Thermal risks:	none.
Emergency facilities:	safety showers. Eye wash station.
Other information:	safety footwear.
Environmental exposure:	do not discharge directly into drains or the natural environment.
Hygiene measures:	avoid contact with skin and eyes. Shower at the end of work Wash hands, especially before meals.

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SECTION 9: Physical and chemical properties.

9.1 Information on essential physical and chemical properties

Aspect	
- Physical condition	Solid
- Colour	Grey
Odour	Odourless
Olfactory threshold	-
pH	10-12 (eluate compliant with EN 12457-4)
Melting point	> 1100 - 1400°C
Initial boiling point and boiling range	-
Flash point	Steel slags are inert inorganic substances in which all the most important ingredients are in their most stable oxidation state. No other spontaneous oxidation takes place. Even if there are oxidisable components (e.g. graphite, traces of metal), no combustible gas phase can be generated from the slag.
Evaporation speed	not applicable: melting point > 1000°C
Flammability (solid, gas)	non-flammable
Upper/lower flammability or explosive limits	-
Vapour pressure	Not applicable: According to the REACH regulation, this test must not be carried out on solids that melt above 300°C.
Vapour density	-
Relative density	Approx. 2-3 g/cm3 (20°C)
Solubility(s)	
- Solubility in water	< 100 mg/l
- Fat solubility	-
Partition coefficient: n-octanol/water	Not applicable: Slags are solid CVCB (Composition Unknown or Variable, Complex Reaction Products or Biological Materials) substances consisting almost exclusively of inorganic ions in a glassy matrix or in crystalline lattices. These ions are insoluble in organic solvents, including 2-octanol.
Auto-ignition temperature	Not applicable: As iron and steel slags are inert inorganic substances in which all the constituents are in their most stable oxidation state, there is no

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	spontaneous oxidation. Not applicable.
Decomposition temperature	not applicable: melting point > 1000°C
Viscosity	
- Dynamic viscosity	-
- Kinematic viscosity	Not applicable: due to physical condition
Explosive properties	Iron and steel slags are inert inorganic substances in which all the relevant ingredients are in their most stable oxidation state. Blast furnace slag does not contain any chemical substances with explosive properties.
Oxidising properties	Non-oxidising: iron and steel slags are formed at temperatures > 1000°C and are free from substances that can react exothermically with combustible materials under standard conditions.
Particle properties	The properties of Granulated Slag particles depend on the field of application. Depending on the intended use, slag is specifically processed into different particle sizes.
Buffer capacity	The alkaline reserve (buffer capacity, reference value calculated according to the method of Young et al. (1988)) is <14.5. This means that the LG eluates are not corrosive.
Ignition temperature	Not applicable: As iron and steel slags are inert inorganic substances in which all the constituents are in their most stable oxidation state, there is no

spontaneous oxidation.

9.2 Other information

No other information

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SECTION 10: Stability and reactivity.

10.1 Reactivity

Not concerned.

10.2 Chemical stability

Stable under normal conditions

10.3 Possibility of dangerous reactions

Chemically stable under normal conditions

10.4 Conditions to avoid

Not determined

10.5 Incompatible materials

Avoid contact with acidic products.

10.6 Hazardous decomposition products.

None

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SECTION 11: Toxicological information.

11.1 Information on toxicological effects

For substances belonging to the following hazard categories (including brief summary of available test results and process indications): Acute toxicity

	Substance tested GBS
- Oral	OECD 401 method, Wistar rat LD50 > 2000 mg/kg (CSR)
	Substance tested GGBS
- Inhalation	OECD 403 method, Wistar rat LC50 (powder) (4 h) > > 5234 mg/m³ (CSR) OECD 412 method (toxicity by repeated exposure via inhalation: 28 days), Wistar rat NOAEL (no observable adverse effect level) > 24.9 µg/L (Aerosol)
	Substance tested ABS
- Skin	OECD 402 method, Wistar rat LD50 > 4000 mg/kg (CSR)
Caustic/irritant effect on the skin	Substance tested ABS Acute irritant effect, OECD 404, New Zealand White rabbit Result : non-irritant (CSR)
Caustic/irritating effect on the eyes	Substance tested ABS Acute irritant effect, OECD 405, New Zealand White rabbit Result : non-irritant (CSR)
Skin sensitisation	Substance tested ABS OECD 406 process, Dunkin-Hartley guinea pig Result: non-sensitising (CSR)
Germ cell mutagenicity	Mutagenicity: substance tested HOS (ABS) LG (GBS), reverse mutation test, EU method B.13 / 14 (new: OECD 471), Salmonella typhimurium. Result: no mutagenic effect. Mutagenicity: substance tested HOS (ABS) LG (GBS), gene mutation test on mammalian cells, EU method B.17, Chinese hamster lung fibroblasts (V79). Result: no mutagenic effect.
Carcinogenicity	There are no specific, reliable carcinogenicity studies on animals. However, one study that has been evaluated indicates that there is no carcinogenic potential in iron and steel slags.

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Reproductive toxicity	No evidence from recent tests or other data on effects on fertility. No data available from studies specifically conducted to investigate reproductive harm. Slag, which resembles a natural rock, produces no toxic effects on reproduction.
Specific target organ toxicity (single exposure)	The results of the acute toxicity tests do not indicate a STOT potential for slags.
Specific toxicity for certain target organs in the event of repeated exposure	The results of a repeated inhalation toxicity test (28 days) do not indicate any STOT potential for slag.
Aspiration hazard	Slags are solid substances and do not meet the requirements for classification as aspiration hazards under the CLP Regulation (Annex 1).

11.2 Informations other effects

Endocrine disruptor	No known endocrine disrupting properties.

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SECTION 12: Ecological information.

12.1 Toxicity

Toxicity for fish	Short-term toxicity for fish, substance tested GBS OECD 203, Leuciscus idus LCo (96 h) > 100 g/l LC50 (96 h) > 100 g/l (CSR)
Toxicity to daphnia and other aquatic invertebrates	Substance tested GBS LG, OECD 202, Daphnia magna ECo (48 h) > 100 g/l EC50 (48 h) > 100 g/l (CSR) Long-term toxicity aquatic invertebrates, test substance ABS GBS LG, OECD 211, Daphnia magna EC10 (21 d) > 5 g/l EC20 (21 d) > 5 g/l EC50 ...(21 d) > 5 g/l (CSR)
Toxicity to micro-organisms	Substance tested ABS GBS LG OECD 209, activated sludge EC10 (3 h) > 10 g/l EC50 (3 h) > 10 g/l EC100 (3 h) > 10 g/l (CSR)
Toxicity to algae	Substance tested GBS LG OECD 201, Scenedesmus subspicatus IC10 (72 h) > 100 g/l IC50 (72 h) > 100 g/l (CSR)
Toxicity for fish	Short-term toxicity for fish, substance tested GBS OECD 203, Leuciscus idus LCo (96 h) > 100 g/l LC50 (96 h) > 100 g/l (CSR)
Toxicity to daphnia and other aquatic invertebrates	Substance tested GBS LG, OECD 202, Daphnia magna ECo (48 h) > 100 g/l EC50 (48 h) > 100 g/l (CSR) Long-term toxicity aquatic invertebrates, test substance ABS GBS LG, OECD 211, Daphnia magna EC10 (21 d) > 5 g/l EC20 (21 d) > 5 g/l EC50 ...(21 d) > 5 g/l (CSR)
Toxicity to micro-organisms	Substance tested ABS GBS LG OECD 209, activated sludge EC10 (3 h) > 10 g/l EC50 (3 h) > 10 g/l EC100 (3 h) > 10 g/l (CSR)

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Toxicity to algae	Substance tested GBS LG OECD 201, Scenedesmus subspicatus IC10 (72 h) > 100 g/l IC50 (72 h) > 100 g/l (CSR)

12.2	**Persistence and degradability**	The methods for determining biological degradability are not applicable to mineral substances.
12.3	**Bioaccumulation potential**	No indication of bioaccumulation potential.
12.4	**Mobility in soil**	Iron and steel slags are substances (CVCB) (Unknown or Variable composition, Complex reaction products or Biological materials) similar to natural rock. Biological degradation is not significant.
12.5	**Results of PBT vPvB assessments**	Not applicable to inorganic substances (non-toxic and non-bio accumulative)
12.6	**Endocrine disruptor**	No known endocrine disrupting properties
12.7	**Other adverse effects**	None

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SECTION 13: Disposal considerations.

13.1 Waste treatment methods.

Valorisation method: Substance resulting from an industrial process, but which is not the end product of this process. This substance is sold as a raw material to glassmakers.

Used packaging, cleaning procedures: destruction of packaging in accordance with legislation.

Disposal method: Any unused material can still be reused at any time as long as it is not mixed with other products. In terms of safety aspects, long periods of storage do not alter the characteristics of the product.
If not used, this substance must be disposed of in accordance with current legislation.

Code: Waste from the processing of slag not considered hazardous for the application of European Commission Decision 2001/118/EC of 16/01/2001 amending Decision 2000/532/EC on the list of wastes.
EURAL Code: 10 02 01 (if the residue is classified as waste in the State where it is produced)

Slag is not considered hazardous under the Basel Convention.
Entry: 1200 B

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SECTION 14: Transport information.

The substance is not dangerous according to the following transport regulations:

14.1 UN number

Land transport (ADR, RID, CDG Road, CDG Rail)	non-dangerous substance according to ADR
River craft (ADN,ADNR)	non-hazardous substance according to ADNR
Maritime transport (GGVSee)	non-hazardous substance according to GGVSee
Air transport (ICAO/IATA)	non-dangerous substance according to ICAO/IATA

14.2 United Nations shipping name

n.a

14.3 Transport hazard class

n.a

14.4 Packaging group

n.a

14.5 Danger to the environment,

n.a

14.6 Special precautions for the user

n.a

14.7 Transport in bulk in accordance with Annex II of MARPOL73/78 and the IBC Code.

n.a

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SECTION 15: Regulatory information

15.1 Regulations and legislation specific to the substance or mixture in terms of safety, health and the environment.

European regulations: none

National regulations: e.g.

- Water hazard class: substance not hazardous to water (self-classification)
- Regulation on solvents (31 BlmSchV): not relevant
- Regulation on incidents (12 BlmSchV): not relevant
- Technical instructions Air: not relevant

Other relevant regulations

DGUV 100-500 Exploitation de moyens de travail (until now BGR 500) Granulated slag meets the requirements 3.2 maximum content of hazardous substances in blasting agents in chapter 2.24

15.2 Chemical safety assessment.

A chemical safety assessment has been carried out

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SECTION 16: Other information.

16.1 Revisions

Data modified from the previous version of January 2019

16.2 Contents of H and UEH phrases according to CLP regulation (EC 1272/2008)

16.3 Content of R phrases

16.4 Training information :No

16.5 Restrictions on use : No

16.6 References and sources

Literature and data sources

Methods used in accordance with article 9 of the CSR: Chemical Safety Report "Ferrous slags" Regulation (EC) n°1272/2008 for assessment of information for classification purposes

There are no requirements for the classification and labelling of hazardous substances in accordance with Annex 1 (EC) 1272/2008.

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Comments to users:

This sheet complies with Article 32 of REACH Regulation No 1907-2006
This sheet does not replace the instruction manuals. The information contained herein is given to the best of our knowledge concerning Calumite ® indicated on the date the document was updated.
The information is provided in good faith. Users' attention is also drawn to the possible risks that may arise if the substance is applied for purposes other than those for which it was designed. This safety data sheet in no way exempts the user from knowing and complying with all the regulations applicable to his activity. The user assumes full responsibility for knowing and taking the precautions associated with the use of the substance. References to regulatory provisions are given to assist the user in fulfilling the obligations of persons using a hazardous substance or mixture. All local and international measures and provisions which may apply should be mentioned. Users' attention is drawn to the possible existence of other provisions supplementing these requirements. This list should not be considered exhaustive. It does not exempt the user from ensuring that obligations under texts other than those referred to are not applicable to the possession and use of the substance, for which the user is solely responsible.