



GROUND GRANULATED BLAST FURNACE SLAG SAFETY DATA SHEET

(Compliant with REACH Regulation (EC) No. 1907/2006 and Regulation (EU) No. 453/2010 amending the former)

Rev. 03: December 2011

SAFETY DATA SHEET

C.T.V.

Previous versions are superseded.

Revision 03

Product: Ground Granulated Slag

Date of approval: December 2011

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1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

1.1. DESIGNATION OF THE SUBSTANCE

Slag, ferrous metal, blast furnace

Trade Name: Ground Granulated Blast Furnace Slag (GBS)

CAS Number: 65996-69-2

EINECS Number: 266-002-0

Notification reference number REACH Regulation (EC) No. 1907/2006

01-2119487456-25-0019

1.2. USE OF THE SUBSTANCE

Manufacture of clinker or cement; construction of roads; ground work; constituent/addition of cement or other hydraulic binders, water and waste water treatment; fertilizer and soil conditioning; cleaning by sandblasting; rock wool, fire protection material, construction material and glass production.

PROC 1: Use in closed process, no likelihood of exposure

PROC 2: Use in closed, continuous process with occasional controlled exposure

PROC 3: Use in closed batch process (synthesis or formulation)

PROC 4: Use in batch and other process (synthesis) where opportunity for exposure arises

PROC 5: Mixing or blending in batch processes for formulation of preparations* and articles (multi-stage and/or significant contact)

PROC 7: Industrial spraying

PROC 8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities

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- PROC 8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
- PROC 9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
- PROC 14: Production of preparations* or articles by tableting, compression, extrusion, pelletisation
- PROC 19: Hand-mixing with intimate contact and only PPE available
- PROC 21: Low energy manipulation of substances bound in materials and/or articles
- PROC 22: Potentially closed processing operations with minerals/metals at elevated temperature
Industrial setting
- PROC 23: Open processing and transfer operations with minerals/metals at elevated temperature
- PROC 24: High (mechanical) energy work-up of substances bound in materials and/or articles
- PROC 26: Handling of solid inorganic substances at ambient temperature

1.3. IDENTIFICATION OF THE SUPPLIER

CEMENTOS TUDELA VEGUÍN S.A.U.
ARGÜELLES 25, 33003 OVIEDO, ASTURIAS
+34985981100
fds@satv.masaveu.com

1.4. EMERGENCY PHONE NUMBER

Phone: 112

Service hours: 24X7

The service is available in the language of the EU country where the call is made.

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2. IDENTIFICATION OF HAZARDS

2.1. CLASSIFICATION OF THE SUBSTANCE

The substance is not classified as dangerous in the sense of European Directive 67/548/EEC on Dangerous Substances and Regulation 1272/2008/EC.

Effects on human health

Slightly alkaline substance. Risk of irritant dust formation.

Contact with the skin: Acute effects: Risk of irritation in case of prolonged contact with the skin. Must wear clothes suitable for dealing with alkaline products. Must wear gloves suitable for dealing with alkaline products.

Contact with the eyes: Acute effects: Risk of irritation and/or burns. Must wear safety goggles.

Inhalation: Acute effects: in case of dust inhalation, risk of irritation of respiratory tract, burning sensation, cough, sore throat, breathlessness.

Ingestion: Risk of irritation, burning sensation, abdominal pain.

Effects on the environment

The substance is not classified as dangerous for the environment in the sense of European Directive 67/548/EEC on Dangerous Substances and Regulation 1272/2008/EC.

Naturally and environmentally harmlessly, granulated blast furnace slag produces an inhibitory effect on germination in the areas where it is applied. This must be taken into account in areas where natural flora and fauna are protected.

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Risk of environmental pH modification ($\text{pH} > 7$). When used in stagnant or slow flow water, it is recommended that water is oxygenated and speed of work execution is adapted so that water pH does not adversely affect fauna and flora.

2.2. LABEL ELEMENTS

N/A

2.3. OTHER HAZARDS

N/A

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. CHEMICAL COMPOSITION

Blast furnace slag is a by-product of iron manufacturing, via thermochemical reduction, in a blast furnace. Blast furnace slag is formed in a continuous process by melting lime (and/or dolomite), the waste from carbon sources and non-metallic components of iron load (e.g. iron ore, iron sintering). Blast furnace slag is generated at temperatures over 1500 °C. Blast furnace slag is quenched in water, which gives it hydraulic properties relating to its glassy structure. Granulated slag's structure depends on the temperature during quenching. The substance is mostly glassy.

Granulated blast furnace slag contains the following in different compositions:

Calcium Oxides

Aluminium Oxides

Silicon Oxides

Magnesium Oxides

Sulphur Compound

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4. FIRST AID

4.1. DESCRIPTION OF FIRST AID MEASURES

Specific hazards

Alkaline dust. Risk of irritant dust formation.

Protection for the person providing first aid

Must wear special gloves, respiratory (dust) protection and safety goggles.

After contact with the eyes

Do not rub the eyes to avoid damaging the cornea by mechanical stress. Eliminate as much material as possible, remove contact lenses, if applicable, and immediately rinse with a neutralising solution. Wash thoroughly with water keeping the eyelid isolated for at least 20 minutes to eliminate all particles. Seek advice from an ophthalmologist or a specialist in occupational medicine.

After inhalation

In the event of accidental inhalation, take the casualty away from the contaminated area, where he can breathe fresh air, taking all necessary precautions, and let him rest. Dust in the throat and nasal cavities should vanish spontaneously.

Seek medical assistance if irritation persists or arises later on, or in case discomfort, cough or other symptoms continue.

In case of trouble regarding consciousness, place the casualty lying on his side in the recovery position awaiting medical aid.

In the event of respiratory trouble, provide breathe assistance while waiting for medical aid.

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After contact with the skin

If the dust is dry, eliminate as much of it as possible, then wash thoroughly with water.

If the dust is wet, wash thoroughly with water. Remove and thoroughly clean stained clothes, shoes, watch, etc. before using them again.

Use a neutralising solution. Wash thoroughly with water. Do not use solvents.

Always seek medical aid in case of irritation or chemical burn.

After accidental ingestion.

Do not induce vomiting. If the person is conscious, rinse his mouth out to eliminate the material or dust. Let him drink plenty of water and immediately consult a physician or a Toxicology Information Centre.

In case of trouble regarding consciousness, place the casualty lying on his side in the recovery position awaiting medical aid.

In the event of respiratory trouble, provide breathe assistance while waiting for medical aid.

4.2. MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

See 2.1

4.3. INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

When contacting a physician, take this safety data sheet with you.

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5. FIREFIGHTING MEASURES

5.1. EXTINGUISHING MEDIA

The substance is not flammable.

Use the extinguishing media appropriate for contained products.

Appropriate extinguishing media are: water, gas and sand.

5.2. SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

None.

5.3. ADVICE FOR FIREFIGHTERS

None.

5.4. OTHER INFORMATION

In all cases, self-contained breathing equipment must be available, do not breathe vapours and keep opposite from clouds and fumes.

6. ACCIDENTAL RELEASE MEASURES

6.1. PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Wear the protective equipment described in section 8 and follow the handling advice provided in section 7. In general:

Avoid dust inhalation.

Avoid contact with the skin, eyes and mucous membranes.

Wear protecting anti-dust masks and goggles.

Wear appropriate gloves.

6.2. ENVIRONMENTAL PRECAUTIONS

Do not dump slag into sewers, surface waters or the natural environment.

Seal sewers if possible.

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6.3. METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

Collect the dumped material and, if possible, reuse it.

The presence of great quantities of dust may result in a slippery floor.

Use dry cleaning means that do not raise dust, such as exhaust or extraction systems (portable industrial vacuum cleaners equipped with high efficiency particulate filters - HEPA filters or equivalent technique). Never use compressed air.

It is necessary to ensure that all workers wear the appropriate protective equipment and prevent dust spreading.

Avoid inhalation and contact with the eyes and skin. Place the collected material in a container for reuse if possible.

6.4 REFERENCE TO OTHER SECTIONS

For more information, see sections 8 and 13.

7. HANDLING AND STORAGE

7.1. PRECAUTIONS FOR SAFE HANDLING

7.1.1 Protection measures

Follow recommendations provided in section 8.

Measures to prevent formation of particulate matter and dust

Do not sweep; use dry cleaning means that do not raise dust, such as exhaust or extraction systems.

7.1.2 Advice on general occupational hygiene

Do not handle or store near food, drinks or tobacco.

In dust-producing environments, wear a mask and protecting goggles.

Use protecting gloves to avoid contact with the skin.

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7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Bulk storage must be in an airtight area with a water retaining system.

Long storage may cause product hardening.

Keep away from food, drinks or tobacco.

Burial hazard: slag can accumulate or stick to walls of contained spaces, and can release, collapse or fall down unexpectedly. In order to prevent the risk of burial or suffocation, do not enter contained spaces such as silos, containers, tanks or any other receptacles used to store or containing furnace slag without previously adopting the appropriate safety measures.

In storage by stocking, unstable walls or slopes can also be developed involving the risk of falling down.

Do not use aluminium containers as these two materials are incompatible.

7.3 SPECIFIC END USES

There are no additional recommendations for uses identified in subsection 1.2.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. EXPOSURE LIMIT VALUES

Name - Limit Value	Type of Limit Value	Value (8-hour TWA)	Units	Legal Reference
Particles (insoluble or slightly soluble)	VLA-ED Inhalable Fraction	10	mg/m ³	"Lista de Exposición Profesional para agentes Químicos de España" (Limits for occupational exposure to chemical agents in Spain) from INSHT.
Particles (insoluble or slightly soluble)	VLA-ED Respirable Fraction	3	mg/m ³	ORDER ITC/2585/2007 "Lista de Exposición Profesional para agentes Químicos de España" (Limits for occupational exposure to chemical agents in Spain) from INSHT.

DN(M)EL for general population

No DN(M)ELs were generated, but available data suggests that ferrous slag has no effects.

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PNEC	Assessment Factor
Water (fresh water): 5 g/l	10
Water (sea water): 0.5 g/l	100
Water (intermittently released): 5g/l	10
Soil 1000 mg/kg dry weight soil	10
Waste water treatment plant: 10 g/l	1

8.2. EXPOSURE CONTROLS

8.2.1. Appropriate engineering controls

Measures to reduce particulate matter formation and dust release into the air, such as: dust removal, exhaust systems, and dry cleaning methods that do not raise dust.

8.2.2. Individual protection measures, such as personal protective equipment

General: Do not eat, drink or smoke while working with the substance in order to avoid contact with the skin or mouth.

Once work is finished, workers must wash or have a shower, or apply moisturising skin cream.

Take off any stained garments (clothing, shoes, watch, etc.) and clean them before reuse.

Eye/face protection:



When handling slag, either wet or dry, use approved goggles or certified integral protective glasses/goggles.

Skin protection:



Use water-proof abrasion- and alkalis-resistant gloves with cotton liner (made of materials not containing soluble Cr (VI)), boots, long-sleeved clothes as well as skin care products (including protective creams) to protect the skin against prolonged contact with the substance. Special care must be taken to avoid the substance entering the safety footwear.

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Respiratory protection:



When a person is potentially exposed to dust concentrations above allowable limits, respiratory protection must be used suitable for the present particle concentration and compliant with standards set forth in the harmonised UNE regulations.

8.2.3 Environmental exposure controls

Control to avoid releasing particulate into the environment must be in accordance with the available technology and the regulations on particulate matter emissions.

Control of environmental exposure is important for the marine environment, since particulate emissions at the different stages of its lifecycle (production and utilization) mainly affect the soil and surface waters. The assessment of risk and its effects on the aquatic environment includes the effect on organisms/ecosystems due to possible variations of pH relating to hydroxide discharges. Toxicity caused by other dissolved organic ions is considered insignificant compared to potential effect on pH.

Do not discharge into natural environment or sewers. It is expected that any effects that may arise during the manufacturing and utilization process are at a local level. The pH value of the effluent and surface water must not be greater than 9; otherwise, it could affect the local and industrial waste water treatment plants. To assess exposure, a stepped approach is recommended.

Step 1: gather information on the effluent's pH and contribution of dust to total pH. If pH is above 9 and mostly caused by dust, actions showing the safe use of the substance must be taken.

Step 2: gather information on the receiving aquatic environment's pH downstream the discharge point. The pH value of water where discharge is made must not be above 9.

Step 3: measure pH of the receiving aquatic environment downstream the discharge point. A pH value below 9 shows a reasonably safe use. If pH value is above 9, risk management measures must be taken: the effluent must be neutralised, thus ensuring safe use of the substance during its production or utilization phase.

Emission control measures are not necessary for exposure to the terrestrial environment.

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9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

- a) Appearance: Granulated inorganic solid material. In case the material is ground, it will be like fine dust of inorganic solid.
- b) Colour: grey - yellow
- c) Odour: odourless
- d) Odour threshold: no threshold, odourless.
- e) pH: basic between 9 and 12.5
- f) Melting point: 1100 °C - 1400 °C (value used for Chemical Safety Assessment (CSA), 1400 °C at 1013 hPa)
- g) Initial boiling point and boiling range: Not applicable as the boiling point in normal atmospheric conditions is >2000 °C.
- h) Flash point: Not applicable.
- i) Evaporation rate: Not applicable since it is not a liquid.
- j) Flammability (solid, gas): Not applicable as it is a non-flammable solid and cannot cause or contribute to cause fire by friction.
- k) Upper/lower flammability or explosive limits: Not applicable since it is not a flammable gas.
- l) Oxidising properties: No oxidising properties.
- m) Vapour pressure: Extremely low vapour pressure at ambient temperature. (Value used for CSA 0,000000001 Pa at 20 °C)
- n) Surface tension: slag leachates contain minimal concentrations of organic ions, which shows that there is no particular influence on water surface tension.
- o) Vapour density: Not applicable as its boiling point is >2000 °C.
- p) Relative density: 2.4 - 3 g/cm³ at 20 °C; (value used for CSA 3g/cm³)
- q) Solubility in organic solvents and identification of significant product degradation: it is not soluble in organic solvents.
- r) Solubility(ies) in water: (T 20 °C): very low (soluble fraction <1%) (Value used for CSA 0.01 mg/l at 20 °C)
- s) Partition coefficient: n-octanol/water: log K_{ow} (P_{ow}): -9 at 20 °C
- t) Auto-ignition temperature: Auto-ignition is not possible.
- u) Decomposition temperature: Not applicable as no organic peroxides are present.
- v) Viscosity:; Not applicable since it is not a liquid.
- w) Explosive properties: Not applicable as it does not have any explosive or pyrotechnic effects nor the capacity (spontaneously, by chemical reaction) to release gases at such a

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temperature, pressure and speed that may damage the environment. It cannot produce a self-sustaining exothermic chemical reaction.

- x) Oxidising properties: Not applicable as it does not cause or facilitate the combustion of other substances.

9.2. OTHER INFORMATION

Not applicable.

10. STABILITY AND REACTIVITY

10.1. REACTIVITY

When mixed with water, the slag hardens becoming a stable rock mass resistant to normal ambient conditions.

10.2. CHEMICAL STABILITY

As long as slag is properly stored (see section 7). Contact with incompatible materials must be avoided.

The slag is alkaline and incompatible with acids, ammonium salts, aluminium or other non-noble metals. The slag can dissolve in hydrofluoric acid, producing silicon tetrafluoride corrosive gas. It can react to water, resulting in silicates and calcium hydroxide. Slag silicates react to powerful oxidising agents such as fluorine; boron trifluoride; chlorine trifluoride; manganese trifluoride; oxygen difluoride.

10.3. POSSIBILITY OF HAZARDOUS REACTIONS

Not applicable.

10.4. CONDITIONS TO AVOID

Humidity during storage may cause hardening and loss of product quality.

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10.5 INCOMPATIBLE MATERIALS

Acids, ammonium salts, aluminium and other non-noble metals.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS

Emission of hazardous gases (H₂S) when the product is in contact with acids.

11. TOXICOLOGICAL INFORMATION

11.1. INFORMATION ON TOXICOLOGICAL EFFECTS

The substance is not classified as dangerous in the sense of European Directive 67/548/EEC on Dangerous Substances and Regulation 1272/2008/EC on CLP.

Effects on human health

Slightly alkaline substance. Risk of irritant dust formation.

Contact with the skin: Acute effects: Risk of irritation in case of prolonged contact with the skin. Must wear clothes suitable for dealing with alkaline products. Must wear gloves suitable for dealing with alkaline products.

Contact with the eyes: Acute effects: Risk of irritation and/or burns. Must wear safety goggles.

Inhalation: Acute effects: in case of dust inhalation, risk of irritation of respiratory tract, burning sensation, cough, sore throat, breathlessness.

Ingestion: Risk of irritation, burning sensation, abdominal pain.

Overall hazard data

Type of hazard	Dose indicators	Qualitative assessment
Acute skin toxicity	-	No acute skin toxicity based on other data for other types of slag.

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Acute toxicity by inhalation	LC ₅₀ : 5235 mg/m ³ (test. Substance GGBS) OECD Guideline 403, Wistar rat.	No acute toxicity by inhalation.
Acute oral toxicity	LC ₅₀ : 2000 mg/kg bw OECD Guideline 403, Wistar rat.	No acute oral toxicity
Skin corrosion/irritation	OECD 404, New Zealand White rabbit.	Not irritant
Eye damage/irritation	OECD 405, New Zealand White rabbit.	Not irritant
Sensitisation	OECD 406, Dunkin-Hartley guinea pig	No sensitising
Toxicity by repeated dose: sub-acute / sub-chronic / chronic by inhalation	Research in progress NOAEC: 200 mg/m ³ (subacute; rat)	
Mutagenicity	Reversed mutation tests, EU method B 13/14, Salmonella typhimurium.	No mutagenic effect
	Maman cell gene mutation test, EU method B.17, Chinese hamster lung fibroblast (V79).	No mutagenic effect

Aggravation of pre-existing illnesses due to exposure

Exposure to slag dust may aggravate the symptoms of pre-existing illnesses, such as respiratory pathologies, emphysema, asthma, eye pathologies and skin pathologies.

12. ECOLOGICAL INFORMATION

12.1. TOXICITY

The substance is not classified as dangerous in the sense of European Directive 67/548/EEC on Dangerous Substances and Regulation 1272/2008/EC on CLP.

12.2. PERSISTENCE AND DEGRADABILITY

Not significant as it is an inorganic material.

12.3. BIOACCUMULATIVE POTENTIAL

Not significant as it is an inorganic material.

12.3. MOBILITY IN SOIL

Not significant as it is an inorganic material.

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12.4 RESULTS OF PBT AND VPVB ASSESSMENT

Not significant as it is an inorganic material.

12.5 OTHER ADVERSE EFFECTS

No negative ecological effects are expected based on current knowledge.

Naturally and environmentally harmlessly, granulated blast furnace slag produces an inhibitory effect on germination in the areas where it is applied. This must be taken into account in areas where natural flora and fauna are protected.

Risk of environmental pH modification (pH>7). When used in stagnant or slow flow water, it is recommended that water be oxygenated and speed of work execution be adapted so that water pH does not adversely affect fauna and flora.

Type of hazard	Dose indicators	Values used for CSA
Short-term toxicity to fish	OECD 203, <i>Leuciscusidus</i> LC ₀ (96 h) > 1000 g/l LC ₅₀ (96 h) > 1000 g/l	LC ₅₀ fish fw: 100 g/l LC ₅₀ fish sw: 10 g/l
Short-term toxicity to aquatic invertebrates	OECD 202, <i>Daphnia magna</i> LC ₀ (48 h) > 1000 g/l LC ₅₀ (48 h) > 1000 g/l	EC ₅₀ / LC ₅₀ for invertebrates fw: 50 g/l EC ₅₀ / LC ₅₀ for invertebrates sw: 5 g/l
Toxicity to seaweeds	OECD 201, <i>Scenedesmus subspicalus</i> IC ₁₀ (72 h) > 100 g/l IC ₅₀ (72 h) > 100 g/l	EC ₅₀ / LC ₅₀ for seaweeds fw: 50 g/l EC ₅₀ / LC ₅₀ for seaweeds sw: 5 g/l EC ₁₀ / LC ₁₀ or NOEC for seaweeds fw: 32 g/l EC ₁₀ / LC ₁₀ or NOEC for seaweeds sw: 3.2 g/l
Toxicity to microorganisms	OECD 209, activated sludge EC ₁₀ (3 h) > 10 g/l EC ₅₀ (3 h) > 10 g/l	EC ₅₀ / LC ₅₀ aquatic microorganisms: 80 g/l EC ₁₀ / LC ₁₀ or NOEC aquatic microorganisms: 80 g/l
Long-term toxicity to aquatic invertebrates	OECD 209, <i>Daphnia magna</i> EC ₁₀ (21 d) > 5 g/l	EC ₁₀ / LC ₁₀ or NOEC for invertebrates fw: 5 g/l EC ₁₀ / LC ₁₀ or NOEC for invertebrates sw: 0.5 g/l
Long-term toxicity to fish	-	EC ₁₀ / LC ₁₀ or NOEC for fish fw: 500 g/l EC ₁₀ / LC ₁₀ or NOEC for fish sw: 50 g/l
Sediment organisms	-	EC ₁₀ / LC ₁₀ or NOEC for sediment fw: 100 g/kg EC ₁₀ / LC ₁₀ or NOEC for sediment sw: 100 g/kg

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Long term, soil arthropods	-	EC ₁₀ / LC ₁₀ or NOEC: 10 g/kg
Long term, terrestrial plants	-	EC ₁₀ / LC ₁₀ or NOEC: 100 g/kg
Long term, soil microorganisms	-	EC ₁₀ / LC ₁₀ or NOEC: 100 g/kg

fw: fresh water
sw: salt water.

13. DISPOSAL CONSIDERATIONS

13.1. WASTE TREATMENT METHODS

Blast furnace slag must always be reused except in case of mixing or contamination from other substances or mixtures preventing reuse.

In the event that disposal is required when reuse is not possible, the substance must be disposed of according to the current laws. From a safety perspective, long periods of storage do not alter the product characteristics.

Do not discharge into sewers or surface waters.

Hardened slag is a non-hazardous waste according to Decision 118/2001/EC modifying Decision 253/2000/EC relating to the list of wastes.

EWC codes: 10 02 01 Wastes from the processing of slag

Cross-border consignment code (if the waste is considered as waste in the originating State or destination State):

According to EC Regulation 1013/2006, the code for a cross-border waste consignment depends on treatment (disposal or recovery) but also on the State affected by the shipment. The information process only affects the transport of non-hazardous waste intended to be recovered in an EU State, in a State member of the OECD, or in case of specific agreement between the competent authorities of the destination State.

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Slag is not considered as a hazardous waste according to the Basel Convention. Annex IX. List B. B1200.

14. TRANSPORT INFORMATION

Slag is not considered as hazardous according to the following transport regulations:

- ADR/RID/CDG Road / CDG Rail.
- Inland waterway transport (ADN/ADNR)
- Sea transport (IMO/ IMDG)
- Air transport (ICAO/IATA)

No special precautions are required except for those mentioned in section 8.

14.1 UN 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.

14.7 TRANSPORT IN BULK ACCORDING TO ANNEX II OF MARPOL 73/78 AND THE IBC CODE

Not relevant.

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15. REGULATORY INFORMATION

15.1. SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE

There are no regulations or legislation specific for the substance.

European Social Dialogue Agreement on Crystalline Silica

The "Good Practice Guide", which contains recommendations on safe handling, may be found at <http://www.nepsi.eu/agreement-good-practice-guide/good-practice-guide.aspx>. European trade union organizations and industry sector associations, including Cembureau, adopted these best practices through a European Social Dialogue Agreement, "Agreement on Workers Health Protection through the Good Handling and Use of Crystalline Silica and Products containing it."

The Spanish cement industry voluntarily adopted the terms of this Agreement and made a protocol which specifically applies that document to the Spanish cement sector. (http://www.oficemen.com/reportajePag.asp?id_rep=139)

15.2 CHEMICAL SAFETY ASSESSMENT

A chemical safety assessment has been carried out.

16. OTHER INFORMATION

16.1 CHANGE HISTORY

Created: November 2008
Revision 1: May 2009
Revision 2: November 2011
Revision 3: December 2011

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16.2 ABBREVIATIONS AND ACRONYMS

ADR/RID	European Agreement concerning the International Carriage of Dangerous Goods by Road / Regulation concerning the International Carriage of Dangerous Goods by Rail.
CAS	Chemical Abstracts Service, a division of the American Chemical Society
CLP	Classification, labelling and packaging of substances and mixtures (European Regulation No. 1272/2008)
DNEL	Derived No Effect Level
ECHA	European Chemicals Agency
EINECS	European Inventory of Existing Chemical Substances
EPA	Efficient particulate air filter
SDS	Safety Data Sheet
FFP	Self-filtering anti-particle mask
GGBS	Ground Granulated Blast Furnace Slag
HEPA	High-Efficiency Particulate Air filter
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods Code
IC ₅₀	Inhibitory Concentration. Concentration that is expected to produce an inhibitory effect defined in 50% of a population of organisms in specific conditions.
LC ₅₀	Lethal Concentration of a compound on air or water killing 50% of organisms under study in specific conditions.
EC ₅₀	Statistically calculated concentration that is expected to produce a non-lethal effect defined in 50% of a population of organisms in specific conditions.
MS	Member State
NOAEC	No Observed Adverse Effect Concentration .
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No Effect Concentration
PROC	Process Category
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals (Regulation (EC) No. 1907/2006).
STOT	Specific Target Organ Toxicity
UVCB	Substance of Unknown or Variable composition, Complex reaction products or Biological materials
vPvB	Very persistent and very bioaccumulative
VLA/ED	Valor límite ambiental de exposición profesional diaria (Daily limit value for hazardous substances).

SAFETY DATA SHEET

C.T.V.

Previous versions are superseded.

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16.3 REFERENCES

<http://apps.echa.europa.eu/registered/registered-sub.aspx>

16.4 TRAINING

As an add-on to the training programmes for workers on environment as well as health and safety, companies shall ensure that workers read, understand and apply the requirements in this safety data sheet (SDS).

16.5 OTHER INFORMATION

This Safety Data Sheet complies with article 31 of REACH Regulation 1907/2006.

The information herein supplied is based on the available data as of the date of release and for a correct use of the product according to guidance on the instructions shown on the package or in technical guides. Any other unspecified uses of the product, including its use in conjunction with other products or in other processes, shall be at the user's sole risk and liability.

The user is responsible for taking the appropriate protection measures when using the product and comply with all legal requirements that are applicable to his activity.

The user assumes all responsibility to know and take all precautions relating to the use of the substance. References to regulatory provisions are provided to help the user comply with the obligations concerning the people using a hazardous substance or mixture.

The users are warned about the potential existence of other provisions completing these rules.

The contents of this Data Sheet must not be regarded as absolute and it is possible that other rules or regulations complete the information given in this document. This Data Sheet does not release the user from ensuring that obligations derived from other referenced texts are applied to the storage and use of the substance, so the user is the sole responsible.

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