



# BOZEL MINERAÇÃO S.A

## MATERIAL SAFETY DATA SHEET

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### 1 – IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND THE COMPANY / UNDERTAKING

COMMERCIAL PRODUCT:      CALCIUM SILICON BARIUM  
NAME

COMPANY:                      BOZEL MINERAÇÃO S/A  
  RODOVIA BR 265 - S/N - ZONA RURAL  
  BAIRRO VILA JARDIM SÃO JOSÉ - CEP 36309-560  
  SÃO JOÃO DEL REI - MINAS GERAIS - BRAZIL

TELEPHONE:

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### 2 – COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Analysis:	Si:    53 a 60 %
	Ca:    14 a 18 %
	Fe:    balance
	Al:    1,5 % máx
	C:     1,0 % máx
	P:     0,05 % máx
	S:     0,15 % máx
	Ba:    14 a 18 %

### 3 – HAZARDS IDENTIFICATION

Contact with water may liberate small amounts of extremely flammable gases. Dust may form explosive mixture in air.

### 4 – FIRST AID MEASURES

Eye contact:	Keep eye wide open while rinsing.
Inhalation:	Move to fresh air.
Ingestion:	If you feel unwell, seek medical advice.



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### 5 – FIRE-FIGHTING MEASURES

Suitable extinguishing: dry sand, dry powder, special powder against metal fire, limestone powder, sand.

Extinguishing media which : foam, water.  
must not be used for safety reasons

Further information: Accumulation of dust can lead to smouldering fires difficult to extinguish.

### 6 – ACCIDENTAL RELEASE MEASURES

Personal precautions: Use personal protective equipment. Use only non-sparking tools. Keep away from sources of ignition – No smoking.

Methods for cleaning up: Sweep up and shovel. Avoid dust formation.

### 7 – HANDLING AND STORAGE

#### Handling

Safe handling advice: Handle and open container with care. Use only well-ventilated areas. Handle in accordance with good industrial hygiene and safety practice.

Advice on protection : Flush pneumatic conveyor systems with inert gases like argon  
Against fire and explosion or nitrogen . Avoid dust formation.  
Do not allow accumulation of dust. Keep away from sources of ignition – No smoking. Take precautionary measures against static discharges. Use only non-sparking tools. Incompatible with acids and bases, Protect against oxidizing agents, humid air and water.

#### Storage

Requirements for storage: Keep containers tightly closed in a dry, cool and well-ventilated  
Areas and containers place.

Advice on common storage: Never allow product to get in contact with water during storage.  
Incompatible with acids and bases. Incompatible with oxidizing agents.



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### 8 – PERSONAL PROTECTION

#### Personal protection equipment

Respiratory protection:	Half mask with a particle filter.
Hand protection:	not required
Eye protection:	safety glasses
Skin and body protection:	not required
Hygiene measures:	When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday. Keep working clothes separately. Before reuse remove dust in a dry manner, then wash.

### 9 – PHYSICAL AND CHEMICAL PROPERTIES

Form:	Solid
Colour:	Grey
Odour:	Odourless
Melting point:	970 - 1050 °C
Flammability (solid, gas):	Contact with water may liberate small amounts of extremely flammable gases.
Density:	2,8 g/cm <sup>3</sup> at 20 °C
Bulk density:	1.650 – 2.150 kg/m <sup>3</sup>
Water solubility:	insoluble

### 10 – STABILITY AND REACTIVITY

#### Conditions to avoid

Other: Keep away from heat and sources of ignition.

**Materials to avoid:** acids and basis, oxidizing agents, humid air and water.



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**Hazardous:** hydrogen, trace amounts of phosphine.  
**Decomposition products**

**Hazardous reactions**  
**Further information:** Liberation of flammable gases, Danger of fire and explosion.

### 11 – TOXICOLOGICAL INFORMATION

**Eye irritation:** Remarks; Product dust may cause temporary mechanical eye irritation.

**Further information:** Metals in compact form are not to be regarded as hazardous to human health by inhalation, swallowing or skin contact.  
Inhalative or oral uptake of metal dust or fumes may have adverse effects on human health.

### 12 – ECOLOGICAL INFORMATION

#### **Elimination information (persistence and degradability)**

#### **Ecotoxic effects**

**Further information:** Insoluble, inert metals are not to be regarded as dangerous to the environment can be eliminated from water by precipitation.

### 13 – DISPOSAL CONSIDERATIONS

**Product:** Contact manufacturer. Can be used after re-conditioning.

**Contaminates packaging:** Packaging, that can not be reused after cleaning must be disposed or recycled in accordance with federal, national and local regulations.

### 14 – TRANSPORT INFORMATION

**Sea transport:** Class: 4.3  
UN-No: 2813  
Packing group: III

Proper shipping name: CALCIUM-BARIUM-SILICIDE

**Air transport:** Class: 4.3



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**15 – REGULATORY INFORMATION**

Labelling according to IMO guidelines to sea transport.  
Observe the general safety regulations when handling.

**16 – OTHER INFORMATION**

This information and all further technical advices are based on our knowledge and experience. We reserve the right to make any changes according to technological progress or further developments. Information in this document is to be made available for all who handle the product.