**Rajz d.o.o. Sarajevo**
Garovci 13
71240 Hadžići
Bosna i Hercegovina

# Safety Data Sheet

According to Regulation (EC) No. 1907/2006 (REACH) and in accordance with Regulation (EU) amending Annex II 878/2020

| Document No. STL-003 | Issue: 2025-03 | Date: 13.03.2025. |
|---|---|---|
| Product name: BT – MAL 660 | | |

## SECTION 1: Identification of the substance/mixture and information on the manufacturer

**1.1 Product identification**
Trade name: **BT-MAL 660**

**1.2 Established method of use, technical name**
Cement mortar is intended as a binding layer between walls made of brick, reinforced brick, concrete blocks, siporex and underlying mortars for exterior and interior works.

**1.3 Manufacturer/supplier information**
**Manufacturer:** Rajz d.o.o. Sarajevo, P.J. BAUTREND paint and facade factory
**Address:** Garovci 13, 71240 Hadžići
**Contact:** 033/420-140
**Contact for STL:** 033/420-221
**e-mail:** factory@bautrend.ba

**1.4 Emergency phone number**
Emergency assistance: 124 (00-24)h

## SECTION 2: Hazards identification

**2.1 Classification of the mixture**
In accordance with the Chemicals Act ("Official Gazette FbiH", number: 77/20), and in accordance with Regulation (EC) no. 1272/2008 (CLP) the product is classified as:
Skin irritation, category 2: H315
Eye damage, category 1: H318
Skin sensitization, category 1: H317
STOT SE, category 3: H335

**2.2. Marking elements**
Labeling in accordance with Regulation (EC) no. 1272/2008 (CLP)

**Hazard pictograms:**

GHS07 GHS05
Hazard symbol: **Danger**



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**Hazard statements:**
Grey Portland Cement

**Warning statements:**
H315 Causes skin irritation
H317 May cause an allergic skin reaction
H318 Causes serious eye damage
H335 May cause respiratory irritation
**Precautionary statements:**
P102 Keep out of reach of children.
P261 Avoid breathing dust.
P280 Wear protective gloves/protective clothing/safety glasses
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present. Continue rinsing.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
**2.3 Other hazards**
-The mixture does not meet the criteria for PBT or vPvB according to Annex XIII of REACH Regulation (EC) No. 1907/2006.
-Chromium (VI) in cement is soluble and when mixed with water may precipitate a potentially hazardous solution and cause allergic contact dermatitis (EUH203).

## SECTION 3: Composition/information on ingredients

**3.2. Mixture properties data**
The mixture consists of Portland cement, fillers and additives.

| Identification number | Name of the hazardous substance | Mass fraction (%) | Classification according to Regulation (EC) No. 1272/2008 (CLP) |
|---|---|---|---|
| CAS: 65997-15-1<br>EINECS: 266-043-4 | Portland cement | 15-22 | H315-skin irritation,<br>H317-skin sensitization,<br>H318-serious eye damage,<br>H335-STOT SE |

## SECTION 4: First aid measures

**4.1. Description of first aid measures**
**General instructions:** In all cases of doubt, or when symptoms persist, seek medical attention.
**After inhalation:** Remove person to fresh air and keep calm. Clear throat, drink water to rinse throat, blow nose to remove dust. If symptoms persist, seek medical attention.

**After skin contact:** Wash affected area thoroughly with soap and water. Contaminated clothing should be removed and washed thoroughly before reuse.
**After eye contact:** Do not rub eyes to avoid mechanical injury to the eye. Immediately flush eyes with plenty of water for at least 15 minutes. Seek medical attention if necessary.
**After ingestion:** Do not induce vomiting. If person is conscious, rinse mouth with water and spit. Drink 2-3 dl of water. Seek medical attention immediately.

**4.2. Most important symptoms and effects, both acute and delayed**
Since the product is classified as irritating to the skin and respiratory system, prolonged or repeated skin contact may cause redness, burning, itching and cracking of the skin. Coughing, sneezing, and throat tightness may occur after inhalation. Eye contact may cause redness, tearing, irritation, eye pain, and irreversible eye damage.
There is no risk of undesirable systemic effects, as local effects (pH effect) are the main health hazards. There are no known delayed effects.

**4.3. Immediate medical attention and special treatment**
No further relevant information available.
Note: If a doctor is consulted, this Safety Data Sheet must be presented. Symptomatic treatment.

## SECTION 5: Fire-fighting measures

**5.1. Extinguishing media**
The product is not flammable. Adapt the extinguishing media to the surrounding materials.
**5.2. Special hazards arising from the substance or mixture**
The product is non-flammable and non-explosive and will not facilitate or sustain the combustion of other materials
**5.3. Tips for firefighters**
There is none

## SECTION 6: Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**
Protective equipment: Wear appropriate protective equipment to prevent contamination of skin, eyes and clothing.
Emergency procedures: In the event of an accident, secure the location and evacuate personnel not involved in the clean-up. Prevent dusting of the material.
**6.2. Environmental precautions**
If the product is spilled into the environment, prevent it from entering waterways, sewers and soil.
**6.3. Methods and material for containment and cleaning up**
Mechanically collect spilled material and reuse it if possible. Avoid dust formation. Use industrial vacuum cleaners (portable high-efficiency devices) for cleaning. Never use compressed air to clean surfaces. Dispose of collected material in accordance with legal regulations.

Allow wet material to harden before disposal and dispose of in accordance with regulations.

**6.4. Reference to other sections**

For more information, see sections 8 and 13.

## SECTION 7: Handling and storage

**7.1 Precautions for safe handling**

Protective measures: Transport the product in closed bags (packaging). Ensure good ventilation when working in enclosed spaces.
Fire prevention measures: No special measures are required.
Measures to prevent the formation of aerosols and dust: When preparing to work with the product, first add water to the mixing container, then carefully tilt the bag with the product and slowly start mixing. Do not press empty bags.
Environmental protection measures: Keep bags tightly closed in a horizontal position in areas that are dry and clean. Keep away from drains.
Advice on general hygiene at the workplace: Do not eat, drink or smoke in the working area. Wash hands after each break in work.

**7.2 Conditions for safe storage**

Store in dry and well-ventilated areas. Keep bags tightly closed in a horizontal position, on pallets, protected from moisture. Do not expose to high temperatures (>25°C) or low temperatures (<0°C). Do not store with acids.

**7.3 Specific end use(s)**

No further relevant information available.

## SECTION 8: Exposure controls/personal protection

**8.1 Monitoring parameters**

| Hazardous ingredient | CAS number | Exposure Limit Values (ELV) mg/m³ |
|---|---|---|
| Portland cement dust | 65997-15-1 | Total dust: 10<br>Respirable dust: 4 |

Additional information: The regulations valid at the time of preparation were used as a basis.

DNEL: Inhalation: 4 mg/m3 (8 h)
Skin contact: Not applicable.
Ingestion: Negligible.
No DNEL is available for employee skin exposure, no tests for human risks, and no experience with human exposure to the product is known. Since cement is classified as irritating to eyes and skin, skin exposure must be reduced as much as technically possible.

PNEC water: Not applicable.
PNEC sediment: Not applicable.
PNEC soil: Not applicable.
The risk assessment for environmental elements is based on the change in pH of the water. Possible pH changes in surface and groundwater, and in wastewater treatment plants, must not exceed a value of 9.

**8.2 Exposure controls**
**Personal protection measures:**
**Respiratory protection:**

Provide a ventilation system to control the dust level. Avoid dust formation. In case of heavy dusting, use a protective mask with a filter if the dust concentration is above the TLV.

**Hand protection:**

To protect your hands, use chemical-resistant gloves that meet the EN ISO 374 standard. Wash your hands with water and apply a protective cream after each break in work.

**Glove material:** In case of permanent contact, gloves made of the following materials are suitable: polychloroprene (material thickness ≥ 0.5 mm), nitrile rubber (material thickness ≥ 0.35 mm), butyl rubber (material thickness ≥ 0.5 mm), fluororubber (material thickness ≥ 0.4 mm), neoprene (material thickness ≥ 0.5 mm). The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
**Penetration time of glove material:** The exact breakthrough time of the material can be found out from the manufacturer of the protective gloves and should be observed.
**Gloves made of the following materials are not suitable for use:** Impervious gloves: made of fabric, leather or similar materials.
**Body protection:**

Wear clothing that prevents product from coming into contact with the skin and footwear that covers the entire foot.

**Eye protection:**

Wear safety glasses with side shields to protect your eyes. In dusty environments, wear goggles that fit tightly around your eyes to avoid eye irritation.

**Environmental exposure controls**
Avoid release to the environment. The product must not come into contact with water, as this may increase the pH value. At pH values above 9, ecotoxicological effects may occur.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| Physical state: | Solid (powder) |
| Colour: | Grey |
| Odour: | Odourless |
| Melting point/freezing point, °C: | No data for mixture (cement >1250°C) |
| Boiling point or initial boiling point: | Not applicable |
| Flammability: | Not applicable as mixture is not flammable. |
| Lower and upper explosion limits: | Not applicable for solids. |
| Flash point: | Not applicable for solids. |
| Autoignition temperature: | Not applicable for solids. |
| Decomposition temperature: | Not applicable as mixture is not self-reactive and does not contain organic peroxides. |
| pH: | >11 (mixed mass) |
| Kinematic viscosity: | Not applicable, applies only to liquids. |
| Solubility: | Slightly soluble |
| Partition coefficient n-octanol/water: | Not applicable, does not apply in principle to mixtures. |
| Vapour pressure: | Not applicable |
| Density and/or relative density: | No data |
| Relative vapour density: | Not applicable, applies only to gases and liquids. |
| Particle properties: | No data |

### 9.2 Other information

No further relevant information available.

## SECTION 10: Stability and reactivity

**10.1 Reactivity**
The material acts alkaline with water. After drying, it hardens and forms a solid mass that does not react with the environment.
**10.2 Chemical stability**
Under normal storage conditions, the product is chemically stable.
**10.3 Possibility of dangerous reactions**
No dangerous reactions are known.
**10.4 Conditions to avoid**
Moisture during storage can cause a loss of product quality.
**10.5 Incompatible Materials**
The moist product is alkaline and reacts exothermically with acids.
**10.6 Hazardous decomposition products**
The product does not decompose into dangerous components.

## SECTION 11: Toxicological information

**11.1 Information on hazard classes as defined in Regulation (EC) no. 1272/2008**
The product has not been tested. The data is derived from the properties of individual components.
**Acute toxicity:**
Based on the available data, it is evident that the conditions for classification have not been met.

| 65997-15-1 **Klinker portland cementa** | | |
|---|---|---|
| Orally | $LD_{50}$ | > 2,000 mg/kg (Mouse) No acute toxicity was observed in animal tests with cement dust. Based on available data, the classification criteria are not met. |
| Dermal | $LD_0$ (not deadly) | > 2,000 mg/kg (Rabbit) (Limit test 24h [2]) Based on the attached data, the classification criteria are not met. |
| Inhalative | $LD_0$ (not deadly) | 5 mg/m3 (Rat) (Limit test [8]) Based on the attached data, the classification criteria are not met. |

**Skin corrosion/irritation:** Cement is irritating to the skin. Dry cement in contact with moist skin or skin in contact with moist or wet cement may cause inflammatory skin reactions, e.g. redness or cracking of the skin. Prolonged contact with mechanical abrasion may lead to serious skin damage, see section 16, references [2].
Irritating to skin, category 2.

**Serious eye damage or irritation**
Direct contact with cement may cause irritation and inflammation and damage to the cornea. The effects of contact with large quantities of dry or wet cement may range from simple eye irritation to loss of vision, see section 16, references [9] and [10].
Causes serious eye damage, category 1.

**Skin sensitisation**
Contact with wet cement may cause eczematous skin reactions in individuals. These are caused by the pH value (irritant allergic dermatitis) or by immunological reactions to soluble chromium(IV) (allergic dermatitis), see section 16, references [3] and [11].
Causes skin sensitization, category 1.

**Mutagenic effect on germ cells**
Based on available data, the classification criteria are not met.
**Carcinogenicity**
Based on available data, the classification criteria are not met.

**Reproductive toxicity**
Based on available data, the classification criteria are not met.

**STOT – single exposure**
Exposure to cement dust may cause irritation of the respiratory system. Coughing, sneezing, difficulty breathing are the consequences if the exposure limit value is exceeded, see section 16, references [1].
May irritate the respiratory system, category 3.
**STOT – repeated exposure**
Long-term exposure to cement dust, i.e. exceeding the exposure limit at work, can lead to coughing, difficulty breathing and chronic obstructive changes in the respiratory system. At low values no chronic effects were observed, see section 16, literature [12].
Based on the available data, the classification criteria are not met.
Cement can aggravate already existing skin, eye and respiratory diseases, for example in cases of lung emphysema or asthma. Frequent inhalation of large amounts of such dust increases the risk of lung diseases.

**11.2 Other hazards**
**Endocrine Disrupting Properties:** None of the ingredients are listed.

## SECTION 12: Ecological information

**12.1 Toxicity**
The product has not been tested. The data are derived from the properties of the individual components.

| 65997-15-1 **Klinker portland cementa** | |
|---|---|
| $LC_{50}$ | mg/l (Vodenbuha - daphnia magna) (low effect [4,6])<br>mg/l (Alga - selenastrum coli) (low effect [5,6])<br>mg/l (Sediment) (low effect [7]) |

**12.2 Persistence and degradability**
The inorganic product cannot be removed from water by biological treatment.

**12.3 Bioaccumulative potential**
Does not accumulate in organisms.
**12.4 Mobility in soil**
Not relevant, the inorganic product, after hardening, does not present a toxicological risk.
**12.5 Results of PBT and vPvB assessment**
PBT: This mixture does not contain any components at concentrations of 0.1% or more that are classified as persistent, bioaccumulative and toxic (PBT).
vPvB: This substance/mixture does not contain any components at concentrations of 0.1% or more that are classified as very persistent and very bioaccumulative (vPvB).

**12.6 Endocrine disruption properties**
This mixture does not contain components in concentrations of 0.1% or more with endocrine disrupting properties according to the criteria of Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

**12.7 Other adverse effects**
The product is not dangerous for the environment. Addition of large amounts of product to water causes an increase in the pH value and can, under certain circumstances, be toxic to aquatic life. Prevent uncontrolled release into waterways.

**12.8 Additional information**
Ecological toxicology tests conducted on water fleas (U.S. EPA, 1994a, see Section 16, Reference [4]) and Selenastrum Coli (U.S. EPA, 1993, see Section 16, Reference [5]) showed a minimal toxic effect. Therefore, it was not possible to determine the LC50 and EC50 values, see section 16, literature [6]. Also, no toxic effects on sediments have been established, see section 16, literature [7].

## SECTION 13: Disposal

**13.1 Waste treatment methods**
Do not dispose of together with municipal waste. Provide containers for waste collection and hand them over to specialized companies authorized for such work for disposal.

**13.1.1 Product/packaging disposal:**
In accordance with the Law on Waste Management ("Official Gazette of FBiH", No. 33/03) and the Ordinance on Construction Waste, hardened material is treated as mixed construction waste with the classification number 17 09 04.
Packaging residues are classified according to the classification number 15 01 01 (cleaned paper bags can be recycled).

**13.1.3 Information related to discharge into the sewer:**
Waste should not be discharged into the sewer.

**13.1.4 Other recommendations related to disposal:**
Keep unused products and dirty packaging closed. Collect dry product residues and store in labeled containers. Use until expiration date or mix residues with water, avoiding any skin contact or inhalation of dust. Allow wet product residues to set and dispose of according to regulations.

## SECTION 14: Transport information

The product is not classified as dangerous goods under the provisions of the TDG.

**14.1. UN number or identification number**
Not assigned

**14.2. UN proper shipping name**
Not assigned

**14.3. Transport hazard class**
The product is not classified as dangerous goods (according to ADR/RID, IATA and IMDG). No special precautions are required.

**14.4. Packing group**
Not applicable

**14.5. Environmental hazards**
The product is not dangerous

**14.6. Special precautions for user**
Not required

**14.7. Transport in bulk**
Not applicable

## SECTION 15: Regulatory Information

**15.1 Safety, health and environmental regulations/specific legislation for the substance or mixture**
**EU regulations:**
**- Directive (EU) 2012/18**
**Listed dangerous substances by name - APPENDIX I**
No ingredients are listed.
**-Regulation (EU) 528/2012, on making available on the market and use of biocidal products**
Data based on the recipe and information according to raw materials from the supply chain.
No ingredients are listed.
**Other EU regulations:**
-Regulation (EC) no. 1907/2006 on the registration, evaluation, authorization and restriction of chemicals (REACH) and the establishment of the European Chemicals Agency and on the amendment of Directive 1999/45/EC and the repeal of Council Regulation (EEC) no. 793/93 and Commission Regulation (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,
-Regulation (EC) No. 1272/2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directive 67/548/EEC and Directive 1999/45/EC and amending Regulation (EC) No. 1907/2006,
-Commission Regulation (EU) No. 878/2020 amending Annex II to Regulation (EC) No. 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH)
**National regulation:**
- Chemicals Act ("Official Gazette of the FBiH, No: 77/20"),
- Law on General Product Safety ("Official Gazette of Bosnia and Herzegovina, No: 102/09"),

- Law on fire protection and firefighting ("Official Gazette of the FBiH, No: 64/09"),
-Law on Nature Protection ("Official Gazette of the FBiH, No: 66/13"),
- Environmental Protection Act ("Official Gazette of FBiH, No: 15/21"),
- Law on waste management ("Official Gazette of the FBiH, No: 33/03, 72/09 and 72/24"),
- Law on Occupational Safety ("Official Gazette of the FBiH, No: 79/20")

**15.2 Assessment of chemical safety**

This mixture has not been evaluated chemical safety.

## SECTION 16: Other Information

**Abbreviations:**

CLP: Classification, labeling and packaging
CAS: Chemical abstracts service
EINECS: European inventory of existing commercial chemical substances
GVI: Exposure limit values
DNEL: Derived No-Effect Level
PNEC: Predicted No-Effect Concentration
LD50: Lethal dose, 50%
LD0: Lethal dose 0% represents the dose at which no individuals are expected to die.
LC50: : Lethal concentration, 50%
STOT SE: Specific target organ toxicity, single exposure
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
TDG: Transport of Dangerous Goods
ADR: Agreements concerning the international carriage of dangerous goods by road
RID: Agreements concerning the international carriage of dangerous goods by rail
IATA: : International Air Transport Association
IMDG: International Maritime Code for Dangerous Goods
REACH: Registration, Evaluation and Authorization of Chemicals

**Key literature and data sources:**

[1] Portland Cement Dust-Hazard assessment document EH75/7, UK Health and Safety Executive, 2006: http://www.hse.gov.uk/pubns/web/portlandcement.pdf.
[2] Observations on the effects of skin irritation caused by cement, Kietzman et al, Dermatosen, 47, 5, 184-189 (1999).
[3] Epidemiological assessment of the occurrence of allergic dermatitis in workers in the construction industry related to the content of Cr (VI) in cement, National Institute of Occupational Health, Page 11, 2003.
[4] U.S. EPA, Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, 3rd ed. EPA/600/7-91/002, Environmental Monitoring and Support Laboratory, U.S. EPA, Cincinnati, OH (1994a).
[5] U.S. EPA, Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, 4th ed. EPA/600/4-90/027F, Environmental Monitoring and Support Laboratory, U.S. EPA, Cincinnati, OH (1993).

[6] Environmental Impact of Construction and Repair Materials on Surface and Ground Waters. Summary of Methodology, Laboratory Results, and Model Development. NCHRP report 448, National Academy Press, Washington, D.C., 2001.
[7] Final report Sediment Phase Toxicity Test Results with Corophium volutator for Portland clinker prepared for Norcem A.S. by AnalyCen Ecotox AS, 2007.
[8] TNO report V8801/02, An acute (4-hour) inhalation toxicity study with Portland Cement Clinker CLP/GHS 03-2010-fine in rats, August 2010.
[9] TNO report V8815/09, Evaluation of eye irritation potential of cement clinker G in vitro using the isolated chicken eye test, April 2010.
[10] TNO report V8815/10, Evaluation of eye irritation potential of cement clinker W in vitro using the isolated chicken eye test, April 2010.
[11] European Commission's Scientific Committee on Toxicology, Ecotoxicology and the Environment (SCTEE) opinion of the risks to health from Cr (VI) in cement (European Commission, 2002): http://ec.europa.eu/health/archive/ph_risk/committees/sct/documents/out158_en.pdf.
[12] Prospective monitoring of exposure and lung function among cement workers, Interim report of the study after the data collection of Phase I-II 2006-2010, H. Notø, H. Kjuus, M. Skogstad and K.- C. Nordby, National Institute of Occupational Health, Oslo, Norway, March 2010.
[13] Guidance on the compilation of safety data sheets, European chemicals agency (ECHA), Version 4.0, December 2020.

**Classification method:**
For the purpose of classification of a mixture as a method of evolving information in accordance with Article 9 of Regulation (EC) No. 1272/2008 was used:
Skin irritation, category 2: Calculation method
Eye damage, category 1: Calculation method
Skin sensitization, category 1: Calculation method
STOT SE, category 3: Calculation method

**Other information:**
The information in this safety-technical sheet describes the safety requirements of our product and is in accordance with the currently valid regulations, and is based on all our previous knowledge. The manufacturer is not responsible for the use and performance of prescribed procedures by the user of the product. The given information ceases to be valid in case of combination with other materials that are not provided in the instructions for use.