# MATERIAL SAFETY
# DATA SHEET

Royal
El Minya Cement Co.


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# PRODUCT AND COMPANY IDENTIFICATION

(Packing & Supplier) and Company Identification Material Identity (Synonyms):
White Portland CEM II/A-LL 52.5 R– Limestone cement According to EN 197-1:2011 standard (Portland cement, Hydraulic Cement)

**Supplier Name & Address:**
Royal El Minya Cement CO., Inc.

Cairo Sheraton Airport, 7 Mustafa Refaat St,
Square No.1135 Fourth Floor, Apartment No. 7

**Telephone Number for Information:**
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# HAZARDS IDENTIFICATION

## 1- Classification of the substance or mixture

According to Regulation (EC) No 305 / 2011

| Hazard class | Hazard category | Classification procedure |
|---|---|---|
| Skin irritation | 2 | Based on test data |
| Serious eye damage/ eye irritation | 1 | Based on test data |
| Skin sensitization | 1B | Based on literature survey |
| Specific target organ toxicity single exposure respiratory tract irritation | 3 | Based on literature survey |

**Hazard statements:**

**H318:** Causes serious eye damage
**H315:** Causes skin irritation
**H317:** May cause an allergic skin reaction
**H335:** May cause respiratory irritation

**According to the Directive Regulation (EC) No 305 / 2011:**

- R37/38 Irritating to respiratory system and skin
- R41 Risk of serious damage to eyes
- R43 May cause sensitization by skin contact

Cement dust may cause irritation of the respiratory system.
When cement reacts with water, for instance when making concrete or mortar, or when the cement becomes damp, a strong alkaline solution is produced. Due to the high alkalinity, wet cement may provoke skin and eye irritation.
It may also cause an allergic reaction in some individuals due to the soluble Cr (VI) content.
Cement is either naturally low in soluble chromium VI or reducing agents have been added to control the levels of sensitizing soluble chromium (VI) to below 2 mg/kg (0,0002%) of the total dry weight of the cement ready for use according to legislation specified under Section 15.

## 2- According to regulation (EC) No 305 / 2011

- **H318:** Causes serious eye damage
- **H315:** Causes skin irritation
- **H317:** May cause an allergic skin reaction
- **H335:** May cause respiratory irritation
- **P102:** Keep out of reach of children
- **P280:** Wear protective gloves/protective clothing/eye protection/face protection
- **P305+P351+P338+P310:** If in Eyes: Rinse cautiously with water for several minutes. Remove contact lenses, If present and easy to do. Continue rinsing. Immediately call a POISON CENTER or Doctor/physician
- **P302+P352+P333+P313:** IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention
- **P261+P304+P340+P312:** Avoid breathing dust/fume/gas/mist/vapors/spray.

IF INHALED: Remove victim to refresh air and keep at rest in a position comfortable for breathing. Call a Poison center of doctor/physician if you feel unwell.

- **P501:** Dispose of contents/container according to legislation

**Supplemental information:**

Skin contact with wet cement, fresh concrete or mortar may cause irritation, dermatitis or burns. May cause damage to products made of aluminum or other non-noble metals.2.3. **Other hazards:** Cement does not meet the criteria for PBT or VPVB in accordance with Annex XIII of REACH (Regulation (EC) No 305/2011).

# HEALTH HAZARD IDENTIFICATION

**POTENTIAL HEALTH EFFECTS:**
**NOTE:** Potential health effects may vary depending upon the duration and degree of exposure.

**EYE CONTACT: (Acute/Chronic)** Exposure to airborne dust may cause immediate or delayed irritation or inflammation of the cornea. Eye contact by larger amounts of dry powder or splashes of wet Portland cement may cause effects ranging from moderate eye irritation to chemical burns and blindness.

**SKIN CONTACT: (Acute)** Exposure to dry Portland cement may cause drying of the skin with consequent mild irritation.
(**Chronic)** Exposure to wet Portland cement or Dry Portland cement coming in contact with wet skin may cause more severe skin effects, including thickening, or fissuring of the skin. Prolonged exposure can cause severe skin damage in the form of chemical (caustic) burns.
**(Acute/Chronic)** Upon exposure to Portland cement some individuals may exhibit an allergic response ranging from a mild rash to severe skin ulcers.

**INHALATION: (Acute)** Exposure to Portland cement may cause irritation to the moist mucous membranes of the nose, throat and upper respiratory system. Pre-existing upper respiratory and lung diseases may be aggravated by inhalation of Portland cement.
**(Chronic)** Inhalation exposure to free crystalline silica may cause delayed lung injury including silicosis, a disabling and potentially fatal lung disease, and/or cause or aggravate other lung, diseases or conditions.

**INGESTION: (Acute/Chronic**) Internal discomfort or ill effects are possible if large quantities are swallowed.

**CARCINOGENIC POTENTIAL:** Portland cement is not recognized as a carcinogen by NTP, OSHA, or IARC. However, it may contain trace amounts of heavy metals recognized as carcinogens by these organizations.

# EMERGENCY AND FIRST AID

White Portland cement is an odorless light white powder.

- **Eyes:** Flush immediately eye thoroughly with clean water continuously for at least 15 minutes. Consult a physician immediately if irritation persists.

- **Skin:** Affected areas must be washed with neutral soap and clean, cool water for at least 15 minutes. For reddened skin, consult a physician immediately.

- **Inhalation:** Remove exposed person to fresh air and support breathing as needed. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Consult a physician immediately if irritation persists. Inhalation of large amounts of Portland cement requires immediate medical attention.

- **Ingestion:** If the material is ingested, have the conscious person drink plenty of water or milk. Never give any thing by mouth to an unconscious or convulsing person. Consult a physician immediately.

# FIRE AND EXPLOSION

**FLASH POINT:** Not Combustible

**LOWER EXPLOSIVE LIMIT:** None

**UPPER EXPLOSIVE LIMIT:** None

**FLAMMABLE LIMITS:** Not Applicable

**EXTINGUISHING MEDIA:** Not Combustible

**HAZARDOUS COMBUSTION PRODUCTS:** None

**SPECIAL FIRE FIGHTING PROCEDURES:**

- Be Aware of run off from fire control methods.
- Do not release material or waterways, as product reacts with water and becomes hard within 1 to 6 hours.
- Hardened material may clog sewers and waterways

# ACCIDENTAL RELEASE MEASURES

Collect dry material using a scoop. Avoid actions that cause dust to become airborne. Avoid inhalation of dust and contact with skin. Wear appropriate protective equipment as described in section 8 Scrape up wet material and place in appropriate container. Allow material to "dry" before disposal. Do not attempt to wash masonry cement down drains. Dispose of waste material according to local, state and federal regulations.

# PRECAUTIONS FOR HANDLING, STORAGE AND DISPOSAL

**HANDLING AND STORAGE:** Keep dry until used. Handle and store in a manner so that airborne dust does not exceed applicable exposure limits. Use adequate ventilation and dust collection.

**SPILL:** Use dry clean-up methods that do not disperse dust into the air or entry into surface water.
Material can be used if not contaminated. Place in an appropriate container for disposal or use.
Avoid inhalation of dust and contact with skin and eyes.

**DISPOSAL:** Dispose of packaging/containers according to local and state regulations for disposal of unusable or contaminated materials.

# EXPOSURE CONTROLS AND PERSONAL PROTECTION

- Cements and cement preparations shall not be marketed or used if they contain, when hydrated, water-soluble chromium (VI) not more than 2.0 PPM
- Mg / Kg (0.0002%) of the total weight of dry cement

**RESPIRATORY PROTECTION:**

- Use local exhaust or general dilution ventilation to control dust levels below applicable exposure limits.
- Minimize dispersal of dust into the air.
- When dust causes irritation or discomfort, use NIOSH approved respirators.

**EYE PROTECTION:**

Where potentially subject to splashes or puffs of cement, wear safety glasses with side shields or goggles. In extremely dusty Environments and unpredictable environments wear unvented or indirectly vented goggles to avoid eye irritation or injury. Contact lenses should not be worn when working with Portland cement or fresh cement products.

**SKIN PROTECTION:**

Prevention is essential to avoiding potentially severe skin injury. Avoid contact with unhardened Portland cement. If contact occurs, promptly wash affected area with soap and water. Were prolonged exposure to unhardened Portland cement products Might occur, wear impervious clothing and gloves to eliminate skin contact. Wear sturdy boots that are impervious to water to Eliminate foot and ankle exposure.
Do not rely on barrier creams: barrier creams should not be used in place of gloves. Periodically wash areas contacted by dry Portland cement or by wet cement or concrete fluids with a pH neutral soap.
Wash again At the end of work. If irritation occurs, immediately wash the affected area and seek treatment. If clothing becomes saturated With wet concrete, it should be removed and replaced with clean dry clothing.

# PHYSICAL AND CHEMICAL CHARACTERISTICS

**1-The composition of Portland limestone cement shall be as follows:**

- Portland cement clinker 80-94% CAS No (65997-15-1)
- Limestone 6.0 to 20.0 % CAS No (1317-65-3).
- Minor additional constituents (Gypsum) 0.0 to 5.0 % CAS No (7778-18-9).

**2- Availability Application:**

- Industrial construction facilities
- Concrete products and elements
- Ready-mixed concrete made in concrete centers
- Extra Rapid is available in 50kg craft or polypropylene bags throughout Egypt.

**3- Relevant identified uses of the substance or mixture and uses advised against:**

Cements are used in industrial installations to manufacture/formulate hydraulic binders for building and construction work, such as ready-mixed concrete, mortars, renders, grouts, plasters as well as precast concrete.
Common cements and cements containing mixes (hydraulic binders) are used industrially, by professionals as well as by consumers in building and construction work, indoor and outdoor. The identified uses of cements and cement containing mixes cover the dry products and the products in a wet suspension (paste).

**4- Chemical stability:**

Dry cements are stable if they are properly stored (see Section 7) and compatible with most other building materials. They should be kept dry.
Contact with incompatible materials should be avoided.
Wet cement is alkaline and incompatible with acids, with ammonium salts, with aluminum or other non noble metals. Cement dissolves in hydrofluoric acid to produce corrosive silicon tetra fluoride gas. Cement reacts with water to form silicates and calcium hydroxide. Silicates in cement react with powerful oxidizers
Such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride.

## Properties :

- Portland cement based.
- Strength Class CEM II/A-LL 52.5 R
- Used in Pasting and tile fixation.

| Strength Class. | Compressive Strength MPa | | | | Initial setting time | | Soundness (expansion) | |
|---|---|---|---|---|---|---|---|---|
| | Early Strength | | Standard Strength | | | | | |
| | 2 days | Royal results | 28 days | Royal results | min | min | mm | |
| | | | | | Stan. | Royal | Stan. | Royal |
| 52.5 R | 30 | 39+-2 | ≥ 52.5 | 60+-2 | ≥ 45 | 100+-20 | ≤ 10.0 | ≤ 2.0 |

| Property | Test reference | Strength class | Cement type | Requirements | Royal Result |
|---|---|---|---|---|---|
| Sulfate content (as SO3) | EN 196-2 | CEM II/A-LL 52.5 R | CEM II | ≤ 4.0% | 3.2 ± 0.3 |
| Chloride content | EN 196-2 | All | All | ≤ 0.10 % | 0.050 ± 0.02 |

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# STABILITY AND REACTIVITY DATA

**STABILITY:** Product is stable. Keep dry until used.

**CONDITIONS TO AVOID:** Unintentional contact with water. Contact with water will result in hydration and produces (caustic) calcium hydroxide.

**INCOMPATIBILITY:** Wet Portland cement is alkaline. As such, it is incompatible with acids, ammonium salts and aluminum metal.

**HAZARDOUS DECOMPOSITION:** Will not occur.

**HAZARDOUS POLYMERIZATION:** Will not occur.

# TOXICOLOGICAL INFORMATION

For a description of available, more detailed toxicological information, contact the supplier or manufacturer.

# ECOLOGICAL INFORMATION

**Eco toxicity:** No recognized unusual toxicity to plants or animals

# DISPOSAL

Dispose of waste material according to local, state and federal regulations. (Since masonry cement is stable, uncontaminated material may be saved for future use.)
Dispose of bags in approved landfill or incinerator.

# TRANSPORTATION INFORMATION

Portland cement is not hazardous under Egyptian TDG regulations. (Portland cement is not regulated as per IATA.).

# REGULATORY INFORMATION

**1- Safety, health and environmental regulations/legislation specific for the substance or mixture**

Cement is a mixture according to REACH and is not subject to registration Cement clinker is exempt from registration (Art 2.7 (b) and Annex V.10 of REACH).
The marketing and use of cement is subject to a restriction on the content of soluble Cr (VI)
1. Cement and cement-containing mixtures shall not be placed on the market, or used, if they contain, when hydrated, more than 2 mg/kg
(0,0002 %) soluble chromium VI of the total dry weight of the cement.
2. If reducing agents are used, then without prejudice to the application of other Community provisions on the classification, packaging
and labelling of substances and mixtures, suppliers shall ensure before the placing on the market that the packaging of cement or cement containing mixtures is visibly, legibly and indelibly marked with information on the packing date, as well as on the storage conditions and the storage period appropriate to maintaining the activity of the reducing agent and to keeping the content of soluble chromium VI.
3. By way of derogation, paragraphs 1 and 2 shall not apply to the placing on the market for, and use in, controlled closed and totally
automated processes in which cement and cement-containing mixtures are handled solely by machines and in which there is no possibility
of contact with the skin.
The so-called “Good practice guides” which contain advice on safe handling practices can be found from: http://www.nepsi.eu/goodpractice-guide.aspx. These good practices have been adopted under the Social Dialogue "Agreement on Workers' Health Protection through the Good Handling and Use of Crystalline Silica and Products Containing it by Employee and Employer European sectoral associations, among which CEMBUREAU.

**2. Chemical safety assessment**

Assessment and chemical safety report in accordance with 1907/2006 Annex I have not yet been performed.

# OTHER INFORMATION

This MSDS provides information on various types of Portland cement products. A particular product's composition may vary from sample to sample. The information provided herein is believed by Royal El Minya Cement Company to be accurate at the time of preparation or prepared from sources believed to be reliable. Health and safety precautions in this data sheet may not be adequate for all individuals or situations. Users have the responsibility to comply with all laws and procedures applicable to the safe handling and use of the product, to determine the suitability of the product for its intended use, and to understand possible hazards associated with mixing Portland cement with other materials.
SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE OR CONCERNING THE ACCURACY OF ANY INFORMATION PROVIDED BY ROYAL ELMIYNYA CEMENT COMPANY.

**Storage:**

This product should be stored in unopened in cool conditions and should be Stacked in a safe and stable manner.
This product may be stored in either indoor or outdoor conditions.
Information On the maximum storage period can be found on the bag.

# ABBREVIATIONS

- **ACGIH:** American Conference of Governmental Industrial Hygienists
- **ASTM:** American Society for Testing and Materials
- **CAS:** Chemical Abstract Service
- **CFR:** Code of Federal Regulations
- **ft3:** Cubic foot
- **IARC:** International Agency for Research on Cancer
- **m3:** Cubic meter
- **Mg:** Milligram
- **NIOSH:** National Institute for Occupational Safety and Health
- **NTP:** National Toxicology Program
- **OSHA:** Occupational Safety and Health Administration
- **PEL:** Permissible Exposure Limit
- **REL:** Recommended Exposure Limit
- **TDG:** Transportation of Dangerous Goods
- **TLV:** Threshold Limit Value
- **TSCA:** Toxic Substance Control Act
- **TWA:** Time Weighted Average
- **WHMIS:** Workplace Hazardous Materials Information System
- **IATA:** International Air Transport Association