

## MSDS CERTIFICATE

- 1. Product and Company Identification
- 2. Components Hazardous
- 3. Health Hazard Identification
- 4. Emergency and First Aid
- 5. Fire and Explosion
- 6. Accidental Release Measures
- 7. Precautions for Handling, Storage
- 8. Exposure Controls and Personal Protection
- 9. Physical and Chemical Characteristics
- 10. Stability and Reactivity Data
- 11. Toxicological Information
- 12. Ecological Information
- 13. Disposal
- 14. Transportation Information
- 15. Other Information

### 1. Product and Company Identification:-

**(Packing & Supplier) and Company Identification Material Identity (Synonyms):**  
White Portland **CEM I 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:

Tel.: 02 22678627 – 02 22678628

Fax Number: Fax No.: +2 02 226786

### 2. COMPONENTS Hazardous:-

Hazardous Components	OSHA PEL (8-Hour TWA)	ACGIH TLV-TWA	MSHA PEL
<b>Portland Cement</b> (CAS #65997-15-1) 100%	5 mg respirable dust/m <sup>3</sup> 15 mg total dust/m <sup>3</sup>	10 mg total dust/m <sup>3</sup>	10 mg total dust/m <sup>3</sup>
<b>Calcium Sulfate</b> (CAS #7778-18-9) [Gypsum] 5 to 7%	5 mg respirable dust/m <sup>3</sup> 15 mg total dust/m <sup>3</sup>	10 mg total dust/m <sup>3</sup>	
<b>Magnesium Oxide</b> (CAS #1309-48-4) 0.5 to 2%	15 mg total dust/m <sup>3</sup>	10 mg total dust/m <sup>3</sup>	
<b>Crystalline Silica</b> (CAS #14808-60-7) 0 to 0.05%	10/(% SiO <sub>2</sub> + 2) mg of respirable dust/m <sup>3</sup> 30/(% SiO <sub>2</sub> + 2) mg of total dust/m <sup>3</sup>	0.10 mg respirable quartz/m <sup>3</sup>	10/(% SiO <sub>2</sub> + 2) mg of respirable dust/m <sup>3</sup> 30/(% SiO <sub>2</sub> + 2) mg of total dust/m <sup>3</sup>

### 3. 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.

### 4- 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.

### 5. 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

## 6. 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.

## 7. 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.

## 8. Exposure Controls and Personal Protection:-

- Cements and cement preparations shall not be marketed or used if they contain, when hydrated, water-soluble chromium (VI) in excess of 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. Where 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.

## 9. Physical and Chemical Characteristics:-

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

- Portland cement clinker 92 to 94 %
- Limestone 0 to 3 %
- Minor additional constituents 0 to 5 %

## 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.

## 9.3- 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 cement 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).

## 9.4- Chemical stability:-

Dry cements are stable as long as 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 I 52.5 R**
- Used in Pasting and tile fixation.

Property	Test reference	Strength class	Cement type	Requirements a)	Royal Result
Insoluble residue	EN 196-2	CEM I 52.5 R	CEM I 52.5	≤ 5.0%	1.0 ± 0.5
Sulfate content (as SO <sub>3</sub> )	EN 196-2	CEM I 52.5 R	CEM I 52.5	≤ 4.5%	3.0 ± 0.3
Chloride content	EN 196-2	all	all	≤ 0.10 %	0.050 ± 0.02

Strength Class.	Compressive strength MPa				Initial setting time		Soundness (expansion)	
	Early strength		Standard strength		min	min	mm	
	2 days	Royal results	28 days	Royal results	Stan.	Royal	Stan.	Royal
<b>52.5 R</b>	≥ 30,0	34.0 ± 2.0	≥ 52.5	60.0 ± 5.0	≥ 45	90 ± 30	≤ 10.0	2.0 ± 1.0

<b><u>APPEARANCE/ODOR:</u></b>	white powder, No distinct odor	<b><u>PHYSICAL STATE:</u></b>	Solid (Powder)
<b><u>BOILING POINT:</u></b>	Not applicable (i.e. >1000°C)	<b><u>MELTING POINT:</u></b>	Not applicable
<b><u>VAPOR PRESSURE:</u></b>	Not applicable	<b><u>VAPOR DENSITY:</u></b>	Not applicable
<b><u>pH (IN WATER) (ASTM D 1293-95)</u></b>	12 to 13	<b><u>SOLUBILITY IN WATER:</u></b>	Slightly soluble (0.1% To 1.0%)
<b><u>SPECIFIC GRAVITY (H<sub>2</sub>O = 1.0):</u></b>	2.9 ___ 3.2	<b><u>EVAPORATION RATE:</u></b>	Not applicable

#### 10. 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.

#### 11. TOXICOLOGICAL INFORMATION:-

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

#### 12-ECOLOGICAL INFORMATION

##### Eco toxicity: NOTE

No recognized unusual toxicity to plants or animals

#### 13-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.

#### 14. Transportation Information:-

**Portland cement is not hazardous under Egyptian TDG regulations.**

#### 15. 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 ELMINYA CEMENT COMPANY.**

**NOTE**

**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

**ft<sup>3</sup>:** Cubic foot

**IARC:** International Agency for Research on Cancer

**m<sup>3</sup>:** 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