Material Safety Data Sheet

1 Identification

- **Product identifier**
- **Trade name:** Cal Mag Plus
- **Relevant identified uses of the substance or mixture and uses advised against**
  No further relevant information available.
- **Manufacturer/Supplier:**
  Magnesita Refractories Company
  425 S. Salem Church Road
  York, PA 17408
- **Information department:** Compliance Department: 717-793-5463
- **Emergency telephone number:**
  Chemtrec: 800-424-9300
  Magnesita: 717-793-5463

2 Hazard(s) identification

- **Classification of the substance or mixture**
  - ![GHS08](image) Health hazard
    - Carc. 1A H350 May cause cancer.
  - ![GHS05](image) Corrosion
    - Eye Dam. 1 H318 Causes serious eye damage.
  - ![GHS07](image)
    - Skin Irrit. 2 H315 Causes skin irritation.
    - **Hazard pictograms** GHS05, GHS08
    - **Signal word** Danger
    - **Hazard statements**
      Causes skin irritation.
      Causes serious eye damage.
      May cause cancer.
    - **Precautionary statements**
      If medical advice is needed, have product container or label at hand.
      Keep out of reach of children.
      Read label before use.
      Wear protective gloves.
      Wear eye protection / face protection.
      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/doctor.
      Specific treatment (see on this label).
      IF exposed or concerned: Get medical advice/attention.
      Store locked up.

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Dispose of contents/container in accordance with local/regional/national/international regulations.

- Carcinogenicity:
The International Agency for Research on Cancer (IARC) has classified crystalline silica as a Group 1 Carcinogen “sufficient evidence of carcinogenicity in humans”.

3 Composition/information on ingredients
- Chemical characterization: Substances

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Description</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>16389-88-1</td>
<td>dolomite</td>
<td>25-50%</td>
</tr>
<tr>
<td>1344-95-2</td>
<td>Calcium Silicate</td>
<td>10-25%</td>
</tr>
<tr>
<td>1302-76-7</td>
<td>Aluminum Silicate</td>
<td>10-25%</td>
</tr>
<tr>
<td>7778-18-9</td>
<td>calcium sulphate, natural</td>
<td>10-25%</td>
</tr>
<tr>
<td>1309-37-1</td>
<td>Iron Oxide</td>
<td>&lt;10%</td>
</tr>
<tr>
<td>1305-78-8</td>
<td>calcium oxide</td>
<td>&lt;10%</td>
</tr>
<tr>
<td>1309-48-4</td>
<td>magnesium oxide</td>
<td>&lt;10%</td>
</tr>
<tr>
<td>14808-60-7</td>
<td>Crystalline Silica, Quartz</td>
<td>&lt;1%</td>
</tr>
</tbody>
</table>

- Chemical characterization: Mixtures
- Description:
  Mixture consisting of the following components.
  Refer to product data sheet for more details.
- Additional information: Contains agricultural liming material industrial by-product.

4 First-aid measures
- Description of first aid measures
- After inhalation:
  Supply fresh air; consult doctor in case of complaints.
  Seek medical treatment in case of complaints.
- After skin contact:
  Wash with water and soap
  Immediately rinse with water.
- After eye contact:
  Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- Most important symptoms and effects, both acute and delayed
  No further relevant information available.
- Indication of any immediate medical attention and special treatment needed
  No further relevant information available.

5 Fire-fighting measures
- Extinguishing media
- Suitable extinguishing agents:
  CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- Special hazards arising from the substance or mixture
  No further relevant information available.
- Advice for firefighters
- Protective equipment: No special measures required.
6 Accidental release measures
- Personal precautions, protective equipment and emergency procedures: Not required.
- Environmental precautions:
  Do not allow product to reach sewage system or any water course.
  Inform respective authorities in case of seepage into water course or sewage system.
  Do not allow to enter sewers/surface or ground water.
- Methods and material for containment and cleaning up:
  Dispose contaminated material as waste according to item 13.
  Ensure adequate ventilation.
- Reference to other sections
  See Section 7 for information on safe handling.
  See Section 8 for information on personal protection equipment.
  See Section 13 for disposal information.

7 Handling and storage
- Precautions for safe handling
  Ensure good ventilation/exhaustion at the workplace.
  Open and handle receptacle with care.
  Prevent formation of dust.
- Information about protection against explosions and fires:
  Keep respiratory protective device available.
- Conditions for safe storage, including any incompatibilities
- Storage:
  - Requirements to be met by storerooms and receptacles: No special requirements.
  - Information about storage in one common storage facility: Not required.
  - Further information about storage conditions:
    Keep receptacle tightly sealed.
    Store in dry conditions.
    Store in a cool place.
- Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection
- Additional information about design of technical systems: No further data; see item 7.
- Control parameters
  Components with limit values that require monitoring at the workplace:

<table>
<thead>
<tr>
<th>1344-95-2 Calcium Silicate (10-25%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEL (USA)</td>
</tr>
<tr>
<td>Long-term value: 15° 5** mg/m³</td>
</tr>
<tr>
<td>*total dust **respirable fraction</td>
</tr>
<tr>
<td>REL (USA)</td>
</tr>
<tr>
<td>Long-term value: 10° 5** mg/m³</td>
</tr>
<tr>
<td>*total dust **respirable fraction</td>
</tr>
</tbody>
</table>
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| **TLV (USA)** | Long-term value: 10 mg/m³  
|              | synthetic nonfibrous, E  
| **EL (Canada)** | Long-term value: 10* 3** mg/m³  
|              | *total dust, **respirable fraction  
| **EV (Canada)** | Long-term value: 10 mg/m³  
|              | total dust  

**7778-18-9 calcium sulphate, natural (10-25%)**

| **PEL (USA)** | Long-term value: 15* 5** mg/m³  
|              | *total dust **respirable fraction  
| **REL (USA)** | Long-term value: 10* 5** mg/m³  
|              | *total dust **respirable fraction  
| **TLV (USA)** | Long-term value: 10* mg/m³  
|              | *as inhalable fraction  
| **EL (Canada)** | Long-term value: 10 mg/m³  
|              | inhalable  
| **EV (Canada)** | Long-term value: 10 mg/m³  
|              | inhalable  

**1309-37-1 Iron Oxide (<10%)**

| **PEL (USA)** | Long-term value: 10* 15** 5*** mg/m³  
|              | *Fume; Rouge: **Total dust, ***respirable  
| **REL (USA)** | Long-term value: 5 mg/m³  
|              | Dust & fume, as Fe  
| **TLV (USA)** | Long-term value: 5* mg/m³  
|              | *as respirable fraction  
| **EL (Canada)** | Short-term value: 10** mg/m³  
|              | Long-term value: 5* 10*** 3**** mg/m³  
|              | *dust & fume**fume; Rouge: ***total dust****resp.  
| **EV (Canada)** | Long-term value: 5* 10** mg/m³  
|              | *respirable, including Rouge;**total dust  

**1305-78-8 calcium oxide (<10%)**

| **PEL (USA)** | Long-term value: 5 mg/m³  
| **REL (USA)** | Long-term value: 2 mg/m³  
| **TLV (USA)** | Long-term value: 2 mg/m³  
| **EL (Canada)** | Long-term value: 2 mg/m³  
| **EV (Canada)** | Long-term value: 2 mg/m³  

**1309-48-4 magnesium oxide (<10%)**

| **PEL (USA)** | Long-term value: 15* mg/m³  
|              | fume; *total particulate  
| **TLV (USA)** | Long-term value: 10* mg/m³  
|              | *as inhalable fraction  
| **EL (Canada)** | Short-term value: 10** mg/m³  
|              | Long-term value: 10* 3** mg/m³  
|              | *inhalable fume;**respirable dust and fume  
| **EV (Canada)** | Long-term value: 10 mg/m³  
|              | inhalable  

(Contd. on page 5)
### 14808-60-7 Crystalline Silica, Quartz (<1%)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEL (USA)</td>
<td>see Quartz listing</td>
</tr>
<tr>
<td>REL (USA)</td>
<td>Long-term value: 0.05* mg/m³, respirable dust; See Pocket Guide App. A</td>
</tr>
<tr>
<td>TLV (USA)</td>
<td>Long-term value: 0.025* mg/m³, as respirable fraction</td>
</tr>
<tr>
<td>EL (Canada)</td>
<td>Long-term value: 0.025 mg/m³, ACGIH A2; IARC 1</td>
</tr>
<tr>
<td>EV (Canada)</td>
<td>Long-term value: 0.10* mg/m³, respirable fraction</td>
</tr>
</tbody>
</table>

**Additional Information:**

The lists that were valid during the creation were used as basis. Provide effective ventilation or local exhaust during heat-up or dust emitting operations (e.g. cutting).

**Exposure controls**

**Personal protective equipment:**

**General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Store protective clothing separately. Avoid contact with the eyes. Avoid contact with the eyes and skin.

**Breathing equipment:**

Consult with health and safety professional for proper respirator selection. The user must review his/her own circumstances and then determine what is required for proper respiratory protection. In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air. Suitable respiratory protective device recommended. Whenever dust is generated NIOSH-approved respirator is recommended if exposure limits are exceeded.

**Protection of hands:**

Protective gloves

**Material of gloves**

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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
9 Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information on basic physical and chemical properties</td>
<td></td>
</tr>
<tr>
<td>General Information</td>
<td></td>
</tr>
<tr>
<td>Appearance:</td>
<td></td>
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<tr>
<td>Form: Solid</td>
<td></td>
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<tr>
<td>Color: Light grey</td>
<td></td>
</tr>
<tr>
<td>Odor: Characteristic</td>
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</tr>
<tr>
<td>Odour threshold: Not determined.</td>
<td></td>
</tr>
<tr>
<td>pH-value: Not applicable.</td>
<td></td>
</tr>
<tr>
<td>Flash point: Not applicable.</td>
<td></td>
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<tr>
<td>Flammability (solid, gaseous): Not determined.</td>
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<tr>
<td>Ignition temperature: Not determined.</td>
<td></td>
</tr>
<tr>
<td>Decomposition temperature: Not determined.</td>
<td></td>
</tr>
<tr>
<td>Auto igniting: Product is not selfigniting.</td>
<td></td>
</tr>
<tr>
<td>Danger of explosion: Product does not present an explosion hazard.</td>
<td></td>
</tr>
<tr>
<td>Explosion limits:</td>
<td></td>
</tr>
<tr>
<td>Lower: Not determined.</td>
<td></td>
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<tr>
<td>Upper: Not determined.</td>
<td></td>
</tr>
<tr>
<td>Density: Not determined.</td>
<td></td>
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<tr>
<td>Relative density: Not determined.</td>
<td></td>
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<tr>
<td>Vapour density: Not applicable.</td>
<td></td>
</tr>
<tr>
<td>Evaporation rate: Not applicable.</td>
<td></td>
</tr>
<tr>
<td>Solubility in / Miscibility with Water: Slightly soluble.</td>
<td></td>
</tr>
<tr>
<td>Partition coefficient (n-octanol/water): Not determined.</td>
<td></td>
</tr>
<tr>
<td>Viscosity:</td>
<td></td>
</tr>
<tr>
<td>Dynamic: Not applicable.</td>
<td></td>
</tr>
<tr>
<td>Kinematic: Not applicable.</td>
<td></td>
</tr>
<tr>
<td>Other information: No further relevant information available.</td>
<td></td>
</tr>
</tbody>
</table>

10 Stability and reactivity

- **Possibility of hazardous reactions**: No dangerous reactions known.
- **Conditions to avoid**: No further relevant information available.
- **Incompatible materials**: No further relevant information available.
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11 Toxicological information

- Information on toxicological effects
  - Primary irritant effect:
    - on the skin: No irritant effect.
    - on the eye: Irritating effect.
  - Sensitization: No sensitizing effects known.
- Carcinogenic categories
  - IARC (International Agency for Research on Cancer)
    | 1309-37-1 Iron Oxide | 3 | <10% |
    | 14808-60-7 Crystalline Silica, Quartz | 1 | <1% |
  - NTP (National Toxicology Program)
    | 14808-60-7 Crystalline Silica, Quartz | K | <1% |
  - OSHA (Occupational Safety & Health Administration)
    None of the ingredients is listed.

12 Ecological information

- Toxicity
  - Aquatic toxicity: No further relevant information available.
  - Persistence and degradability: No further relevant information available.
  - Bioaccumulative potential: No further relevant information available.
  - Mobility in soil: No further relevant information available.
- Additional ecological information:
  - General notes:
    Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
  - Results of PBT and vPvB assessment
    - PBT: Not applicable.
    - vPvB: Not applicable.
  - Other adverse effects: No further relevant information available.

13 Disposal considerations

- Uncleaned packaging:
  - Recommendation: Disposal must be made according to official regulations.
  - Additional Information:
    This product contains lime which will hydrate in contact with water and generate heat. Care should therefore be taken in the event of co-disposal with combustible materials.

14 Transport information

- Environmental hazards: Not applicable.
15 Regulatory information

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

  - Section 313 (Specific toxic chemical listings):
    None of the ingredients is listed.

  - TSCA (Toxic Substances Control Act):
    All ingredients are listed.

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<th>Chemical Name</th>
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16 Other information

This product is a mixture of calcium and magnesium oxide. It is also referred to as dead burned dolomite or doloma (CAS No. 37247-91-9) and calcined dolomite (CAS No. 83897-84-1).

- Recommended restriction of use For professional use only
- Department issuing SDS: Compliance Department
- Date of preparation / last revision 04/28/2015 / 4
- Abbreviations and acronyms:
  Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
  Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1
  Carc. 1A: Carcinogenicity, Hazard Category 1A