**Lanthanum Calcium Manganite (LCM)**

**Lanthanum Calcium Manganite Sputtering Target**

<table>
<thead>
<tr>
<th>Linear Formula</th>
<th>La₂O₃ / Mn₃O₄ / CaO</th>
</tr>
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<tbody>
<tr>
<td>MDL Number</td>
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<tr>
<td>EC No.</td>
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<tr>
<td>Signal Word</td>
<td>Warning</td>
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<tr>
<td>Hazard Statements</td>
<td>H315-H319-H335</td>
</tr>
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<td>Hazard Codes</td>
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<td>Risk Codes</td>
<td>34-41</td>
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<tr>
<td>Safety Statements</td>
<td>26-36/37/39-45</td>
</tr>
<tr>
<td>RTECS Number</td>
<td>N/A</td>
</tr>
<tr>
<td>Transport Information</td>
<td>NONH for all modes of transport</td>
</tr>
<tr>
<td>WGK Germany</td>
<td>3</td>
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</tbody>
</table>

**GHS Pictograms**

- GHS07 Exclamation Point

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**SAFETY DATA SHEET**

Date Accessed: 04/13/2020  
Date Revised: 05/15/2015

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**SECTION 1. IDENTIFICATION**

**Product Identifiers:** All applicable American Elements product codes for CAS #123273-09-6

**Relevant identified uses of the substance:**  
Scientific research and development

Supplier details:
SECTION 2. HAZARDS IDENTIFICATION

Label precautionary statements
Irritant
Irritating to eyes, respiratory, and skin.
In case of contact to eyes, rinse immediately
With plenty of water and seek medical advice.
Wear suitable protective clothing.

GHS07
Signal word: Warning
Acute toxicity (oral, dermal, inhalation), category 4
Skin and eye irritation, category 2
Skin sensitisation, category 1
Specific target organ toxicity - single exposure, category 3

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

MF: (La0.85Ca0.15)0.97MnO3

SECTION 4. FIRST AID MEASURES

In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.
In case of contact, immediately skin with soap and copious amounts of water.
If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.
If swallowed, wash out mouth with water provided person is conscious. Call a physician.
Wash contaminated clothing before reuse.
SECTION 5. FIREFIGHTING MEASURES

Extinguishing media
Noncombustible.
Use extinguishing media appropriate to surrounding fire conditions.
Special fire fighting procedures:
Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Wear respirator, chemical safety goggles, rubber boots and chemical resistant gloves.
Sweep up, place in a bag and hold for waste disposal.
Avoid raising dust.
Ventilate area and wash spill site after material pickup is complete.

SECTION 7. HANDLING AND STORAGE

Keep tightly closed.
Store under nitrogen. Store in a cool dry place
See section 8.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Chemical safety goggles.
Rubber gloves.
NIOSH/MSHA- approved respirator.
Safety shower and eye bath.
Mechanical exhaust required.
Do not breath dust.
Irritant dust.
Wash thoroughly after handling.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and odor
Brown powder
Physical properties
Fine powder
SECTION 10. STABILITY AND REACTIVITY

Incompatibilities:
Strong acids.
Oxidizing agents.
Protect from moisture.
Hazardous combustion or decomposition products:
Nature of decomposition products not known.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute effects
May be harmful by inhalation, ingestion, or skin absorption.
Causes eye and skin irritation.
Material is irritating to mucous membranes and upper respiratory tract.
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12. ECOLOGICAL INFORMATION

Data not available

SECTION 13. DISPOSAL CONSIDERATIONS

Bury in a landfill site approved for the disposal of chemical and hazardous wastes. Observe all federal, state and local environmental regulations.

SECTION 14. TRANSPORT INFORMATION

CDG UK
Non-hazardous for road freight
IMDG
Non-hazardous for sea freight
ICAO/IATA
Non-hazardous for air freight
SECTION 15. REGULATORY INFORMATION

European information
Irritant
R 36/37/38
Irritating to eyes, respiratory system and skin.
S26
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S 36
Wear suitable protective clothing.
Reviews, standards and regulations
OEL=MAK
NOES 1983: HZD X2060; NIS 8; TNF 406; NOS 11;
TNE 22403; TFE 11140
EPA TSCA Section 8(B) Chemical Inventory

16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2016 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.

Research

- Calcium and strontium substituted lanthanum manganite–cobaltite \([\text{La}_1-x(\text{Ca, Sr})_x\text{Mn0.5Co0.5O3}]\) nano-catalysts for low temperature CO oxidation. Ahmad Gholizadeh, Hamid Yousefi, Azim Malekzadeh, Faiz Pourarian. Ceramics International, Volume 42, Issue 10, 1 August 2016, Pages 12055-12063.
- Effect of exceeding the concentration limit of solubility of silver in perovskites on the dielectric and electric properties of half doped lanthanum–calcium manganite. H. Rahmouni, B. Cherif, M. Smari, E.


