1. Identification

Product identifier: Lanthanum oxide (La2O3)

Other means of identification:
- SDS number: L-MSDS0026
- Synonyms: Lanthanum oxide (La2O3) * Lanthanum oxide

Manufacturer/Importer/Supplier/Distributor Information

- Company name: Materion Advanced Chemicals Inc.
- Address: 407 N 13th Street
  1316 W. St. Paul Avenue
  Milwaukee, WI 53233
  United States
- Telephone: 414.212.0257
- E-mail: advancedmaterials@materion.com
- Contact person: Noreen Atkinson
- Emergency phone number: Chemtrec 800.424.9300

2. Hazard(s) identification

- Physical hazards: Not classified.
- Health hazards: Not classified.
- Environmental hazards: Not classified.
- OSHA defined hazards: Not classified.

Label elements

- Hazard symbol: None.
- Signal word: None.
- Hazard statement: The substance does not meet the criteria for classification.

Precautionary statement

- Prevention: Observe good industrial hygiene practices.
- Response: Wash hands after handling.
- Storage: Store away from incompatible materials.
- Disposal: Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC): None known.

Supplemental information: None.

3. Composition/information on ingredients

Substances

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lanthanum oxide</td>
<td>Lanthanum oxide (La2O3)</td>
<td>1312-81-8</td>
<td>100</td>
</tr>
</tbody>
</table>

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation: Move to fresh air. Call a physician if symptoms develop or persist.
<table>
<thead>
<tr>
<th>Section</th>
<th>Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin contact</td>
<td>Get medical attention if irritation develops and persists.</td>
</tr>
<tr>
<td>Eye contact</td>
<td>Rinse with water. Get medical attention if irritation develops and persists.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Get medical advice/attention if you feel unwell.</td>
</tr>
<tr>
<td>Most important symptoms/effects, acute and delayed</td>
<td>Direct contact with eyes may cause temporary irritation.</td>
</tr>
<tr>
<td>Indication of immediate medical attention and special treatment needed</td>
<td>Treat symptomatically.</td>
</tr>
<tr>
<td>General information</td>
<td>Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.</td>
</tr>
</tbody>
</table>

**5. Fire-fighting measures**

- **Suitable extinguishing media**: Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
- **Unsuitable extinguishing media**: None known.
- **Specific hazards arising from the chemical**: During fire, gases hazardous to health may be formed.
- **Special protective equipment and precautions for firefighters**: Wear suitable protective equipment.
- **Fire fighting equipment/instructions**: Use water spray to cool unopened containers.
- **Specific methods**: Use standard firefighting procedures and consider the hazards of other involved materials.
- **General fire hazards**: No unusual fire or explosion hazards noted.

**6. Accidental release measures**

- **Personal precautions, protective equipment and emergency procedures**: Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.
- **Methods and materials for containment and cleaning up**: Stop the flow of material, if this is without risk. Following product recovery, flush area with water. For waste disposal, see section 13 of the SDS.
- **Environmental precautions**: No special environmental precautions required.

**7. Handling and storage**

- **Precautions for safe handling**: Use care in handling/storage.
- **Conditions for safe storage, including any incompatibilities**: Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

**8. Exposure controls/personal protection**

- **Occupational exposure limits**: No exposure limits noted for ingredient(s).
- **Biological limit values**: No biological exposure limits noted for the ingredient(s).
- **Individual protection measures, such as personal protective equipment**
  - **Eye/face protection**: Wear safety glasses with side shields (or goggles).
  - **Skin protection**
    - **Hand protection**: Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.
  - **Other**: Wear suitable protective clothing.
  - **Respiratory protection**: In case of insufficient ventilation, wear suitable respiratory equipment.
  - **Thermal hazards**: Wear appropriate thermal protective clothing, when necessary.
- **General hygiene considerations**: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.
9. Physical and chemical properties

Appearance

- Physical state: Solid.
- Form: Solid.
- Color: Not available.
- Odor: Not applicable.
- Odor threshold: Not available.
- pH: Not available.
- Melting point/freezing point: Not available.
- Initial boiling point and boiling range: Not applicable.
- Flash point: Not available.
- Evaporation rate: Not available.
- Flammability (solid, gas): Not available.
- Upper/lower flammability or explosive limits
  - Flammability limit - lower (%): Not available.
  - Flammability limit - upper (%): Not available.
  - Explosive limit - lower (%): Not available.
  - Explosive limit - upper (%): Not available.
- Vapor pressure: Not available.
- Vapor density: Not available.
- Relative density: Not available.
- Solubility(ies)
  - Solubility (water): Not available.
- Partition coefficient (n-octanol/water): Not available.
- Auto-ignition temperature: Not applicable.
- Decomposition temperature: Not available.
- Viscosity: Not available.
- Other information
  - Explosive properties: Not explosive.
  - Molecular formula: La2O3
  - Oxidizing properties: Not oxidizing.

10. Stability and reactivity

Reactivity

- The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability

- Material is stable under normal conditions.

Possibility of hazardous reactions

- No dangerous reaction known under conditions of normal use.

Conditions to avoid

- Contact with incompatible materials.

Incompatible materials

- None known.

Hazardous decomposition products

- No hazardous decomposition products are known.
11. Toxicological information

Information on likely routes of exposure

<table>
<thead>
<tr>
<th>Route</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>Due to lack of data the classification is not possible.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>Due to lack of data the classification is not possible.</td>
</tr>
<tr>
<td>Eye contact</td>
<td>Due to lack of data the classification is not possible.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Due to lack of data the classification is not possible.</td>
</tr>
<tr>
<td>Direct contact with eyes</td>
<td>Direct contact with eyes may cause temporary irritation.</td>
</tr>
</tbody>
</table>

Information on toxicological effects

<table>
<thead>
<tr>
<th>Effect</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity</td>
<td>Not available.</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Due to lack of data the classification is not possible.</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Due to lack of data the classification is not possible.</td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
<td>Due to lack of data the classification is not possible.</td>
</tr>
<tr>
<td>Respiratory sensitization</td>
<td>Due to lack of data the classification is not possible.</td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>Due to lack of data the classification is not possible.</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Due to lack of data the classification is not possible.</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.</td>
</tr>
</tbody>
</table>

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

12. Ecological information

Ecotoxicity

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistence and degradability

No data is available on the degradability of this product.

Bioaccumulative potential

No data available.

Mobility in soil

No data available.

Other adverse effects

No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions

Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

Local disposal regulations

Dispose in accordance with all applicable regulations.

Hazardous waste code

The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products

Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging

Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.
14. Transport information

DOT
Not regulated as dangerous goods.

IATA
Not regulated as dangerous goods.

IMDG
Not regulated as dangerous goods.

15. Regulatory information

US federal regulations
- CERCLA/SARA Hazardous Substances - Not applicable.
  - All components are on the U.S. EPA TSCA Inventory List.
  - This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)
Not listed.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)
- Hazard categories:
  - Immediate Hazard - No
  - Delayed Hazard - No
  - Fire Hazard - No
  - Pressure Hazard - No
  - Reactivity Hazard - No

  - SARA 302 Extremely hazardous substance
    Not listed.

  - SARA 311/312 Hazardous chemical
    No

  - SARA 313 (TRI reporting)
    Not regulated.

Other federal regulations
- Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
  Not regulated.

- Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
  Not regulated.

- Safe Drinking Water Act (SDWA)
  Not regulated.

US state regulations
- California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

  - US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)
    Not listed.

  - US. Massachusetts RTK - Substance List
    Not regulated.

  - US. New Jersey Worker and Community Right-to-Know Act
    Not regulated.

  - US. Pennsylvania RTK - Hazardous Substances
    Not regulated.

  - US. Pennsylvania Worker and Community Right-to-Know Law
    Not listed.
US. Rhode Island RTK
Not regulated.

US. California Proposition 65
California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

16. Other information, including date of preparation or last revision

<table>
<thead>
<tr>
<th>Description</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issue date</td>
<td>09-25-2013</td>
</tr>
<tr>
<td>Revision date</td>
<td>07-14-2015</td>
</tr>
<tr>
<td>Version #</td>
<td>03</td>
</tr>
</tbody>
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