SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier
Product form : Substance
Physical state : Solid
Substance name : CERIUM(III) 2-ETHYLHEXANOATE
Product code : CXCE040
Formula : C24H45CeO6
Synonyms : CEROS OCTOATE; CERIUM TRIS(2-ETHYLHEXANOATE)
Chemical family : RARE EARTH COMPOUND

1.2. Relevant identified uses of the substance or mixture and uses advised against
1.2.1. Relevant identified uses
Use of the substance/mixture : Chemical intermediate

1.2.2. Uses advised against
No additional information available

1.3. Details of the supplier of the safety data sheet
GELEST, INC.
11 East Steel Road
Morrisville, PA 19067
USA
T 215-547-1015 - F 215-547-2484 - (M-F): 8:00 AM - 5:30 PM EST
info@gelest.com - www.gelest.com

GELEST INC.
Fritz-Klatte-Strasse 8
65933 Frankfurt
Germany
T +49 (0) 69 3535106-500 - F +49 (0) 69 3535106-501 - (M-F): 8:00 AM - 4:00 PM
info@gelestda.com - www.gelestda.com

1.4. Emergency telephone number
Emergency number : CHEMTREC: 1-800-424-9300 (USA); +1 703-527-3887 (International)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
Classification according to Regulation (EC) No. 1272/2008 [CLP]
Serious eye damage/eye irritation, Category 2
H319
Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects
No additional information available

2.2. Label elements
Labelling according to Regulation (EC) No. 1272/2008 [CLP]
Hazard pictograms (CLP) : GHS07

Signal word (CLP) : Warning
Hazard statements (CLP) : H319 - Causes serious eye irritation.
Precautionary statements (CLP) : P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P264 - Wash hands thoroughly after handling.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
CERIUM(III) 2-ETHYLHEXANOATE
Safety Data Sheet

P337+P313 - If eye irritation persists: Get medical advice/attention.

2.3. Other hazards
No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

<table>
<thead>
<tr>
<th>Substance type</th>
<th>Name</th>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multi-constituent</td>
<td>Cerium 2-ethylhexoate</td>
<td>(CAS-No.) 56797-01-4 (EC-No.) 260-386-3</td>
<td>&gt; 95</td>
<td>Eye Irrit. 2, H319</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2-Ethylhexanoic acid</td>
<td>(CAS-No.) 149-57-5 (EC-No.) 205-743-6 (EC Index-No.) 607-230-00-6</td>
<td>&lt; 5</td>
<td>Repr. 2, H361d</td>
<td></td>
</tr>
</tbody>
</table>

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general: Remove contaminated clothing and shoes. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). If possible show this sheet; if not available show packaging or label.

First-aid measures after inhalation: Remove person to fresh air and keep comfortable for breathing. If you feel unwell, seek medical advice.

First-aid measures after skin contact: Wash with plenty of water/….

First-aid measures after eye contact: Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.

First-aid measures after ingestion: Never give anything by mouth to an unconscious person. Get medical advice/attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation: May cause irritation to the respiratory tract.

Symptoms/effects after skin contact: May cause skin irritation.

Symptoms/effects after eye contact: Causes serious eye irritation.

Symptoms/effects after ingestion: May be harmful if swallowed.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media


Unsuitable extinguishing media: None known.

5.2. Special hazards arising from the substance or mixture

Fire hazard: Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.

5.3. Advice for firefighters

Firefighting instructions: Use water spray to cool exposed surfaces. Exercise caution when fighting any chemical fire.

Protection during firefighting: Do not enter fire area without proper protective equipment, including respiratory protection. Avoid contact with skin and eyes. Do not breathe dust.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment: Wear protective equipment as described in Section 8.
**CERIUM(III) 2-ETHYLHEXANOATE**

Safety Data Sheet

---

**Emergency procedures**

Evacuate unnecessary personnel.

**6.1.2. For emergency responders**

Protective equipment: Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection".

**6.2. Environmental precautions**

Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters.

**6.3. Methods and material for containment and cleaning up**

Methods for cleaning up: Sweep or shovel spills into appropriate container for disposal.

**6.4. Reference to other sections**

See Heading 8. Exposure controls and personal protection.

---

**SECTION 7: Handling and storage**

**7.1. Precautions for safe handling**

Precautions for safe handling: Avoid contact with skin and eyes. Do not breathe dust. Provide local exhaust or general room ventilation to minimize exposure to dust. Avoid dust formation. Once opened, inert products before resealing.

Hygiene measures: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Wash contaminated clothing before reuse.

**7.2. Conditions for safe storage, including any incompatibilities**

Storage conditions: Keep container tightly closed.

Incompatible materials: Oxidizing agent.

Storage area: Store in a well-ventilated place. Store away from heat.

**7.3. Specific end use(s)**

No additional information available.

---

**SECTION 8: Exposure controls/personal protection**

**8.1. Control parameters**

<table>
<thead>
<tr>
<th>2-Ethylhexanoic acid (149-57-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limit value (mg/m³)</td>
</tr>
<tr>
<td>Belgium</td>
</tr>
<tr>
<td>Italy - Portugal - USA ACGIH</td>
</tr>
<tr>
<td>Ireland</td>
</tr>
<tr>
<td>Ireland</td>
</tr>
<tr>
<td>Portugal</td>
</tr>
</tbody>
</table>

**8.2. Exposure controls**

**Appropriate engineering controls:**
Provide local exhaust or general room ventilation.

**Personal protective equipment:**
Avoid all unnecessary exposure. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

**Hand protection:**
Neoprene or nitrile rubber gloves

**Eye protection:**
Chemical goggles. Contact lenses should not be worn

**Skin and body protection:**
Wear suitable protective clothing

**Respiratory protection:**
Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. NIOSH-certified dust and mist (orange cartridge) respirator.

---

**SECTION 9: Physical and chemical properties**

**9.1. Information on basic physical and chemical properties**

Physical state: Solid

Appearance: Solid.
# CERIUM(III) 2-ETHYLHEXANOATE
## Safety Data Sheet

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molecular mass</td>
<td>569.74 g/mol</td>
</tr>
<tr>
<td>Colour</td>
<td>Yellow</td>
</tr>
<tr>
<td>Odour</td>
<td>No data available</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>Refractive index</td>
<td>No additional information available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butylacetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>&gt; 275 °C decomposes</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>&gt; 1</td>
</tr>
<tr>
<td>% Volatiles</td>
<td>&lt; 3 %</td>
</tr>
<tr>
<td>Solubility</td>
<td>Insoluble in water. Organic solvent: Soluble: methylene chloride, toluene</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Log Kow</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>No data available</td>
</tr>
<tr>
<td>9.2. Other information</td>
<td>No additional information available</td>
</tr>
</tbody>
</table>

## SECTION 10: Stability and reactivity

### 10.1. Reactivity
No additional information available

### 10.2. Chemical stability
Stable.

### 10.3. Possibility of hazardous reactions
No additional information available

### 10.4. Conditions to avoid
Heat. Open flame. Sparks.

### 10.5. Incompatible materials
Oxidizing agent.

### 10.6. Hazardous decomposition products

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

#### Acute toxicity
Not classified

<table>
<thead>
<tr>
<th>Substance</th>
<th>Route</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cerium 2-ethylhexoate (56797-01-4)</td>
<td></td>
<td>&gt; 2000 mg/kg</td>
</tr>
<tr>
<td>2-Ethylhexanoic acid (149-57-5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50 oral rat</td>
<td></td>
<td>1600 mg/kg</td>
</tr>
<tr>
<td>LD50 dermal rabbit</td>
<td></td>
<td>1140 mg/kg</td>
</tr>
<tr>
<td>ATE CLP (oral)</td>
<td></td>
<td>3000 mg/kg bodyweight</td>
</tr>
</tbody>
</table>

#### Skin corrosion/irritation
Not classified

#### Serious eye damage/irritation
Causes serious eye irritation.

#### Respiratory or skin sensitisation
Not classified
CERIUM(III) 2-ETHYLHEXANOATE
Safety Data Sheet

Germ cell mutagenicity: Not classified
Carcinogenicity: Not classified
Reproductive toxicity: Not classified
STOT-single exposure: Not classified
STOT-repeated exposure: Not classified
Aspiration hazard: Not classified
Potential adverse human health effects and symptoms:
- Compounds of cerium are generally of low toxicity. Workers exposed to cerium compounds have experienced sensitivity to heat, itching and skin lesions. Large doses to experimental animals have caused withing, ataxia, labored respiration, sedation, hypotension and death by cardiovascular collapse. The toxicity of cerium oxalate, nonahydrate has not been studied.
- Symptoms/effects after inhalation: May cause irritation to the respiratory tract.
- Symptoms/effects after skin contact: May cause skin irritation.
- Symptoms/effects after eye contact: Causes serious eye irritation.
- Symptoms/effects after ingestion: May be harmful if swallowed.
Reason for classification: Expert judgment

SECTION 12: Ecological information

12.1. Toxicity
- Acute aquatic toxicity: Not classified
- Chronic aquatic toxicity: Not classified
2-Ethylhexanoic acid (149-57-5)
- LC50 fish 1: 70 mg/l (Exposure time: 96 h - Species: Pimephales promelas)
- EC50 Daphnia 1: 85.4 mg/l (Exposure time: 48 h - Species: Daphnia magna)

12.2. Persistence and degradability
No additional information available
12.3. Bioaccumulative potential
2-Ethylhexanoic acid (149-57-5)
- Log Pow: 2.7
12.4. Mobility in soil
No additional information available
12.5. Results of PBT and vPvB assessment
No additional information available
12.6. Other adverse effects
No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods
- Product/Packaging disposal recommendations: Dispose of solid materials or residues at a licensed site. Dispose in a safe manner in accordance with local/national regulations.
- Ecology - waste materials: Avoid release to the environment.

SECTION 14: Transport information

14.1. UN number
In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number
- UN-No. (ADR): Not applicable
- UN-No. (IMDG): Not applicable
- UN-No. (IATA): Not applicable
- UN-No. (ADN): Not applicable
- UN-No. (RID): Not applicable

14.2. UN proper shipping name
- Proper Shipping Name (ADR): Not applicable
- Proper Shipping Name (IMDG): Not applicable
- Proper Shipping Name (IATA): Not applicable
- Proper Shipping Name (ADN): Not applicable
14.3. Transport hazard class(es)

<table>
<thead>
<tr>
<th>ADR</th>
<th>Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMDG</td>
<td>Not applicable</td>
</tr>
<tr>
<td>IATA</td>
<td>Not applicable</td>
</tr>
<tr>
<td>ADN</td>
<td>Not applicable</td>
</tr>
<tr>
<td>RID</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

14.4. Packing group

| Packing group (ADR) | Not applicable |
| Packing group (IMDG) | Not applicable |
| Packing group (IATA) | Not applicable |
| Packing group (ADN)  | Not applicable |
| Packing group (RID)  | Not applicable |

14.5. Environmental hazards

| Dangerous for the environment | No |
| Marine pollutant               | No |
| Other information              | No supplementary information available |

14.6. Special precautions for user

- Overland transport
  No data available
- Transport by sea
  No data available
- Air transport
  No data available
- Inland waterway transport
  No data available
- Rail transport
  No data available

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

No REACH Annex XVII restrictions
CERIUM(III) 2-ETHYLHEXANOATE is not on the REACH Candidate List
CERIUM(III) 2-ETHYLHEXANOATE is not on the REACH Annex XIV List
CERIUM(III) 2-ETHYLHEXANOATE is not subject to REGULATION (EU) No 649/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 concerning the export and import of hazardous chemicals.

% Volatiles : < 3 %
15.1.2. National regulations

Germany
12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV: Is not subject of the 12. BlmSchV (Hazardous Incident Ordinance)

Netherlands
SZW-lijs van kankerverwekkende stoffen: The substance is not listed
SZW-lijs van mutagene stoffen: The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding: The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid: The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling: The substance is not listed

15.2. Chemical safety assessment
No additional information available

SECTION 16: Other information
Abbreviations and acronyms:
Abbreviations: ND: Not Determined, No Data; NA: Not Applicable; LD: Lethal Dose; LC: Lethal Concentration; ATE: Acute Toxicity Estimates; H: hour; °: °C unless otherwise stated; mm: millimeters Hg, torr; PEL: permissible exposure level; TWA: time weighted average; TLV: threshold limit value; TG: Test Guideline; NIOSH: National Institute for Occupational Safety and Health; IARC: International Agency for Research on Cancer; NTP: National Toxicology Program; HMIS: Hazardous Material Information System; CAS No.: Chemical Abstract Service Registration Number; EC No.: European Commission Registration Number; EC Index No.: European Commission Index Number; OECD: The Organisation for Economic Co-operation and Development; GHS: The Globally Harmonized System of Classification and Labelling; APF: Assigned Protection Factor

Other information: Prepared by safety and environmental affairs.

Full text of H- and EUH-statements:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye Irrit. 2</td>
<td>Serious eye damage/eye irritation, Category 2</td>
</tr>
<tr>
<td>Repr. 2</td>
<td>Reproductive toxicity, Category 2</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td>H361d</td>
<td>Suspected of damaging the unborn child.</td>
</tr>
</tbody>
</table>

SDS EU (REACH Annex II) - Custom

The information contained in this document has been gathered from reference materials and/or Gelest, Inc. test data and is to the best knowledge and belief of Gelest, Inc. accurate and reliable. Such information is offered solely for your consideration, investigation and verification. It is not suggested or guaranteed that the hazard precautions or procedures described are the only ones which exist. Gelest, Inc. makes no warranties, express or implied, with respect to the use of such information and assumes no responsibility therefore. Information on this safety data sheet is not intended to constitute a basis for product specifications.

© 2019 Gelest Inc. Morrisville, PA 19067