

## SAFETY DATA SHEET

Revision Date 14-Feb-2020

Revision Number 2

### 1. Identification

**Product Name** Thulium(III) oxide  
**Cat No. :** 11199  
**CAS No** 12036-44-1  
**Synonyms** Thulium Oxide  
**Recommended Use** Laboratory chemicals.  
**Uses advised against** Food, drug, pesticide or biocidal product use.

#### Details of the supplier of the safety data sheet

##### Company

Heeger Materials Inc.  
230 Steele St Denver  
CO 80206  
United States

Tel: 925-385-8104

Email: sales@heegermaterials.com

##### **Emergency Telephone Number**

During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660.  
After normal business hours, call Carechem 24 at (866) 928-0789.

### 2. Hazard(s) identification

#### **Classification**

Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

#### **Label Elements**

None required

#### **Hazards not otherwise classified (HNOC)**

None identified

### 3. Composition/Information on Ingredients

| Component                                       | CAS No     | Weight % |
|---|------------|----------|
| Thulium oxide (Tm <sub>2</sub> O <sub>3</sub> ) | 12036-44-1 | 99.9     |

### 4. First-aid measures

|  |  |
|--|--|
| <b>Eye Contact</b>                         | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.   |
| <b>Skin Contact</b>                        | Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.                                    |
| <b>Inhalation</b>                          | Remove from exposure, lie down. Remove to fresh air.   |
| <b>Ingestion</b>                           | Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Drink plenty of water. If possible drink milk afterwards. |
| <b>Most important symptoms and effects</b> | No information available.  |
| <b>Notes to Physician</b>                  | Treat symptomatically  |

### 5. Fire-fighting measures

|   |   |
|---|---|
| <b>Suitable Extinguishing Media</b>     | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| <b>Unsuitable Extinguishing Media</b>   | No information available  |
| <b>Flash Point</b>                      | No information available  |
| <b>Method -</b>                         | No information available  |
| <b>Autoignition Temperature</b>         | No information available  |
| <b>Explosion Limits</b>                 |   |
| <b>Upper</b>                            | No data available   |
| <b>Lower</b>                            | No data available   |
| <b>Sensitivity to Mechanical Impact</b> | No information available  |
| <b>Sensitivity to Static Discharge</b>  | No information available  |

#### Specific Hazards Arising from the Chemical

Keep product and empty container away from heat and sources of ignition.

#### Hazardous Combustion Products

Thermal decomposition can lead to release of irritating gases and vapors.

#### Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

#### NFPA

Health  
0

Flammability  
0

Instability  
1

Physical hazards  
N/A

### 6. Accidental release measures

|                                  |   |
|----------------------------------|---|
| <b>Personal Precautions</b>      | Ensure adequate ventilation. Use personal protective equipment as required. |
| <b>Environmental Precautions</b> | See Section 12 for additional Ecological Information.                       |

**Methods for Containment and Clean Sweep** up and shovel into suitable containers for disposal.

Up

## 7. Handling and storage

|                 |   |
|-----------------|---|
| <b>Handling</b> | Avoid contact with skin and eyes. Avoid contact with skin and clothing. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Avoid breathing vapors or mists. Do not ingest. If swallowed then seek immediate medical assistance. Wash thoroughly after handling. |
| <b>Storage.</b> | Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Incompatible Materials. Strong oxidizing agents. Carbon dioxide (CO <sub>2</sub> ). Oxidizing agent.  |

## 8. Exposure controls / personal protection

**Exposure Guidelines** This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

**Engineering Measures** None under normal use conditions.

### Personal Protective Equipment

|                                 |   |
|---------------------------------|---|
| <b>Eye/face Protection</b>      | Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166. |
| <b>Skin and body protection</b> | Wear appropriate protective gloves and clothing to prevent skin exposure.   |
| <b>Respiratory Protection</b>   | No protective equipment is needed under normal use conditions.  |
| <b>Hygiene Measures</b>         | Handle in accordance with good industrial hygiene and safety practice.  |

## 9. Physical and chemical properties

|   |                                |
|---|--------------------------------|
| <b>Physical State</b>                         | Solid                          |
| <b>Appearance</b>                             | Beige                          |
| <b>Odor</b>                                   | Odorless                       |
| <b>Odor Threshold</b>                         | No information available       |
| <b>pH</b>                                     | No information available       |
| <b>Melting Point/Range</b>                    | 2400 °C / 4352 °F              |
| <b>Boiling Point/Range</b>                    | No information available       |
| <b>Flash Point</b>                            | No information available       |
| <b>Evaporation Rate</b>                       | Not applicable                 |
| <b>Flammability (solid,gas)</b>               | No information available       |
| <b>Flammability or explosive limits</b>       |                                |
| <b>Upper</b>                                  | No data available              |
| <b>Lower</b>                                  | No data available              |
| <b>Vapor Pressure</b>                         | No information available       |
| <b>Vapor Density</b>                          | Not applicable                 |
| <b>Specific Gravity</b>                       | No information available       |
| <b>Solubility</b>                             | No information available       |
| <b>Partition coefficient; n-octanol/water</b> | No data available              |
| <b>Autoignition Temperature</b>               | No information available       |
| <b>Decomposition Temperature</b>              | No information available       |
| <b>Viscosity</b>                              | Not applicable                 |
| <b>Molecular Formula</b>                      | O <sub>3</sub> Tm <sub>2</sub> |
| <b>Molecular Weight</b>                       | 385.86                         |

## 10. Stability and reactivity

|   |   |
|---|---|
| <b>Reactive Hazard</b>                  | None known, based on information available                                  |
| <b>Stability</b>                        | Stable under normal conditions. Hygroscopic.                                |
| <b>Conditions to Avoid</b>              | Incompatible products. Exposure to moisture.                                |
| <b>Incompatible Materials</b>           | Strong oxidizing agents, Carbon dioxide (CO <sub>2</sub> ), Oxidizing agent |
| <b>Hazardous Decomposition Products</b> | Thermal decomposition can lead to release of irritating gases and vapors    |
| <b>Hazardous Polymerization</b>         | No information available.   |
| <b>Hazardous Reactions</b>              | None under normal processing.   |

## 11. Toxicological information

### Acute Toxicity

**Product Information** No acute toxicity information is available for this product

**Component Information**  
**Toxicologically Synergistic Products** No information available

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Irritation** No information available

**Sensitization** No information available

**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Component                                       | CAS No     | IARC       | NTP        | ACGIH      | OSHA       | Mexico     |
|---|------------|------------|------------|------------|------------|------------|
| Thulium oxide (Tm <sub>2</sub> O <sub>3</sub> ) | 12036-44-1 | Not listed | Not listed | Not listed | Not listed | Not listed |

**Mutagenic Effects** No information available

**Reproductive Effects** No information available.

**Developmental Effects** No information available.

**Teratogenicity** No information available.

**STOT - single exposure** None known

**STOT - repeated exposure** None known

**Aspiration hazard** No information available

**Symptoms / effects, both acute and delayed** No information available

**Endocrine Disruptor Information** No information available

**Other Adverse Effects** The toxicological properties have not been fully investigated.

## 12. Ecological information

### Ecotoxicity

Do not empty into drains.

**Persistence and Degradability** No information available

**Bioaccumulation/ Accumulation** No information available.

**Mobility** No information available.

### 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

### 14. Transport information

**DOT** Not regulated  
**TDG** Not regulated  
**IATA** Not regulated  
**IMDG/IMO** Not regulated

### 15. Regulatory information

#### United States of America Inventory

| Component                                       | CAS No     | TSCA | TSCA Inventory notification - Active-Inactive | TSCA - EPA Regulatory Flags |
|---|------------|------|---|-----------------------------|
| Thulium oxide (Tm <sub>2</sub> O <sub>3</sub> ) | 12036-44-1 | X    | ACTIVE  | -                           |

**Legend:**

**TSCA** US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

**TSCA - Per 40 CFR 751, Regulation of Certain Chemical Substances & Mixtures, Under TSCA Section 6(h) (PBT)** Not applicable

**TSCA 12(b) - Notices of Export** Not applicable

#### International Inventories

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

| Component                                       | CAS No     | DSL | NDSL | EINECS    | PICCS | ENCS | ISHL | AICS | IECSC | KECL     |
|---|------------|-----|------|-----------|-------|------|------|------|-------|----------|
| Thulium oxide (Tm <sub>2</sub> O <sub>3</sub> ) | 12036-44-1 | X   | -    | 234-851-6 | -     | X    | X    | X    | -     | KE-33829 |

**KECL** - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

#### U.S. Federal Regulations

**SARA 313** Not applicable

**SARA 311/312 Hazard Categories** See section 2 for more information

**CWA (Clean Water Act)** Not applicable

**Clean Air Act** Not applicable

**OSHA - Occupational Safety and Health Administration** Not applicable

**CERCLA** Not applicable

**California Proposition 65** This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations** Not applicable

**U.S. Department of Transportation**

Reportable Quantity (RQ): N

DOT Marine Pollutant N

DOT Severe Marine Pollutant N

**U.S. Department of Homeland Security** This product does not contain any DHS chemicals.

**Other International Regulations**

**Mexico - Grade** No information available

**Authorisation/Restrictions according to EU REACH** Not applicable

| Component                                       | CAS No     | REACH (1907/2006) - Annex XIV - Substances Subject to Authorization | REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances | REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC) |
|---|------------|---|---|---|
| Thulium oxide (Tm <sub>2</sub> O <sub>3</sub> ) | 12036-44-1 | -   | -   | -   |

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

| Component                                       | CAS No     | OECD HPV       | Persistent Organic Pollutant | Ozone Depletion Potential | Restriction of Hazardous Substances (RoHS) |
|---|------------|----------------|------------------------------|---------------------------|--|
| Thulium oxide (Tm <sub>2</sub> O <sub>3</sub> ) | 12036-44-1 | Not applicable | Not applicable               | Not applicable            | Not applicable                             |

| Component                                       | CAS No     | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements | Rotterdam Convention (PIC) | Basel Convention (Hazardous Waste) |
|---|------------|---|--|----------------------------|------------------------------------|
| Thulium oxide (Tm <sub>2</sub> O <sub>3</sub> ) | 12036-44-1 | Not applicable  | Not applicable   | Not applicable             | Not applicable                     |

## 16. Other information

**Prepared By** Health, Safety and Environmental Department

**Revision Date** 14-Feb-2020

**Print Date** 14-Feb-2020

**Revision Summary** SDS authoring systems update, replaces ChemGes SDS No. 12036-44-1.

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of SDS**