

## Safety data sheet

### according to 1907/2006/EC, Article 31

Printing date: 30.08.2012

Version: 1

Revision: 30.08.2012

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

· **1.1 Product identifier**

· **Trade name:** Cerium Oxide

· **CAS Number:**

1306-38-3

· **EC number:**

215-150-4

· **Registration number:**

This substance has (All substances contained in this mixture have) been pre-registered according to regulation (EC) No. 1907/2006 in its current version.

· **1.2 Relevant identified uses of the substance or mixture and uses advised against:** -

· **Application of the substance / the preparation:** Raw material for industrial applications

· **1.3 Details of the supplier of the safety data sheet**

· **Supplier/Manufacturer:**

GTS - German Trading Service GmbH for Raw Materials  
Reinbeker Redder 89a  
21031 Hamburg  
Germany

Tel.: +49 40 739115

Fax: +49 40 7387059

· **Email competent person:** sds@kft.de

· **Information department:** See supplier/manufacturer

· **1.4 Emergency telephone number:**

National Poisons Information Service (NPIS)

24 hour national number is 0844 892 0111 professionals only

National Health Service (NHS)

24 hour national number is 0845 4647 consumer

#### SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**

· **Classification according to Regulation (EC) No 1272/2008** The substance is not classified according to the CLP regulation.

· **Classification according to Directive 67/548/EEC or Directive 1999/45/EC** not applicable

· **Information concerning particular hazards for human and environment:**

According to current European laws and regulations the product is not dangerous or toxic material (based on the available data).

Under working conditions mainly resorbed via respiratory tract.

Pay attention to information given in this Safety Data Sheet!

· **2.2 Label elements**

· **Labelling according to Regulation (EC) No 1272/2008** Void

· **Hazard pictograms** Void

· **Signal word** Void

· **Hazard statements** Void

· **2.3 Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable

· **vPvB:** Not applicable

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### SECTION 3: Composition/information on ingredients

- **3.1 Chemical characterization: Substances**
- **CAS No. Description:**  
1306-38-3 cerium dioxide
- **Identification number(s):**
- **EC number:** 215-150-4

### SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:** If symptoms persist or in case of doubt, seek medical advice.
- **After inhalation:**  
Supply fresh air.  
Seek medical treatment.
- **After skin contact:**  
Wash with water and soap and rinse with plenty of water.  
If skin irritation continues, consult a doctor.
- **After eye contact:**  
Rinse the eyes with open eyelids for 10 - 15 minutes with water.  
If symptoms persist, consult a doctor.
- **After swallowing:**  
Unintentional swallowing is not very likely in the industrial area. If product is ingested:  
Rinse mouth with water.  
Drink water or milk.  
Seek medical treatment.
- **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed** Symptomatic treatment

### SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**  
Water  
Foam  
The product is not combustible and does not support any combustion.  
Use fire fighting measures suiting the environment.
- **For safety reasons unsuitable extinguishing agents:** No data available
- **5.2 Special hazards arising from the substance or mixture** None.
- **5.3 Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.
- **Additional information:** Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

### SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Ensure adequate ventilation.  
Avoid formation of dust.  
Wear protective clothing.
- **6.2 Environmental precautions:**  
Do not allow product to reach sewage system or any water course.  
Do not allow to penetrate the ground/soil.

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- **6.3 Methods and material for containment and cleaning up:**  
Pick up mechanically.  
Avoid any dust formation. Pick up with a tested and approved industrial vacuum cleaner if necessary.  
Make sure to recycle or dispose of in suitable receptacles.
- **6.4 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.

**SECTION 7: Handling and storage**

- **7.1 Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of dust.  
Any deposit of dust which cannot be avoided must be regularly removed.  
Avoid inhalation of dust.  
Avoid contact with eyes and skin.
- **Information about protection against explosions and fires:**  
Protect against electrostatic charges.



Keep ignition sources away - Do not smoke.

Observe the general rules of industrial fire protection.

- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**  
Store container tightly sealed at a cool and dry place with sufficient ventilation.
- **Information about storage in one common storage facility:**  
Store away from foodstuffs.  
Store away from feed.  
Store away from acids.
- **Further information about storage conditions:** None
- **Storage class:** 13 Non combustible solid
- **7.3 Specific end use(s)** No further relevant information available

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

- **Additional information about design of technical systems:** Install appropriate mechanical ventilation.
- **8.1 Control parameters**
- **Components with limit values that require monitoring at the workplace:** Not required
- **CAS No. Designation of material % Type Value Unit**
- **Additional Occupational Exposure Limit Values for possible hazards during processing:**  
Observe general threshold limit for dust.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **8.2 Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
The usual precautionary measures should be adhered to when handling chemicals.  
Keep away from foodstuffs, beverages and feed.  
Avoid contact with eyes and skin.  
Wash hands before breaks and at the end of work.

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· **Breathing equipment:**

Not necessary if room is well-ventilated

In case of unintended release:

At formation of dust:

Short term filter device:

Filter P1

Filter P2

· **Protection of hands:**

Protective gloves

The glove material has to be impermeable and resistant to the product/substance/preparation.

Selection of the glove material in consideration of the penetration times, rates of diffusion and the degradation

After use of gloves apply skin-cleaning agents and skin cosmetics.

· **Material of gloves:**

For undissolved solid substances following materials may be suitable:

nitrile rubber (NBR), butyl rubber (BR), fluorocarbon rubber (FKM) and polychloroprene rubber (CR)

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.

· **Penetration time of glove material:**

The exact penetration time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:** Safety glasses

· **Body protection:** Protective work clothing

**SECTION 9: Physical and chemical properties**

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

· **General Information:**

· **Appearance:**

Form: Powder

Colour: Whitish

Yellowish

· **Odour:** Odourless

· **Odour threshold:** Not applicable

· **pH-value:** Not applicable

· **Change in condition:**

Melting point/Melting range: 2600°C

Boiling point/Boiling range: Not determined

· **Flash point:** Not applicable

· **Flammability (solid, gaseous):** Product is not flammable.

· **Ignition temperature:**

Decomposition temperature: Not determined

· **Self ignition temperature:** Not determined

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits:**

Lower: Not applicable

Upper: Not applicable

· **Vapour pressure:** Not applicable

· **Density at 20°C:** 7.132 g/cm<sup>3</sup>

· **Bulk density at 20°C:** 1280 kg/m<sup>3</sup>

· **Relative density:** Not determined

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· <b>Vapour density:</b>	Not applicable
· <b>Evaporation rate:</b>	Not applicable
· <b>Solubility in / Miscibility with Water:</b>	Not determined
· <b>Partition coefficient (n-octanol/water):</b>	Not determined
· <b>Viscosity:</b>	
dynamic:	Not applicable
kinematic:	Not applicable
· <b>9.2 Other information</b>	No further relevant information available

### SECTION 10: Stability and reactivity

- **10.1 Reactivity**
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications  
No decomposition if used and stored according to specifications
- **10.3 Possibility of hazardous reactions** Reactions with below mentioned substances
- **10.4 Conditions to avoid** No further relevant information available
- **10.5 Incompatible materials:**  
Acids  
Hydrogen peroxide
- **10.6 Hazardous decomposition products:**  
No hazardous decomposition products if instructions for storage and handling are followed

### SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity:**
- **LD/LC50 values that are relevant for classification:**

Oral	LD <sub>50</sub>	> 5000 mg/kg (rat) (OECD 401)
Dermal	LD <sub>50</sub>	> 2000 mg/kg (rat) (OECD 402)
Inhalative	LC <sub>50</sub> /4 h	> 5.05 mg/l (rat) (OECD 403)

No mortality occurred during the exposure and observation periods
- **Primary irritant effect:**
- **on the skin:** No irritating effect species: rabbit OECD test 404
- **on the eye:**  
Light irritation OECD method 405  
Not be to classified
- **On respiratory tract:** No data available
- **Sensitization:** No sensitization species: guinea pig OECD 406
- **Other information (about experimental toxicology):** Ames-test: negative
- **Carcinogenic, mutagenic effects and adverse effects on reproduction:**  
Presently available data show no carcinogenic, mutagenic or teratogenic effects.
- **Subacute to chronic toxicity:**
- **STOT-single exposure** No classification
- **STOT-repeated exposure:** No classification
- **Aspiration hazard** Not relevant
- **Additional toxicological information:**  
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

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The substance is not subject to classification according to the latest version of the EU lists.

## SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:**
  - EC<sub>50</sub>/48h > 1000 mg/l (Daphnia magna) (OECD 202)
  - EC<sub>50</sub>/72h > 200 mg/l (Danio rerio) (Draft OECD guidance on fish embryo toxicity)
    - 10.2 mg/l (Pseudokirchneriella subcapitata) (OECD 201)
      - nanoparticles
      - growth rate
- **12.2 Persistence and degradability** Anorganic product; not removable from water by biological cleaning process
- **12.3 Bioaccumulative potential** No further relevant information available
- **12.4 Mobility in soil** No further relevant information available
- **Additional ecological information:**
- **General notes:**
  - Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous to water
  - According to appendix 3 of VwVwS dated 27.7.2005 (German regulation)
  - Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
  - Danger to drinking water is possible if large quantities leak into the ground or into water course.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable
- **vPvB:** Not applicable
- **12.6 Other adverse effects** No further relevant information available

## SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation:**
  - Must be recycled or disposed of according to the regulations. Waste has to be classified according to the European Waste Catalogue based on the identification of the waste generating source.
- **Uncleaned packagings:**
- **Recommendation:** Packagings that cannot be cleaned are to be disposed of in the same manner as the product.

## SECTION 14: Transport information

· <b>14.1 UN-Number</b>	
· <b>ADR, ADN, IMDG, IATA</b>	Void
· <b>14.2 UN proper shipping name</b>	
· <b>ADR, ADN, IMDG, IATA</b>	Void
· <b>14.3 Transport hazard class(es)</b>	
· <b>ADR, ADN, IMDG, IATA</b>	
· <b>Class</b>	Void
· <b>14.4 Packing group</b>	
· <b>ADR, IMDG, IATA</b>	Void
· <b>14.5 Environmental hazards:</b>	Not applicable
· <b>Marine pollutant:</b>	No

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· <b>14.6 Special precautions for user</b>	Not applicable
· <b>14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable
· <b>UN "Model Regulation":</b>	-

### SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **National regulations**
- **Water hazard class:**  
Water hazard class 1 (Self-assessment): slightly hazardous for water  
Ident number.: 4464
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing MSDS:**  
KFT Chemieservice GmbH  
Im Leuschnerpark. 3 64347 Griesheim  
Postfach 1451 64345 Griesheim  
Germany
  
- Phone: +49 6155 86829-0      Fax: +49 6155 86829-25  
Safety Data Sheet Service: +49 6155 86829-22
- **Contact:** Angelika Torges
- **Abbreviations and acronyms:**  
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)  
ICAO: International Civil Aviation Organization  
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)  
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)  
IMDG: International Maritime Code for Dangerous Goods  
IATA: International Air Transport Association  
GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
EINECS: European Inventory of Existing Commercial Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent
- **Sources:** IUCLID-Dossier from ECHA