

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

#### 1.1. Product identifier

Product form : Substance  
Trade name : Cerium oxide  
Chemical name : cerium dioxide  
EC-No. : 215-150-4  
CAS-No. : 1306-38-3

#### 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 : Raw material for chemistry

##### 1.2.2. Uses advised against

No additional information available

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

##### Supplier

German Trading Service GmbH  
Lauenburger Landstraße 78  
21039 Börnsen - Germany  
T +49 40 739115 - F +49 40 7387059  
[www.gts-hamburg.de](http://www.gts-hamburg.de)

##### Email competent person

sds@kft.de

#### 1.4. Emergency telephone number

Emergency number : National Health Service (NHS)  
24 hour national number consumer  
England and Scotland: 111  
Wales: 0845 46 47  
Northern Ireland: call your local General Practitioner  
  
Call 999 if there is a life-threatening incident.

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

##### Adverse physicochemical, human health and environmental effects

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

#### 2.2. Label elements

##### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

No labelling applicable

#### 2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

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according to Regulation (EC) No. 1907/2006 (REACH)

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Name	Product identifier	%
cerium dioxide	(CAS-No.) 1306-38-3 (EC-No.) 215-150-4	-

#### 3.2. Mixtures

Not applicable

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

First-aid measures general	: In case of doubt or persistent symptoms, consult always a physician. Take off immediately all contaminated clothing.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. If symptoms persist, call a physician.
First-aid measures after skin contact	: Wash skin with plenty of water. Get medical advice if skin irritation persists.
First-aid measures after eye contact	: Rinse thoroughly and plentifully with water, also under the eyelids. Consult an ophthalmologist if irritation persists.
First-aid measures after ingestion	: Rinse mouth. If symptoms persist call a doctor.

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

Symptoms/effects : No additional information available.

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

Treat symptomatically.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

Suitable extinguishing media	: The product is not flammable. Use extinguishing media appropriate for surrounding fire. Water spray. Carbon dioxide. extinguishing powder.
Unsuitable extinguishing media	: Strong water jet.

#### 5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Toxic fumes may be released. Metal oxides.

#### 5.3. Advice for firefighters

Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus.
Other information	: Do not allow run-off from fire fighting to enter drains or water courses. Dispose of in accordance with relevant local regulations.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### 6.1.1. For non-emergency personnel

Protective equipment	: Concerning personal protective equipment to use, see section 8.
Emergency procedures	: Ventilate spillage area. Avoid contact with eyes.
Measures in case of dust release	: Avoid dust formation. Provide adequate ventilation to minimize dust concentrations.

##### 6.1.2. For emergency responders

Protective equipment : Concerning personal protective equipment to use, see section 8.

#### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Avoid sub-soil penetration.

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

- Methods for cleaning up : Mechanically recover the product. Minimise generation of dust.  
Other information : Shovel into suitable and closed container for disposal. Disposal must be done according to official regulations.

### 6.4. Reference to other sections

Information for safe handling. See section 7. Concerning personal protective equipment to use, see section 8. For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

- Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment. Avoid contact with skin and eyes. Keep away from any flames or sparking source. Precautionary measures fire.  
Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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

- Storage conditions : Store in a well-ventilated place. Keep cool. Keep away from heat and direct sunlight.  
Information about storage in one common storage facility : Keep away from food, drink and animal feeding stuffs.  
Packaging materials : Plastic. Coated steels.

### 7.3. Specific end use(s)

No additional information available.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

<b>cerium dioxide (1306-38-3)</b>	
<b>United Kingdom - Occupational Exposure Limits</b>	
	Observe general threshold limit for dust.

<b>cerium dioxide (1306-38-3)</b>	
<b>DNEL/DMEL (Workers)</b>	
Long-term - systemic effects, dermal	8.33 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	3 mg/m <sup>3</sup>
<b>DNEL/DMEL (General population)</b>	
Long-term - systemic effects, oral	4.17 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	1.5 mg/m <sup>3</sup>
Long-term - systemic effects, dermal	4.17 mg/kg bodyweight/day

### 8.2. Exposure controls

#### Appropriate engineering controls:

Ensure good ventilation of the work station.

#### Hand protection:

In case of repeated or prolonged contact wear gloves. Chemically resistant protective gloves. EN 374. The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed. Choosing the proper glove is a decision that depends not only on the type of material, but also on other quality features, which differ for each manufacturer. Gloves must be replaced after each use and whenever signs of wear or perforation appear. For undissolved solid substances following materials may be suitable: Nitrile rubber. Butyl rubber. Fluoroelastomer (FKM). Chloroprene rubber

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Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Disposable gloves	Nitrile rubber (NBR)	6 (> 480 minutes)	0,4	No additional information available	EN ISO 374

### Eye protection:

In case of dust production: protective goggles. EN 166

### Skin and body protection:

Wear suitable protective clothing. EN 340

### Respiratory protection:

Not required for normal conditions of use. Breathing equipment is only to be used in order to handle the residual risk of short term jobs if all other risk minimizing measures have been carried out e.g. retention and/or local exhaust. . In case of unintentional release of substance, exceeding the occupational exposure limit value

Device	Filter type	Condition	Standard
Dust mask	Type P2	Short term exposure, Dust protection	EN 143, EN 149

### Environmental exposure controls:

Avoid release to the environment.

## SECTION 9: Physical and chemical properties

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

Physical state	: Solid
Appearance	: Powder.
Colour	: whitish, yellowish.
Odour	: odourless.
Odour threshold	: Not applicable
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: > 400 °C (OECD 102 method)
Freezing point	: No data available
Boiling point	: > 400 °C (OECD 103 method)
Flash point	: Not applicable
Auto-ignition temperature	: > 400 °C (EU Method A.16)
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not flammable
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 7.2 g/cm <sup>3</sup> (20,3°C; (OECD 109 method))
Solubility	: Water: < 0.1 mg/l (OECD 105 method) Insoluble
Partition coefficient n-octanol/water (Log Pow)	: No data available
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: Not applicable
Explosive properties	: Product is not explosive.
Oxidising properties	: Non oxidizing.
Explosive limits	: No data available

### 9.2. Other information

No additional information available

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### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

No additional information available.

#### 10.2. Chemical stability

No decomposition if stored and applied as directed.

#### 10.3. Possibility of hazardous reactions

No dangerous reactions known.

#### 10.4. Conditions to avoid

Do not expose to temperatures above >200°C.

#### 10.5. Incompatible materials

Strong acids. oxidising substances.

#### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (dermal)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation)	: Not classified (Based on available data, the classification criteria are not met)

cerium dioxide (1306-38-3)	
LD50 oral rat	> 5000 mg/kg bodyweight (OECD 401 method)
LD50 dermal rat	> 2000 mg/kg bodyweight (OECD 402 method)
LC50 Inhalation - Rat (Dust/Mist)	> 5.05 mg/l/4h (OECD 403 method)

Skin corrosion/irritation	: Not classified (Based on available data, the classification criteria are not met)
Additional information	: rabbit (OECD 404 method)
Serious eye damage/irritation	: Not classified (Based on available data, the classification criteria are not met)
Additional information	: rabbit (OECD 405 method)
Respiratory or skin sensitisation	: Not classified (Based on available data, the classification criteria are not met)
Additional information	: Guinea pig (OECD 406 method)
Germ cell mutagenicity	: Not classified (Based on available data, the classification criteria are not met)
Additional information	: Ames-test: negative (OECD 471 method) Micronucleus Test: mouse: negative (OECD 474)
Carcinogenicity	: Not classified (Based on available data, the classification criteria are not met)
Reproductive toxicity	: Not classified (Based on available data, the classification criteria are not met)
STOT-single exposure	: Not classified (Based on available data, the classification criteria are not met)
STOT-repeated exposure	: Not classified (Based on available data, the classification criteria are not met)
Aspiration hazard	: Not classified (Based on available data, the classification criteria are not met)

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### SECTION 12: Ecological information

#### 12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute) : Not classified (Based on available data, the classification criteria are not met)

Hazardous to the aquatic environment, long-term (chronic) : Not classified (Based on available data, the classification criteria are not met)

cerium dioxide (1306-38-3)	
LC50 fish 1	> 200 mg/l (72 h; Brachydanio rerio (zebra-fish))
EC50 Daphnia 1	> 1000 mg/l (48 h; Daphnia magna (OECD 202 method))
ErC50 (algae)	10.2 mg/l (72 h; Pseudokirchnerella subcapitata; (OECD 201 method))
NOEC chronic crustacea	18 mg/l (21 d; Daphnia magna; (OECD 211 method))
NOEC chronic algae	3.2 mg/l (72 h; Pseudokirchnerella subcapitata; (OECD 211 method))

#### 12.2. Persistence and degradability

cerium dioxide (1306-38-3)	
Persistence and degradability	Not applicable for inorganic substances.

#### 12.3. Bioaccumulative potential

cerium dioxide (1306-38-3)	
Bioaccumulative potential	Not applicable for inorganic substances.

#### 12.4. Mobility in soil

No additional information available

#### 12.5. Results of PBT and vPvB assessment

cerium dioxide (1306-38-3)	
This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII	
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII	

#### 12.6. Other adverse effects

No additional information available

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Waste treatment methods : Disposal must be done according to official regulations. European waste catalogue.  
Product/Packaging disposal recommendations : Do not re-use empty containers without proper cleaning or reconditioning.  
European List of Waste (LoW) code : 06 03 16 - metallic oxides other than those mentioned in 06 03 15

### SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
<b>14.1. UN number</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.2. UN proper shipping name</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

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14.3. Transport hazard class(es)				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.4. Packing group				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
No supplementary information available				

### 14.6. Special precautions for user

#### Overland transport

Not applicable

#### Transport by sea

Not applicable

#### Air transport

Not applicable

#### Inland waterway transport

Not applicable

#### Rail transport

Not applicable

### 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 dioxide is not on the REACH Candidate List

cerium dioxide is not on the REACH Annex XIV List

Cerium oxide 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.

Cerium oxide is not subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

Other information, restriction and prohibition regulations

: A safety data sheet is not required for this product under Article 31 of REACH. This Product Safety Information Sheet has been created on a voluntary basis.

#### 15.1.2. National regulations

No additional information available

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

### Indication of changes:

No change required according to maintenance check.

### Abbreviations and acronyms:

DNEL	Derived-No Effect Level
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
BCF	Bioconcentration factor

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CAS	Chemical Abstract Service
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
EC50	Median effective concentration
LD50	Median lethal dose
IATA	International Air Transport Association
LC50	Median lethal concentration
PBT	Persistent Bioaccumulative Toxic
SDS	Safety Data Sheet
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
vPvB	Very Persistent and Very Bioaccumulative
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
IMDG	International Maritime Dangerous Goods
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail

Data sources : IUCLID-Dossier from ECHA.  
Department issuing data : KFT Chemieservice GmbH  
specification sheet: Im Leuschnerpark. 3 64347 Griesheim  
Germany

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KFT SDS EU 00

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.