



CERIUM OXIDE MSDS

SECTION 1: Identification of the substance

1.1 Product identifier

Identification of the substance: Cerium Oxide 99 %

Article number CEROX

CAS number 1306-38-3

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses: Laboratory chemical

Laboratory and analytical use

Uses advised against: Do not use for products which come into contact with food stuffs. Do not use for private purposes (household).

1.3 Details of the supplier of the safety data sheet

HD Chemicals LTD

9 Scott Business Park

PL2 2PB Plymouth UK

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification acc. to GHS

This substance does not meet the criteria for classification.

2.2 Label elements



2.3 Other hazards

Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

SECTION 3: Composition/information on ingredients

3.1 Substances

Name of substance Cerium(IV) oxide

Molecular formula CeO_2

Molar mass 172.1 g/mol

CAS No 1306-38-3

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

Take off contaminated clothing.

Following inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

Following skin contact

Rinse skin with water/shower.

Following eye contact

Rinse cautiously with water for several minutes.

Following ingestion

Rinse mouth. Call a doctor if you feel unwell.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed none

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media co-ordinate firefighting measures to the fire surroundings water, foam, dry extinguishing powder, ABC-powder Unsuitable extinguishing media water jet

5.2 Special hazards arising from the substance or mixture

Non-combustible.

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Control of dust.

6.2 Environmental precautions

Keep away from drains, surface and ground water.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill Covering of drains. Take up mechanically.

Advice on how to clean up a spill

Take up mechanically.

Other information relating to spills and releases

Place in appropriate containers for disposal.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8.

Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

No special measures are necessary.

Advice on general occupational hygiene

Keep away from food, drink and animal feeding stuffs.

7.2 Conditions for safe storage, including any incompatibilities

Store in a dry place.

Incompatible substances or mixtures .Observe hints for combined storage.

Consideration of other advice:

Ventilation requirements

Use local and general ventilation.

Specific designs for storage rooms or vessels

Recommended storage temperature: 15 – 25 °C

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters National limit values

Occupational exposure limit values (Workplace Exposure Limits)

Data are not available.

Used in Exposure time

DNEL 3 mg/m³ human, inhalatory worker (industry) chronic - systemic effects

DNEL 8.33 mg/kg bw/day

human, dermal worker (industry) chronic - systemic effects

8.2 Exposure controls

Individual protection measures (personal protective equipment)

Eye/face protection

Use safety goggle with side protection.

Skin protection

- hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374.

- type of material

NBR (Nitrile rubber)

- material thickness

>0,11 mm

- breakthrough times of the glove material

>480 minutes (permeation: level 6)

- other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

Respiratory protection

Respiratory protection necessary at: Dust formation. Particulate filter device (EN 143). P1 (filters at least 80 % of airborne particles, colour code: White).

Environmental exposure controls

Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state solid

Form powder

Colour cream

Odour odourless

Melting point/freezing point >400 °C (ECHA)

Boiling point or initial boiling point and boiling range

>400 °C at 1,013 hPa (ECHA)

Flammability non-combustible

Lower and upper explosion limit not determined

Flash point not applicable

Auto-ignition temperature >400 °C (ECHA)

Decomposition temperature not relevant

pH (value) not applicable

Kinematic viscosity not relevant

Solubility(ies)

Water solubility (insoluble (< 1 mg/l))

Partition coefficient

Partition coefficient n-octanol/water (log value): not relevant (inorganic)

Vapour pressure not determined

Density 7.2 g

/cm³ at 20.3 °C

Relative vapour density information on this property is not available

Bulk density ~1,280 kg/m³

Particle characteristics No data available.

Other safety parameters

Oxidising properties none

9.2 Other information

Information with regard to physical hazard

classes:

hazard classes acc. to GHS

(physical hazards): not relevant

Other safety characteristics: There is no additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity

This material is not reactive under normal ambient conditions.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

Violent reaction with: strong oxidiser, Strong acid

10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

10.5 Incompatible materials

There is no additional information.

10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Classification acc. to GHS

This substance does not meet the criteria for classification.

Acute toxicity

Shall not be classified as acutely toxic.

Acute toxicity

Exposure route	Endpoint	Value	Species	Method	Source
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oral	LD50	>5,000 mg/kg	rat	ECHA	
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inhalation:	dust/mist				
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LC50	>5.05 mg/l/4h	rat	ECHA		
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dermal	LD50	>2,000 mg/kg	rat	ECHA	
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Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

Symptoms related to the physical, chemical and toxicological characteristics

- If swallowed

Data are not available.

- If in eyes

Data are not available.

- If inhaled

Data are not available.

- If on skin

Data are not available.

- Other information

Health effects are not known. This information is based upon the present state of our knowledge.

11.2 Endocrine disrupting properties

Not listed.

SECTION 12: Ecological information

12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

Aquatic toxicity (chronic)

Endpoint Value Species Source Exposure time

EC50 >1,004 mg/l microorganisms ECHA 3 h

Biodegradation

The methods for determining the biological degradability are not applicable to inorganic substances.

12.2 Process of degradability

Data are not available.

12.3 Bioaccumulative potential

Data are not available.

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

Data are not available.

12.6 Endocrine disrupting properties

Not listed.

12.7 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Consult the appropriate local waste disposal expert about waste disposal.

Sewage disposal-relevant information

Do not empty into drains.

13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

SECTION 14: Transport information

14.1 UN number not subject to transport regulations

14.2 UN proper shipping name not assigned

14.3 Transport hazard class(es) not assigned

14.4 Packing group not assigned

14.5 Environmental hazards non-environmentally hazardous acc. to the dangerous goods regulations

14.6 Special precautions for user

There is no additional information.

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

The cargo is not intended to be carried in bulk.

14.8 Information for each of the UN Model Regulations

Transport information National regulations Additional information (UN RTDG)

Not subject to transport regulations. UN RTDG

International Maritime Dangerous Goods Code (IMDG) - Additional information

Not subject to IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Not subject to ICAO-IATA.

SECTION 15: Regulatory information

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

AU AICS substance is listed

CA DSL substance is listed

CN IECSC substance is listed

EU ECSI substance is listed

EU REACH Reg. substance is listed

JP CSCL-ENCS substance is listed

KR KECI substance is listed

MX INSQ substance is listed

NZ NZIoC substance is listed

PH PICCS substance is listed

TR CICR substance is listed

TW TCSI substance is listed

US TSCA substance is listed

SECTION 16: Other information

2.1 Classification according to Regulation (EC) No 1272/2008 (CLP)

Classification acc. to GHS:

This substance does not meet the criteria for classification.

2.1 Classification acc. to GHS:

change in the listing (table)

Other hazards yes

2.3 Results of PBT and vPvB assessment:

According to the results of its assessment, this

substance is not a PBT or a vPvB.

yes

Abbreviations and acronyms

Abbr. Descriptions of used abbreviations

CAS Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)

DGR Dangerous Goods Regulations (see IATA/DGR)

DNEL Derived No-Effect Level

EC50 Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing

50 % changes in response (e.g. on growth) during a specified time interval

EINECS European Inventory of Existing Commercial Chemical Substances

ELINCS European List of Notified Chemical Substances

GHS "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations

IATA International Air Transport Association

IATA/DGR Dangerous Goods Regulations (DGR) for the air transport (IATA)

ICAO International Civil Aviation Organization

IMDG International Maritime Dangerous Goods Code

LC50 Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 %

lethality during a specified time interval

LD50 Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a

specified time interval

MARPOL International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")

NLP No-Longer Polymer

PBT Persistent, Bioaccumulative and Toxic

UN RTDG UN Recommendations on the Transport of Dangerous Good

vPvB Very Persistent and very Bioaccumulative

Key literature references and sources for data

Safe Work Australia's Code of Practice for Labelling of Workplace Hazardous Chemicals (under WHS Regulations).

UN Recommendations on the Transport of Dangerous Good. International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.