SAFETY DATA SHEET

REVISION: 08/26/2015

abrasive technology
www.abrasive-tech.com

8400 Green Meadows Dr.
P.O. Box 545
Lewis Center, OH 43035

P: 740.548.4100
F: 740.548.7616

CERIUM OXIDE

1. PRODUCT & COMPANY INFORMATION

1.1 PRODUCT IDENTIFIER(S)

PRODUCT NAME: CERIUM OXIDE
STOCK NUMBER: C5412710 – 1 LB.
CAS#: 1306-38-3

1.2 COMPANY INFORMATION

ABRASIVE TECHNOLOGY, INC
8400 GREEN MEADOWS DR.
LEWIS CENTER, OHIO 43035

TELEPHONE 740-548-4100 (8:00 am TO 5:00 pm EST)
FAX 740-548-7617

1.3 EMERGENCY PHONE NUMBERS

NORTH AMERICA (24 HRS) CHEMTREC 800-424-9300
OUTSIDE NORTH AMERICA (COLLECT) 703-527-3887

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Not a hazardous substance or mixture.

2.2 GHS Label elements, including precautionary statements

Not a hazardous substance or mixture.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

None

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Formula: CeO2

Molecular Weight: 172.11 g/mole
CAS-No. : 1306-38-3
EC-No. : 215-150-4

Component	Classification	Concentration
Cerium (IV)	oxide	90 - 100 %

Composition is proprietary

4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice

Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration.

In case of skin contact

Wash off with soap and plenty of water.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Cerium oxides

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

No data available

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Avoid breathing vapors, mist or gas.

For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Provide appropriate exhaust ventilation at places where dust is formed.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

Keep in a dry place.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Appropriate engineering controls

General industrial hygiene practice.

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact

Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact

Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M)
Data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374
If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place., the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Do not let product enter drains.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a) Appearance	**Form: powder**
b) Odor	**no data available**
c) Odor Threshold	**no data available**
d) pH	**no data available**
e) Melting point/freezing point	**Melting point/freezing point: > 400 °C (> 752 °F) - OECD Test Guideline 102**
f) Initial boiling point and Boiling range	**> 400 °C (> 752 °F) - OECD Test Guideline 103**
g) Flash point	**not applicable**
h) Evaporation rate	**no data available**
i) Flammability (solid, gas)	**no data available**
j) Upper/lower flammability or explosive limits	**no data available**
k) Vapor pressure	**no data available**
l) Vapor density	**no data available**
m) Relative density	**7.13 g/mL at 25 °C (77 °F)**
n) Water solubility	**insoluble**
o) Partition coefficient: N-octanol/water	**no data available**
p) Auto-ignition temperature	**> 400 °C (> 752 °F)**
q) Decomposition temperature	**no data available**
r) Viscosity	**no data available**
s) Explosive properties	**no data available**
t) Oxidizing properties	**no data available**

9.2 Other safety information **no data available**

10. STABILITY AND REACTIVITY

10.1 Reactivity
No data available
10.2 Chemical stability
Stable under recommended storage conditions.
10.3 Possibility of hazardous reactions
No data available
10.4 Conditions to avoid
No data available
10.5 Incompatible materials
Strong oxidizing agents
10.6 Hazardous decomposition products
Other decomposition products - no data available
In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects
Acute toxicity
LD50 Oral - rat - male and female - > 5,000 mg/kg
(OECD Test Guideline 401)
LC50 Inhalation - rat - male and female - 4 h - > 5.05 mg/l
(OECD Test Guideline 403)
LD50 Dermal - rat - male and female - > 2,000 mg/kg
(OECD Test Guideline 402)
No data available
Skin corrosion/irritation
Skin - rabbit
Result: No skin irritation - 4 h
(OECD Test Guideline 404)
Serious eye damage/eye irritation
Eyes - rabbit
Result: Mild eye irritation
(OECD Test Guideline 405)
Respiratory or skin sensitization
Maximization Test - guinea pig
Result: Did not cause sensitization on laboratory animals.
(OECD Test Guideline 406)

11. TOXICOLOGICAL INFORMATION (CONT.)

Germ cell mutagenicity

Ames test

S. typhimurium

Result: negative

Mutagenicity (micronucleus test)

Mouse - male and female

Result: negative

Carcinogenicity

IARC: **No component of this product presents at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.**

ACGIH: **No component of this product presents at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.**

NTP: **No component of this product presents at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.**

OSHA: **No component of this product presents at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.**

Reproductive toxicity

No data available

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

RTECS: FK6310000

Rare earth compounds may cause delayed blood clotting leading to hemorrhages. Inhalation of rare earths may cause

Sensitivity to heat, itching, and increased awareness of odor and taste. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Stomach - Irregularities - Based on Human Evidence

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish	**semi-static test EC50 - Danio rerio (zebra fish) - > 200 mg/l - 72 h**
Toxicity to daphnia and other aquatic invertebrates	**Immobilization EC50 - Daphnia magna (Water flea) - > 1,000 mg/l - 48 h (OECD Test Guideline 202)**
Toxicity to bacteria	**EC50 - Sludge Treatment - > 1,000 mg/l - 3 h**
12.2 Persistence and degradability	**no data available**
12.3 Bioaccumulative potential	**no data available**
12.4 Mobility in soil	**no data available**
12.5 Results of PBT and vPvB assessment	**PBT/vPvB assessment not available as chemical safety assessment not required/not conducted**
12.6 Other adverse effects	**no data available**

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product - Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)	IMDG	IATA
Not dangerous goods	Not dangerous goods	Not dangerous goods

15. REGULATORY INFORMATION

SARA 302 Components: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards: Chronic Health Hazard

Massachusetts Right To Know Components:	**No components are subject to the Massachusetts Right to Know Act.**
Pennsylvania Right To Know Components:	**Cerium(IV) oxide CAS-No. 1306-38-3**
Revision Date	
New Jersey Right To Know Components:	**Cerium(IV) oxide CAS-No.1306-38-3**
Revision Date	

California Prop. 65 Components: This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

HMIS Rating	**NFPA Rating**
Health hazard: 1	**Health hazard: 0**
Chronic Health Hazard: *	**Fire Hazard: 0**
Flammability: 0	**Reactivity Hazard: 0**
Physical Hazard 0	

Further information

User is granted the ability to make unlimited paper copies for internal use only. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Abrasive Technology, Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.

SDS PREPARATION INFORMATION
ABRASIVE TECHNOLOGY, INC.
DOUGLAS G. ANDERSON
DATE PREPARED: 07/01/2015
DATE REVISED:08/26/2015 **PURPOSE OF REVISION:Information update**