



Eternal Element

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Safety Data Sheet

1.IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product name:	Erbium Oxide
Synonyms:	N/A
Recommended use:	Optical glass, dyed glass, optical fiber, crystal additive
CAS-NO.:	12061-16-4
Supplier:	Shanghai Sheeny Metal Mateirals Co.,Ltd.
Company Number:	91310120MA1HK6GJ7N
Address:	560 SUIDE ROAD.(s) Shanghai China
Telephone:	Within Chinese +4006632276

2.HAZARDS IDENTIFICATION

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO CLASSIFICATION,PACKAGING,AND LABELLING OF HAZARDOUS CHEMICALS REGULATION IN CHINSES

NON HAZARDOUS ACCORDING TO GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING OF CHEMICALS(GHS)

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO EUROPEAN CLP(CLASSIFICATION,LABELLING

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AND PACKAGING REGULATION no.1272/2008)

NOT CLASSIFIED AS DANGEROUS GOODS BY THE CRITERIA OF INTERNATIONAL AIR,ROAD,AND SEA TRANSPORT(UNTDG,IMDG,IATA)

NOT CLASSIFIED AS DANGEROUS GOOD BY THE CRITERIA OF EUROPEAN AND CHINSES DANGEROUS CODES FOR GOODS TRANSPORT BY ROAD OR RAIL.

CHINESE POISONS Act/Chinese poison Schedule Not applicable

Appearance: Pink powder, odourless. Other hazards: Avoid generating dust

3.COMPOSITION/INFORMATION ON INGREDIENTS.

Component	CAS Number	Concentration % wt/wt
Erbium Oxide	12061-16-4	99
Moisture	7732-18-5	0-1

4.FIRST AID MEASURES

Ingestion	Rinse mouth with water.Give plenty of water to drink.If vomiting occurs give further water.Seek medical advice.
Eye contact	Irrigate with copious quantities of water for 15 minutes.In all cases of eye contamination it is a sensible precaution to seek medical advice,especially if irritation persists.

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Skin contact	If skin contact occurs,remove contaminated clothing and wash affected skin thoroughly. If irritation occurs seek medical advice.
Inhalation	If excess dust is inhaled,remove to fresh air.Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered.seek medical advice.
Notes to physician	Treat symptomatically

5.FIRE-FIGHTING MEASURES

Specific hazards	Non flammable solid Not combustible Not explosive
Extinguishing	Use waterfog,foam,carbon dioxide or dry agent to cool intact containers and nearby storage areas and/or fight fire.Suppress dust. Prevent contamination of drains,sewers and waterways and collect spilt material.
Fire Fighting further advice	Non-combustible solid Fire fightersshouldwear approved,positive pressure,self-contained breathing
Hazchem Code	None allocated

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6.ACCIDENTAL RELEASE MEASURES

For large spills contact emergency services and supplier.Recover using mechanical means.Avoid generating dust.Collect and contain recoverable material for recycling or disposal.Do not allow contamination to drains sewers or waterways.

7.HANDLING AND STORAGE

Handling	Carefully read the product label or other instructions prior to use.Safe work practices should be employed to avoid eye or skin contact and inhalation Observe good personal hygiene,including thoroughly washing hands before eating.All eating,drinking and smoking should be prohibited in work areas.
Usage	Mixing,cutting,crushing,sanding or grinding will release respirabledust.Use all appropriate measures of dust control or suppression,and PPE.
Housekeeping	Avoid actions that cause the material to become airborne during clean-up such as dry sweeping or using compressed air.Use HEPA vacuum or thoroughly wet with water to clean up dust.Use personal protective equipment

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Clothing	Remove and launder clothing that is dusty or wet with material. Thoroughly wash skin after exposure to this material.
Storage	Avoid generating dust. Consider dust suppression techniques to control dust. Store in a dry, Well ventilated area, and away from oxidising agents, acids and foodstuffs. Ensure product is adequately labelled.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits: No value assigned for this specific material by Chinese Department of Occupational Safety and Health (DOSH), American Conference of Governmental industrial Hygienists (ACGIH) or Safe Work Chinese

However, Exposure Standards for elemental components are as follows (1,9,11)

Inhalable nuisance dust

* Chinses	PEL 10 mg/m ³ TWA (the value is for inspirable dust)
* ACGIH	TLV 15 (total dust), 3 (respirable fraction) mg/m ³ TWA
* Safe Work Chinses	OES 10 mg/m ³ TWA (the value is for inspirable dust)

Definitions: TWA-the Time-Weighted Average (TWA) airborne concentration over eight-hour working day, for a five-day working week over an entire working life. According to current knowledge this concentration should neither impair the health of, nor cause undue discomfort

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to, nearly all workers.

The Permissible Exposure Limits (PEL) or Occupational Exposure Standards (OES) are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These Exposure Limits or Standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

Engineering measures: Ensure Ventilation is adequate and that air concentrations of components are controlled below Permissible Exposure Limits (PEL) or Occupational Exposure Standards (OES).

Personal Protection Equipment: The selection of PPE is dependant on a detailed site specific risk assessment. The risk assessment should consider the work situation, the physical form of the material, handling methods and environmental factors.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form/Colour/Odour: White to beige moist solid (particle size < 100 micron), Odourless

Specific Gravity:	approx. 2.35	Bulk Density (t/m ³):	approx. 1.0-2.5
Vapour Density:	N App	Boiling Point:	N App
Vapour Pressure:	N App	Melting Point:	> 400°C
Flash Point:	N App	Decomp. Temp (°C):	> 350°C
Flammability Limits:	Non Flammable	Sublimation Point:	N App

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Autoignition Temp:	>400°C	pH:	N App
%Volatile by volume:	N App	Viscosity:	N App
Solubility in water:	4.95 mg/l(at20°C)	Evaporation Rate:	N App

10.STABILITY AND REACTIVITY

Stability	Stable under normal conditions of use.Storage,and transportation as shipped
Conditions to Avoid	Can react with acids and release carbon dioxide
Hazardous Decomposition	Will not occur.
Hazardous Polymerization	Will not occur.

11.TOXICOLOGICAL INFORMATION

No adverse health effects expected if the product is handled in accordance with this Safety Date Sheet.

Health Effects of Lanthanide minerals:

Lanthanide elements have a low order of acute toxicity(2).The acute toxicity of lanthanide elements following a single oral administration to experimental animals ranges from >2000 mg to 7650 mg(2,3,4)Skin and eye irritation studies conducted to OECD test guidelines are available for lanthanum concentrate bastnasite concentrate,cerium carbonate,cerium concentrate,neodymium oxide and praseodymium oxide(2),these rare earth concentrates and

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compounds were non irritating to the skin.Cerium carbonate was not genotoxic in a range of studies including cell culture and whole animal studies(5,6)Cerium carbonate was not carcinogenic when tested in lifetime studies with experimental animals(4)Not expected to be a skin sensitiser based on human use experience.

12.ECOLOGICAL INFORMATION

Avoid contaminating drains,sewers and waterways.

Ecotoxicity:

Lanthanide minerals

The toxicity of lanthanides to aquatic organisms is dependent on environmental conditions such as water hardness,pH and salinity(7).The lanthanide minerals can act to replace calcium in biological systems thus an excess of calcium may directly compete with soluble lanthanide ions and thus reduce the toxicity of lanthanide elements(8).It is likely that the aquatic toxicity of lanthanide elements will increase as pH decreases andtoxicity is likely to increase with decreasing water hardness.

Environmental Fate

Lanthanide elements are insoluble in water and are thus more likely to partition to soil or sediment.Although there is limited data on bioaccumulation they are not considered either highly bioavailable for animals and biomagnification is considered unlikely(7).

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13.DISPOSAL CONSIDERATIONS

Disposal Instructions: Reuse or recycle material whenever possible. Material may be disposed of in a landfill in accordance with local environmental authority requirements.

14.TRANSPORT INFORMATION

Not classified as Dangerous Goods for transport by sea(International Maritime Dangerous Goods Code 2006).Not classified as Dangerous Goods for Air Transport(International Air Transport Authority-IATA)Not classified as Dangerous Goods by the criteria of the European and Chinese Dangerous Goods Codes for transport by road or rail.

15.REGULATORY INFORMATION

Not classified as hazardous according to classification,packaging,and labelling of hazardous chemicals regulation in Chinese.

Non hazardous according to globally harmonized system of classification of chemicals(GHS)

Not classified as hazardous according to European CLP(classification,Labelling and Packaging Regulation no.1272/2008)

Not classified as Dangerous Goods by the criteria of international air,road,and sea transport(UNTDG,IMDG,IATA).Not classified as Dangerous Goods by the criteria of European and Chinese Dangerous Goods Codes for transport by road or rail.

Chemical inventories:

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REACH:Registrants with the status of importer can provide company specific registration numbers for this product.

16.OTHER INFORMATION

Literary references

(1) Safe Work Chinese(2012).Exposure Standards for Atmosphere Contaminants in the Occupational, Environment.Hazardous Substances Information System(HSIS),accessed online 28th March 2012.

(2)Lambert,C.,E.,Barnum,E.,C.,and Shapiro,R(1990).Summary of acute toxicological testing for Lanthanum Concentrate,Bastnasite Concentrate,Cerium Carbonate,Cerium Concentrate.Neodymium oxide and Praesyidium oxide).Unocal Product Safety Labs USA.

(3) Patty'sToxicology(2001).The Lanthanides,Rare Earth Metals.Patty's Toxicology.Fifth edition.Volume 1.(Bingham,E.,Cohrssen,B.and Powell,C.H(eds)).John Wiley&Sons Inc.

(4)Bruce,D.W.Hietbrink,B.E.and DuBois,K.P(1963).The acute mammalian toxicity of rare earth nitrates and oxides.Toxicol.Appl.Pharmacol.5:750-759.

(5) Damment,S.J.P.,Beevers,C.and Gatehouse,D.G.(2005).Evaluation of the potential genotoxicity of the phosphate binder lanthanum carbonate.Mutagenesis 20(1):29-37.

Chemical inventories:

Safety Data Sheets are updated frequently.Please ensure that you have a current copy.

This Safety Data Sheet is maintained by Eternal-Element.

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This SDS summarises at the date of issue our best knowledge of the health and safety hazard information of the product, and in particular how to safely handle and use the product in the workplace. Since Eternal-Element cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, review this SDS in the context of how the user intends to handle and use the product in the workplace.

If clarification or further information is needed to ensure that an appropriate assessment can be made, the user should contact Eternal-Element.

Our responsibility for products sold is subject to our standard terms and conditions, a copy of which is sent to our customers and is also available upon request.

Abbreviations:

IARC:	International Agency for Research on Cancer
IATA:	International Air Transport Association
IMDG:	International Maritime Dangerous Goods Code
mg/m ³ :	Milligram per cubic metre
NOHSC:	National Occupational Health and Safety Commission, also known as Safe Work Australia
OES:	Occupational exposure standard
PEL:	Permissible exposure limit
TWA:	Time weighted average
STEL:	Short term exposure limit

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UNTDG:	United Nations Transport of Dangerous Goods
LD50:	Lethal dose of a chemical which kills 50% of a sample population
EC50/IC50:	Concentration of a chemical which causes an effect for 50% of a sample population

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