

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name	Erbium Oxide
Synonym(s)	Enriched Erbium Oxide
Chemical Formula	Er ₂ O ₃
Molecular Weight	382.56 amu
CAS No.	12061-16-4
EINECS No.	235-045-7
Supplier Address*	ISOFLEX USA PO Box 29475 San Francisco CA 94129 United States
Telephone	+1 415-440-4433
Fax	+1 415-563-4433
Emergency Phone Number (both supplier and manufacturer)	Infotrac/ +1 800-535-5053 *May include subsidiaries or affiliate companies/divisions
Email	iusa@isoflex.com
Website	www.isoflex.com
Preparation Information	ISOFLEX USA Product Safety +1 415-440-4433

2. HAZARDS IDENTIFICATION

Emergency Overview:

NFPA Ratings: (0 = Minimal; 1 = Slight; 2 = Moderate; 3 = Serious; 4 = Severe)

Health Hazard = 0 Flammability = 0 Reactivity = 0



HMIS Ratings: (0 = Minimal; 1 = Slight; 2 = Moderate; 3 = Serious; 4 = Severe)

Health Hazard = 0 Flammability = 0 Physical Hazard = 0

HEALTH HAZARD	0
FLAMMABILITY	0
PHYSICAL HAZARD	0
PERSONAL PROTECTION	

Hazard Description:	Irritant to eyes
<i>Prevention</i>	Wash thoroughly after handling. Wear protective gloves, clothing, eye protection and face protection.
<i>Response If in Eyes</i>	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue to rinse. If eye irritation persists, seek medical advice.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name:	Erbium Oxide
CAS No.:	12061-16-4
Chemical Formula:	Er ₂ O ₃
Molecular Weight:	382.56 amu

4. FIRST AID MEASURES

<i>Inhalation</i>	Supply fresh air. If required, provide artificial respiration. Keep patient warm. Seek immediate medical advice.
<i>Skin contact</i>	Wash immediately with water and soap; rinse thoroughly. Seek immediate medical advice.
<i>Eye contact</i>	Rinse opened eye for several minutes under running water, then consult a doctor.
<i>Swallowing</i>	Seek medical attention.

5. FIREFIGHTING MEASURES

<i>Suitable Extinguishing Media</i>	Product is not flammable. Use firefighting measures that suit the surrounding fire.
<i>Protective Equipment</i>	Wear self-contained respirator. Wear fully protective impervious suit.

6. ACCIDENTAL RELEASE MEASURES

<i>Personal Precautions</i>	Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation.
<i>Environmental Precautions</i>	Do not allow material to be released into the environment without proper governmental permits.
<i>Methods for Cleaning Up</i>	Pick up mechanically.

7. HANDLING AND STORAGE

<i>Handling</i>	Keep container tightly sealed. Store in tightly closed containers in cool, dry place. No special precautions are necessary if used correctly.
<i>Storage</i>	No special requirements for storerooms. When storing in common storage facility, do not store together with acids.
<i>Additional Storage Information</i>	This product is hygroscopic. Protect from carbon dioxide. Avoid contact with air/oxygen. Keep container tightly sealed.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<i>Design of Technical Systems</i>	Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.
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Personal Protective Equipment

General

The usual precautionary measures for handling chemicals should be followed. Keep away from foodstuffs, beverages and feed. Remove all soiled and contaminated clothing immediately. Wash hands before breaks and at the end of work.

Respiratory Protection

Use suitable respirator when high concentrations are present.

Hand Protection

Impervious gloves

Eye Protection

Safety glasses

Body Protection

Protective work clothing

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

<i>Physical State</i>	Powder
<i>Color</i>	Pink
<i>Odor</i>	Odorless

Safety Data

Molecular Weight:	382.56 amu	pH:	N/A
Boiling Point:	2868 °C	Melting Point:	1529 °C
Freezing Point:	N/A	Vapor Pressure:	N/A
Vapor Density:	N/A	Saturated Vapor Concentration:	N/A
SG/Density:	8.64 g/cm ³	Bulk Density:	N/A
Odor Threshold:	N/A	Volatile %:	N/A
VOC Content:	N/A	Water Content:	N/A
Solvent Content:	N/A	Evaporation Rate:	N/A
Viscosity:	N/A	Surface Tension:	N/A
Partition Coefficient:	N/A	Decomposition Temperature:	N/A
Flash Point:	N/A	Explosion Limits:	N/A
Flammability:	Not flammable	Autoignition Temperature:	N/A
Refractive Index:	N/A	Optical Rotation:	N/A
Miscellaneous Data:	N/A	Solubility in Water:	Insoluble

10. STABILITY AND REACTIVITY

Thermal Decomposition

Decomposition will not occur if product is used and stored according to specifications.

Materials to Avoid

Acids, air and carbon dioxide

Dangerous Reactions

No dangerous reactions known

Dangerous Products of Decomposition

Metal oxide fumes

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

LD/LC50 Values are Relevant for Classification

<i>Oral LD50</i>	>5000 mg/Kg (Rat)
<i>Irritation to Eyes</i>	Mild / 100 mg (Rabbit)

Primary Irritant Effect

<i>Skin</i>	Irritant to skin and mucous membranes
<i>Eye</i>	Irritating effect
<i>Sensitization</i>	No sensitizing effects known

Chronic Toxicity

Subacute to Chronic Toxicity

Lanthanons can cause delayed blood clotting, leading to hemorrhages. Exposure may also lead to heat sensitivity, itching, increased awareness of odor and taste, and liver damage.

Additional Toxicological Information

To the best of our knowledge, the acute and chronic toxicity of this substance is not fully known.

No classifications data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

12. ECOLOGICAL INFORMATION

Ecotoxicity

No data available

Persistence and Degradability

No data available

Bioaccumulative Potential

No data available

Mobility in Soil

No data available

Other Adverse Effects

Do not allow material to be released to the environment without proper governmental permits. No further relevant information available.

13. DISPOSAL CONSIDERATIONS

Product

Consult state, local or national regulations to ensure proper disposal.

Uncleaned Packaging Disposal

Consult state, local or national regulations to ensure proper disposal.

14. TRANSPORT INFORMATION

DOT / ADR / IATA / IMDG Regulations

Not regulated. Not dangerous, according to each entity's specifications.

UN No.

N/A

UN Proper Shipping Name

N/A

Transport Hazard Class

N/A

Packing Group

N/A

Marine Pollutant

No

Special Precautions

N/A

15. REGULATORY INFORMATION

TSCA Listed:

All components are listed.

Regulation (EC) No 1272/2008 (CLP):

The product is not subject to identification regulations under EC Directives and the Ordinance on Hazardous Materials (GefStoffV).

Canada WHMIS Classification (CPR, SOR/88-66):

N/A

HMIS Ratings:

Health: 0 Flammability: 0 Physical: 0

NFPA Ratings:

Health: 0 Flammability: 0 Reactivity: 0

Chemical Safety Assessment:

A chemical safety assessment has not been carried out.

16. OTHER INFORMATION

<i>Prepared By</i>	ISOFLEX USA PO Box 29475 San Francisco CA 94129 United States
<i>Issuing Date</i>	January 23, 2015
<i>Revision Date</i>	August 1, 2021
<i>Revision Number</i>	2
<i>Revision Note</i>	Required review and update

ISOFLEX USA's Commonly Used Abbreviations and Acronyms*

ACGIH	American Conference of Governmental Industrial Hygienists
ADR	European Agreement Concerning the International Carriage of Dangerous Goods by Road
ALARA	As Low As Is Reasonably Achievable
AMU	Atomic Mass Unit
BLS	Basic Life Support
CAM	Continuous Air Monitor
CAS	Chemical Abstracts Service (division of the American Chemical Society)
CEN	European Committee for Standardization
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CLP	Classification, Labelling and Packaging (European Union)
CPR	Controlled Products Regulations (Canada)
CWA	Clean Water Act (USA)
DAC	Derived Air Concentration (USA)
DOE	United States Department of Energy (USA)
DOT	United States Department of Transportation (USA)
DSL	Domestic Substances List (Canada)
EC50	Half Maximal Effective Concentration
EINECS	European Inventory of Existing Commercial Substances
EHS	Environmentally Hazardous Substance
ELINCS	European List of Notified Chemical Substances
EMS	Emergency Response Procedures for Ships Carrying Dangerous Goods
EPA	Environmental Protection Agency (USA)
GHS	Globally Harmonized System
HMIS	Hazardous Materials Identification System (USA)**
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IBC	Intermediate Bulk Containers
ICAO	International Civil Aviation Organization
IDLH	Immediately Dangerous to Life or Health
IMDG	International Maritime Code for Dangerous Goods
LC50	Lethal concentration, 50 percent
LD50	Lethal dose, 50 percent
LOEC	Lowest-Observed-Effective Concentration
MARPOL	International Convention for the Prevention of Pollution from Ships
MSHA	Mine Safety and Health Administration (USA)
NCRP	National Council on Radiation Protection & Measurements (USA)
NDSL	Non-Domestic Substances List (Canada)
NFPA	National Fire Protection Association (USA)**
NIOSH	National Institute for Occupational Safety and Health (USA)
NOEC	No Observed Effect Concentration
N.O.S.	Not Otherwise Specified
NRC	Nuclear Regulatory Commission (USA)
NTP	National Toxicology Program (USA)

OSHA	Occupational Safety and Health Administration (USA)
PBT	Persistent Bioaccumulative and Toxic Chemical
PEL	Permissible Exposure Limit
PIH	Poisonous by Inhalation Hazard
RCRA	Resource Conservation and Recovery Act (USA)
RCT	Radiation Control Technician
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals (Europe)
RID	Regulations Concerning the International Transport of Dangerous Goods by Rail
RTECS	Registry of Toxic Effects of Chemical Substances
SARA	Superfund Amendments and Reauthorization Act (USA)
TDG	Transportation of Dangerous Goods (Canada)
TIH	Toxic by Inhalation Hazard
TLV	Threshold Limit Value
TSCA	Toxic Substances Control Act
TWA	Time Weighted Average
UN	United Nations (Number)
VOC	Volatile Organic Compound
vPvB	Very Persistent Very Bioaccumulative Chemical
WGK	Wassergefährdungsklassen (Germany: Water Hazard Classes)
WHMIS	Workplace Hazardous Materials Information System

*One or more of the above-listed items may not appear in this document.

** Ratings per Sigma-Aldrich

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