1. PRODUCT AND COMPANY IDENTIFICATION

Product Name	**Dysprosium Oxide, Enriched Dysprosium**
Synonyms	Didysprosium trioxide, Dysprosium sesquioxide, Dysprosia, Dysprosium(III) oxide, Dysprosium(3+) oxide
Chemical Formula	Dy_2O_3
Molecular Weight	372.998 amu
CAS No.	1308-87-8
RTECS No.	JW1060000
Supplier Address*	ISOFLEX USA PO Box 472615 San Francisco CA 94147 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

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	

Potential Health Effects

Skin Contact	May cause skin irritation.
Skin Absorption	May be harmful if absorbed through the skin.
Eye Contact	May cause eye irritation.
Inhalation	Material may be irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.
Ingestion	May be harmful if swallowed.
Signs and Symptoms of Exposure	Contact with dusts may be abrasive and irritating to the eyes and broken skin and may cause burning, tearing, redness and swelling. To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.
Conditions Aggravated by Exposure	Lanthanides generally are not believed to be fibrogenic; however, occasional cases of suspected pneumoconiosis have been reported.

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3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name:	Dysprosium Oxide
CAS No.:	1308-87-8
Chemical Formula:	Dy_2O_3
Molecular Weight:	372.998 amu

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4. FIRST AID MEASURES

Oral Exposure	If swallowed, wash out mouth with water, provided person is conscious. Call a physician.
Inhalation Exposure	If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.
Dermal Exposure	In case of contact, immediately wash skin with soap and copious amounts of water.
Eye Exposure	In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

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5. FIREFIGHTING MEASURES

Flammable Hazards	Yes
Flash Point	N/A
Autoignition Temp	N/A
Flammability	N/A
Suitable Extinguishing Media	Water spray, carbon dioxide, dry chemical powder or appropriate foam

Firefighting

Protective Equipment	Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s)	Emits toxic fumes under fire conditions

6. ACCIDENTAL RELEASE MEASURES

Personal Precaution(s)	Exercise appropriate precautions to minimize direct contact with skin or eyes and to prevent inhalation of dust.
Environmental Precautions	Do not let product enter drains.
Methods for Cleaning Up	Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

7. HANDLING AND STORAGE

Handling	Avoid inhalation. Avoid contact with eyes, skin and clothing. Avoid prolonged or repeated exposure.
Storage	Keep tightly closed. Store in a cool, dry place. Store under nitrogen.
Incompatible Materials	Absorbs carbon dioxide from air
Special Requirements	Hygroscopic, moisture-sensitive

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls	Safety shower and eye bath; mechanical exhaust required

Personal Protective Equipment

Respiratory	Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Respiratory protection is not required. Where protection from nuisance levels of dusts is desired, use type N95 (US) or type P1 (EN 143) dust masks.
Hand	Protective gloves
Eye	Chemical safety goggles
General Hygiene Measures	Wash thoroughly after handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical State	Solid
Color	Faintly yellow

Safety Data

Molecular Weight:	372.998 amu	pH:	N/A
BP/BP Range:	N/A	MP/MP Range:	N/A
Freezing Point:	N/A	Vapor Pressure:	N/A
Vapor Density:	N/A	Saturated Vapor Concentration:	N/A
SG/Density:	7.81 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:	N/A	Autoignition Temperature:	N/A
Refractive Index:	N/A	Optical Rotation:	N/A
Miscellaneous Data:	N/A	Solubility:	N/A

10. STABILITY AND REACTIVITY

Stability	Stable
Conditions to Avoid	Exposure to moisture may affect product quality.
Materials to Avoid	Strong acids, strong oxidizing agents, carbon dioxide
Hazardous Decomposition Products	Nature of decomposition products not known
Hazardous Polymerization	Will not occur

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

LD50 Oral Rat	> 5000 mg/kg

Chronic Toxicity

Skin Corrosion/Irritation	No data available
Serious Eye Damage/Eye Irritation	No data available
Respiratory or Skin Sensitization	No data available
Germ Cell Mutagenicity	No data available

Carcinogenicity

IARC	No component of this product present at levels greater than or equal to 0.1% is identified as a probable, possible or confirmed human carcinogen by IARC.
ACGIH	No component of this product present 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 present 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 present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
Reproductive Toxicity	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:	Not available

To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.

12. ECOLOGICAL INFORMATION

Toxicity	No data available
Persistence and Degradability	No data available
Bioaccumulative Potential	No data available
Mobility in Soil	No data available
Results of PBT and vPvB Assessment	PBT/vPvB assessment not available as chemical safety ‘ assessment not required/not conducted
Other Adverse Effects	No data available

13. DISPOSAL CONSIDERATIONS

Product	Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state and local environmental regulations.
Contaminated Packaging	Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT:

Proper Shipping Name	None
Non-Hazardous for Transport	This substance is considered to be non-hazardous for transport.

IATA:

Non-Hazardous for Air Transport	This substance is considered to be non-hazardous for air transport.

15. REGULATORY INFORMATION

United States Regulatory Information

SARA Listed	No
TSCA Inventory Item	Yes

Canada Regulatory Information

WHMIS Classification	This product has been classified in accordance with the hazard criteria of the CPR, and the SDS contains all the information required by the CPR.
DSL	No
NDSL	Yes

Massachusetts Right to Know Components	No components are subject to the Massachusetts Right to Know Act.
Pennsylvania Right to Know Components	Didysprosium trioxide / CAS No. 1308-87-8

New Jersey Right to Know Components	Didysprosium trioxide / CAS No. 1308-87-8
California Prop. 65 Components	This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

Prepared By	ISOFLEX USA PO Box 472615 San Francisco CA 94147 United States
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Revision Number	3
Revision Note	Update Supplier Address

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
ANSI	American National Standards Institute
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 Chemical 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)
EPCRA	Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986
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
LDLO	Lethal Dose Low
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
TPQ	Threshold Planning Quantity
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.

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