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SAFETY DATA SHEET

Section 1- IDENTIFICATION		
COMPOSITION Lu2O3		PRODUCT NAME Lutetium Oxide
SUPPLIER: Plasmaterials, Inc. 2268 Research Drive Livermore, CA 94550 Ph: 925-447-4030	RECOMMENDED USE: Laboratory Chemicals Scientific Research	EMERGENCY TELEPHONE NUMBERS US: 001-800-424-9300 Europe: 001-703-527-3887

Section 2- HAZARD(S) IDENTIFICATION	
Physical Hazards: Not Classified	Health Hazards: - Skin Corrosion/Irritation: Category 2 (H315) - Serious Eye Damage/Irritation: Category 2 (H320) - Specific Target Organ Toxicity – Single Exposure (Respiratory System): Category 3 (H335)
Environmental Hazards: Not Classified	OSHA Defined Hazards: Not Classified
LABEL ELEMENTS: Signal Word: Warning	
	
<p style="text-align: center;"><u>HAZARD STATEMENTS</u></p> <p>-H315: Causes skin irritation. -H320: Causes eye irritation -H335: May cause respiratory irritation</p> <p style="text-align: center;"><u>PRECAUTIONARY STATEMENTS</u></p> <p>-P261: Avoid breathing dust/fume/gas/mist/vapors/spray -P264: Wash face, hands, and any exposed skin thoroughly after handling -P271: Use only outdoors or in a well-ventilated area -P280: Wear protective gloves/protective clothing/eye protection/face protection -P302+P352: In on skin: wash with plenty of water -P304+P340: If inhaled: remove victim to fresh air and keep comfortable for breathing. -P305+P351+P338: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. -P312: Call a poison center or doctor if you feel unwell. -P332+P313: If skin irritation occurs: Get medical advice/attention. -P337+P313: If eye irritation persists: Get medical advice/attention. -P362+P364: Take off contaminated clothing and wash it before reuse. -P403+P233: Store in a well-ventilated place. Keep container tightly closed. -P405: Store locked up. -P501: Dispose of contents/container in accordance with local/regional/national/international regulations</p> <p>Hazards not otherwise classified (HNOC): -None identified.</p>	

Section 3- COMPOSITION/INFORMATION ON INGREDIANTS

COMPONENT	CAS-No	Molecular Weight
Lutetium Oxide	12032-20-1	397.94 g/mol

Section 4- FIRST AID MEASURES

GENERAL ADVICE: Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Inhalation: Remove victim from exposure to fresh air. Give oxygen if breathing is difficult. If not breathing, give artificial respiration. Call a poison center or doctor if you feel unwell.

Skin Contact: Wash off immediately with soap and water. Consult a physician if irritation develops and/or persists.

Eye Contact: Immediately flush eyes with plenty of water, lifting upper and lower lids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention.

Ingestion: Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention.

Most Important Symptoms/Effects: No information available.

Indication of any Immediate Medical Attention and Special Treatment Needed: Treat symptomatically.

Section 5- FIREFIGHTING MEASURES

Suitable Extinguishing Media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Substance is non-flammable, use agent most appropriate to extinguish surrounding fire.

Unsuitable Extinguishing Media: No information available

Specific Hazards Arising from the Chemical: No information available

General Fire Hazards: No information available

Protective Equipment & Precautions for Firefighters: As in any fire, Firefighters must wear full face, self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective clothing to prevent contact with skin and eyes.

Specific Methods: Use standard firefighting procedures and consider the hazards of other involved materials.

Section 6- ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear protective gloves/protective clothing/eye protection/face protection. Avoid dust formation. Ensure adequate ventilation. For personnel protection see Section 8.

Environmental Precautions: Avoid discharge into drains, water courses, or onto the ground.

Methods for Containment & Clean Up: Stop the flow of material if this is without risk. Sweep up and shovel. Keep in suitable, closed containers for disposal. For waste disposal see Section 13 of SDS.

Section 7- HANDLING AND STORAGE

Handling: Wear protective gloves/protective clothing/eye protection/face protection. Avoid contact with skin and eyes. Do not breath dust. Avoid contact with skin and clothing. Remove and wash contaminated clothing and gloves. Do not ingest. If swallowed, then seek immediate medical assistance. Wash thoroughly after handling. Observe good industrial hygiene practices.

Storage: Keep in a dry, cool, and well-ventilated Store in original tightly closed container. Keep under nitrogen. Store away from incompatible materials (see Section 10 of SDS).

Section 8- EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines:

Occupational Exposure Limits: No PEL, TLV, or other recommended exposure limit values noted for substance

Biological Limit Values: No biological exposure limits noted for the substance

Appropriate Engineering Controls: Follow standard monitoring procedures.
Hygiene Measures: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of the workday. When using do not smoke, eat, or drink. Keep away from food and drink. Wash thoroughly after handling and before eating, drinking and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.
Personal Protective Equipment: Eye/Face Protection: Wear safety glasses with side shields or goggles. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU). Skin and Body Protection: Handle with chemical resistant 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. Wear suitable protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Respiratory Protection: In case of insufficient ventilation, wear suitable respiratory equipment. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Thermal Hazards: Wear appropriate thermal protective clothing when necessary.

Section 9- PHYSICAL AND CHEMICAL PROPERTIES
Physical State: Solid
Odor: No information available
Odor Threshold: No information available
pH: No information available
Melting Point/Range: 2490°C (4514°F)
Boiling Point/Range: 3980°C (7196°F)
Flash Point: No information available
Evaporation Rate: No information available
Flammability (solid,gas): No information available
Flammability or Explosive Limits: Upper: No information available Lower: No information available
Vapor Pressure: No information available
Vapor Density: No information available
Relative Density: No information available
Specific Gravity: 9.420
Solubility (water): No information available
Partition coefficient; n-octanol/water: No information available
Auto Ignition Temperature: No information available
Decomposition Temperature: No information available
Viscosity: No information available
Explosive Properties: No information available
Oxidizing Properties: No information available

Section 10- STABILITY AND REACTIVITY
Reactive Hazard: No information available.
Stability: Stable under normal conditions. Hygroscopic
Conditions to Avoid: Contact with incompatible materials. Exposure to moisture.
Incompatible Materials: Strong oxidizing agents, Carbon Dioxide (CO2). Oxidizing agent
Hazardous Decomposition Products: Can lead to release of irritating gases and vapors.
Hazardous Polymerization: No information available
Hazardous Reactions: No information available

Section 11- TOXICOLOGICAL INFORMATION

Information on likely Routes of Exposure:

Inhalation: No information available

Skin Contact: No information available

Eye Contact: Direct contact with eyes may cause irritation.

Ingestion: No information available

Symptoms related to the physical, chemical and toxicological characteristics: Direct contact with eyes may cause temporary irritation.

Information on Toxicological Effects:

Acute Toxicity: No information available

Skin Corrosion/Irritation: Prolonged skin contact may cause irritation

Serious eye damage/irritation: Direct contact with eyes may cause irritation

Respiratory or Skin Sensitization: No information available

Carcinogenicity: This product is not considered to be a carcinogen by IARC, ACGIH, NTP or OSHA.

Germ Cell Mutagenicity: No information available

Reproductive Toxicity: No information available

Development Effects: No information available

Specific Target Organ Toxicity – single exposure: May cause respiratory irritation

Specific Target Organ Toxicity – repeated exposure: No information available

Aspiration Hazard: No information available

Chronic Effects: No information available

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

Section 12- ECOLOGICAL INFORMATION

Toxicity: No information available

Persistence and Degradability: No information available

Bioaccumulation/Accumulation: No information available

Mobility in Soil: No information available

Other Adverse Effects: No information available.

Section 13- DISPOSAL CONSIDERATIONS

Waste Disposal Methods: Dispose in sealed containers to a licensed waste disposal site. Dispose of contaminated packaging as unused product. Dispose of contents/container in accordance with local/regional/national/international regulations.

Section 14- TRANSPORT INFORMATION

DOT: Not regulated as dangerous goods

IATA: Not regulated as dangerous goods

IMDG/IMO: Not regulated as dangerous goods

Section 15- REGULATORY INFORMATION

US Federal Regulations:

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt.D): Listed

U.S. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050): Not Listed

CERCLA Hazardous Substance List (40 CFR 302.4): Not Listed

SARA Hazard Categories:

Immediate Hazard: No

Delayed Hazard: No

Fire Hazard: No

Pressure Hazard: No

Reactive Hazard: No

SARA 302 Extremely Hazardous Substance: No chemicals in this material are subject to the reporting

requirements of SARA Title III, Section 302

SARA 304 Emergency Release Notification: Not regulated

SARA 311/312 Hazardous Chemical: No

SARA 313 (TRI Reporting): 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

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List: Not regulated

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130): Not regulated

Safe Drinking Water Act (SDWA): Not regulated

US California Proposition 65: This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

Section 16- OTHER INFORMATION

The above information is accurate to the best of our knowledge. However, since data, safety standards and government regulations are subject to change, the conditions of handling and use, or misuse are beyond our control, Plasmaterials, Inc. makes no warranty, either expressed or implied, with respect to the completeness or continuing accuracy of the information contained herein and disclaims all liability for reliance thereon. Users should satisfy themselves that they have all current data relevant to their particular use.

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