

SAFETY DATA SHEET

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SECTION 1. IDENTIFICATION

Product Identifier: (5N) 99.999% Lanthanum Ribbon

Product Code: LA-M-05-RI

CAS Number: 7439-91-0

Relevant identified uses of the substance: Scientific research and development

Supplier details:

American Elements 10884 Weyburn Ave. Los Angeles, CA 90024 Tel: +1 310-208-0551 Fax: +1 310-208-0351 Emergency telephone number: +1 800-424-9300

SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture Classification according to Regulation (EC) No 1272/2008 GHS02 Flame Flam. Sol. 1 H228 Flammable solid. Water-react. 2 H261 In contact with water releases flammable gas. Hazards not otherwise classified No data available Label elements Labelling according to Regulation (EC) No 1272/2008 The substance is classified and labeled according to the CLP regulation. Hazard pictograms



GHS02 Signal word Danger Hazard statements H228 Flammable solid. H261 In contact with water releases flammable gas.

Precautionary statements P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking. P231+P232 Handle under inert gas. Protect from moisture. P280 Wear protective gloves/protective clothing/eye protection/face protection. P370+P378 In case of fire: Use for extinction: CO2, sand, extinguishing powder. P402+P404 Store in a dry place. Store in a closed container. P501 Dispose of contents/container in accordance with local/regional/ national/international regulations. WHMIS classification B6 - Reactive flammable material Classification system HMIS ratings (scale 0-4) (Hazardous Materials Identification System) HEALTH FIRE REACTIVITY 1 2 3 Health (acute effects) = 1Flammability = 2Physical Hazard = 3 Other hazards Results of PBT and vPvB assessment PBT: N/A vPvB: N/A

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances CAS No. / Substance Name: 7439-91-0 Lanthanum Identification number(s): EC number: 231-099-0

SECTION 4. FIRST AID MEASURES

Description of first aid measures If inhaled: Supply patient with fresh air. If not breathing, provide artificial respiration. Keep patient warm. Seek immediate medical advice. In case of skin contact: Immediately wash with soap and water; rinse thoroughly. Seek immediate medical advice. In case of eye contact: Rinse opened eye for several minutes under running water. Consult a physician. If swallowed: Seek medical treatment. Information for doctor Most important symptoms and effects, both acute and delayed No data available Indication of any immediate medical attention and special treatment needed No data available

SECTION 5. FIREFIGHTING MEASURES

Extinguishing media Suitable extinguishing agents Special powder for metal fires. Do not use water. For safety reasons unsuitable extinguishing agents Water Special hazards arising from the substance or mixture If this product is involved in a fire, the following can be released: Metal oxide fume Advice for firefighters Protective equipment: Wear self-contained respirator. Wear fully protective impervious suit.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures Use personal protective equipment. Keep unprotected persons away. Ensure adequate ventilation Keep away from ignition sources Environmental precautions: Do not allow material to be released to the environment without official permits. Methods and materials for containment and cleanup: Keep away from ignition sources. Ensure adequate ventilation. Do not flush with water or aqueous cleansing agents Prevention of secondary hazards: Keep away from ignition sources. Reference to other sections See Section 7 for information on safe handling See Section 8 for information on personal protection equipment. See Section 13 for disposal information.

SECTION 7. HANDLING AND STORAGE

Handling Precautions for safe handling Handle under dry protective gas. Keep container tightly sealed. Store in cool, dry place in tightly closed containers. Ensure good ventilation at the workplace. Reacts violently with water Information about protection against explosions and fires:

Protect against electrostatic charges. Conditions for safe storage, including any incompatibilities Requirements to be met by storerooms and receptacles: Store in a cool location. Information about storage in one common storage facility: Do not store together with oxidizing and acidic materials. Store away from air. Store away from water/moisture. Further information about storage conditions: Store under dry inert gas. This product is air sensitive. Keep container tightly sealed. Store in cool, dry conditions in well-sealed containers. Protect from humidity and water. Specific end use(s) No data available

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Additional information about design of technical systems: Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute. **Control parameters** Components with limit values that require monitoring at the workplace: None. Additional information: No data Exposure controls Personal protective equipment Follow typical protective and hygienic practices for handling chemicals. Keep away from foodstuffs, beverages and feed. Remove all soiled and contaminated clothing immediately. Wash hands before breaks and at the end of work. Maintain an ergonomically appropriate working environment. Breathing equipment: Use suitable respirator when high concentrations are present. Protection of hands: Impervious gloves Inspect gloves prior to use. Suitability of gloves should be determined both by material and quality, the latter of which may vary by manufacturer. Penetration time of glove material (in minutes) No data available Eye protection: Safety glasses Full face protection Body protection: Protective work clothing

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties Appearance: Form: Solid in various forms Color: Silvery-white Odor: No data available Odor threshold: No data available. pH: N/A Melting point/Melting range: 920 °C (1688 °F) Boiling point/Boiling range: 3464 °C (6267 °F) Sublimation temperature / start: No data available Flammability (solid, gas) Highly flammable. Contact with water liberates extremely flammable gases. Ignition temperature: No data available Decomposition temperature: No data available Autoignition: No data available. Danger of explosion: No data available. **Explosion limits:** Lower: No data available Upper: No data available Vapor pressure at 3230 °C (5846 °F): 533 hPa (400 mm Hg) Density at 20 °C (68 °F): 6.17 g/cm³ (51.489 lbs/gal) Relative density No data available. Vapor density N/A Evaporation rate N/A Solubility in Water (H₂O): Contact with water releases flammable gases Partition coefficient (n-octanol/water): No data available. Viscosity: Dynamic: N/A Kinematic: N/A Other information No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity In contact with water releases flammable gases which may ignite spontaneously. Chemical stability Stable under recommended storage conditions. Thermal decomposition / conditions to be avoided: Decomposition will not occur if used and stored according to specifications. Possibility of hazardous reactions Contact with water releases flammable gases Conditions to avoid No data available Incompatible materials: Air Oxidizing agents Water/moisture Hazardous decomposition products:

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects Acute toxicity: No effects known. LD/LC50 values that are relevant for classification: No data Skin irritation or corrosion: Powder: irritant effect Eye irritation or corrosion: Powder: irritant effect Sensitization: No sensitizing effects known. Germ cell mutagenicity: No effects known. Carcinogenicity: No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH. Reproductive toxicity: No effects known. Specific target organ system toxicity - repeated exposure: No effects known. Specific target organ system toxicity - single exposure: No effects known. Aspiration hazard: No effects known. Subacute to chronic toxicity: No effects known. Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. Carcinogenic categories OSHA-Ca (Occupational Safety & Health Administration) Substance is not listed.

SECTION 12. ECOLOGICAL INFORMATION

Toxicity Aquatic toxicity: No data available Persistence and degradability No data available Bioaccumulative potential No data available Mobility in soil No data available Additional ecological information: Do not allow material to be released to the environment without official permits. Do not allow undiluted product or large quantities to reach groundwater, water courses, or sewage systems. Avoid transfer into the environment. Results of PBT and vPvB assessment PBT: N/A vPvB: N/A Other adverse effects No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods Recommendation Consult official regulations to ensure proper disposal. Uncleaned packagings: Recommendation: Disposal must be made according to official regulations.

SECTION 14. TRANSPORT INFORMATION

UN-Number DOT, IMDG, IATA UN3208 UN proper shipping name DOT Metallic substance, water-reactive, n.o.s. (Lanthanum) IMDG, IATA METALLIC SUBSTANCE, WATER-REACTIVE, N.O.S. (Lanthanum) Transport hazard class(es) DOT Class 4.3 Substances which, in contact with water, emit flammable gases. Label 4.3 Class 4.3 (W2) Substances which, in contact with water, emit flammable gases Label 4.3 IMDG, IATA Class 4.3 Substances which, in contact with water, emit flammable gases. Label 4.3 Packing group DOT, IMDG, IATA Ш Environmental hazards: N/A Special precautions for user Warning: Substances which, in contact with water, emit flammable gases Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code N/A Transport/Additional information: DOT Marine Pollutant (DOT): No UN "Model Regulation": UN3208, Metallic substance, water-reactive, n.o.s. (Lanthanum), 4.3, II

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture National regulations All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory. All components of this product are listed on the Canadian Domestic Substances List (DSL). SARA Section 313 (specific toxic chemical listings) Substance is not listed. California Proposition 65 Prop 65 - Chemicals known to cause cancer Substance is not listed. Prop 65 - Developmental toxicity Substance is not listed. Prop 65 - Developmental toxicity, female Substance is not listed. Prop 65 - Developmental toxicity, male Substance is not listed. Information about limitation of use: For use only by technically qualified individuals. Other regulations, limitations and prohibitive regulations Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006. Substance is not listed. The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed. Substance is not listed. Annex XIV of the REACH Regulations (requiring Authorisation for use) Substance is not listed. Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). 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. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.