

SAFETY DATA SHEET

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SECTION 1. IDENTIFICATION

Product Identifier: (4N) 99.99% Lanthanum Iron Oxide Sputtering Target

Product Code: LA-FEO-04-ST

CAS Number: 12022-43-4

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 GHS Classification in accordance with 29 CFR 1910 (OSHA HCS) Skin irritation(Category 2), H315 Eye irritation(Category 2A), H319 GHS Label elements, including precautionary statements Pictogram



Signal word Warning Hazard statement(s) H315 Causes skin irritation. H319 Causes serious eye irritation. Precautionary statement(s) P264 Wash skin thoroughly after handling. P280 Wear protective gloves/ eye protection/ face protection. P302 + P352 IF ON SKIN: Wash with plenty of soap and water. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P321 Specific treatment (see supplemental first aid instructions on this label). P332 + P313If skin irritation occurs: Get medical advice/ attention. P337 + P313 If eye irritation persists: Get medical advice/ attention. P362 Take off contaminated clothing and wash before reuse. Hazards not otherwise classified (HNOC) or not covered by GHS Possible sensitizer.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances Synonyms: Lanthanum iron oxide Formula: LaFeO3 Molecular Weight: 242.75

SECTION 4. FIRST AID MEASURES

Description of first aid measures General advice Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area. If inhaled If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician. In case of skin contact Wash off with soap and plenty of water. Consult a physician. In case of eye contact Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. If swallowed Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician. Most important symptoms and effects, both acute and delayed The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11 Indication of any immediate medical attention and special treatment needed no data available

SECTION 5. FIREFIGHTING MEASURES

Extinguishing media

Suitable extinguishing media Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Special hazards arising from the substance or mixture no data available Advice for firefighters Wear self contained breathing apparatus for fire fighting if necessary. Further information no data available

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures Use personal protective equipment. Avoid dust formation. Avoid breathing Vapors, mist or gas. Ensure adequate ventilation. Avoid breathing dust. For personal protection see section 8. Environmental precautions Do not let product enter drains. Methods and materials for containment and cleaning up Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal. Reference to other sections For disposal see section 13.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed.

For precautions see section 2.

Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

Moisture sensitive.

Keep in a dry place.

Specific end use(s)

Apart from the uses mentioned in section 1 no other specific uses are stipulated

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters Components with workplace control parameters Contains no substances with occupational exposure limit values. Exposure controls Appropriate engineering controls Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. Personal protective equipment Eye/face protection Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Skin protection Handle with 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.

Body Protection

impervious 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

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator.For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Do not let product enter drains.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties Appearance Form: powder Odor no data available Odor Threshold no data available bН no data available Melting point/freezing point no data available Initial boiling point and boiling range no data available Flash point no data available EVaporation rate no data available Flammability (solid, gas) no data available Upper/lower flammability or explosive limits no data available Vapor pressure no data available Vapor density no data available Relative density no data available Water solubility no data available Partition coefficient: n-octanol/water no data available Auto-ignition temperature no data available Decomposition temperature no data available Viscosity

no data available Explosive properties no data available Oxidizing properties no data available Other safety information no data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity no data available Chemical stability Stable under recommended storage conditions. Possibility of hazardous reactions no data available Conditions to avoid no data available Incompatible materials Strong acids and oxidizing agents Hazardous decomposition products Hazardous decomposition products formed under fire conditions. Iron oxides, Lanthanum oxides Other decomposition products-no data available In the event of fire: see section 5

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects Acute toxicity no data available Inhalation: no data available Dermal: no data available no data available Skin corrosion/irritation no data available Serious eye damage/eye irritation no data available Respiratory or skin sensitisation 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 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 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 Rare earth compounds may cause delayed blood clotting leading to hemorrhages. Inhalation of rare earths may cause sensitivity to heat, itching, and increased awareness of odor and taste., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 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

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods Product Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Contaminated packaging Dispose of as unused product.

SECTION 14. TRANSPORT INFORMATION

DOT (US) Not dangerous goods IMDG Not dangerous goods IATA

SECTION 15. REGULATORY INFORMATION

SARA 302 Components SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302. SARA 313 Components SARA 313: 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. SARA 311/312 Hazards Acute Health Hazard Massachusetts Right To Know Components No components are subject to the Massachusetts Right to Know Act. Pennsylvania Right To Know Components LANTHANUM FERRITE CAS-No. 12022-43-4 New Jersey Right To Know Components LANTHANUM FERRITE CAS-No. 12022-43-4 California Prop. 65 Components This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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.