

SAFETY DATA SHEET

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SECTION 1. IDENTIFICATION

Product Identifier: (4N) 99.99% Silicon Germanium Sputtering Target

Product Code: SI-GE-04-ST

CAS Number: N/A

Relevant identified uses of the substance: Scientific research and development

Supplier details:

American Elements
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Los Angeles, CA 90024
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Emergency telephone number:
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SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture Classification according to Regulation (EC) No 1272/2008 The substance is not classified as hazardous to health or the environment according to the CLP regulation. Classification according to Directive 67/548/EEC or Directive 1999/45/EC N/A Information concerning particular hazards for human and environment: No data available Hazards not otherwise classified No data available Label elements Labelling according to Regulation (EC) No 1272/2008 N/A Hazard pictograms N/A Signal word N/A Hazard statements N/A WHMIS classification Not controlled Classification system HMIS ratings (scale 0-4) (Hazardous Materials Identification System) Health (acute effects) = 0 Flammability = 0 Physical Hazard = 0 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: 7440-56-4 Germanium 7440-21-3 Silicon

SECTION 4. FIRST AID MEASURES

Description of first aid measures General information No special measures required. If inhaled: Seek medical treatment in case of complaints. In case of skin contact: Generally the product does not irritate the skin. In case of eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor. If swallowed: If symptoms persist consult doctor. 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: No special measures required

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures Not required. Environmental precautions: Do not allow material to be released to the environment without official permits. Do not allow product to enter drains, sewage systems, or other water courses. Do not allow material to penetrate the ground or soil. Methods and materials for containment and cleanup: Pick up mechanically. Prevention of secondary hazards: No special measures required. 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 Keep container tightly sealed. Store in cool, dry place in tightly closed containers. Information about protection against explosions and fires: No special measures required. Conditions for safe storage, including any incompatibilities Requirements to be met by storerooms and receptacles: No special requirements. Information about storage in one common storage facility: Not required. Further information about storage conditions: Keep container tightly sealed. Store in cool, dry conditions in well-sealed containers. Specific end use(s) No data available

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Additional information about design of technical systems: No further data; see section 7. Control parameters Components with limit values that require monitoring at the workplace: The product does not contain any relevant quantities of materials with critical values that should be monitored at the workplace. Additional information: No data Exposure controls Personal protective equipment Follow typical protective and hygienic practices for handling chemicals. Maintain an ergonomically appropriate working environment. Breathing equipment: Not required. Protection of hands: Not required. Penetration time of glove material (in minutes) No data available Eye protection: Safety glasses Body protection: Protective work clothing.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties Appearance: Form: Solid in various forms Odor: Odorless Odor threshold: No data available. pH: N/A Melting point/Melting range: No data available. Boiling point/Boiling range: No data available. Sublimation temperature / start: No data available Flammability (solid, gas) No data available. 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 20 °C (68 °F): No data available. Density at 20 °C (68 °F): No data available. Relative density No data available. Vapor density N/A Evaporation rate N/A Solubility in Water (H₂O): No data available. 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 No data available 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 No dangerous reactions known Conditions to avoid No data available Incompatible materials: No data available Hazardous decomposition products: Metal oxide fume

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects Acute toxicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for this substance. LD/LC50 values that are relevant for classification: No data Skin irritation or corrosion: Generally the product does not irritate the skin. Eye irritation or corrosion: No 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: The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for this substance. 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. 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, ADN, IMDG, IATA N/A UN proper shipping name DOT, ADN, IMDG, IATA N/A Transport hazard class(es) DOT, ADR, ADN, IMDG, IATA Class N/A Packing group DOT, IMDG, IATA N/A Environmental hazards: N/A Special precautions for user N/A Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code N/A Transport/Additional information: DOT Marine Pollutant (DOT): No

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 Non-Domestic Substances List (NDSL). 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. REACH - Pre-registered substances Substance is 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.