

Material Safety Data Sheet

Identity: Samarium
Chemical Family: Lanthanide Metal

Formula: Sm

SECTION I - GENERAL INFORMATION

Manufacturer: [Stanford Advanced Materials](#) (SAM)

The information below is believed to be accurate and represents the best information available to SAM. However, SAM makes no warranty, expressed or implied with respect to such information and assumes no liability resulting from its use.

SECTION II - PRODUCT INFORMATION/HAZARDOUS INGREDIENTS

CAS #	%	OSHA/PEL	ACGIH TLV	Other Limits
7440-19-9	100	Yes	N/A	N/A

SECTION III - PHYSICAL/ CHEMICAL CHARACTERISTICS

Physical Status: Solid

Molecular Weight: 150.4 g/mol

Boiling Point: 1791 °C @760mmHg

Melting Point: 1077 °C

Vapor Density: NA

Percent Volatile: NA

Specific Gravity (Water =1): 7.52g/cc @ 25 °C

Vapor Pressure: NA

Solubility in water: Insoluble

Appearance and Odor: Lustrous gray, silvery metal, odorless. Sublimed or distilled metal is dendritic in appearance.

SECTION IV - FIRE AND EXPLOSION DATA

Warning Statement: Not flammable in ingot form. However, under extreme fire conditions, may react with water to produce flammable, explosive hydrogen gas. Dusts in high concentrations are ignitable and may cause skin, eye, and respiratory tract irritation.

Flash Point: NA

Extinguishing Media: Use dry chemicals and class D extinguisher. Firefighters must wear full-face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. Do not use water!

Unusual Fire and Explosion Hazards:

Product will burn under fire conditions. May react with water, liberating flammable, explosive hydrogen gas. Like all organic and most dry chemicals, as a powder or dust, this product (when mixed with air in critical proportions and in the presence of an ignition source) may present an explosion hazard.

SECTION V - REACTIVITY DATA

Stability: Stable

Conditions to Avoid: Dusting conditions, electric arcs, open flame, sparks, and moisture.

Incompatibility: Air, strong acids, strong oxidizing agents, acid chlorides, halogens, chlorates, bromates, iodates

Hazardous Decomposition or byproducts:

Hydrolysis may occur, and hydrogen may be produced

Hazardous Polymerization: Will not occur

SECTION VI - HEALTH HAZARD DATA

Routes of exposure:

Inhalation:

Acute: Low acute inhalation toxicity. May cause upper respiratory tract irritation.

Chronic: No chronic health effects recorded.

Emergency procedure: Remove victim to fresh air, give oxygen if breathing is difficult and seek medical attention

Ingestion:

Acute: Low acute oral toxicity

Chronic: No chronic effects recorded.

Emergency procedure: Give 1-2 glasses of water, seek medical attention, do not leave victim unattended

Skin:

Acute: May cause mild irritation.

Chronic: No chronic health effects recorded.

Emergency procedure: Remove contaminated clothing, brush material off skin, wash affected area with mild soap and water and seek medical attention.

Eyes:

Acute: May cause irritation.

Chronic: No chronic effects recorded.

Emergency procedure: Flush eyes and under eyelids with lukewarm water for at least 15 minutes. Seek medical attention.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps To Be Taken In Case Material Is Released or Spilled:

Wear appropriate respiratory and protective equipment specified. Isolate spill area and provide ventilation. Sweep and place in appropriate closed container. Do not use vacuum. Use non-sparking tools. Clean up residual material by washing area with water.

Waste Disposal Method:

Dispose of in accordance with local, state and federal regulations. It is best to report spills. Do not flush to drain.

Hazard Label Information:

Store in dry area and in tightly sealed container. Wash thoroughly after handling

Precautions to Be Taken In Handling and Storing:

Take care not to breath dusts or vapor. Avoid direct, prolonged contact with skin and eyes. Use non-sparking tools and grounded/bonded equipment and containers when transferring. Store under inert gas.

SECTION VIII - CONTROL MEASURES

Protective Equipment Summary:

NIOSH approved respirator, impervious gloves, safety glasses and clothes to prevent skin contact

Ventilation:

Local Exhaust: Local exhaust ventilation may be necessary
Mechanical (GEN): Good general ventilation is always recommended.

Work/Hygienic/Maintenance Practices:

Implement engineering and work practice controls to reduce and maintain concentration of exposure at low levels. Use good housekeeping and sanitation practices. Do not use tobacco or food in work area. Wash thoroughly before eating and smoking. Do not blow dust off clothing or skin with compressed air.