

## SAFETY DATA SHEET

### Section 1: Identification

Product name: Samarium (metal powder)  
Product use: For laboratory research purposes.  
Supplier: Trace Sciences International  
40 Vogell Rd Suite 42  
Richmond Hill, ON L4B 3N6  
CANADA  
Telephone: +1 905-770-1100  
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### Section 2: Hazard(s) Identification

#### 2.1 GHS Classification

Flammable solids (Category 2), H228

Substances and mixtures which in contact with water emit flammable gases (Category 3), H261

#### 2.2 GHS Label elements, including precautionary statements

##### Pictogram



**Signal word** Warning

##### Hazard statement(s):

H228

Flammable solid.

H261

In contact with water releases flammable gas.

##### Precautionary statement(s):

P210

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P231 + P232

Handle and store contents under inert gas. Protect from moisture.

P240

Ground and bond container and receiving equipment.

P241

Use explosion-proof electrical/ ventilating/ lighting/ equipment.

P280

Wear protective gloves/ protective clothing/ eye protection/ face protection.

P370 + P378

In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

P402 + P404

Store in a dry place. Store in a closed container.

P501

Dispose of contents/ container to an approved waste disposal plant.

### Section 3: Composition/ Information on Ingredients

**Formula** : Sm  
**Molecular Weight** : 150.36 g/mol

Material	CAS-No.	EC-No.	Index-No.	Concentration
Samarium	7440-19-9	231-128-7	-	<=100%

## Section 4: First-Aid Measures

### 4.1 Description of first aid measures

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move person out of dangerous area if safe to do so.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water for at least 15 minutes. Use chemical shower if available. Consult a physician.

#### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Remove contacts if possible.

#### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

## Section 5: Fire-Fighting Measures

### 5.1 Conditions of flammability

No data available

### 5.2 Suitable extinguishing media

Use carbon dioxide, Dry powder

### 5.3 Hazardous combustion products

Hazardous decomposition products formed under fire conditions: Samarium Oxides

### 5.4 Special protective equipment for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

### 5.5 Further information

Use water spray to cool unopened containers.

## Section 6: Accidental Release Measures

### 6.1 Personal precautions

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. Remove all sources of ignition.

### 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

### 6.3 Methods and materials for containment and cleaning up

Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations. Keep in suitable, closed containers for disposal.

## Section 7: Handling and Storage

### 7.1 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. Keep away from sources of ignition - No smoking. Take measures to prevent the buildup of electrostatic charge.

### 7.2 Conditions for safe storage

Air and moisture sensitive. Store under inert gas.  
Keep container tightly closed in a dry and well-ventilated place.

## Section 8: Exposure Controls/Personal Protection

### 8.1 Components with workplace control parameters

No data available

### 8.2 Personal protective equipment

#### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Hand 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.

#### Eye 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 and body protection

Impervious clothing, flame retardant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### Specific engineering controls

Use mechanical exhaust or laboratory fume hood to avoid exposure.

## Section 9: Physical and Chemical Properties

### Appearance

Form	Powder
Colour	White/silver

### Safety Data

pH	No data available
Melting point/freezing point	No data available

Boiling point	No data available
Flash point	Not applicable
Flammability (solid, gas)	The substance or mixture is a flammable solid with the category 2.
Ignition temperature	No data available
Auto-ignition temperature	No data available
Lower explosion limit	No data available
Upper explosion limit	No data available
Vapour pressure	No data available
Density	7.47 g/mL at 25 °C (77 °F)
Water solubility	No data available
Partition coefficient: n-octanol/water	No data available
Relative vapour density	No data available
Odour	No data available
Odour Threshold	No data available
Evaporation rate	No data available

## Section 10: Stability and Reactivity

### 10.1 Chemical stability

Stable under recommended storage conditions

### 10.2 Possibility of hazardous reactions

Risk of ignition or formation of inflammable gases or vapours with:  
Water

### 10.3 Conditions to avoid

Heat, flames and sparks. water

### 10.4 Materials to avoid

Halogens, strong acids, strong oxidizing agents.

### 10.5 Hazardous decomposition products

See section 5

## Section 11: Toxicological Information

### Acute toxicity

#### Oral

No data available

#### Inhalation

No data available

#### Dermal

No data available

#### Other information on acute toxicity

No data available

### Skin corrosion/irritation

No data available

### Serious eye damage/eye irritation

No data available

**Respiratory or skin sensitization**

No data available

**Germ cell mutagenicity**

No data available

**Carcinogenicity**

Contains a radioactive isotope which may produce cancer and genetic mutation.

**Reproductive toxicity**

No data available

**Specific target organ toxicity - single exposure (Globally Harmonized System)**

No data available

**Specific target organ toxicity - repeated exposure (Globally Harmonized System)**

No data available

**Aspiration hazard**

No data available

**Signs and Symptoms of Exposure**

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, abdominal pain, nausea, vomiting, salivation, fatigue, dizziness, confusion, palpitation, ataxia.

**Additional Information**

RTECS: Not available

**Section 12: Ecological Information**

**12.1 Toxicity**

No data available

**12.2 Persistence and degradability**

No data available

**12.3 Bioaccumulative potential**

No data available

**12.4 Mobility in soil**

No data available

**12.5 PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

**12.6 Other adverse effects**

No data available

**Section 13: Disposal Considerations**

**Product**

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. 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**

**IATA**

UN number: UN3132 Class: 4.3 (4.1) Packing group: II  
Proper shipping name: Water-reactive solid, flammable, n.o.s. (Samarium powder)

**Section 15: Regulatory Information**

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR

**Section 16: Other Information**

**Further information**

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