

# SAFETY DATA SHEET

Date Issued : 4/4/2012  
MSDS No : M-1000-240

## Samarium metal pieces

### 1. PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** Samarium metal pieces  
**GENERAL USE:** Physical vapor deposition of thin films

#### MANUFACTURER

Kurt J Lesker Company  
United States  
1925 Route 51  
Jefferson Hills, PA 15025  
**Customer Service:** 412-387-9200  
**E-Mail:** msds@lesker.com  
Kurt J Lesker Company LTD  
United Kingdom  
15-16 Burgess Road  
Hastings, East Sussex, TN35 4NR  
England  
**Customer Service:** +44 (0) 1424 458100

#### 24 HR. EMERGENCY TELEPHONE NUMBERS

24-Hour Emergency Response provided by  
3E Global Incident Response Hotline

When calling, refer to Kurt J Lesker Company  
Global Response Access Code: 333594

North America [USA, Canada, Mexico]: 1-866-519-4752  
Mainland China: (+86) 4001 2001 74  
Europe: {int'l call prefix}-1-760-476-3961  
Asia Pacific: {int'l call prefix}-1-760-476-3960  
Middle East & Africa: {int'l call prefix}-1-760-476-3959

### 2. HAZARDS IDENTIFICATION

#### GHS CLASSIFICATIONS

##### Physical:

Substances which, in contact with water emit flammable gases, Category 2

#### GHS LABEL



Flame

#### HAZARD STATEMENTS

H261: In contact with water releases flammable gas.

#### PRECAUTIONARY STATEMENT(S)

##### Prevention:

P223: Keep away from any possible contact with water, because of violent reaction and possible flash fire.  
P231+P232: Handle under inert gas. Protect from moisture.  
P280: Wear protective gloves/protective clothing/eye protection/face protection.

##### Response:

1149PQH0: In case of fire: Do not use water because of violent reaction.  
P335+P334: Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages.

##### Storage:

P402+P404: Store in a dry place. Store in a closed container.

**EMERGENCY OVERVIEW**

**PHYSICAL APPEARANCE:** Silvery-white metal

**IMMEDIATE CONCERNS:** In contact with water releases flammable gases which may ignite spontaneously.

**POTENTIAL HEALTH EFFECTS**

**EYES:** Contact may cause eye irritation.

**SKIN:** May cause skin irritation.

**INGESTION:** May be harmful if swallowed.

**INHALATION:** May be harmful if inhaled. May cause respiratory irritation.

**REPRODUCTIVE TOXICITY**

**REPRODUCTIVE EFFECTS:** Not Available

**TERATOGENIC EFFECTS:** Not Available

**CARCINOGENICITY:** Not listed as a human carcinogen

**MUTAGENICITY:** Not Available

**ROUTES OF ENTRY:** Inhalation, ingestion, eye contact, or skin contact.

**IRRITANCY:** May cause irritation of skin, eyes, and respiratory tract.

**PHYSICAL HAZARDS:** In contact with water releases flammable gases which may ignite spontaneously.

**COMMENTS:** The physical and toxicological properties of this material have not been thoroughly investigated.

**3. COMPOSITION / INFORMATION ON INGREDIENTS**

Chemical Name	Wt. %	CAS
Samarium	100	7440-19-9

**4. FIRST AID MEASURES**

**EYES:** Immediately flush eyes with plenty of water for at least 15 minutes. Get immediate medical attention.

**SKIN:** Wash with soap and water. Get medical attention if irritation develops or persists.

**INGESTION:** Rinse mouth. Get medical advice/attention.

**INHALATION:** Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.

**SIGNS AND SYMPTOMS OF OVEREXPOSURE**

**CHRONIC EFFECTS:** Not Available

**5. FIRE FIGHTING MEASURES**

**FLAMMABLE CLASS:** Noncombustible except as a powder.

**EXTINGUISHING MEDIA:** Do not use water because of violent reaction. Use a Class D dry powder extinguisher, dolomite, dry sand, graphite, or soda ash.

**EXPLOSION HAZARDS:** In contact with water releases flammable gases which may ignite spontaneously.

**FIRE FIGHTING PROCEDURES:** As in any fire, wear self-contained breathing apparatus pressure-demand, (MSHA/NIOSH approved or equivalent) and full protective gear.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Toxic metal fumes

## 6. ACCIDENTAL RELEASE MEASURES

**SMALL SPILL:** Clean up spills immediately, observing precautions in Protective Equipment section.

**LARGE SPILL:** Collect spilled material in appropriate container. Spill may be reportable . Consult section 15 for Reportable Quantities.

**GENERAL PROCEDURES:** Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Eliminate all ignition sources if safe to do so. Avoid formation of dust. Provide appropriate exhaust ventilation where dust is formed. Avoid breathing (dust, vapor, mist, gas). Practice good chemical hygiene during and after use. Avoid release to the environment.

## 7. HANDLING AND STORAGE

**GENERAL PROCEDURES:** To avoid risks to human health and the environment, comply with the instructions for use.

**HANDLING:** Keep away from any possible contact with water, because of violent reaction and possible flash fire. Keep away from heat and flame. Avoid formation of dust. Provide appropriate exhaust ventilation where dust is formed. Do not breath (dust, vapor, mist, gas). Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling.

**STORAGE:** Keep container closed when not in use. Store in a cool dry place.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**ENGINEERING CONTROLS:** Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

### PERSONAL PROTECTIVE EQUIPMENT

**EYES AND FACE:** Use chemical splash goggles and face shield (ANSI Z87.1 or approved equivalent).

**SKIN:** Wear protective gloves/protective clothing/eye protection/face protection. Wash contaminated clothing before reuse.

**RESPIRATORY:** If ventilation is inadequate and this material is handled at elevated temperatures or dusts/fumes/mists are generated a NIOSH/MSHA approved air purifying respirator with a manufacturers approved cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

**PROTECTIVE CLOTHING:** Where contact is likely, wear chemical resistant gloves, a chemical suit, rubber boots, and chemical safety goggles plus a face shield.

**WORK HYGIENIC PRACTICES:** Practice good chemical hygiene during and after use.

**COMMENTS:** There are no established workplace exposure limits for components of this product.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**PHYSICAL STATE:** Solid

**ODOR:** None

**COLOR:** Silver-white

**pH:** NA = Not Applicable

**PERCENT VOLATILE:** NA = Not Applicable

**FLASH POINT AND METHOD:** NA = Not Applicable

**FLAMMABLE LIMITS:** NA = Not Applicable

**AUTOIGNITION TEMPERATURE:** Not Available

**VAPOR PRESSURE:** NA = Not Applicable

**VAPOR DENSITY:** NA = Not Applicable

**BOILING POINT:** 1794°C

**MELTING POINT:** 1072°C

**SOLUBILITY IN WATER:** Reacts with water.

**DENSITY:** 7.52 at 20°C

**MOLECULAR WEIGHT:** 150.36

## 10. STABILITY AND REACTIVITY

**STABLE:** Yes

**HAZARDOUS POLYMERIZATION:** No

**POSSIBILITY OF HAZARDOUS REACTIONS:** Contact with water liberates highly flammable gases.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Toxic metal fumes

**INCOMPATIBLE MATERIALS:** Water. Strong acids, Strong bases, Oxidizing materials, Sulphur compounds, Halogens.

## 11. TOXICOLOGICAL INFORMATION

### ACUTE

**DERMAL LD<sub>50</sub>:** Not Available

**SKIN ABSORPTION:** Not Available

**ORAL LD<sub>50</sub>:** Not Available

**INHALATION LC<sub>50</sub>:** Not Available

### CARCINOGENICITY

**IARC:** Not listed

**NTP:** Not listed

**OSHA:** Not listed

**REPRODUCTIVE EFFECTS:** Not Available

**TERATOGENIC EFFECTS:** Not Available

**MUTAGENICITY:** Not Available

## 12. ECOLOGICAL INFORMATION

**BIOACCUMULATION/ACCUMULATION:** Not Available

**AQUATIC TOXICITY (ACUTE):** Not Available

**CHEMICAL FATE INFORMATION:** Not Available

### 13. DISPOSAL CONSIDERATIONS

**DISPOSAL METHOD:** Dispose of according to applicable federal, state, provincial, and local regulations.

**PRODUCT DISPOSAL:** Contact a licensed waste disposal company.

**EMPTY CONTAINER:** Follow all MSDS/label precautions even after container is emptied because it may retain product residues.

### 14. TRANSPORT INFORMATION

#### DOT (DEPARTMENT OF TRANSPORTATION)

**PROPER SHIPPING NAME:** Metallic substance, water reactive, n.o.s.

**PRIMARY HAZARD CLASS/DIVISION:** 4.3

**UN/NA NUMBER:** 3208

**PACKING GROUP:** III

**U.S. SURFACE FREIGHT CLASS:** Not Regulated

**MARINE POLLUTANT #1:** Not a DOT 'Marine Pollutant' per 49CFR 171.8

#### ROAD AND RAIL (ADR/RID)

**PROPER SHIPPING NAME:** Metallic substance, water reactive, n.o.s.

**UN NUMBER:** 3208

**HAZARD CLASS:** 4.3

**PACKING GROUP:** III

#### AIR (ICAO/IATA)

**SHIPPING NAME:** Metallic substance, water reactive, n.o.s.

**UN/NA NUMBER:** 3208

**PRIMARY HAZARD CLASS/DIVISION:** 4.3

**PACKING GROUP:** III

#### VESSEL (IMO/IMDG)

**SHIPPING NAME:** Metallic substance, water reactive, n.o.s.

**UN/NA NUMBER:** 3208

**PRIMARY HAZARD CLASS/DIVISION:** 4.3

**PACKING GROUP:** III

**EmS:** F-G, S-N

**MARINE POLLUTANT #1:** No

#### CANADA TRANSPORT OF DANGEROUS GOODS

**SHIPPING NAME:** Metallic substance, water reactive, n.o.s.

**UN/NA NUMBER:** 3208

**PRIMARY HAZARD CLASS/DIVISION:** 4.3

**PACKING GROUP: III****15. REGULATORY INFORMATION****UNITED STATES****SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)****311/312 HAZARD CATEGORIES:** Reactivity hazard.**TSCA (TOXIC SUBSTANCE CONTROL ACT)****TSCA STATUS:** All components of this product are included in inventory, exempt, or notified**REGULATIONS****STATE REGULATIONS:**

The following components appear in one or more of the following state hazardous substances lists

Component	CAS	CA	MA	MN	NJ	PA	RI
Samarium	7440-19-9	No	No	No	Yes	Yes	No

**CALIFORNIA PROPOSITION 65:** This product is not known to contain any components for which the State of California has found to cause cancer, birth defects or other reproductive harm.

**CANADA****WHMIS HAZARD SYMBOL AND CLASSIFICATION**

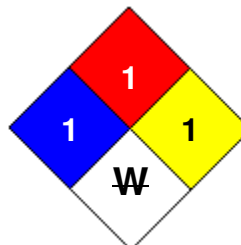
Reactive  
Flammable  
Material

B6

**DOMESTIC SUBSTANCE LIST (INVENTORY):** All components of this product are included in inventory, exempt, or notified

**16. OTHER INFORMATION****APPROVED BY:** EHS DEPT**PREPARED BY:** E Bolton**INFORMATION CONTACT:** msds@lesker.com**HMIS RATING**

<b>HEALTH</b>	<input type="checkbox"/>	<b>1</b>
<b>FLAMMABILITY</b>	<input type="checkbox"/>	<b>1</b>
<b>PHYSICAL HAZARD</b>	<input type="checkbox"/>	<b>1</b>
<b>PERSONAL PROTECTION</b>	<input type="checkbox"/>	<b>C</b>

**NFPA CODES**

**MANUFACTURER DISCLAIMER:**

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