MATERIAL SAFETY DATA SHEET

Manufacturer: Strem Chemicals, Inc.  
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(978) 499-1600  

CHEMTREC (Emergency Only)  
(800) 424-9300  

Poison Center  
(800) 562-8236

SECTION 1: Product Identification

Chemical Name: Cesium (99.9+%)(prescored ampoule)  
Product Number: 55-5551  
CAS Registry Number: 7440-46-2  
Formula: Cs  
EINECS Number: 231-155-4  
Chemical Family: metal or element  
Synonym: Alkali metal

SECTION 2: Composition and Information on Ingredients

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS Number</th>
<th>Percent</th>
<th>ACGIH (TWA)</th>
<th>OSHA (PEL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title Compound</td>
<td>7440-46-2</td>
<td>100</td>
<td>no data</td>
<td>no data</td>
</tr>
</tbody>
</table>

SECTION 3: Hazards Identification

Emergency Overview: The metal rapidly forms caustic and highly corrosive alkali hydroxide with evolution of heat. Severe thermal and chemical burns will result at every point of human contact.

Primary Routes of Exposure: Contact with skin and eyes.

Eye Contact: Severe thermal burns, corrosion and ulceration of the eyes may occur on direct contact.

Skin Contact: Severe thermal burns, corrosion and ulceration of the skin may occur on direct contact.

Inhalation: Inhalation is not a likely mode of entry.

Ingestion: Ingestion will cause burns and perforations of the gastrointestinal tract.

Acute Health Effects: With moisture or human contact, metal rapidly forms caustic and highly corrosive alkali hydroxide with evolution of heat. Severe thermal and chemical burns will result.

Chronic Health Effects: No information available on long-term chronic effects.

NTP: No  
IARC: No  
OSHA: No

SECTION 4: First Aid Measures

Eye Exposure: Immediately flush the eyes with copious amounts of water for at least 10-15 minutes. A victim may need assistance in keeping their eye lids open. Get immediate medical attention.

Skin Exposure: Wash the affected area with water for at least 15 minutes. Remove contaminated clothes if necessary. Seek medical assistance if irritation persists.

Inhalation: (For dust or fume) Remove the victim to fresh air. Closely monitor the victim for signs of respiratory problems, such as difficulty in breathing or coughing. In such cases seek immediate medical assistance.

Ingestion: Seek medical attention immediately. Keep the victim calm. Give the victim water (only if conscious). Induce vomiting only if directed by medical personnel.
SECTION 5: Fire Fighting Measures
- Flash Point: not applicable
- Autoignition Temperature: no data
- Explosion Limits: no data
- Extinguishing Medium: Class D metal fire agent, dry salt or sand.
- Special Fire Fighting Procedures: If this product is involved in a fire, fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus.
- Hazardous Combustion and Decomposition Products: If involved in a fire, burning metal may produce severely corrosive fumes of cesium oxide and hydroxide.

SECTION 6: Accidental Release Measures
- Spill and Leak Procedures: Not applicable; material is metal pieces

SECTION 7: Handling and Storage
- Handling and Storage: Handle and store in a tightly sealed container under an inert atmosphere of argon.

SECTION 8: Exposure Controls and Personal Protection
- Eye Protection: Always wear approved chemical splash proof goggles.
- Skin Protection: Wear protective clothing and gloves. Consult with glove manufacturer to determine the proper type of glove.
- Ventilation: Handle in an efficient fume hood.
- Respirator: If ventilation is not available a respirator should be worn. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.
- Additional Protection: Prepare for the possibility of fire.

SECTION 9: Physical and Chemical Properties
- Color and Form: under argon
- Molecular Weight: 132.91
- Melting Point: 28.64°C
- Boiling Point: 690°C
- Vapor Pressure: 1mm (279 °C)
- Specific Gravity: 1.892
- Odor: none
- Solubility in Water: reacts violently

SECTION 10: Stability and Reactivity
- Stability: moisture sensitive, pyrophoric
- Hazardous Polymerization: no hazardous polymerization
- Conditions to Avoid: Contact with water or air.
- Incompatibility: Water, alcohols, oxidizers, oxygen, carbon dioxide, halogens, halocarbons, acids.
- Decomposition Products: Flammable hydrogen with moisture, caustic oxide with air.
SECTION 11: Toxicological Information

RTECS Data: Intrapertoneal (mouse); LD50: 1700 mg/kg.
Carcinogenic Effects: No data available
Mutagenic Effects: No data available
Tetaratogenic Effects: No data available

SECTION 12: Ecological Information
Ecological Information: No information available

SECTION 13: Disposal Considerations
Disposal: Dispose of according to local, state and federal regulations.

SECTION 14: Transportation
Shipping Name (CFR): Cesium
Hazard Class (CFR): 4.3
Additional Hazard Class (CFR): NA
Packaging Group (CFR): I
UN ID Number (CFR): UN# 1407
Shipping Name (IATA): Cesium
Hazard Class (IATA): 4.3
Additional Hazard Class (IATA): NA
Packaging Group (IATA): I
UN ID Number (IATA): UN# 1407

SECTION 15: Regulatory Information
TSCA: Listed in the TSCA inventory
SARA (Title 313): Title compound not listed
Second Ingredient: none
Third Ingredient: none

SECTION 16: Other Information
Disclaimer: The information herein is believed to be accurate and reliable as of the date compiled. However, Strem Chemicals, Inc. makes no representation, warranty, or guarantee of any kind with respect to the information contained in this document or any use of the product based on this information.
Preparation Date: 11/27/2000
Revision Date: 3/05/2004