Material Safety Data Sheet  
Revision: 06/05/2002

Hazard information is provided for compliance with both the UK Chemicals (Hazard Information and Packaging) (CHIP) Regulations and the US Hazard Communication Standard (HCS)

### Identification of the Substance/Preparation and Company

<table>
<thead>
<tr>
<th>Supplier</th>
<th>Emergency Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>USB Corporation, 26111 Miles Road, Cleveland, Ohio 44128 Phone: (216) 765-5000</td>
<td>Chemtrec (800) 424-9300 Outside USA &amp; Canada 703 527 3887</td>
</tr>
</tbody>
</table>

### Composition/Hazardous Components

<table>
<thead>
<tr>
<th>HAZARD</th>
<th>CAS NO.</th>
<th>% WT</th>
<th>TLV</th>
<th>CHIP R &amp; S Phrases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cesium Hydroxide, Monohydrate</td>
<td>35103-79-8</td>
<td>100</td>
<td>---</td>
<td>R:35 Causes severe burns. S:26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S:28 After contact with skin, wash immediately with plenty of water. S:36/37/39 Wear suitable protective clothing, gloves and eye/face protection. S:45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).</td>
</tr>
</tbody>
</table>

### Hazards Identification

**CHIP**
- Corrosive

**HCS**
- Corrosive

### First-Aid Measures

**EYES:** Flush with water for 15 minutes. Seek medical advice if irritation persists.
**SKIN:** Flush with water, then wash thoroughly with soap and water. Remove contaminated clothing and wash before reuse. Seek medical attention if irritation persists.
**INHALATION:** Remove the victim from exposure and move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Keep victim quiet and warm. Seek immediate medical attention.
**INGESTION:** Drink water and seek immediate medical attention. Avoid alcoholic beverages. Never give anything by mouth to an unconscious person.

### Fire-Fighting Information

Use media suitable to extinguish the supporting or surrounding fire. Wear NIOSH (or equivalent) approved self contained breathing apparatus. For small fires only: use carbon dioxide, dry powder or foam. Contact with metals may evolve flammable hydrogen gas. Emits toxic fumes under fire conditions.

**Flash Point** = No data available.

### Accidental Release Measures

Wear appropriate personal protective equipment and clothing including lab coat, safety goggles, gloves and NIOSH-approved respirator. Collect in a manner that does not create dust and place in a suitable waste container. Avoid contact of material with skin or eyes. Use adequate ventilation.

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This data sheet is based upon information believed to be reliable. The Company makes no statement or warranty as to the accuracy or completeness of the information contained herein which is offered for your consideration, investigation and verification. Any use of the information contained in this data sheet must be determined by the user to be in accordance with appropriate applicable regulations.

MSDS information may be continued on back of page.
**HANDLING AND STORAGE**

Wear appropriate personal protective equipment and clothing including lab coat, safety goggles, gloves and NIOSH-approved respirator. Avoid contact of material with skin or eyes. Use adequate ventilation. Store ambient away from incompatible material. Do not store together with acids. Avoid contact with metals. Protect from moisture.

**PERSONAL PROTECTION**

Wear appropriate personal protective equipment and clothing including lab coat, safety goggles, gloves and NIOSH-approved respirator. A qualified industrial hygienist should evaluate the need for respiratory protection. Use respiratory protection approved by NIOSH (or equivalent) and appropriate to the hazard. Avoid contact of material with skin or eyes. Mechanical ventilation or local exhaust as needed to control exposure to dust, vapors or mists. Access to a safety shower and eye-wash.

**PHYSICAL AND CHEMICAL PROPERTIES**

Appearance: White, crystalline solid  
Boiling Point: No data available  
Vapor Pressure (mm Hg): No data available  
Vapor Density: 5.8  
Solubility (Water): Soluble (Exothermic)  
Specific Gravity: 3.675  
Percent Volatile: No data available  
Evaporation Rate: No data available  
Chemical formula: Cs-H-O H2O  
Melting Point: 272°C

**STABILITY AND REACTIVITY**

Product is stable. Hygroscopic. Hazardous decomposition products include cesium oxide and hydrogen gas. Incompatible with strong oxidizing agents, acids and metals. Hazardous polymerization will not occur.

**TOXICOLOGICAL INFORMATION**

**EFFECTS OF OVEREXPOSURE:**

**EYES:** Causes eye burns. Contact may result in corneal damage or blindness. Symptoms of inflammation include redness, watering and itching.

**SKIN:** Contact causes burns. Symptoms include itching, scaling, reddening and blistering.

**INHALATION:** May cause severe irritation of the respiratory tract with sore throat, coughing, shortness of breath, wheezing, laryngitis, headache, nausea, vomiting and pulmonary edema. Causes chemical burns to the respiratory tract.

**INGESTION:** May cause severe and permanent damage to the digestive tract characterized by nausea, vomiting, diarrhea, restlessness, ataxia, vertigo, slow and labored breathing, hypothermia and convulsions. Causes gastrointestinal tract burns.

**ADDITIONAL INFORMATION:**

May be harmful by inhalation, ingestion and skin absorption. Cause caustic burns due to very high alkalinity. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes and skin. Severe overexposure may produce lung damage, choking, unconsciousness or death.

**RTECS:** No data available.

**Definition(s):** RTECS = Registry of Toxic Effects of Chemical Substances.

**ECOLOGICAL INFORMATION**

No information available.

**DISPOSAL CONSIDERATIONS**

Dispose of material in accordance with applicable local, state, and federal regulations.

**TRANSPORTATION INFORMATION**

US DOT / IATA: Caesium hydroxide, Class 8, UN2682, PGII. Label: Corrosive.

**REGULATORY INFORMATION**

RCRA - No applicable information.

SARA 302 - This material does not have an RQ or TPQ.

SARA 313 - This material is not reportable under 313.

EPA TSCA Section 8(b) - No applicable information.

Exposure Limits - Not established.

California Proposition 65 - No applicable information.