# Material Safety Data Sheet

**Complies with 29 CFR 1910.1200. OSHA Hazard Communication Rule**

**Date of Last Revision:** 05-03-96

## Chemical Identity

<table>
<thead>
<tr>
<th>Label Identity</th>
<th>Holmium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Name/Synonyms</td>
<td>Holmium</td>
</tr>
<tr>
<td>Formula</td>
<td>Ho</td>
</tr>
<tr>
<td>Chemical Family</td>
<td>Metal</td>
</tr>
<tr>
<td>CAS Registry Number</td>
<td>7440-0-0, Product is TSCA. Certified</td>
</tr>
</tbody>
</table>

### Hazardous Ingredients

- **%:** 99
- **TLV:** 10mg/m³ (TWA) total dust
- **OSHA/PEL:** 15mg/m³ (total dust), 5mg/3 (respirable)

## SARA Title III: Fire hazard, reactive hazard

## Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color and Form</td>
<td>Silver solid, (ingot, chunk, foil, powder)</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>4883</td>
</tr>
<tr>
<td>Density (gm/cc)</td>
<td>NA</td>
</tr>
<tr>
<td>Vapor Pressure @ 20°</td>
<td>NA</td>
</tr>
<tr>
<td>% Volatile by Volume (%)</td>
<td>NA</td>
</tr>
<tr>
<td>Reaction with Water</td>
<td>NA</td>
</tr>
<tr>
<td>Evaporation Rate (H2O=1)</td>
<td>NA</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Insoluble, reacts</td>
</tr>
<tr>
<td>Melting Point</td>
<td>2685</td>
</tr>
</tbody>
</table>

## Fire and Explosion Hazard Data

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flash Point</td>
<td>NA</td>
</tr>
<tr>
<td>Autoignition Temperature (°C)</td>
<td>NA</td>
</tr>
<tr>
<td>Flammability</td>
<td>ND</td>
</tr>
<tr>
<td>Extinguishing Media</td>
<td>Use dry chemical, class D extinguisher, DO NOT USE WATER.</td>
</tr>
<tr>
<td>Special Fire Fighting Procedures</td>
<td>Wear self-contained breathing apparatus, full protective clothing to prevent contact. When heated, all forms of the metal (ingot, foil, powder) will react with water or steam to produce flammable/explosive H₂. Avoid creating fine dusts, because a powder, this product is capable of creating a dust explosion.</td>
</tr>
<tr>
<td>Unusual Fire &amp; Explosion Hazards</td>
<td></td>
</tr>
</tbody>
</table>

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HOLMIUM
MATERIAL SAFETY DATA SHEET

HEALTH HAZARD INFORMATION

TOXICITY DATA
HMIS RATING: ND
HEALTH: nd FLAMMABILITY: nd REACTIVITY: nd PERSONAL PROTECTION: nd

ROUTES OF ENTRY
INHALATION: Yes
SKIN: Yes
INGESTION: Yes

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: No data found
EFFECTS OF OVEREXPOSURE (single exposure):
INHALATION: may be harmful if inhaled. Good industrial hygiene practice suggests limiting exposure to all respirable particles.
INGESTION: evidence suggests low toxicity potential due to poor absorption by the oral route (1).
DERMAL/EYE: may cause skin and eye irritation.

CARCINOGENICITY: No NTP: No IARC MONOGRAPHS: No OSHA REGULATE: No

EMERGENCY FIRST AID PROCEDURES:
INGESTION: if swallowed and victim is fully conscious, induce vomiting by 1-2 glasses of water and sticking finger down throat. Seek Medical Attention!
INHALATION: remove from area of exposure, if NOT breathing, give artificial respiration, if breathing is difficult, give oxygen. Seek Medical Attention!
SKIN CONTACT: in case of skin contact immediately wash with soap and water for at least 5 minutes, remove contaminated clothing and shoes. Thoroughly clean contaminated clothing and shoes before reuse. Seek medical attention if irritation develops or persists.
EYE CONTACT: in case of eye contact, immediately flush eyes with plenty of water for at least 15 minutes using an eyewash fountain. Lift upper and lower lids and rinse well under them. Seek medical attention if irritation persists.

REACTIVITY DATA
STABILITY
Stable
CONDITIONS CONTRIBUTING TO UNSTABILITY
Avoid dusts, air and moisture
INCOMPATIBILITY (MATERIALS TO AVOID)
water, strong acids and oxidizers,
halogens
HAZARDOUS DECOMPOSITION PRODUCTS
powders and thin foils will react with water at room temp to produce flammable/explosive hydrogen gas.
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MATERIAL SAFETY DATA SHEET

REACTIVITY DATA CONTINUED

HAZARDOUS POLYMERIZATION CONDITIONS TO AVOID
Will Not Occur
NA

SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: eliminate all sources of ignition, evacuate area, wear appropriate protective gear. Sweep into appropriate container, avoid creating dust. DO NOT use “SHOP” vacuum, as this may cause a fire. Ventilate area, wash spill area after material pick-up is complete.

WASTE DISPOSAL METHOD: Consult federal, state and local regulations for disposal

SPECIAL PROTECTIVE INFORMATION

RESPIRATORY PROTECTION
NIOSH/MSHA approved dust mask
LOCAL EXHAUST
Maintain below TLV
MECHANICAL (general)
NA
PROTECTIVE GLOVES
Recommended
EYE PROTECTION
Safety glasses with side shields
OTHER PROTECTIVE EQUIPMENT
maintain a safety shower and eyewash fountain in the work area. Oxygen ready.

SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING/STORAGE: store in a cool, dry place in a tightly closed container. Air and moisture sensitive. Store away from oxidizers and other materials listed under incompatibility. STORE UNDER ARGON OR OTHER INERT ENVIRONMENT. Avoid breathing dusts, direct or prolong contact with skin and eyes, wash hands, do not rub eyes, do not eat, smoke or drink in the work area.

TRANSPORTATION REQUIREMENTS
DOT CLASS: NC
UN NUMBER: NC
IMCO CLASS: NC

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NA= NOT APPLICABLE  ND= NO DATA FOUND