

Common Name: **CESIUM HYDROXIDE**

Synonyms: Cesium Hydrate; Cesium Hydroxide Dimer

CAS No: 21351-79-1

Molecular Formula: (Cs(OH))

RTK Substance No: 0354

Description: Colorless to yellow, crystalline solid, which absorbs moisture from the air and is often in solution. It is a very strong base.

**HAZARD DATA**

Hazard Rating	Firefighting	Reactivity
<b>3 - Health</b> <b>0 - Fire</b> <b>1 - Reactivity</b> <b>DOT#:</b> UN 2682 (Solid) UN 2681 (Solution) <b>ERG Guide #:</b> 157 (Solid) 154 (Solution) <b>Hazard Class: 8</b> (Corrosive)	Extinguish fire using an agent suitable for type of surrounding fire. <b>Cesium Hydroxide</b> itself does not burn. POISONOUS GASES ARE PRODUCED IN FIRE. CONTAINERS MAY EXPLODE IN FIRE. Use water spray only to keep fire-exposed containers cool. DO NOT get water inside containers.	<b>Cesium Hydroxide</b> will react with WATER or MOISTURE to generate enough heat to ignite COMBUSTIBLES. <b>Cesium Hydroxide</b> may react violently with OXIDIZING AGENTS (such as PERCHLORATES, PEROXIDES, PERMANGANATES, CHLORATES, NITRATES, CHLORINE, BROMINE and FLUORINE) and STRONG ACIDS (such as HYDROCHLORIC, SULFURIC and NITRIC); and is not compatible with CARBON DIOXIDE and OXYGEN. <b>Cesium Hydroxide</b> attacks many METALS (such as TIN, LEAD, ALUMINUM and ZINC) to form flammable and explosive gases.

**SPILL/LEAKS**

**Isolation Distance:** 25 meters (75 feet) for solids  
 50 meters (150 feet) for liquids

Sweep up solid spills.  
 Absorb liquid spills with vermiculite or dry sand.

**PHYSICAL PROPERTIES**

**Odor Threshold:** No information  
**Flash Point:** Not combustible  
**Specific Gravity:** 3.68 g/cm<sup>3</sup>  
**Vapor Pressure:** 0 mm Hg at 68°F (20°C)  
**Water Solubility:** Soluble/Reactive  
**Melting Point:** 522°F (272°C)

**EXPOSURE LIMITS**

**OSHA:** N/A  
**NIOSH:** 2 mg/m<sup>3</sup>, 10-hr TWA  
**ACGIH:** 2 mg/m<sup>3</sup>, 8-hr TWA  
**IDLH LEVEL:** N/A

**PROTECTIVE EQUIPMENT**

**Gloves:** Butyl Rubber, Nitrile, Neoprene, Natural Rubber or VITON® for *corrosive bases* in *solution*  
**Coveralls:** DuPont *Tychem*® SP, Polycoat, QC, CPF-1, SL and CPF-2 for *inorganic acids* and *bases*  
**Boots:** Butyl, Neoprene  
**Respirator:** >2 mg/m<sup>3</sup> APR with High Efficiency filters  
 >20 mg/m<sup>3</sup> Supplied Air

**HEALTH EFFECTS**

**Eyes:** Irritation and burns  
**Skin:** Irritation and burns  
**Acute:** Nose, throat and lung irritation with coughing, and shortness of breath (pulmonary edema)  
**Chronic:** Bronchitis with coughing, phlegm and shortness of breath

**FIRST AID AND DECONTAMINATION**

**Remove** the person from exposure.  
**Flush** eyes with large amounts of water for at least 30 minutes. Remove contact lenses if worn. Seek medical attention immediately.  
**Quickly** remove contaminated clothing. Wash contaminated skin with large amounts of water. Seek medical attention immediately.  
**Begin** artificial respiration if breathing has stopped and CPR if necessary.  
**Transfer** to a medical facility.  
**Medical** observation is recommended as symptoms may be delayed.