

|                            | 1. Product and Company Identification   |  |  |
|----------------------------|---|--|--|
| Trade Name:                | Cesium Hydroxide  |  |  |
| Chemical Formula:          | CsOH  |  |  |
| Recommended Use:           | Scientific research and development   |  |  |
| Manufacturer/Supplier:     | LTS Research Laboratories, Inc.   |  |  |
| Street:                    | 37 Ramland Road   |  |  |
| City:                      | Orangeburg  |  |  |
| State:                     | New York  |  |  |
| Zip Code:                  | 10962   |  |  |
| Country:                   | USA   |  |  |
| Tel #:                     | 855-587-2436 / 855-lts-chem   |  |  |
| 24-Hour Emergency Contact: | 800-424-9300 (US & Canada)  |  |  |
|                            | +1-703-527-3887 (International)   |  |  |
|                            | 2. Hazards Identification   |  |  |
| Signal Word:               | Danger  |  |  |
| Hazard Statements:         | H302: Harmful if swallowed<br>H314: Causes severe skin burns and eye damage   |  |  |
|                            | H314: Causes severe skill burns and eye damage<br>H318: Causes serious eye damage   |  |  |
|                            |   |  |  |
| Precautionary Statements:  | P260: Do not breathe dust/fume/gas/mist/vapors/spray  |  |  |
| Precautionary Statements:  | P264: Wash skin thoroughly after handling   |  |  |
| Precautionary Statements:  | P264: Wash skin thoroughly after handling<br>P270: Do not eat, drink or smoke when using this product   |  |  |
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| 3. Composition                              |   |  |
|---|---|--|
| Chemical Family:                            | Metal Hydroxide   |  |
| Additional Names:                           | Caesium hydroxide   |  |
| Cesium Hydroxide (CsOH)                     |   |  |
| Percentage:                                 | 100 wt%   |  |
| CAS #:                                      | 21351-79-1  |  |
| EC #:                                       | 244-344-1   |  |
|   | 4. First Aid Procedures   |  |
| General Treatment:                          | Seek medical attention if symptoms persist.   |  |
| Special Treatment:                          | None  |  |
| Important Symptoms:                         | N/A   |  |
| Inhalation:                                 | Remove victim to fresh air. Supply oxygen if breathing is difficult.  |  |
| Ingestion:                                  | Seek medical attention.<br>Rinse mouth with water. Never give anything by mouth to an   |  |
| ingestion.                                  | unconscious person. Do not induce vomiting. Seek medical attention.   |  |
| Skin:                                       | Wash affected area with mild soap and water. Remove any contaminated clothing. Seek medical attention.                                    |  |
| Eyes:                                       | Flush eyes with water, blinking often for several minutes. Remove   |  |
|   | contact lenses if present and easy to do. Continue rinsing. Seek medica   |  |
|   | attention.  |  |
|   | 5. Firefighting Measures  |  |
|   |   |  |
| Flammability:                               | Non-flammable, except as powder   |  |
| Extinguishing Media:                        | Do not use water for metal fires. Use alcohol-resistant foam, dry   |  |
|   | chemical or carbon dioxide.   |  |
| Spec. Fire Fighting Procedure:              | Use full-face, self-contained breathing apparatus with full protective  |  |
|   | clothing to prevent contact with skin and eyes. See section 10 for decomposition products.  |  |
|   | decomposition products.   |  |
|   | 6. Accidental Release Measures  |  |
| If Material Is Released/Spilled:            | Wear appropriate respiratory and protective equipment specified in  |  |
|   | special protection information. Isolate spill area and provide  |  |
|   | ventilation. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for disposal. |  |
|   | Take care not to raise dust.  |  |
| Environmental Precautions:                  | Isolate runoff to prevent environmental pollution.  |  |
|   | 7. Handling and Storage   |  |
|   |   |  |
| Handling Conditions:<br>Storage Conditions: | Wash thoroughly after handling.<br>Store in a cool dry place in a tightly sealed container. This product is                               |  |
| Storage Conditions:                         | hygroscopic. Protect from humidity and water. Store apart from  |  |
|   | materials and conditions listed in section 10.  |  |
| Work/Hygienic Maintenance:                  | Do not use tobacco or food in work area. Wash thoroughly before   |  |
|   | eating and smoking. Do not blow dust off clothing or skin with  |  |
|   | compressed air.   |  |
| Ventilation:                                | Provide sufficient ventilation to maintain concentration at or below  |  |
|   | threshold limit.  |  |
|   |   |  |

| 8. Exp                                 | osure Controls and Personal Protection  |
|--|---|
| Permissible Exposure Limits:           | N/A   |
| Threshold Limit Value:                 | N/A   |
| Special Equipment:                     | None  |
| Respiratory Protection:                | Use a recommended dust respirator or mask. Only use equipment tested and approved under appropriate government standards. |
| Protective Gloves:                     | Nitrile or rubber gloves  |
| Eye Protection:                        | Safety glasses or goggles   |
| Body Protection:                       | Protective work clothing. Wear close-toed shoes and long  |
| 2                                      | sleeves/pants.  |
| 9. Pl                                  | nysical and Chemical Characteristics  |
| Color                                  | White to pale yellow  |
| Form:                                  | Powder, Granules, Pellets, Sputtering target, Custom parts  |
| Odor:                                  | N/A   |
| Water Solubility:                      | 395.5 g/100 ml at 15 ° C  |
| Boiling Point:                         | N/A   |
| Melting Point:                         | 272.3 °C  |
| Flash Point:                           | N/A   |
| Autoignition Temperature:              | N/A   |
| Density:                               | 3.675 g/cc  |
| Molecular weight:                      | 149.91 g/mol  |
|  | 10. Reactivity  |
| Stability:                             | Stable under recommended storage conditions   |
| Reacts With:                           | Strong oxidizing agents, Acids, Water, Corrosive to glass   |
| Incompatible Conditions:               | Moisture  |
| Hazardous Decomposition Products:      | Cesium oxides   |
|  | 11. Toxicological Information   |
| Potential Health Effects:              |   |
| Eyes:                                  | Causes serious damage   |
| Skin:                                  | Causes severe burns   |
| Ingestion:                             | Harmful if swallowed  |
| Inhalation:                            | May cause irritation  |
| Chronic:                               | N/A   |
| Signs & Symptoms:                      | N/A   |
| Aggravated Medical Conditions:         | N/A   |
| Median Lethal Dose:                    | 570 mg/kg for rat by mouth for CsOH   |
| Carcinogen:                            | N/A   |
|  | 12. Ecological Information  |
| Aquatic Toxicity:                      | N/A   |
| Persistent Bioaccumulation Toxicity:   | N/A   |
| reisistent bioaccumulation foxicity.   |   |
| Very Persistent, Very Bioaccumulative: | N/A   |
|  | N/A<br>N/A  |

Dispose of in accordance with local, state, national, and international regulations.

| 14. Transportation Data        |                            |  |
|--------------------------------|----------------------------|--|
| Hazardous:                     | Hazardous as powder only   |  |
| Hazard Class:                  | 8 Corrosives               |  |
| Packing Group:                 | II                         |  |
| UN Number:                     | UN2682                     |  |
| Proper Shipping Name:          | Caesium Hydroxide          |  |
|                                | 15. Regulatory Information |  |
| Sec 302 Extremely Hazardous:   | No                         |  |
| Sec 304 Reportable Quantities: | N/A                        |  |
| Sec 313 Toxic Chemicals:       | No                         |  |

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.

Document Last Revised:

Redearch 01/29/2020 pretories, Inc.