1. Product and Company Identification

Trade Name:	Zinc chloride
Chemical Formula:	$ZnCl_2$
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
H314: Causes severe skin burns and eye damage
H410: Very toxic to aquatic life with long lasting effects

Precautionary Statements:
P260: Do not breathe dust/fume/gas/mist/vapors/spray
P264: Wash skin thoroughly after handling
P270: Do not eat, drink or smoke when using this product
P273: Avoid release to the environment
P280: Wear protective gloves/ protective clothing/ eye protection/ face protection
P301+P312+P330: IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth
P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340+P310: IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor
P305+P351+P338+P310: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor
P363: Wash contaminated clothing before reuse
P391: Collect spillage
P405: Store locked up
P501: Dispose of contents/ container to an approved waste disposal plant.

HMIS Health Ratings (0-4):

Health:	3
Flammability:	0
Physical:	1

3. Composition

Chemical Family:	Salt, Inorganic compound
Additional Names:	Zinc dichloride, Zinc chloride anhydrous

Zinc chloride ($ZnCl_2$):

Percentage:	100 wt%
CAS #:	7646-85-7
EC #:	231-592-0

4. First Aid Procedures

General Treatment:	Seek medical attention if symptoms persist.
Special Treatment:	None
Important Symptoms:	None
Inhalation:	Remove victim to fresh air. Supply oxygen if breathing is difficult. Seek medical attention.
Ingestion:	Do NOT induce vomiting. Never induce vomiting or give anything by mouth to an unconscious person. Rinse mouth with water. 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 while transferring to hospital.

5. Firefighting Measures

Flammability:	Non-flammable
Extinguishing Media:	No special restrictions – use suitable extinguishing agent for surrounding material and type of fire.
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.

6. Accidental Release Measures

If Material Is Released/Spilled:	Use neutralizing agent. 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. Evacuate unprotected personnel to safety.
Environmental Precautions:	Isolate runoff to prevent environmental pollution.

7. Handling and Storage

Handling Conditions:	Use neutralizing agent if spilled. Handle under dry protective gas. Wash thoroughly after handling. Avoid contact with skin and eyes.
Storage Conditions:	Store under nitrogen in a cool dry place in a tightly sealed container. Store apart from materials and conditions listed in section 10. Protect from moisture, material is hygroscopic.
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. Exposure Controls and Personal Protection

Permissible Exposure Limits:	1 mg/m^3 as $ZnCl_2$, long-term value (fume)
Threshold Limit Value:	2 mg/m^3 as $ZnCl_2$, short-term value 1 mg/m^3 as $ZnCl_2$, long-term value (fume)
Special Equipment:	None
Respiratory Protection:	Dust Respirator
Protective Gloves:	Nitrile rubber gloves
Eye Protection:	Safety glasses or goggles
Body Protection:	Protective work clothing. Wear close-toed shoes and long sleeves/pants.

9. Physical and Chemical Characteristics

Color	White
Form:	Powder, Granules, Pellets, Sputtering target, Custom parts
Odor:	Odorless
Water Solubility:	3680 g/l at 20°C
Boiling Point:	732 °C
Melting Point:	290 °C
Flash Point:	N/A
Autoignition Temperature:	N/A
Density:	2.91 g/cc
Molecular weight:	136.30 g/mol

10. Reactivity

Stability:	Stable under recommended storage conditions
Reacts With:	Oxidizing agents, strong bases, water
Incompatible Conditions:	Moisture/water
Hazardous Decomposition Products:	Metal oxide fume, Zinc oxide, Hydrogen Chloride

11. Toxicological Information

Potential Health Effects:

Eyes:	Causes serious eye damage
Skin:	Causes serious skin burns
Ingestion:	Harmful if swallowed. Strong corrosive effect on the mouth and throat and danger of perforation of the esophagus and stomach.
Inhalation:	Causes irritation
Chronic:	N/A
Notes:	Zinc chloride and its aqueous solutions are corrosive to the eyes and skin. They cause conjunctivitis and corneal burns in the eye and produce chemical burns, particularly on areas where the skin is broken. Ingestion produces a corrosive action to the mouth, throat, and digestive tract which can include symptoms of stomach pain, nausea, vomiting, bloody diarrhea, swelling of the throat, blood in the urine, and shock. Inhalation irritates the nose and throat producing cough, chest pain, bluish skin, fever, nausea and vomiting, shortness of breath, difficulty in breathing (onset may be delayed by several hours), and pneumonia. Fatalities have occurred by inhalation and ingestion.

Signs & Symptoms:	N/A
Aggravated Medical Conditions:	N/A
Median Lethal Dose:	350 mg/kg for rat by mouth 2000 mg/m^3 for rat by inhalation
Carcinogen:	IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens. EPA-D: Not classifiable as to human carcinogenicity: inadequate human and animal evidence of carcinogenicity or no data are available EPA-I: Data are inadequate for an assessment of human carcinogenic potential. EPA-II: Inadequate information to access carcinogenic potential.

12. Ecological Information

Aquatic Toxicity:	High
Persistent Bioaccumulation Toxicity:	N/A
Very Persistent, Very Bioaccumulative:	High
Notes:	Do not allow product to reach ground water, water course, or sewage system, even in small quantities. Very toxic for aquatic organisms. May cause long lasting harmful effects to aquatic life. Poisonous for fish and plankton in water bodies. Danger to drinking water if even extremely small quantities leak into the ground. Also poisonous for fish and plankton in water bodies.

13. Disposal Considerations

Dispose of in accordance with local, state, national, and international regulations. Do not allow product to reach sewage or other water courses.

14. Transportation Data

Hazardous:	Hazardous for transportation

Hazard Class:	8 Corrosive substances
Packing Group:	PG III
UN Number:	UN2331
Proper Shipping Name:	Zinc chloride, anhydrous

15. Regulatory Information

Sec 302 Extremely Hazardous:	N/A
Sec 304 Reportable Quantities:	N/A
Sec 313 Toxic Chemicals:	Yes

16. Other Information

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.

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