# Safety Data Sheet

## Section 01 - Identification

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|---|---|
| **Product Identifier** | Zinc Chloride 62.5% Solution |
| **Other Means of Identification** | Butter of zinc, Zinc butter, Zinc dichloride |
| **Product Use and Restrictions on Use** | For industrial use as a catalyst in the manufacture of polyester-polyether resins, in the manufacture of ion-exchange resins, condensing agent, galvanizing flux, in adhesives, and in carbon-zinc batteries. |
| **Initial Supplier Identifier** | ClearTech Industries Inc.<br>1500 Quebec Avenue<br>Saskatoon, SK. Canada<br>S7K 1V7 |
| **Prepared By** | ClearTech Industries Inc. Technical Writer<br>Phone: 1 (800) 387-7503 |
| **24-Hour Emergency Phone** | Phone: 1 (306) 664 – 2522 |

## Section 02 - Hazard Identification

### GHS-Classification

| | |
|---|---|
| **Acute Toxicity-Oral** | Category 4 |
| **Skin Corrosion/Irritation** | Category 1B |
| **Serious Eye Damage/Irritation** | Category 1 |
| **STOT-Single Exposure** | Category 3 |

### Physical Hazards

No known physical hazards.

**Danger**

**Hazard Statements**
H302 – Harmful if swallowed.
H314 – Causes severe skin burns and eye damage..
H335 – May cause respiratory irritation.

**Pictograms**

**Precautionary Statements**
P403 + P233 – Store in a well-ventilated place. Keep container tightly closed.
P270 – Do not eat, drink or smoke when using this product.
P271 – Use only outdoors or in a well-ventilated area.
P260 – Do not breathe mist, vapours or spray.
P280 – Wear protective gloves, protective clothing, eye protection, and face protection.
P301 +P330 + P331 – IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 – IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin
P363 – Wash contaminated clothing before reuse.
P304 + P340 – IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P310 – Immediately call a POISON CENTER or doctor/physician.
P305 + P351 + P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P405 – Store locked up.
P501 – Dispose of contents/container in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.

## Section 03 - Composition / Information on Ingredients

| Chemical Name | CAS Number | Weight % | Unique Identifiers |
|---|---|---|---|
| Zinc Chloride | 7646-85-7 | 60-65% | Not Available |

## Section 04 - First Aid Measures

**Inhalation**
Remove victim to fresh air. Give artificial respiration only if breathing has stopped. If breathing is difficult, give oxygen. Seek medical attention.

**Skin Contact / Absorption**
Remove contaminated clothing. Rinse skin with lukewarm, gently flowing water for at least 30 minutes. Seek immediate medical attention. Completely decontaminate clothing, shoes and leather goods before reuse or discard.

**Eye Contact**
Flush immediately with water for at least 30 minutes. Forcibly hold eyelids apart to ensure complete irrigation of eye tissue. If a contact lens is present, remove only if easy to do so. Seek immediate medical attention.

**Ingestion**
NEVER give anything by mouth if victim is rapidly losing consciousness, or is unconscious or convulising. Have victim rinse mouth thoroughly with water. DO NOT INDUCE VOMITING. Have victim drink 60 to 240mL of water. If vomiting occurs naturally, have victim rinse mouth with water again. Seek immediate medical attention.

**Additional Information**
May cause severe burns to skin, eyes and other body tissue. Harmful if swallowed. Inhalation may cause drowsiness or dizziness. May cause pulmonary edema. May cause metal fume fever.

## Section 05 - Fire Fighting Measures

**Suitable Extinguishing Media**
Zinc chloride is not combustible. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable Extinguishing Media**
Not Available

**Specific Hazards Arising From the Chemical**
During a fire, corrosive and toxic hydrogen chloride gas may be generated by thermal decomposition or combustion. Closed containers may rupture violently when exposed to fire or excessive heat for sufficient time.

**Special Protective Equipment and Precautions for Fire-Fighters**
Wear a self-contained breathing apparatus pressure-demand, MSHA/NIOSH and full protective gear. Due to the decomposition products of Zinc chloride firefighter's normal protective clothing (Bunker Gear) will not provide adequate protection. Chemical resistant clothing is needed due to the corrosive nature and hazards to health.

**Further Information**
Not Available

## Section 06 - Accidental Release Measures

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| **Personal Precautions / Protective Equipment / Emergency Procedures** | Wear appropriate personal protective equipment. Ventilate area. Only enter area with PPE. Stop or reduce leak if safe to do so. |
| **Environmental Precautions** | Prevent material from entering sewers or waterways. |
| **Methods and Materials for Containment and Cleaning Up** | SOLUTIONS: Soak up spill with absorbent material which does not react with spilled chemical. Put material in suitable, covered, labelled containers. Flush area with water.<br>SOLIDS: Shovel into clean, dry, labelled containers and cover. Avoid generating dust. Flush area with water.<br>LARGE SPILLS: Contact fire and emergency services and supplier for advice. |

## Section 07 - Handling and Storage

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| **Precautions for Safe Handling** | This material is a CORROSIVE (to eyes and skin) SOLID. Use proper equipment for lifting and transporting all containers. Use sensible industrial hygiene and housekeeping practices. Wash thoroughly after handling. Avoid all situations that could lead to harmful exposure. |
| **Conditions for Safe Storage** | Store in a cool, dry area, out of direct sunlight and away from heat. Store away from incompatible materials. Keep storage area separate from work areas. |
| **Incompatibilities** | Potassium and strong bases (eg. Alkali hydroxides). |

## Section 08 - Exposure Controls and Personal Protection

### Exposure Limit(s)

| Component | Regulation | Type of Listing | Value |
|---|---|---|---|
| Zinc chloride | NIOSH | IDLH | 50mg/m$^3$ fume |

### Engineering Control(s)

| | |
|---|---|
| **Ventilation Requirements** | Mechanical ventilation (dilution or local exhaust), process or personnel enclosure and control of process conditions must be provided in accordance with all fire codes and regulatory requirements. Supply sufficient replacement air to make up for air removed by exhaust systems. |
| **Other** | Emergency shower and eyewash must be available and tested in accordance with regulations and be in close proximity. |

### Protective Equipment

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|---|---|
| **Eyes/Face** | Chemical goggles, full-face shield, or a full-face respirator is to be worn at all times when product is handled. Contact lenses should not be worn; they may contribute to severe eye injury. |
| **Hand Protection** | Impervious gloves of chemically resistant material (rubber or PVC) should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse. |
| **Skin and Body Protection** | Body suits, aprons, and/or coveralls of chemical resistant material should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse. Impervious boots of chemically resistant material should be worn at all times. |

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| **Respiratory Protection** | NIOSH RECOMMMENDATIONS FOR ZINC CHLORIDE FUME CONCENTRATIONS IN AIR:<br>Up to 10mg/$m^3$: Any particulate respirator equipped with an N95, R95, or P95 filter except quarter-mask respirators. The following filters may also be used: N99, R99, P99, N100, R100, P100. Any supplied-air respirator.<br>Up to 25mg/$m^3$: Any supplied-air respiratory operated in a continuous-flow mode. Any powered air-purifying respiratory with a high-efficiency particulate filter.<br>Upt to 50mg/$m^3$: Any air-purifying respiratory with a tight-fitting facepiece and a high-efficiency particulate filter. Any self-contained breathing apparatus with a full facepiece. Any supplied-air respirator with a full facepiece. |
| **Thermal Hazards** | Not Available |

## Section 09 - Physical and Chemical Properties

### Appearance

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|---|---|
| **Physical State** | Liquid |
| **Colour** | Clear, colorless |
| **Odour** | No odour |
| **Odour Threshold** | Not Determined |

### Property

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|---|---|
| **pH** | 3 |
| **Melting Point/Freezing Point** | -45 to -5°C |
| **Initial Boiling Point and Boiling Range** | 114°C |
| **Flash Point** | Not Available |
| **Evaporation Rate** | Not Applicable |
| **Flammability** | Not Flammable |
| **Upper Flammable Limit** | Not Available |
| **Lower Flammable Limit** | Not Available |
| **Vapour Pressure (mm Hg, 20°C)** | 1hPa |
| **Vapour Density (Air=1)** | Not Applicable |
| **Relative Density** | Not Available |
| **Solubility(ies)** | Extremely soluble.<br>Very soluble in ethanol and glycerol; freely soluble in acetone and other ketones. Soluble in diethyl ether and other ethers, esters, amides and nitrides. |
| **Partition Coefficient: n-octanol/water** | Log $P_{ow}$ = 0.15 |
| **Auto-ignition Temperature** | Not Available |
| **Decomposition Temperature** | Not Available |

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|---|---|
| **Viscosity** | 3 mPa·s |
| **Explosive Properties** | Not Available |
| **Specific Gravity (Water=1)** | 1.57 |
| **% Volatiles by Volume** | Not Available |
| **Formula** | $Cl_2Zn$ |
| **Molecular Weight** | 136.29 |

## Section 10 - Stability and Reactivity

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|---|---|
| **Reactivity** | Not Available |
| **Stability** | Stable under recommended storage conditions. |
| **Possibility of Hazardous Reactions** | None under normal processing. Hazardous polymerization does not occur. |
| **Conditions to Avoid** | High temperatures. |
| **Incompatible Materials** | Potassium and strong bases (eg. Alkali hydroxides). |
| **Hazardous Decomposition Products** | None reported at normal temperatures. |

## Section 11 - Toxicological Information

### Acute Toxicity

| Component | Oral $LD_{50}$ | Dermal $LD_{50}$ | Inhalation $LC_{50}$ |
|---|---|---|---|
| Zinc chloride (60%) | 333 mg/kg (guinea pig) | Not Available | 3,333 mg/$m^3$ (rat, 10 min.) |

### Chronic Toxicity – Carcinogenicity

| Component | IARC |
|---|---|
| Zinc chloride | This product does not contain any carcinogens or potential carcinogens as listed by OSHA IARC or NTP. |

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| **Skin Corrosion/Irritation** | Corrosive. Capable of producing severe burns, blisters, ulcers and permanent scarring. |
| **Ingestion** | Harmful if swallowed. Ingestion of large amounts can cause anemia and stomach symptoms such as nausea, vomiting, abdominal pain, and diarrhea). |
| **Inhalation** | Mists formed from solutions are probably severely irritating to the nose and throat. |
| **Serious Eye Damage/Irritation** | Corrosive. Capable of producing serious eye burns and permanent damage, including blindness. |
| **Respiratory or Skin Sensitization** | There is insufficient information available to draw conclusions. |
| **Germ Cell Mutagenicity** | The available information does not suggest that Zinc chloride is mutagenic. |
| **Reproductive Toxicity** | There is insufficient information available to draw conclusions. |
| **STOT-Single Exposure** | May cause respiratory irritation. |
| **STOT-Repeated Exposure** | Not Available. |
| **Aspiration Hazard** | Not Available. |
| **Synergistic Materials** | Not Available |

## Section 12 – Ecological Information

**Ecotoxicity**

| Component | Toxicity to Algae | Toxicity to Fish | Toxicity to Daphnia and Other Aquatic Invertebrates |
|---|---|---|---|
| Zinc chloride | Not Available | $LC_{50}$(Oncorhynchus mykiss, 96hr): 0.093mg/L | $LC_{50}$(Daphnia magna, 96hr): 0.06791mg/L |

**Biodegradability** Not Available

**Bioaccumulation** BCD fish 1 – 16000

**Mobility** Not Available

**Other Adverse Effects** Not Available

## Section 13 – Disposal Considerations

**Waste From Residues/Unused Products** Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.

**Contaminated Packaging** Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.

## Section 14 – Transport Information

**UN Number** UN1840

**UN Proper Shipping Name** ZINC CHLORIDE SOLUTION

**Transport Hazard Class(es)** 8

**Packaging Group** III

**Environmental Hazards** Not listed as a marine pollutant under Canadian TDG Regulations, schedule III.

**Special Precautions** Not Available

**Transport in Bulk** Not Available

**Additional Information**

| Packing Group | Limited Quantity Index |
|---|---|
| III | 5 L |

**TDG**

**Other** Secure containers (full and/or empty) with suitable hold down devises during shipment and ensure all caps, valves, or closures are secured in the closed position.

**TDG PRODUCT CLASSIFICATION: This product has been classified on the preparation date specified at section 14 of this MSDS / SDS, for transportation in accordance with the requirements of part 2 of the Transportation of Dangerous Goods Regulations. If applicable, testing and/or published test data regarding the classification of this product are listed in the references at section 16 of this MSDS / SDS.**

## Section 15 – Regulatory Information

**NOTE: THE PRODUCT LISTED ON THIS SDS HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CANADIAN CONTROLLED PRODUCTS REGULATIONS. THIS SDS CONTAINS ALL INFORMATION REQUIRED BY THOSE REGULATIONS.**

## Section 16 – Other Information

**Preparation Date** August 17, 2015

**Revision Date** December 18, 2018

**Note:** The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations.

**Attention: Receiver of the chemical goods / SDS coordinator**

As part of our commitment to the Canadian Association of Chemical Distributors (CACD) Responsible Distribution® initiative, ClearTech Industries Inc. and its associated companies require, as a condition of sale, that you forward the attached Safety Data Sheet(s) to all affected employees, customers, and end-users. ClearTech will send any available supplementary handling, health, and safety information to you at your request.

If you have any questions or concerns please call our customer service center.

**References:**


1) CHEMINFO
2) eChemPortal
3) TOXNET
4) Transportation of Dangerous Goods Canada
5) HSDB
6) ECHA


## ClearTech Industries Inc. - Locations


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