

# Material Safety Data Sheet

Material Name: ZINC CHLORIDE ANHYDROUS (95-100%)

ID: MRD-096

## \*\*\* Section 1 - Chemical Product and Company Identification \*\*\*

**Chemical Name:** Inorganic Salt

**Product Use:** Various Industrial Applications

**Manufacturer Information**

MINERAL RESEARCH AND DEVELOPMENT

5910 Pharr Mill Road

Harrisburg, NC 28075

Phone: 704-454-4811

FAX: 704-454-7390

Emergency # CHEMTREC: (800) 424-9300

## \*\*\* Section 2 - Composition / Information on Ingredients \*\*\*

CAS #	Component	Percent
7646-85-7	Zinc chloride	95-100

### Component Information/Information on Non-Hazardous Components

This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication). This product is considered a controlled product under the Canadian Controlled Products Act.

## \*\*\* Section 3 - Hazards Identification \*\*\*

### Emergency Overview

Product is a white, odorless granular solid. Primary health hazard is related to its corrosivity. May cause severe irritation or burns to the eyes, skin, gastrointestinal tract, and respiratory system. Product is non-flammable and non-reactive.

### Potential Health Effects: Eyes

Overexposure will cause irritation or burns, depending on duration, pain, redness, and may result in blindness.

### Potential Health Effects: Skin

This product may be severely irritating to the skin or cause burns, depending on duration of exposure. Prolonged or repeated skin contact may result in redness, burning sensation or dermatitis.

### Potential Health Effects: Ingestion

Ingestion may produce irritation and burns of the gastrointestinal tract and gastrointestinal disturbances including irritation, nausea, and diarrhea. Ingestion of large amounts may be fatal.

### Potential Health Effects: Inhalation

This product is irritating to the respiratory system. Damage to the tissues of the respiratory system may occur. Excessive inhalation of this product may cause headache, dizziness, blurred vision, nausea and vomiting. Severe inhalation can lead to pulmonary edema, pneumonitis and death. Inhalation of Zinc Chloride fumes may cause metal fume fever with resulting flu-like symptoms.

**HMIS Ratings: Health: 3 Fire: 0 Physical Hazard: 0 Pers. Prot.:** Gloves, Goggles, Face Shield, Apron

**Hazard Scale:** 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe \* = Chronic hazard

## \*\*\* Section 4 - First Aid Measures \*\*\*

### First Aid: Eyes

Immediately flush eyes with plenty of water for at least 15 minutes. Get immediate medical attention or advice.

### First Aid: Skin

For skin contact flush with large amounts of water. Immediately take off all contaminated clothing. Wash contaminated clothing before reuse. Call a physician immediately.

### First Aid: Ingestion

Do not induce vomiting. Call a physician immediately.

### First Aid: Inhalation

If inhaled, immediately remove the affected person to fresh air. If the affected person is not breathing, have qualified personnel apply artificial respiration. Do NOT perform mouth-to-mouth resuscitation. Call a physician immediately.

# Material Safety Data Sheet

Material Name: ZINC CHLORIDE ANHYDROUS (95-100%)

ID: MRD-096

## First Aid: Notes to Physician

Be observant for signs of pulmonary edema in the event of severe inhalation overexposures.

## \*\*\* Section 5 - Fire Fighting Measures \*\*\*

**Flash Point:** Not Flammable

**Upper Flammable Limit (UFL):** Not Applicable

**Auto Ignition:** Not Flammable

**Rate of Burning:** Not Flammable

### General Fire Hazards

Product is a negligible fire hazard.

### Hazardous Combustion Products

Zinc compounds, Hydrogen Chloride and Chlorine.

### Extinguishing Media

Use methods for the surrounding fire.

### Fire Fighting Equipment/Instructions

Firefighters should wear full-face, self contained breathing apparatus and impervious protective clothing.

Firefighters should avoid inhaling any combustion products. If product is involved in a fire, fire run-off water should be contained to prevent possible environmental damage.

**NFPA Ratings: Health: 3 Fire: 0 Reactivity: 0**

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

## \*\*\* Section 6 - Accidental Release Measures \*\*\*

### Containment Procedures

Stop the release of material, if this is without risk. Contain the discharged material.

### Clean-Up Procedures

Wear appropriate protective equipment and clothing during clean-up. Avoid the generation of dusts during clean-up. Sweep up or vacuum. Shovel material into appropriate container for disposal. If necessary, neutralize remaining area with sodium bicarbonate or other acid neutralizing agent and triple rinse with water. Do not allow the spilled product to enter public drainage system or open water courses.

### Evacuation Procedures

Isolate area. Keep unnecessary personnel away.

### Special Procedures

Do not allow spilled product to contact with skin and eyes. Do not inhale dusts from the spilled material. Follow all Local, State, Federal and Provincial regulations for disposal.

## \*\*\* Section 7 - Handling and Storage \*\*\*

### Handling Procedures

Do not reuse the empty container. Do not get this material in your eyes, on your skin, or on your clothing. Do not breathe dust from this material. Wash hands after handling and before eating. Minimize dust formation.

### Storage Procedures

Properly label containers. Keep the container tightly closed and in a cool, well-ventilated place. Store away from direct sunlight, away from where freezing is possible and away from incompatible materials. Empty product containers may contain product residue. Do not reuse empty containers.

# Material Safety Data Sheet

Material Name: ZINC CHLORIDE ANHYDROUS (95-100%)

ID: MRD-096

## \*\*\* Section 8 - Exposure Controls / Personal Protection \*\*\*

### A: Component Exposure Limits

#### Zinc chloride (7646-85-7)

ACGIH:	1 mg/m3 TWA (fume)
	2 mg/m3 STEL (fume)
OSHA (Final):	1 mg/m3 TWA (fume)
OSHA (Vacated):	1 mg/m3 TWA
	2 mg/m3 STEL
NIOSH:	1 mg/m3 TWA (fume)
	2 mg/m3 STEL (fume)
Alberta:	1 mg/m3 TWA (fume)
	2 mg/m3 STEL (fume)
British Columbia:	1 mg/m3 TWA (fume)
	2 mg/m3 STEL (fume)
Manitoba:	1 mg/m3 TWA (fume)
	2 mg/m3 STEL (fume)
New Brunswick:	1 mg/m3 TWA (fume)
	2 mg/m3 STEL (fume)
NW Territories:	1 mg/m3 TWA (fume)
	2 mg/m3 STEL (fume)
Nova Scotia:	1 mg/m3 TWA (fume)
	2 mg/m3 STEL (fume)
Nunavut:	1 mg/m3 TWA (fume)
	2 mg/m3 STEL (fume)
Ontario:	1 mg/m3 TWAEV (fume)
	2 mg/m3 STEV (fume)
Quebec:	1 mg/m3 TWAEV (fume)
Saskatchewan:	1 mg/m3 TWA (fume)
	2 mg/m3 STEL (fume)
Yukon:	1 mg/m3 TWA (fume)
	2 mg/m3 STEL (fume)

### Engineering Controls

Ventilation should effectively remove and prevent buildup of any dust generated from the handling of this product.

### PERSONAL PROTECTIVE EQUIPMENT

#### Personal Protective Equipment: Eyes/Face

Wear chemical goggles; face shield.

#### Personal Protective Equipment: Skin

Use impervious gloves. Use of an impervious apron is recommended.

#### Personal Protective Equipment: Respiratory

If ventilation is not sufficient to effectively prevent buildup of vapors or mists, appropriate approved NIOSH/CSA respiratory protection must be provided. Respirators should be selected by and used under the direction of a trained health and safety professional following requirements found in OSHA's respirator standard (29 CFR 1910.134) and ANSI's standard for respiratory protection (Z88.2-1992). A written respiratory protection program, including provisions for medical certification, training, fit testing, exposure assessments, maintenance, inspection, cleaning, and convenient, sanitary storage must be implemented.

#### Personal Protective Equipment: General

Eye wash fountain and emergency showers are required. An emergency spill response will necessitate the use of more stringent personal protective equipment.

# Material Safety Data Sheet

Material Name: ZINC CHLORIDE ANHYDROUS (95-100%)

ID: MRD-096

## \*\*\* Section 9 - Physical & Chemical Properties \*\*\*

<b>Appearance:</b>	White, odorless granular solid.	<b>Odor:</b>	Odorless
<b>Physical State:</b>	Solid	<b>pH:</b>	<2 (Concentrated solutions); 4.0 (10% solution)
<b>Vapor Pressure:</b>	Approx. 0	<b>Vapor Density:</b>	<1.0
<b>Boiling Point:</b>	732°C (1350°F)	<b>Melting Point:</b>	290°C (554°F)
<b>Solubility (H2O):</b>	Complete	<b>Specific Gravity:</b>	2.907 (@15°C (59°F))

## \*\*\* Section 10 - Chemical Stability & Reactivity Information \*\*\*

### Chemical Stability

Stable under normal conditions.

### Chemical Stability: Conditions to Avoid

Extreme heat, incompatible materials.

### Incompatibility

Strong bases, strong oxidizing agents, and alkali metals.

### Hazardous Decomposition

Zinc compounds, Hydrogen Chloride, and Chlorine.

### Hazardous Polymerization

Will not occur.

## \*\*\* Section 11 - Toxicological Information \*\*\*

### Acute and Chronic Toxicity

#### A: General Product Information

Acute exposure can cause severe irritation and burns of the eyes, skin, gastrointestinal tract and respiratory tract.

Zinc chloride is an eye, skin and respiratory system irritant. Inhalation of zinc fumes may result in temporary metal fume fever. Other symptoms such as slight leukocytosis, respiratory disease and hypocalcemia have been reported from occupational exposure to zinc compounds.

#### B: Component Analysis - LD50/LC50

##### Zinc chloride (7646-85-7)

Oral LD50 Rat: 350 mg/kg

50 mg/m<sup>3</sup> IDLH (fume)

### Carcinogenicity

#### A: General Product Information

No information available for the product.

#### B: Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, OSHA, NIOSH, or NTP.

## \*\*\* Section 12 - Ecological Information \*\*\*

### Ecotoxicity

#### A: General Product Information

Due to the acidic nature of this product, a release of this product in a river or other body of water (especially in large volumes) will kill fish and other aquatic life.

#### B: Component Analysis - Ecotoxicity - Aquatic Toxicity

No ecotoxicity data are available for this product's components.

### Environmental Fate

The components of this product are relatively stable under ambient, environmental conditions.

# Material Safety Data Sheet

Material Name: ZINC CHLORIDE ANHYDROUS (95-100%)

ID: MRD-096

## \*\*\* Section 13 - Disposal Considerations \*\*\*

### US EPA Waste Number & Descriptions

#### A: General Product Information

Waste approval must be in accordance with appropriate Federal, State and Local regulations. Wastes must be tested using methods described in 40 CFR Part 261 to determine if it meets applicable definitions of hazardous wastes.

#### B: Component Waste Numbers

No EPA Waste Numbers are applicable for this product's components.

#### Disposal Instructions

Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.

## \*\*\* Section 14 - Transportation Information \*\*\*

### US DOT Information

**Shipping Name:** Zinc chloride, anhydrous

**UN/NA #:** UN2331 **Hazard Class:** 8 **Packing Group:** III

**Required Label(s):** CORROSIVE

### Canada Transportation of Dangerous Goods Information

**Shipping Name:** Zinc chloride, anhydrous

**UN/NA #:** UN2331 **Hazard Class:** 8 **Packing Group:** III

**Required Label(s):** CORROSIVE

## \*\*\* Section 15 - Regulatory Information \*\*\*

### US Federal Regulations

#### A: General Product Information

All components are on the U.S. EPA TSCA Inventory List.

#### B: Component Analysis

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

#### Zinc chloride (7646-85-7)

CERCLA: 1000 lb final RQ; 454 kg final RQ

#### C: Federal Insecticide, Fungicide, and Rodenticide Act

No information is available.

**SARA 311/312:** Acute Health Yes Chronic Health No Fire No Pressure No Reactive No

### State Regulations

#### A: General Product Information

Other state regulations may apply. Check individual state requirements.

#### B: Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
Zinc chloride	7646-85-7	Yes	Yes	Yes	Yes	Yes	Yes

### Canadian WHMIS Information

#### A: General Product Information

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all information required by CPR.

# Material Safety Data Sheet

Material Name: ZINC CHLORIDE ANHYDROUS (95-100%)

ID: MRD-096

## B: Component Analysis - WHMIS IDL

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

Component	CAS #	Minimum Concentration
Zinc chloride	7646-85-7	1 %

**WHMIS Classification:** Class E - Corrosive

## Additional Regulatory Information

### A: General Product Information

No additional information available.

### B: Component Analysis - Inventory

Component	CAS #	TSCA	DSL	NDSL	EINECS	AUST	MITI	PHIL	KOREA	ELINCS	CHINA
Zinc chloride	7646-85-7	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes

## \* \* \* Section 16 - Other Information \* \* \*

### Other Information

Disclaimer: Supplier gives no warranty of merchantability or of fitness for a particular purpose. Any product purchased is sold on the assumption the purchaser will make his own tests to determine the quality and suitability of the product. Supplier expressly disclaims any and all liability for incidental and/or consequential property damage arising out of the use of this product. No information provided shall be deemed to be a recommendation to use any product in conflict with any existing patent rights. Read the Material Safety Data Sheet before handling product.

### Key/Legend

ACGIH = American Conference of Governmental Industrial Hygienists; CAS = Chemical Abstracts Service; CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act; CFR = Code of Federal Regulations; CPR = Controlled Products Regulations; DOT = Department of Transportation; DSL = Domestic Substances List; EINECS = European Inventory of Existing Commercial Chemical Substances; EPA = Environmental Protection Agency; IARC = International Agency for Research on Cancer; IATA = International Air Transport Association; mg/Kg = milligrams per Kilogram; mg/L = milligrams per Liter; mg/m3 = milligrams per Cubic Meter; MSHA = Mine Safety and Health Administration; NA = Not Applicable or Not Available; NIOSH = National Institute for Occupational Safety and Health; NJTSR = New Jersey Trade Secret Registry; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; SARA = Superfund Amendments and Reauthorization Act; STEL = Short Term Exposure Limit; TDG = Transport Dangerous Goods; TSCA = Toxic Substances Control Act; WHMIS = Workplace Hazardous Materials Information System.

This is the end of MSDS # MRD-096