

## SAFETY DATA SHEET

### Section 1: Identification

Product name: Zinc chloride  
Product use: For laboratory research purposes.  
Supplier: Trace Sciences International  
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Richmond Hill, ON L4B 3N6  
CANADA  
Telephone: +1 905-770-1100  
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### Section 2: Hazard(s) Identification

#### 2.1 GHS Classification

Acute toxicity, Oral (Category 4), H302  
Skin corrosion (Category 1B), H314  
Serious eye damage (Category 1), H318  
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335  
Short-term (acute) aquatic hazard (Category 1), H400  
Long-term (chronic) aquatic hazard (Category 1), H410

#### 2.2 GHS Label elements, including precautionary statements

##### Pictogram



##### Signal word

Danger

##### Hazard statement(s):

H302 Harmful if swallowed.  
H314 Causes severe skin burns and eye damage.  
H335 May cause respiratory irritation.  
H410 Very toxic to aquatic life with long lasting effects.

##### Precautionary statement(s):

P260 Do not breathe dust.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
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.  
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.  
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.  
P501 Dispose of contents/ container to an approved waste disposal plant.

### Section 3: Composition/ Information on Ingredients

**Formula** : ZnCl<sub>2</sub>  
**Molecular Weight** : 136.30 g/mol

Material	CAS-No.	EC-No.	Index-No.	Concentration
Zinc chloride	7646-85-7	231-592-0	030-003-00-2	<=100%

### Section 4: First-Aid Measures

#### 4.1 Description of first aid measures

##### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move person out of dangerous area if safe to do so.

##### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

##### In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water for at least 15 minutes. Use chemical shower if available. Consult a physician.

##### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Remove contacts if possible.

##### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### Section 5: Fire-Fighting Measures

#### 5.1 Conditions of flammability

Not flammable or combustible.

#### 5.2 Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

#### 5.3 Hazardous combustion products

Hazardous decomposition products formed under fire conditions: Hydrogen chloride gas, zinc/zinc oxides

#### 5.4 Special protective equipment for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

#### 5.5 Further information

The product itself does not burn.

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

## Section 6: Accidental Release Measures

### 6.1 Personal precautions

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

### 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

### 6.3 Methods and materials for containment and cleaning up

Sweep up and shovel. Keep in suitable, closed containers for disposal.

## Section 7: Handling and Storage

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition - No smoking. Take measures to prevent the buildup of electrostatic charge.

### 7.2 Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place.

## Section 8: Exposure Controls/Personal Protection

### 8.1 Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Basis
Zinc chloride	7646-85-7	TWA	1 mg/m <sup>3</sup>	Canada. British Columbia OEL
		STEL	2 mg/m <sup>3</sup>	Canada. British Columbia OEL
		TWA	1 mg/m <sup>3</sup>	Canada. Alberta, Occupational Health and Safety Caode (table 2: OEL)
		STEL	2 mg/m <sup>3</sup>	Canada. Alberta, Occupational Health and Safety Caode (table 2: OEL)
		TWAEV	1 mg/m <sup>3</sup>	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
		STEV	2 mg/m <sup>3</sup>	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
		TWA	1 mg/m <sup>3</sup>	USA. ACGIH Threshold Limit Values (TLV)
		STEL	2 mg/m <sup>3</sup>	USA. ACGIH Threshold Limit Values (TLV)

### Remarks

Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required

### 8.2 Personal protective equipment

#### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use

respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### **Hand protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

#### **Eye protection**

Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### **Skin and body protection**

Impervious clothing, flame retardant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### **Hygiene measures**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### **Specific engineering controls**

Use mechanical exhaust or laboratory fume hood to avoid exposure.

## **Section 9: Physical and Chemical Properties**

### **Appearance**

Form	Crystalline, powder
Colour	White

### **Safety Data**

pH	No data available
Melting point/freezing point	293 °C (559 °F)
Boiling point	No data available
Flash point	No data available
Flammability (solid, gas)	No data available
Ignition temperature	No data available
Auto-ignition temperature	No data available
Lower explosion limit	No data available
Upper explosion limit	No data available
Vapour pressure	No data available
Density	2.93 g/cm <sup>3</sup> at 22 °C (72 °F)
Water solubility	851 g/l at 20 °C (68 °F)
Partition coefficient: n-octanol/water	No data available
Relative vapour density	No data available
Odour	No data available
Odour Threshold	No data available
Evaporation rate	No data available

## **Section 10: Stability and Reactivity**

### **10.1 Chemical stability**

Stable under recommended storage conditions

### 10.2 Possibility of hazardous reactions

Violent reactions possible with:  
Sodium, strong oxidizing agents

### 10.3 Conditions to avoid

Exposure to moisture

### 10.4 Materials to avoid

Strong oxidizing agents

### 10.5 Hazardous decomposition products

See section 5

## Section 11: Toxicological Information

### Acute toxicity

#### Oral

LD50 Oral - Rat - male - 1,100 mg/kg  
(OECD Test Guideline 401)

#### Inhalation

LC50 Inhalation - Rat - female - 10 min - 1,975 mg/m<sup>3</sup>  
Remarks: (ECHA)

#### Dermal

LD50 Dermal - Rat - male and female - 2,000 mg/kg  
(OECD Test Guideline 402)

#### Other information on acute toxicity

No data available

### Skin corrosion/irritation

Skin - Mouse  
Remarks: (ECHA)

### Serious eye damage/eye irritation

Risk of blindness  
(Regulation (EC) No 1272/2008, Annex VI)

### Respiratory or skin sensitization

Maximization Test - Guinea pig  
Result: negative  
(OECD Test Guideline 406)

### Germ cell mutagenicity

Test Type: In vitro mammalian cell gene mutation test  
Test system: mouse lymphoma cells  
Metabolic activation: without metabolic activation  
Result: negative  
Remarks: (ECHA)

Test Type: Micronucleus test  
Species: Mouse  
Cell type: Red blood cells (erythrocytes)  
Application Route: Intraperitoneal

Result: negative  
(ECHA)

The value is given in analogy to the following substances: Zinc sulphate

**Carcinogenicity**  
No data available

**Reproductive toxicity**  
No data available

**Specific target organ toxicity - single exposure (Globally Harmonized System)**  
No data available

**Specific target organ toxicity - repeated exposure (Globally Harmonized System)**  
No data available

**Aspiration hazard**  
No data available

**Signs and Symptoms of Exposure**  
No data available

**Additional Information**  
Repeated dose toxicity - Rat - male and female - Oral - 13 Weeks - NOAEL (No observed adverse effect level) - 31.52 mg/kg - LOAEL (Lowest observed adverse effect level) - 53.8 mg/kg

RTECS: ZH1400000

## Section 12: Ecological Information

### 12.1 Toxicity

Toxicity to fish	Static test LC50 - Oncorhynchus mykiss (rainbow trout) - 0.169 mg/l - 96 h Remarks: (ECHA)
Toxicity to daphnia and other aquatic invertebrates	Static test EC50 - Daphnia magna (Water flea) - 0.33 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae	Static test NOEC - Pseudokirchneriella subcapitata (green algae) - 0.0049 mg/l - 72 h (OECD Test Guideline 201)
Toxicity to bacteria	Static test IC50 - activated sludge - 0.35 mg/l - 4 h Remarks: (ISO 9509)
Toxicity to fish (Chronic toxicity)	Flow-through test NOEC - Oncorhynchus mykiss (rainbow trout) - 0.039 mg/l - 30 d (OECD Test Guideline 215)
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	Semi-static test NOEC - Daphnia magna (Water flea) - 0.039 mg/l - 21 d (OECD Test Guideline 211)

**12.2 Persistence and degradability**  
No data available

### 12.3 Bioaccumulative potential

Channa punctata - 45 d at 27 °C (zinc chloride)

Bioconcentration factor (BCF): 0.4

### 12.4 Mobility in soil

No data available

### 12.5 PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

### 12.6 Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Very toxic to aquatic life with long lasting effects.

## Section 13: Disposal Considerations

### Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

### Contaminated packaging

Dispose of as unused product.

## Section 14: Transport Information

### IATA

UN number: UN2331 Class: 8 Packing group: III

Proper shipping name: Zinc chloride, anhydrous

## Section 15: Regulatory Information

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR

## Section 16: Other Information

### Further information

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