

Material Safety Data Sheet

Version 4.0

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1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Zinc chloride

Product Number : 208086

Brand : Sigma-Aldrich

Company : Sigma-Aldrich Canada, Ltd
2149 Winston Park Drive
OAKVILLE ON L6H 6J8
CANADA

Telephone : +19058299500

Fax : +19058299292

Emergency Phone # : 800-424-9300

2. HAZARDS IDENTIFICATION

Emergency Overview

Target Organs

Liver, Kidney

WHMIS Classification

D1B Toxic Material Causing Immediate and
E Serious Toxic Effects

Toxic by ingestion
Corrosive

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.

H410

Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P273

Avoid release to the environment.

P280

Wear protective gloves/protective clothing/eye protection/face protection.

P305 + P351 + P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310

Immediately call a POISON CENTER or doctor/physician.

P501

Dispose of contents/container to an approved waste disposal plant.

HMIS Classification

Health hazard: 3

Chronic Health Hazard: *

Flammability: 0

Physical hazards: 1

NFPA Rating

Health hazard: 3

Fire: 0

Reactivity Hazard: 1

Potential Health Effects

Inhalation	May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
Skin	May be harmful if absorbed through skin. Causes skin burns.
Eyes	Causes eye burns.
Ingestion	Toxic if swallowed. Causes burns.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : Cl_2Zn
Molecular Weight : 136.3 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
Zinc chloride			
7646-85-7	231-592-0	030-003-00-2	-

4. FIRST AID MEASURES

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

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. Consult a physician.

In case of eye contact

Continue rinsing eyes during transport to hospital. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

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

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

Further information

The product itself does not burn.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed.

Conditions for safe storage

Handle under nitrogen, protect from moisture. Store under nitrogen. Keep container tightly closed in a dry and well-ventilated place.

strongly hygroscopic Keep in a dry place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Components with workplace control parameters**

Components	CAS-No.	Value	Control parameters	Update	Basis
Zinc chloride	7646-85-7	TWA	1 mg/m ³	2007-01-01	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
		STEL	2 mg/m ³	2007-01-01	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
		TWA	1 mg/m ³	2006-11-29	Canada. British Columbia OEL
		STEL	2 mg/m ³	2006-11-29	Canada. British Columbia OEL
		TWAE V	1 mg/m ³	2005-12-17	Canada. Ontario OELs
		STEV	2 mg/m ³	2005-12-17	Canada. Ontario OELs
		TWAE V	1 mg/m ³	2006-12-29	Canada. Quebec OELs

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.

Eye protection

Face shield and safety glasses

Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures

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

9. PHYSICAL AND CHEMICAL PROPERTIES**Appearance**

Form	crystalline, powder
Colour	white

Safety data

pH	5 at 100 g/l at 20 °C (68 °F)
Melting point	293 °C (559 °F)
Boiling point	732 °C (1,350 °F) at 1,013 hPa (760 mmHg)
Flash point	no data available

Ignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapour pressure	1 hPa (1 mmHg) at 428 °C (802 °F)
Density	2.907 g/cm ³
Water solubility	soluble

10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Conditions to avoid

Exposure to moisture.

Materials to avoid

Strong oxidizing agents

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Hydrogen chloride gas, Zinc/zinc oxides, Zinc oxide fumes.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

LD50 Oral - rat - 350 mg/kg

Skin corrosion/irritation

no data available

Serious eye damage/eye irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

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.

Reproductive toxicity

no data available

Specific target organ toxicity - single exposure (GHS)

no data available

Specific target organ toxicity - repeated exposure (GHS)

no data available

Aspiration hazard

no data available

Potential health effects

Inhalation

May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Ingestion

Toxic if swallowed. Causes burns.

Skin

May be harmful if absorbed through skin. Causes skin burns.

Eyes

Causes eye burns.

Additional Information

RTECS: ZH1400000

12. ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish LC50 - Cyprinus carpio (Carp) - 0.4 - 2.2 mg/l - 96.0 h

Toxicity to daphnia and other aquatic invertebrates. EC50 - Daphnia magna (Water flea) - 0.2 mg/l - 48 h

Toxicity to algae Growth inhibition LOEC - Pseudokirchneriella subcapitata - 12.5 mg/l - 96 h

Persistence and degradability

Bioaccumulative potential

Bioaccumulation Pimephales promelas (fathead minnow) - 63 d
Bioconcentration factor (BCF): 21,000

Mobility in soil

no data available

PBT and vPvB assessment

no data available

Other adverse effects

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

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

13. DISPOSAL CONSIDERATIONS

Product

Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

UN-Number: 2331 Class: 8 Packing group: III

Proper shipping name: Zinc chloride, anhydrous

Reportable Quantity (RQ): 1000 lbs

Marine pollutant: No

Poison Inhalation Hazard: No

IMDG

UN-Number: 2331 Class: 8 Packing group: III

EMS-No: F-A, S-B

Proper shipping name: ZINC CHLORIDE, ANHYDROUS

Marine pollutant: No

IATA

UN-Number: 2331 Class: 8 Packing group: III

Proper shipping name: Zinc chloride, anhydrous

15. REGULATORY INFORMATION

DSL Status

All components of this product are on the Canadian DSL list.

WHMIS Classification

D1B	Toxic Material Causing Immediate and	Toxic by ingestion
E	Serious Toxic Effects	Corrosive

16. OTHER INFORMATION

Further information

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The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Co., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.
