

SAFETY DATA SHEET

Version 5.4
Revision Date 01/17/2014
Print Date 07/15/2014

1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

Product name : **Zinc chloride**

Product Number : 746355
Brand : Sigma-Aldrich
Index-No. : 030-003-00-2
REACH No. : A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.
CAS-No. : 7646-85-7

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA

Telephone : +1 800-325-5832
Fax : +1 800-325-5052

1.4 Emergency telephone number

Emergency Phone # : (314) 776-6555

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

2.2 GHS Label elements, including precautionary statements

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Formula : Cl_2Zn
Molecular Weight : 136.30 g/mol
CAS-No. : 7646-85-7
EC-No. : 231-592-0
Index-No. : 030-003-00-2

Hazardous components

Component	Classification	Concentration
Zinc chloride	Acute Tox. 4; Skin Corr. 1B; Eye Dam. 1; Aquatic Acute 1; Aquatic Chronic 1; H302, H314, H410	90 - 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

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 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

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

If swallowed

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

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

no data available

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

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

5.2 Special hazards arising from the substance or mixture

Hydrogen chloride gas, Zinc/zinc oxides

5.3 Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

5.4 Further information

no data available

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

6.2 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.

6.3 Methods and materials for containment and cleaning up

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

6.4 Reference to other sections

For disposal see section 13.

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. For precautions see section 2.2.

10.6	Hazardous decomposition products	Other decomposition products - no data available
10.5	Incompatible materials	Strong oxidizing agents
10.4	Conditions to avoid	no data available
10.3	Possibility of hazardous reactions	no data available
10.2	Chemical stability	Stable under recommended storage conditions.
10.1	Reactivity	no data available

10. STABILITY AND REACTIVITY

9.2	Other safety information	Bulk density 1,400 - 1,800 kg/m ³
	t) Oxidizing properties	no data available
	s) Explosive properties	no data available
	r) Viscosity	no data available
	q) Decomposition temperature	no data available
	p) Auto-ignition temperature	no data available
	o) Partition coefficient: n-octanol/water	no data available
	n) Water solubility	soluble
	m) Relative density	2,907 g/cm ³
	l) Vapour density	no data available
	k) Vapour pressure	1 hPa (1 mmHg) at 428 °C (802 °F)
	j) Flammability or explosive limits	no data available
	i) Upper/lower flammability (solid, gas)	no data available
	h) Evaporation rate	no data available
	g) Flash point	no data available
	f) Initial boiling point and boiling range	732 °C (1,350 °F) at 1,013 hPa (760 mmHg)
	e) Melting point/freezing point	293 °C (559 °F)
	d) pH	5 at 100 g/l at 20 °C (68 °F)
	c) Odour Threshold	no data available
	b) Odour	no data available
	a) Appearance	Form: crystalline, powder Colour: white

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

7.2 Conditions for safe storage, including any incompatibilities

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

7.3 Specific end use(s)
strongly hygroscopic. Keep in a dry place.

Apart from the uses mentioned in section 1, 2 no other specific uses are stipulated

8. EXPOSURE CONTROL/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Component	CAS No.	Value	Control parameters	Basis
Zinc chloride	7646-85-7	TWA	1 mg/m ³	USA, ACGIH Threshold Limit Values (TLV)
Remarks		Upper Respiratory Tract & Lower Respiratory Tract Irritation	2 mg/m ³	USA, ACGIH Threshold Limit Values (TLV)
		Upper Respiratory Tract & Lower Respiratory Tract Irritation	2 mg/m ³	USA, OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		STEL	2 mg/m ³	USA, OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		TWA	1 mg/m ³	USA, OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		Exposure Limits	1 mg/m ³	USA, NIOSH Recommended Exposure Limits
		ST	2 mg/m ³	USA, NIOSH Recommended Exposure Limits
		TWA	1 mg/m ³	USA, Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants

8.2 Exposure controls

Appropriate engineering controls

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

Personal protective equipment

Eye/face protection

Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin 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.

Body Protection

Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respirator 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).

Control of environmental exposure

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

In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - rat - 350 mg/kg

Inhalation: no data available

Dermal: no data available

no data available

Skin corrosion/irritation

no data available

Serious eye damage/eye irritation

no data available

Respiratory or skin sensitisation

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.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

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 identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

no data available

no data available

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

no data available

Additional Information

RTECS: ZH1400000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12. ECOLOGICAL INFORMATION

12.1 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

12.2 Persistence and degradability

no data available

12.3 Bioaccumulative potential

Bioaccumulation Pimephales promelas (fathead minnow) - 63 d

Bioconcentration factor (BCF): 21,000

12.4 Mobility in soil

no data available

12.5 Results of 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.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

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

REACH No. : A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:

	CAS-No.	Revision Date
Zinc chloride	7646-85-7	2007-03-01

SARA 311/312 Hazards

Acute Health Hazard

Massachusetts Right To Know Components	Pennsylvania Right To Know Components	New Jersey Right To Know Components	California Prop. 65 Components
Zinc chloride	Zinc chloride	Zinc chloride	Zinc chloride
CAS-No. 7646-85-7	CAS-No. 7646-85-7	CAS-No. 7646-85-7	CAS-No. 7646-85-7
Revision Date 2007-03-01	Revision Date 2007-03-01	Revision Date 2007-03-01	Revision Date 2007-03-01

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

- Acute Tox.
- Acute aquatic toxicity
- Aquatic Acute
- Aquatic Chronic
- Eye Dam.
- Eye Dam.
- Chronic aquatic toxicity
- Serious eye damage
- Harmful if swallowed.
- H302
- H314
- H314
- H410
- Very toxic to aquatic life with long lasting effects.
- Causes severe skin burns and eye damage.
- Skin Corr.

Health hazard: 3

HMS Rating

Chronic Health Hazard: *

Flammability: 0

Physical Hazard: 0

NFPA Rating

Health hazard: 3

Fire Hazard: 0

Reactivity Hazard: 0

Further information

Copyright 2014 Sigma-Aldrich Co. LLC. License granted to make unlimited paper copies for internal use only. 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 Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

Preparation Information

Sigma-Aldrich Corporation
Product Safety – Americas Region
1-800-521-8956

Version: 5.4

Revision Date: 01/17/2014

Print Date: 07/15/2014