

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Zinc chloride pure

Revision date: 07.11.2022

Product code: 15313

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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Zinc chloride pure

Substance name: zinc chloride
REACH Registration Number: 01-2119472431-44-XXXX
CAS No: 7646-85-7
Index No: 030-003-00-2
EC No: 231-592-0

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

Use of the substance/mixture

Laboratory chemicals
Industrial uses: Uses of substances as such or in preparations at industrial sites
Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Uses advised against

Do not use for private purposes (household).

1.3. Details of the supplier of the safety data sheet

Company name: Fa. Bernd Kraft GmbH
Street: Stempelstraße 6
Place: D-47167 Duisburg
Telephone: 0203/5194-0
e-mail: info@berndkraft.de
Contact person: Abteilung Produktsicherheit
e-mail: produktsicherheit@berndkraft.de
Internet: www.berndkraft.de
Responsible Department: Abteilung Produktsicherheit

Telefax: 0203/5194-290

Telephone: 0203/5194-107/117

1.4. Emergency telephone number:

For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

Further Information

No data available

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Acute Tox. 4; H302
Skin Corr. 1B; H314
STOT SE 3; H335
Aquatic Acute 1; H400
Aquatic Chronic 1; H410

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008

Hazard components for labelling

zinc chloride

Signal word: Danger

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Pictograms:



Hazard statements

- 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 statements

- P260 Do not breathe dust/fume/gas/mist/vapours/spray.
 P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
 P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
 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/doctor.

2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients

3.1. Substances

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
7646-85-7	zinc chloride			100 %
	231-592-0	030-003-00-2	01-2119472431-44-XXXX	
	Acute Tox. 4, Skin Corr. 1B, STOT SE 3, Aquatic Acute 1, Aquatic Chronic 1; H302 H314 H335 H400 H410			

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
7646-85-7	231-592-0	zinc chloride	100 %
	dermal: LD50 = > 2000 mg/kg; oral: LD50 = 1100 mg/kg STOT SE 3; H335: >= 5 - 100		

Further Information

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

First aider: Pay attention to self-protection!

After inhalation

Provide fresh air.
 Call a physician immediately.

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After contact with skin

Wash immediately with: Water
Take off immediately all contaminated clothing and wash it before reuse.
Call a physician immediately.

After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.
Remove contact lenses, if present and easy to do. Continue rinsing.
Protect uninjured eye.

After ingestion

Rinse mouth immediately and drink plenty of water.
Do NOT induce vomiting. Do not allow a neutralisation agent to be drunk.
Call a physician immediately.

4.2. Most important symptoms and effects, both acute and delayed

Causes burns.
Irritant
Cough
Dyspnoea
Vomiting
Risk of serious damage to eyes.
Gastrointestinal complaints
Circulatory collapse
Cardiac arrhythmias

4.3. Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings.

Unsuitable extinguishing media

no restriction

5.2. Special hazards arising from the substance or mixture

Non-combustible liquids
Hazardous combustion products
In case of fire may be liberated:
Hydrogen chloride (HCl)

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.
In case of fire and/or explosion do not breathe fumes.
Avoid contact with skin, eyes and clothes.

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.
Move undamaged containers from immediate hazard area if it can be done safely.
Use water spray jet to protect personnel and to cool endangered containers.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Provide adequate ventilation.
Use personal protection equipment.

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Avoid contact with skin, eyes and clothes.
Remove persons to safety.
Emergency procedures
Do not breathe dust/fume/gas/mist/vapours/spray.

For emergency responders

Precautionary statements For emergency responders : Personal protection equipment: see section 8

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up

For containment

Cover drains.
Prevent spread over a wide area (e.g. by containment or oil barriers).
Collect in closed and suitable containers for disposal.
Take up carefully when dry. Take up dust-free and set down dust-free.

For cleaning up

Clean contaminated articles and floor according to the environmental legislation.

Other information

Provide adequate ventilation.
Do not breathe dust/fume/gas/mist/vapours/spray.
Wear breathing apparatus if exposed to vapours/dusts/aerosols.

6.4. Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Read label before use. Handle and open container with care.
When using do not eat, drink, smoke, sniff. Use personal protection equipment.
Provide adequate ventilation. Avoid contact with skin, eyes and clothes.
Do not breathe dust. Use extractor hood (laboratory).

Advice on protection against fire and explosion

Usual measures for fire prevention.

Advice on general occupational hygiene

Keep away from food, drink and animal feedingstuffs.
Remove contaminated, saturated clothing immediately.
Draw up and observe skin protection programme.
Wash hands and face before breaks and after work and take a shower if necessary.
When using do not eat or drink.
Avoid dust formation. Do not breathe dust.

Further information on handling

Draw up and observe skin protection programme.
Wash hands and face before breaks and after work and take a shower if necessary.
Take off immediately all contaminated clothing and wash it before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container dry.

Further information on storage conditions

Keep container tightly closed.

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storage temperature: +2°C - +30°C

7.3. Specific end use(s)

Laboratory chemicals

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

CAS No	Substance	ppm	mg/m ³	fib/cm ³	Category	Origin
7646-85-7	Zinc chloride, fume	-	1		TWA (8 h)	
		-	2		STEL (15 min)	

DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
7646-85-7	zinc chloride			
Worker DNEL, long-term		inhalation	systemic	1 mg/m ³
Worker DNEL, long-term		dermal	systemic	8,3 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	1,25 mg/m ³
Consumer DNEL, long-term		dermal	systemic	8,3 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	0,83 mg/kg bw/day

PNEC values

CAS No	Substance	Value
7646-85-7	zinc chloride	
Freshwater		0,0206 mg/l
Marine water		0,0061 mg/l
Freshwater sediment		117,8 mg/kg
Marine sediment		56,5 mg/kg
Micro-organisms in sewage treatment plants (STP)		0,1 mg/l
Soil		35,6 mg/kg

8.2. Exposure controls

Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment.

If handled uncovered, arrangements with local exhaust ventilation have to be used.

Individual protection measures, such as personal protective equipment

Eye/face protection

goggles

Wear eye/face protection.

Hand protection

Protective gloves are recommended Company KCL GmbH, D-36124 Eichenzell, email: vertrieb@kcl.de With specification (test according to EN374):

By long-term hand contact

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Recommended glove articles: KCL 741 Dermatril® L
Recommended material: NBR (Nitrile rubber) 0,11 mm
Wearing time with permanent contact: > 480 min

By short-term hand contact
Recommended glove articles: KCL 741 Dermatril® L
Recommended material: NBR (Nitrile rubber) 0,11mm
Wearing time with occasional contact (splashes): > 480 min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. This recommendation applies only to the product stated in the safety data sheet<(>,<)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Skin protection

Wear suitable protective clothing. Take off immediately all contaminated clothing.
Wash hands before breaks and after work.

Respiratory protection

Respiratory protection necessary at: dust formation
Filtering device with filter or ventilator filtering device of type: P2

Environmental exposure controls

Do not allow to enter into surface water or drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	solid	
Colour:	white	
Odour:	odourless	
Odour threshold:	No data available	
Melting point/freezing point:		287-304 °C
Boiling point or initial boiling point and boiling range:		732 °C
Flammability		
Solid/liquid:		No data available
Gas:		No data available
Lower explosion limits:		No data available
Upper explosion limits:		No data available
Flash point:		X
Auto-ignition temperature:		No data available
Decomposition temperature:		360 °C
pH-Value (at 20 °C):		5 (100 g/l)
Viscosity / kinematic:		No data available
Water solubility: (at 25 °C)		851 g/L
Solubility in other solvents		
No data available		
Partition coefficient n-octanol/water:		No data available
Vapour pressure: (at 428 °C)		1,33 hPa
Vapour pressure:		No data available
Density (at 22 °C):		2,93 g/cm ³
Bulk density:		1400-1800 kg/m ³

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Relative vapour density: No data available

9.2. Other information

Information with regard to physical hazard classes

Explosive properties

No data available

Sustaining combustion:

No data available

Self-ignition temperature

Solid:

No data available

Gas:

No data available

Oxidizing properties

Oxidizing

Other safety characteristics

Evaporation rate:

No data available

Solvent separation test:

No data available

Solvent content:

0

Solid content:

100,00 %

Sublimation point:

No data available

Softening point:

No data available

Pour point:

No data available

No data available:

Viscosity / dynamic:

No data available

Flow time:

No data available

Further Information

Corrosive to metals.

SECTION 10: Stability and reactivity

10.1. Reactivity

Corrosive to metals.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Violent reaction with:

Oxidising agent, strong

Sodium

10.4. Conditions to avoid

No data available

10.5. Incompatible materials

Metal

10.6. Hazardous decomposition products

In case of fire may be liberated:

SECTION 5: Firefighting measures

Further information

No data available

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Harmful if swallowed.

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CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
7646-85-7	zinc chloride				
	oral	LD50 1100 mg/kg	Rat	Vet Hum Toxicol. 30(3): 224-228 (1988)	OECD Guideline 401
	dermal	LD50 > 2000 mg/kg	Rat	Study report (1999)	OECD Guideline 402

Irritation and corrosivity

Causes severe skin burns and eye damage.
Causes serious eye damage.
Following ingestion Gastric perforation
Irritating to respiratory system.

Sensitising effects

Based on available data, the classification criteria are not met.

Carcinogenic/mutagenic/toxic effects for reproduction

Based on available data, the classification criteria are not met.

STOT-single exposure

May cause respiratory irritation. (zinc chloride)

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

Specific effects in experiment on an animal

No data available

Additional information on tests

No data available

Practical experience

No data available

11.2. Information on other hazards

Other information

No data available

Further information

Causes burns.
Irritant
Cough
Dyspnoea
Vomiting
Risk of serious damage to eyes.
Gastrointestinal complaints
Circulatory collapse
Cardiac arrhythmias

SECTION 12: Ecological information

12.1. Toxicity

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CAS No	Chemical name						
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method	
7646-85-7	zinc chloride						
	Acute fish toxicity	LC50 mg/l	0,439	96 h	Cottus bairdii	Environm; Toxic; & Chemistry, vol 24, nr	lab-designed dose-response test
	Acute crustacea toxicity	EC50 mg/l	1,22	48 h	Daphnia magna	Publication (1995)	other: US EPA/600/4-85/01 3: methods for
	Fish toxicity	NOEC mg/l	0,172	30 d	Cottus bairdi	Environm. Tox & Chem. Vol 24, Nr 6, 1515	lab-designed dose-response test
	Algae toxicity	NOEC mg/l	1,071	16 d	Macrocystis pyrifera	Mar Environ Res 26(2):113-134 (1988)	16-d and 2-d toxicity test to early life
	Crustacea toxicity	NOEC mg/l	0,031	50 d	Daphnia magna	Aquatic Toxicology 12,273-290 (1988)	chronic tests were performed for an exte
	Acute bacteria toxicity	(EC50	5,2 mg/l)	3 h	activated sludge of a predominantly domestic sewage	Water research volume 17, nr10, 1363-136	OECD Guideline 209

12.2. Persistence and degradability

The methods for determining the biological degradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential

No data available

BCF

CAS No	Chemical name	BCF	Species	Source
7646-85-7	zinc chloride	96,05	Danio rerio	Chemosphere 128:125-

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

No data available

12.6. Endocrine disrupting properties

This substance does not have endocrine disrupting properties with respect to non-target organisms.

12.7. Other adverse effects

Discharge into the environment must be avoided.

Further information

Do not allow to enter into surface water or drains.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

Send to a physico-chemical treatment facility under observation of official regulations.

Do not empty into drains.

Contaminated packaging

Handle contaminated packages in the same way as the substance itself.

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

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SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number:	UN 2331
14.2. UN proper shipping name:	ZINC CHLORIDE, ANHYDROUS
14.3. Transport hazard class(es):	8
14.4. Packing group:	III
Hazard label:	8
Classification code:	C2
Limited quantity:	5 kg
Excepted quantity:	E1
Transport category:	3
Hazard No:	80
Tunnel restriction code:	E

Inland waterways transport (ADN)

14.1. UN number or ID number:	UN 2331
14.2. UN proper shipping name:	ZINC CHLORIDE, ANHYDROUS
14.3. Transport hazard class(es):	8
14.4. Packing group:	III
Hazard label:	8
Classification code:	C2
Limited quantity:	5 kg
Excepted quantity:	E1

Marine transport (IMDG)

14.1. UN number or ID number:	UN 2331
14.2. UN proper shipping name:	ZINC CHLORIDE, ANHYDROUS
14.3. Transport hazard class(es):	8
14.4. Packing group:	III
Hazard label:	8
Marine pollutant:	P
Special Provisions:	-
Limited quantity:	5 kg
Excepted quantity:	E1
EmS:	F-A, S-B

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number:	UN 2331
14.2. UN proper shipping name:	ZINC CHLORIDE, ANHYDROUS
14.3. Transport hazard class(es):	8
14.4. Packing group:	III
Hazard label:	8
Special Provisions:	A803
Limited quantity Passenger:	5 kg
Passenger LQ:	Y845
Excepted quantity:	E1
IATA-packing instructions - Passenger:	860
IATA-max. quantity - Passenger:	25 kg
IATA-packing instructions - Cargo:	864
IATA-max. quantity - Cargo:	100 kg

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS:	Yes
Danger releasing substance:	zinc chloride

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SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 75

Information according to 2012/18/EU (SEVESO III): E1 Hazardous to the Aquatic Environment

National regulatory information

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

Water hazard class (D): 3 - highly hazardous to water

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 1,3,4,5,6,7,8,9,10,11,12,13,15.

Relevant H and EUH statements (number and full text)

H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.

The receiver of our product is singularly responsible for adhering to existing laws and regulations.