

SAFETY DATA SHEET

According to JIS Z 7253:2019
Revision Date 02-Jul-2020
 Version 5.01

Section 1: PRODUCT AND COMPANY IDENTIFICATION

Product name	Zinc Chloride
Product code	261-00272,265-00275,263-00271

Manufacturer FUJIFILM Wako Pure Chemical Corporation
 1-2 Doshomachi 3-Chome
 Chuo-ku, Osaka 540-8605, Japan
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Supplier FUJIFILM Wako Pure Chemical Corporation
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Emergency telephone number +81-6-6203-3741 / +81-3-3270-8571

Recommended uses and restrictions on use For research purposes

Section 2: HAZARDS IDENTIFICATION

GHS classification

Classification of the substance or mixture

Acute toxicity - Oral	Category 4
Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity (single exposure)	Category 1
Category 1 respiratory system	
Short-term (acute) hazardous to the aquatic environment	Category 1
Long-term (chronic) hazardous to the aquatic environment	Category 1

Pictograms



Signal word

Danger

Hazard statements

- H314 - Causes severe skin burns and eye damage
- H318 - Causes serious eye damage
- H302 - Harmful if swallowed
- H400 - Very toxic to aquatic life
- H410 - Very toxic to aquatic life with long lasting effects
- H370 - Causes damage to the following organs: respiratory system

Precautionary statements-(Prevention)

- Wash face, hands and any exposed skin thoroughly after handling
- Do not eat, drink or smoke when using this product
- Do not breathe dust/fume/gas/mist/vapors/spray
- Wear protective gloves/protective clothing/eye protection/face protection
- Avoid release to the environment

Precautionary statements-(Response)

- 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 or doctor/physician
- IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- Wash contaminated clothing before reuse.
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
- Rinse mouth.
- Do NOT induce vomiting.
- Collect spillage

Precautionary statements-(Storage)

- Store locked up.

Precautionary statements-(Disposal)

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

Others

Other hazards Not available

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Single Substance or Mixture Substance

Formula ZnCl₂

Chemical Name	Weight-%	Molecular weight	ENCS	ISHL No.	CAS RN
Zinc chloride	98.0	136.29	1-264	公表	7646-85-7

Impurities and/or Additives : Not applicable

Section 4: FIRST AID MEASURES

Inhalation

Remove to fresh air. If symptoms persist, call a physician.

Skin contact

Wash off immediately with soap and plenty of water. If symptoms persist, call a physician.

Eye contact

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

Ingestion

Rinse mouth. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately. Do not induce vomiting without medical advice.

Protection of first-aiders

Use personal protective equipment as required.

Section 5: FIRE FIGHTING MEASURES

Suitable extinguishing media

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

Unsuitable extinguishing media

No information available

Specific hazards arising from the chemical product

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Special extinguishing method

No information available

Special protective actions for**fire-fighters**

Use personal protective equipment as required. Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

For indoor, provide adequate ventilation process until the end of working. Deny unnecessary entry other than the people involved by, for example, using a rope. While working, wear appropriate protective equipments to avoid adhering it on skin, or inhaling the gas. Work from windward, and retract the people downwind.

Environmental precautions

To be careful not discharged to the environment without being properly handled waste water contaminated.

Methods and materials for contaminant and methods and materials for cleaning up

Sweep up and gather scattered particles, and collect it in an empty airtight container.

Recoverly, neutralization

No information available

Secondary disaster prevention measures

Clean contaminated objects and areas thoroughly observing environmental regulations.

Section 7: HANDLING AND STORAGE

Handling

Technical measures

Avoid contact with acidic and alkaline substances. Use with local exhaust ventilation.

Precautions

Do not rough handling containers, such as upsetting, falling, giving a shock, and dragging. Prevent leakage, overflow, and scattering. Not to generate steam and dust in vain. Seal the container after use. After handling, wash hands and face, and then gargle. In places other than those specified, should not be smoking or eating and drinking. Should not be brought contaminated protective equipment and gloves to rest stops. Deny unnecessary entry of non-emergency personnel to the handling area.

Safety handling precautions

Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.

Storage

Safe storage conditions

Storage conditions

Store away from sunlight in well-ventilated place at room temperature (preferably cool).

Keep container tightly closed. Store locked up.

Safe packaging material

Polyethylene

Incompatible substances

Acids, Strong oxidizing agents

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls

In case of indoor workplace, seal the source or use a local exhaust system. Provide the safety shower facility, and hand- and eye-wash facility. And display their position clearly.

Exposure limits

Chemical Name	JSOH (Japan)	ISHL (Japan)	ACGIH
Zinc chloride 7646-85-7	N/A	N/A	STEL: 2 mg/m ³ fume TWA: 1 mg/m ³ fume

Personal protective equipment

Respiratory protection

Dust mask

Hand protection

Impermeable protective gloves

Eye protection

protective eyeglasses or chemical safety goggles

Skin and body protection

Long-sleeved work clothes

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Form

Color	White - nearly white
Appearance	crystalline powder - powder or mass
Odor	No data available
Melting point/freezing point	293 °C
Boiling point, initial boiling point and boiling range	732 °C
Flammability	No data available
Evaporation rate:	No data available
Flammability (solid, gas):	No data available
Upper/lower flammability or explosive limits	
Upper :	No data available
Lower :	No data available
Flash point	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
pH	No data available
Viscosity (coefficient of viscosity)	No data available
Dynamic viscosity	No data available
Solubilities	water : Very soluble. Ethanol : free soluble .
n-Octanol/water partition coefficient:(log Pow)	No data available
Vapour pressure	No data available
Specific Gravity / Relative density	2.91
Vapour density	No data available
Particle characteristics	No data available

Section 10: STABILITY AND REACTIVITY

Stability

Reactivity	No data available
Chemical stability	This material is deliquescent.
Hazardous reactions	None under normal processing
Conditions to avoid	Extremes of temperature and direct sunlight, Moisture
Incompatible materials	Acids, Strong oxidizing agents
Hazardous decomposition products	Halides, Metal oxides

Section 11: TOXICOLOGICAL INFORMATION

Acute toxicity

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Zinc chloride	1100 mg/kg (Rat)	173 mg/kg (Guinea pig)	=<1975 mg/m ³ (Rat) 10 min 1975 mg/m ³ (Rat) 10 min

Chemical Name	Acute toxicity -oral- source information	Acute toxicity -dermal- source information	Acute toxicity -inhalation gas-source information
Zinc chloride	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.

Chemical Name	Acute toxicity -inhalation vapor- source information	Acute toxicity -inhalation dust-source information	Acute toxicity -inhalation mist-source information
Zinc chloride	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.

Skin irritation/corrosion

Chemical Name	Skin corrosion/irritation source information
Zinc chloride	Based on the NITE GHS classification results.

Serious eye damage/ irritation

Chemical Name	Serious eye damage/irritation source information

Zinc chloride	Based on the NITE GHS classification results.
Respiratory or skin sensitization	
Chemical Name	Respiratory or Skin sensitization source information
Zinc chloride	Based on the NITE GHS classification results.
Reproductive cell mutagenicity	
Chemical Name	germ cell mutagenicity source information
Zinc chloride	Based on the NITE GHS classification results.
Carcinogenicity	
Chemical Name	Carcinogenicity source information
Zinc chloride	Based on the NITE GHS classification results.
Reproductive toxicity	
Chemical Name	Reproductive toxicity source information
Zinc chloride	Based on the NITE GHS classification results.
STOT-single exposure	
Chemical Name	STOT -single exposure- source information
Zinc chloride	Based on the NITE GHS classification results.
STOT-repeated exposure	
Chemical Name	STOT -repeated exposure- source information
Zinc chloride	Based on the NITE GHS classification results.
Aspiration hazard	
Chemical Name	Aspiration Hazard source information
Zinc chloride	Based on the NITE GHS classification results.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Zinc chloride	EC50 : <i>Nitzschia</i> 0.065mgZn/L 72h NOEC : <i>Pseudokirchneriella</i> <i>subcapitata</i> 32.5 µg/L 72h	N/A	EC50 : <i>Daphnia magna</i> 0.1mg/L 48h

Other data

Chemical Name	Short-term (acute) hazardous to the aquatic environment source information	Long-term (chronic) hazardous to the aquatic environment source information
Zinc chloride	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.

Persistence and degradability	No information available
Bioaccumulative potential	No information available
Mobility in soil	No information available
Hazard to the ozone layer	No information available

Section 13: DISPOSAL CONSIDERATIONS

Waste from residues

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated container and contaminated packaging

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Section 14: TRANSPORT INFORMATION

ADR/RID

UN number	UN2331
Proper shipping name:	Zinc chloride, anhydrous
UN classification	8

Subsidiary hazard class
Packing group III
Marine pollutant Yes

IMDG

UN number UN2331
Proper shipping name: Zinc chloride, anhydrous
UN classification 8
Subsidiary hazard class
Packing group III
Marine pollutant (Sea) Yes
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code No information available

IATA

UN number UN2331
Proper shipping name: Zinc chloride, anhydrous
UN classification 8
Subsidiary hazard class
Packing group III
Environmentally Hazardous Substance Yes

Section 15: REGULATORY INFORMATION

International Inventories

EINECS/ELINCS Listed
TSCA Listed

Japanese regulations

Fire Service Act Firefighting Inhibitor
Poisonous and Deleterious Substances Control Law Deleterious Substances 3rd. Grade
Industrial Safety and Health Act Harmful Substances Whose Names Are to be Indicated on the Label (Law Art.57, Para.1, Enforcement Order Art.18)
 Notifiable Substances (Law Art.57-2, Enforcement Order Art.18-2 Attached Table No.9)No.94
Regulations for the carriage and storage of dangerous goods in ship Corrosive Substances (Ordinance Art.3, Ministry of Transportation Ordinance Regarding Transport by Ship and Storage, Attached Table 1)
Civil Aeronautics Law Corrosive Substances (Ordinance Art.194, MITL Notification for Air Transportation of Explosives etc., Attached Table 1)
Pollutant Release and Transfer Register Law Class 1
Class 1 - No. 1
Water Pollution Control Act Specified substances(Law Art.2 Para.4, Enforcement Order Art.3-3)
Export Trade Control Order Not applicable
Air Pollution Control Law Hazardous Air Pollutants

Chemical Name	Poisonous and Deleterious Substances Control Law	Industrial Safety and Health Act Substances (Law Art.57-2)	Pollutant Release and Transfer Register Law
Zinc chloride 7646-85-7 (98.0)	Applicable	Applicable	Applicable

Section 16: OTHER INFORMATION

Key literature references and sources for data etc.

NITE: National Institute of Technology and Evaluation (JAPAN)
<http://www.safe.nite.go.jp/japan/db.html>
 IATA dangerous Goods Regulations
 RTECS:Registry of Toxic Effects of Chemical Substances

Japan Industrial Safety and Health Association GHS Model SDS
Dictionary of Synthetic Organic Chemistry, SSOCJ, Koudansha Scientific Co.Ltd.
Chemical Dictionary, Kyouritsu Publishing Co., Ltd.
etc

Disclaimer

This SDS is according to JIS Z 7253: 2019. The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

GHS Classification is according to JIS Z7252(2019). *JIS: Japanese Industrial Standards

End of Safety Data Sheet