

MATERIAL SAFETY DATA SHEET

Chemical Product

Product Name: Zinc Chloride
Dry
CAS#: - 5263-02-5
Synonym:
Chemical Name: Zinc Chloride
Chemical Formula: $3\text{Zn}(\text{OH})_2 \cdot 2\text{ZnCO}_3$

Composition and Information on Ingredients

Name	S.K.U	% by Weight
Zinc Chloride Dry	GCS-7643	100

Hazards Identification

Potential Acute Health Effects:

Very hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Hazardous in case of skin contact (corrosive, permeator), of eye contact (corrosive). The amount of tissue damage depends on length of contact. Eye contact can result in corneal damage or blindness. Skin contact can produce inflammation and blistering. Inhalation of dust will produce irritation to gastro-intestinal or respiratory tract, characterized by burning, sneezing and coughing. Severe overexposure can produce lung damage, choking, unconsciousness or death. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Classified POSSIBLE for human. Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to kidneys, pancreas. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure of the eyes to a low level of dust can produce eye irritation. Repeated skin exposure can produce local skin destruction, or dermatitis. Repeated inhalation of dust can produce varying degree of respiratory irritation or lung damage.

First Aid Measures

Eye Contact:

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.

Skin Contact:

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

Serious Skin Contact:

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Serious Inhalation:

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.

Ingestion:

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Ingestion: Not available.

Fire and Explosion Data

Flammability of the Product: Non-flammable.

Auto-Ignition Temperature: Not applicable.

Flash Points: Not applicable.

Flammable Limits: Not applicable.

Products of Combustion: When heated to decomposition, it emits toxic fumes of Hydrochloric Acid, and Zinc Oxide.

Fire Hazards in Presence of Various Substances: Not applicable.

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

Presence of static discharge: Not available.

Fire Fighting Media and Instructions: Not applicable.

Special Remarks on Fire Hazards: Not available.

Special Remarks on Explosion Hazards: A mixture of potassium and zinc chloride produces a strong explosion on impact.

Accidental Release Measures

Small Spill:

Use appropriate tools to put the spilled solid in a convenient waste disposal container.

Large Spill:

Corrosive solid. Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Handling and Storage

Precautions:

Keep locked up.. Keep container dry. Do not ingest. Do not breathe dust. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, metals.

Storage:

Deliquescent. Keep container tightly closed. Keep container in a cool, well-ventilated area. Do not store above 25°C (77°F).

Exposure Controls/Personal Protection

Engineering Controls:

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection:

Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:

TWA: 1 STEL: 2 (mg/m³) [United Kingdom (UK)] TWA: 1 STEL: 2 (mg/m³) from ACGIH (TLV) [United States] TWA: 1 STEL: 2 (mg/m³) from OSHA (PEL) [United States] Consult

local authorities for acceptable exposure limits.

Physical and Chemical Properties

Physical state and appearance:	Solid. (Deliquescent solid.)
Odor:	Odorless.
Taste:	Not available.
Molecular Weight:	136.29 g/mole
Color:	White.
pH (1% soln/water):	Not available.
Boiling Point:	732°C (1349.6°F)
Melting Point:	290°C (554°F)
Critical Temperature:	Not available.
Specific Gravity:	2.907 (Water = 1)
Vapor Pressure:	Not applicable.
Vapor Density:	4.7 (Air = 1)
Volatility:	Not available.
Odor Threshold:	Not available.
Water/Oil Dist. Coeff.:	Not available.
Ionicity (in Water):	Not available.
Dispersion Properties:	See solubility in water.
Solubility:	Easily soluble in cold water.

Stability and Reactivity Data

Stability:	The product is stable.
Instability Temperature:	Not available.
Conditions of Instability:	Incompatible
materials, moisture. Incompatibility with various substances:	
Reactive with oxidizing agents, metals. Corrosivity:	Non-corrosive
in presence of glass.	
Special Remarks on Reactivity:	Very deliquescent. Incompatible
with cyanides, sulfides Special Remarks on Corrosivity:	Zinc Chloride fumes are
corrosive to metals Polymerization:	Will not occur.

Toxicological Information

Routes of Entry: Absorbed through skin. Dermal contact. Inhalation. Ingestion.

Toxicity to Animals: Acute oral toxicity (LD50): 329 mg/kg [Mouse].

Chronic Effects on Humans:

MUTAGENIC EFFECTS: Classified POSSIBLE for human. Mutagenic for

mammalian somatic cells. Mutagenic for bacteria and/or yeast. May cause damage to the following organs: kidneys, pancreas.

Other Toxic Effects on Humans:

Very hazardous in case of skin contact (irritant), of ingestion, of inhalation. Hazardous in case of skin contact (corrosive, permeator), of eye contact (corrosive). Special Remarks on Toxicity to Animals: Lowest Published Lethal Dose [Rat] - Route: Inhalation; Dose: 1960 mg/m³/10M

Special Remarks on Chronic Effects on Humans:

May cause adverse reproductive effects (paternal effects, effects on fertility (post-implantation mortality, fetotoxicity) and birth defects based on animal data. May cause cancer based on animal data. May affect genetic material. Animal: passes through placental barrier, excreted in maternal milk.

Special Remarks on other Toxic Effects on Humans:

Acute Potential Health Effects: Skin: Causes skin irritation with possible burns, especially if skin is wet or moist. May be absorbed by the skin. Eyes: May cause severe irritation with possible eye burns and irreversible eye injury. May cause corneal ulceration, and opacification, and glaucoma and severe iritis. Eye or skin contact may result in mild, moderate, or severe irritation and burns depending on the concentration and duration of exposure. Inhalation: May cause severe respiratory tract irritation, and may affect behavior. Symptoms may include sore throat, coughing, shortness of breath, dyspnea, chest tightness, headache, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), delayed lung edema, bronchial asthma. Inhalation of fumes may cause metal fume fever. It is characterized by flu-like symptoms (fever, chills, cough, muscle pain, weakness), chest pain. Ingestion: Harmful if swallowed. May cause severe digestive tract irritation with nausea, vomiting, diarrhea abdominal pain, possible burns (corrosion and permanent tissue destruction) of the esophagus and digestive tract and perforation of the stomach and possible death. It may also affect behavior/Central nervous system (central nervous system depression), the urinary system (kidney damage - hematuria, oliguria, renal failure), cardiovascular system, respiration (dyspnea), metabolism, pancreas (elevated amylase, and glucose levels), liver enzymes, and blood (changes in white and red blood cell count, changes in serum composition). Zinc chloride is irritating or caustic depending on the concentration ingested. Chronic Potential Health Effects: Skin: Prolonged or repeated skin contact may cause defatting and dermatitis.

Toxicological Data on Ingredients: Zinc chloride: ORAL (LD50): Acute: 350 mg/kg [Rat]. 329 mg/kg [Mouse].

Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation:

The products of degradation are less toxic than the product itself.

Special Remarks on the Products of Biodegradation: Not available.

Disposal Considerations

Waste Disposal:

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Transformation Information

Land transport (ADR-RID)

Proper shipping name: ZINC CHLORIDE, ANHYDROUS

UN N°: 2331

H.I. nr: 80

ADR - Class: 8

Sea transport (IMDG) [English only]

Proper shipping name: ZINC CHLORIDE, ANHYDROUS

UN N°: 2331

IMO-IMDG - Class or division: 8: Corrosive substance.

IMO-IMDG - Packing group: III

Air transport (ICAO-IATA) [English only]

Proper shipping name: ZINC CHLORIDE, ANHYDROUS

UN N°: 2331

IATA - Class or division: 8: Corrosive substance.

IATA - Packing group: III

Other Regulatory Information

Federal and State Regulations:

Connecticut hazardous material survey.: Zinc chloride Illinois toxic substances disclosure to employee act: Zinc chloride Illinois chemical safety act: Zinc chloride New York release reporting list: Zinc chloride Rhode Island RTK hazardous substances: Zinc chloride Pennsylvania RTK: Zinc chloride Minnesota: Zinc chloride Massachusetts RTK: Zinc chloride Massachusetts spill list: Zinc chloride New Jersey: Zinc chloride New Jersey spill list: Zinc chloride Louisiana spill reporting: Zinc chloride California Director's List of Hazardous Substances: Zinc chloride TSCA 8(b) inventory: Zinc chloride CERCLA: Hazardous substances.: Zinc chloride: 1000 lbs. (453.6 kg)

Other Regulations:

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

EINECS: This product is on the European Inventory of Existing Commercial Chemical

Substances.

Other Classifications:

WHMIS (Canada):

CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC). CLASS D-2A: Material causing other toxic effects (VERY TOXIC). CLASS E: Corrosive solid.

DSCL (EEC):

HMIS (U.S.A.):

Health Hazard: 3

Fire Hazard: 0

Reactivity: 0

Personal Protection: J

National Fire Protection Association (U.S.A.):

Health: 3

Flammability: 0

Reactivity: 0

Specific hazard:

Protective Equipment:

Gloves. Synthetic apron. Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

Additional Information

References: Not available.

Other Special Considerations: Not available.

Disclaimer:

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