

# ZINCAMMONIUM CHLORIDE

## 1. Product Identification

Synonyms: /

CAS No.: 7646-85-7

Molecular Weight: Not applicable mixtures

Chemical Formula:  $2\text{NH}_4\text{Cl}\cdot\text{ZnCl}_2$

Product Codes: 12042

Maker by: Pan-Continental Chemical Co., Ltd.

## 2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Zinc Chloride	7646-85-7	54%	Yes
Ammonium Chloride	12125-02-9	46%	Yes

## 3. Hazards Identification

Emergency Overview

DANGER! CORROSIVE. CAUSES BURNS TO ANY AREA OF CONTACT. HARMFUL IF SWALLOWED OR INHALED. AFFECTS THE CARDIOVASCULAR SYSTEM.

Health Rating: 2 - Moderate

Flammability Rating: 0 - None

Reactivity Rating: 2 - None

Contact Rating: 3 - Slight

Lab Protective Equip: GOGGLES; LAB COAT; VENT HOOD; PROPER GLOVES

Storage Color Code: White (Corrosive)

Potential Health Effects

Inhalation:

Extremely destructive to tissues of the mucous membranes and upper respiratory tract. Symptoms may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting.

Ingestion:

Toxic. May cause irritation or corrosion to the gastrointestinal tract with abdominal pain, nausea, and vomiting. May cause delayed death occurring from strictures of the esophagus and pylorus.

#### **Skin Contact:**

May cause severe irritation, skin burns and ulcerations. Solutions are corrosive. Symptoms include redness and pain.

#### **Eye Contact:**

May cause redness, pain, and blurred vision. Splashes from solutions may cause eye damage.

#### **Chronic Exposure:**

Repeated skin contact can cause varying degrees of problems ranging from dermatitis to ulcerations. Repeated Inhalation can cause occupational asthma.

#### **Aggravation of Pre-existing Conditions:**

Dermatitis, cardiac and respiratory disorders.

### **4. First Aid Measures**

#### **Inhalation:**

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

#### **Ingestion:**

If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

#### **Skin Contact:**

Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse. Thoroughly clean shoes before reuse.

#### **Eye Contact:**

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

### **5. Fire Fighting Measures**

#### **Fire:**

Not considered to be a fire hazard.

### Explosion:

Not considered to be an explosion hazard.

### Fire Extinguishing Media:

Use any means suitable for extinguishing surrounding fire.

### Special Information:

Use protective clothing and breathing equipment appropriate for the surrounding fire.

## **6. Accidental Release Measures**

Ventilate area of leak or spill. Keep unnecessary and unprotected people away from area of spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Pick up and place in a suitable container for reclamation or disposal, using a method that does not generate dust.

## **7. Handling and Storage**

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

## **8. Exposure Controls/Personal Protection**

### Airborne Exposure Limits:

Zinc chloride: OSHA Permissible Exposure Limit (PEL): 1 mg/m<sup>3</sup> (TWA) 8H, as fume. ACGIH Threshold Limit Value (TLV): 1 mg/m<sup>3</sup> (TWA); 2 mg/m<sup>3</sup> (STEL) for fume

### Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, Industrial Ventilation, A Manual of Recommended Practices, most recent edition, for details.

### Personal Respirators (NIOSH Approved):

If the exposure limit is exceeded, a full facepiece respirator with dust/mist filter may be worn up to 50 times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a

full-facepiece positive-pressure, air-supplied respirator. WARNING: Air purifying respirators do not protect workers in oxygen-deficient atmospheres.

**Skin Protection:**

Wear protective gloves and clean body-covering clothing.

**Eye Protection:**

Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.

**9. Physical and Chemical Properties**

Appearance: White crystalline granules.

Odor: Odorless.

Solubility: 423 g/100 g water @ 25C (77F) for Zinc Chloride  
29.7g/100g water @ 0C (32F) for Ammonium Chloride

Density: 2.91 @ 14C/4C for Zinc Chloride  
1.53 @ 14C/4C for Ammonium Chloride

pH: ca. 4 Aqueous solution for Zinc Chloride  
5.5 (1% aq.sol.) for Ammonium Chloride

% Volatiles by volume @ 21C (70F): 0

Boiling Point: 732C (1350F) for Zinc Chloride  
520C (968F) for Ammonium Chloride

Melting Point: 290C (554F) for Zinc Chloride  
338C (640F) Sublimes. for Ammonium Chloride

Vapor Density (Air=1): Not applicable.

Vapor Pressure (mm Hg): 1 @ 428C (802F) for Zinc Chloride  
1 @ 160C (320F) . for Ammonium Chloride

Evaporation Rate (BuAc=1): Not applicable.

## 10. Stability and Reactivity

### Stability:

Stable under ordinary conditions of use and storage.

### Hazardous Decomposition Products:

When heated to decomposition it emits toxic fumes of chlorine and zinc oxide.

### Hazardous Polymerization:

Will not occur.

### Incompatibilities:

Cyanides and sulfides, powdered zinc. When mixed with potassium, a weak explosion will occur on impact.

Concentrated acids, strong bases, silver salts, potassium chlorate, ammonium nitrate, bromine trifluoride and iodine heptafluoride. Ammonium chloride reacts explosively with potassium chlorate or bromine trifluoride, and violently with bromine pentafluoride, ammonium compounds, nitrates, and iodine heptafluoride. Explosive nitrogen trichloride may result from reaction of ammonium chloride and hydrogen cyanide.

### Conditions to Avoid:

Incompatibles.

## 11. Toxicological Information

Oral rat LD50: 350 mg/kg. Investigated as a tumorigen, mutagen, reproductive effector.

Oral rat LD50 : 1650 mg/kg Investigated as a mutagen Applicable to Ammonium Chloride.

## 12. Ecological Information

### Environmental Fate:

No information found.

### Environmental Toxicity:

No information found.

## 13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

## 14. Transport Information

Domestic (Land, D.O.T.)

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Proper Shipping Name: ZINC CHLORIDE, ANHYDROUS

Hazard Class: 8

UN/NA: UN2331

Packing Group: III

Information reported for product/size: 110LB

International (Water, I.M.O.)

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Proper Shipping Name: ZINC CHLORIDE, ANHYDROUS

Hazard Class: 8

UN/NA: UN2331

Packing Group: III

Information reported for product/size: 110LB

International (Air, I.C.A.O.)

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Proper Shipping Name: ZINC CHLORIDE, ANHYDROUS

Hazard Class: 8

UN/NA: UN2331

Packing Group: III

Information reported for product/size: 110LB

## 15. Regulatory Information

Not found information.

## 16. Other Information

NFPA Ratings: Health: 3 Flammability: 0 Reactivity: 0

Label Hazard Warning:

DANGER! CORROSIVE. CAUSES BURNS TO ANY AREA OF CONTACT. HARMFUL IF SWALLOWED OR INHALED. AFFECTS THE CARDIOVASCULAR SYSTEM.

Label Precautions:

Do not get in eyes, on skin, or on clothing. Do not breathe dust. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling.

Label First Aid:

In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing

is difficult, give oxygen. If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. In all cases get medical attention immediately.

**Revision Information:**

Pure. New 16 section MSDS format, all sections have been revised.

**Disclaimer:**

Pan-Continental Chemical Co., Ltd. provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose.

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