Section I:

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Section II: Hazardous Ingredients/Identity information

Hazardous Component	CAS #	OSHA TWA	ACGIH TWA	Other limits
+ Zinc Chloride 39 %	7646-85-7	1mg/M3	1mg/M3	NE
Ammonium Chloride As Zinc Ammonium Chloride	12125-02-9	10mg/M3	10mg/M3	NE

Only those ingredients listed in this section have been determined to be hazardous as defined in 29CFR 1910.1200.
An ingredient marked with an asterisk(*) is also listed in 29CFR 1910.1200(D) #4 as a known or suspected cancer hazard.

+ denotes a chemical regulated as toxic by the Environmental Protection Agency (EPA) as outlined in 40CFR Part 372 (section 313)

Section III: Physical/Chemical Characteristics

Boiling Point: 230 F
Vapor Pressure (mm Hg): NE
Vapor Density: NE
Solubility in water: 100
Specific Gravity: 1.403
Melting Point: NE
Evaporation Rate (butyl acetate=1): < 1
Appearance and odor: clear to yellow liquid, wintergreen odor

Section IV: Fire and Explosion Hazard Data

Flash Point: nonflammable
Flammable limits lel: NA uel: NA
Extinguishing media: all
Special fire fighting procedures: Use self contained breathing apparatus
Unusual Fire and Explosion Hazards: May release hydrochloric acid, zinc chloride, zinc oxide.

Section V: Reactivity Data

Stability : STABLE
Conditions to avoid : none
Incompatibility(materials to avoid): oxidizers, strong acids & bases, sulfides.
Hazardous Decomposition or Byproducts (incomplete combustion):
Hydrochloric acid, zinc oxide, ammonia, zinc chloride
Hazardous Polymerization: WILL NOT OCCUR
Conditions to avoid: none

Section VI: Health Hazard Data:

Routes of entry: Inhalation? yes Skin? no Ingestion? yes

Health Hazards (acute and chronic) Contact with material or fumes may cause skin ,eye and respiratory tract irritation or burns. Severe inhalation can cause pulmonary oedema, which may not manifest for several hours after exposure.
Ingestion may result in irritation or burning of the digestive tract. Gross inhalation or ingestion can result in death. LD50 ($ZnCl_2$)(rat)=350 mg/kg.
May be mutagenic in lab animals. May cause sensitization. Chronic exposures can result in permanent liver, kidney and respiratory system effects. Studies show that health risks vary by individual. Minimize exposure as a precaution.

Carcinogenicity: not determined NPT? no IARC Monographs? no

Signs and symptoms of exposure: Inhalation-Nose & throat irritation, headache,dizziness, difficulty breathing, coughing. Ingestion-nausea, vomiting, cramps.
Skin-redness, burning, rash, dryness. Eye-redness, burning, tearing, blurred vision.

Medical conditions aggravated by exposure: Skin, kidney and respiratory conditions.

Emergency first aid procedures:
Skin: Flush with water immediately - Seek medical attention if necessary
Eyes: Flush with water for 15 minutes - Seek medical attention
Ingestion: DO NOT induce vomiting, drink large amounts of water - seek medical attention. Never give anything by mouth to an unconscious person
Inhalation: Remove to fresh air. Support respiration if required - Seek medical attention.

Section VII: Precautions for Safe Handling and Use

Steps to be taken if material is released or spilled: Flush into a chemical sewer or soak up with a suitable absorbant.
Waste Disposal Method: dispose of in accordance with all local state regulations
Other Precautions: Avoid skin and eye contact, inhalation and ingestion of fumes and material. Wash contaminated clothing before reuse.
Keep away from children. Do not reuse container.

Section VIII: Control Measures

Respiratory Protection (type): Acid type respirator for fumes and mist.
Ventilation: Local Exhaust preferred Special:NE
Mechanical OK Other:NE
Protective Gloves: plastic or rubber Eye Protection: Goggles or face shield
Other Protective Clothing or Equipment: as required to avoid contact.
Work/Hygenic Practices: Wash after use. Follow good industrial hygienic practices.

Section IX: Additional Information

DOT Classification: Non-Hazardous
NFPA Classification (NFPA 325M,8th edition)(Health, Flammability, Reactivity): 2-0-0

NE- not established NA = not applicable