

dec 5/93

M A T E R I A L S A F E T Y D A T A S H E E T

Dow Chemical U.S.A.* Midland, MI 48674 Emergency Phone: 517-636-4400

Product Code: 94830

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PRODUCT NAME: ~~ZINC~~ ZINC CHLORIDE SOLUTION

Effective Date: 06/08/90 Date Printed: 03/09/93

MSDS:000861

1. INGREDIENTS: (% w/w, unless otherwise noted)

Zinc chloride,	CAS# 007646-87-7	25-40%
Hydrochloric acid	CAS# 007647-01-0	0.5-2%
Water	CAS# 007732-18-5	bal.

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200). In addition, other substances not 'Hazardous' per this OSHA Standard may be listed. Where proprietary ingredient shows, the identity may be made available as provided in this standard.

2. PHYSICAL DATA:

BOILING POINT: 230F
VAP PRESS: (mmHg @ 20C) 17.5
VAP DENSITY: H2O vapor
SOL. IN WATER: Miscible
SP. GRAVITY: 1.30 60F
APPEARANCE: Clear, yellow-orange color.
ODOR: Not available.

3. FIRE AND EXPLOSION HAZARD DATA:

FLASH POINT: None
METHOD USED: Not applicable

FLAMMABLE LIMITS
LFL: Not applicable
UFL: Not applicable

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3. FIRE AND EXPLOSION HAZARD DATA: (CONTINUED)

EXTINGUISHING MEDIA: Nonflammable liquid

FIRE & EXPLOSION HAZARDS: None.

FIRE-FIGHTING EQUIPMENT: Wear positive pressure self-contained breathing apparatus.

4. REACTIVITY DATA:

STABILITY: (CONDITIONS TO AVOID) Reactive with base to cause exothermic release.

INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID) Base, cellulose, starch, paper, metals

HAZARDOUS DECOMPOSITION PRODUCTS: Hydrochloric acid.

HAZARDOUS POLYMERIZATION: Will not occur.

5. ENVIRONMENTAL AND DISPOSAL INFORMATION:

ACTION TO TAKE FOR SPILLS/LEAKS: Try to contain material if possible and use vacuum rubber-lined tank truck to contain spilled material. Wash with large amounts of water to decontaminate any surface where material has been released.

DISPOSAL METHOD: Zinc chloride can be reacted carefully with sodium hydroxide to form a very insoluble zinc hydroxide solid. The zinc hydroxide could then be scooped up and buried in accordance with local, state, and federal regulations.

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6. HEALTH HAZARD DATA:

EYE: May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness.

SKIN CONTACT: Prolonged or repeated exposure may cause severe skin burns.

SKIN ABSORPTION: The dermal LD50 has not been determined.

INGESTION: Single dose oral toxicity is believed to be low. The oral LD50 for rats is expected to be about 2000 mg/kg. Ingestion may cause burns of mouth and throat. Ingestion may cause gastrointestinal irritation or ulceration. Signs and symptoms of excessive exposure may be nausea and/or vomiting.

INHALATION: Vapors or mists may cause irritation of the respiratory tract.

SYSTEMIC & OTHER EFFECTS: Anemia has been observed in humans and animals after repeated ingestion of zinc salts. Similar zinc salts did not cause birth defects in animals; other effects were seen in the fetus at doses which also caused toxic effects to the mother. In animal studies, excessive doses of similar zinc compounds have interfered with reproduction in females. Has been shown to be negative in some in vitro ("test tube") mutagenicity tests and positive in others.

7. FIRST AID:

EYES: Immediate and continuous irrigation with flowing water for at least 30 minutes is imperative. Prompt medical consultation is essential.

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7. FIRST AID: (CONTINUED)

SKIN: Wash off in flowing water or shower.

INGESTION: Do not induce vomiting. Give large amounts of water or milk if available and transport to medical facility.

INHALATION: Remove to fresh air if effects occur. Consult a physician.

NOTE TO PHYSICIAN: Corrosive. May cause stricture. If lavage is performed, suggest endotracheal and/or esophagoscopy control. If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

8. HANDLING PRECAUTIONS:

EXPOSURE GUIDELINE: Zinc chloride: ACGIH TLV and OSHA PEL are 1 mg/m³ TWA, 2 mg/m³ STEL, for the fumes. Hydrogen chloride: ACGIH TLV and OSHA PEL are 5 ppm Ceiling.

VENTILATION: Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.

RESPIRATORY PROTECTION: When airborne exposure guidelines and/or comfort levels may be exceeded, use an approved air-purifying respirator.

SKIN PROTECTION: Use protective clothing impervious to this material. Selection of specific items such as gloves, boots, apron, or full-body suit will depend on operation. Safety shower should be located in immediate work area. Remove

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8. HANDLING PRECAUTIONS: (CONTINUED)

contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse. Contaminated leather items, such as shoes, belts and watchbands, should be removed and destroyed.

EYE PROTECTION: Use chemical goggles. Eye wash fountain should be located in immediate work area.

9. ADDITIONAL INFORMATION:

SPECIAL PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Special and particular precautions should be taken to prevent skin and eye contact with this material. Design of equipment and operational procedures should be such that the possibility of skin or eye contact does not exist.

MSDS STATUS: Revised section 9 and regsheets.

For information regarding state/provincial and federal regulations see the Regulatory Information Section.

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REGULATION INFORMATION: (Not meant to be all-inclusive--selected regulations represented.)

NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations. See MSD Sheet for health and safety information.

U.S. REGULATIONS

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SARA 313 INFORMATION: This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

CHEMICAL NAME	CAS NUMBER	CONCENTRATION
ZINC CHLORIDE SOLUTION	007646-85-7	25 -40 . %

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

An immediate health hazard

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REGULATORY INFORMATION (CONTINUED)

A delayed health hazard

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For Further Information.

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