

MATERIAL SAFETY DATA SHEET

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Version 1.0

Section 1 - Product and Company Information

Product Name	ZINC CHLORIDE, 1.0M SOLUTION INDIETHYL ETHER
Product Number	276839
Brand	ALDRICH
Company	Sigma-Aldrich
Street Address	3050 Spruce Street
City, State, Zip, Country	SAINT LOUIS MO 63103 US
Technical Phone:	314 771 5765
Emergency Phone:	414 273 3850 Ext. 5996
Fax:	800 325 5052

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
ZINC CHLORIDE, 1.0M SOLUTION IN DIETHYL ETHER	None	No
Formula	ZnCl ₂	

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Flammable (USA) Extremely Flammable (EU). Corrosive.
May form explosive peroxides. Harmful by inhalation, in contact
with skin and if swallowed. Causes burns. Possible risk of harm to
the unborn child.
Target organ(s): Kidneys. Central nervous system.

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is
conscious. Call a physician.

INHALATION EXPOSURE

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

EYE EXPOSURE

Assure adequate flushing of the eyes by separating the eyelids
with fingers.

Section 5 - Fire Fighting Measures

FLAMMABLE HAZARDS

Organic Peroxide: Yes

EXPLOSION HAZARDS

Vapor may travel considerable distance to source of ignition and flash back. Container explosion may occur under fire conditions.

FLASH POINT

-40 °F -40 °C Method: closed cup

AUTOIGNITION TEMP

N/A

FLAMMABILITY

N/A

EXTINGUISHING MEDIA

Suitable: Use extinguishing media appropriate to surrounding fire conditions.

Unsuitable: Do not use carbon dioxide extinguisher on this material.

FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s): Extremely flammable. Emits toxic fumes under fire conditions. Vapor may travel considerable distance to source of ignition and flash back.

Specific Method(s) of Fire Fighting: Use water spray to cool fire-exposed containers.

Section 6 - Accidental Release Measures

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area. Shut off all sources of ignition.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Cover with an activated carbon adsorbent, take up and place in closed containers. Transport outdoors. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING

User Exposure: Do not breathe vapor. Do not get in eyes, on skin, on clothing.

STORAGE

Suitable: Keep tightly closed. Keep away from heat, sparks, and open flame.

Unsuitable: Forms explosive peroxides on prolonged storage

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS

Safety shower and eye bath. Use only in a chemical fume hood.

PERSONAL PROTECTIVE EQUIPMENT

Other: Wear appropriate government approved respirator, chemical-resistant gloves, safety goggles, other protective clothing.

GENERAL HYGIENE MEASURES
Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Appearance	N/A	
Property	Value	At Temperature or Pressure
Molecular Weight	136.28 AMU	
pH	N/A	
BP/BP Range	N/A	
MP/MP Range	N/A	
Freezing Point	N/A	
Vapor Pressure	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
SG/Density	0.835 g/cm3	
Bulk Density	N/A	
Odor Threshold	N/A	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	N/A	
Surface Tension	N/A	
Partition Coefficient	N/A	
Decomposition Temp.	N/A	
Flash Point	-40 °F -40 °C	Method: closed cup
Explosion Limits	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Refractive Index	N/A	
Optical Rotation	N/A	
Miscellaneous Data	N/A	
Solubility	N/A	

N/A = not available

Section 10 - Stability and Reactivity

STABILITY

Conditions to Avoid: Heat.
Materials to Avoid: Oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide,
Hydrogen chloride gas, Metal oxides.

Section 11 - Toxicological Information

ROUTE OF EXPOSURE

Multiple Routes: Harmful if swallowed, inhaled, or absorbed
through skin.

TARGET ORGAN(S) OR SYSTEM(S)

Central nervous system. Kidneys. Liver. G.I. System. Skeletal
muscle.

SIGNS AND SYMPTOMS OF EXPOSURE

Zinc chloride and its aqueous solutions are corrosive to the eyes and skin. They cause conjunctivitis and corneal burns in the eye and produce chemical burns, particularly on areas where the skin is broken. Ingestion produces a corrosive action to the mouth, throat, and digestive tract which can include symptoms of stomach pain, nausea, vomiting, bloody diarrhea, swelling of the throat, blood in the urine, and shock. Inhalation irritates the nose and throat producing cough, chest pain, bluish skin, fever, nausea and vomiting, shortness of breath, difficulty in breathing (onset may be delayed by several hours), and pneumonia. Fatalities have occurred by inhalation and ingestion. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Inhalation may result in spasm, inflammation and edema of the larynx and bronch

CHRONIC EXPOSURE - TERATOGEN

Result: Possible risk of congenital malformation in the fetus.

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

IATA

Proper Shipping Name: Flammable liquid, corrosive,
n.o.s.

IATA UN Number: 2924

Hazard Class: 3

Packing Group: I

Section 15 - Regulatory Information

EU ADDITIONAL CLASSIFICATION

Symbol of Danger: F+ C

Indication of Danger: Extremely Flammable. Corrosive.

R: 12 34 66 67

Risk Statements: Extremely flammable. Causes burns. Repeated exposure may cause skin dryness or cracking. Vapors may cause drowsiness and dizziness.

S: 7/9 16 26 33 36/37/39 45

Safety Statements: Keep container tightly closed and in well-ventilated place. Keep away from sources of ignition - no smoking. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Take precautionary measures against static discharges. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Flammable (USA) Extremely Flammable (EU).
Corrosive.

Risk Statements: May form explosive peroxides. Harmful by inhalation, in contact with skin and if swallowed. Causes burns. Possible risk of harm to the unborn child.

Safety Statements: Keep away from sources of ignition - no smoking. Take off immediately all contaminated clothing. Take precautionary measures against static discharges. Wear suitable protective clothing, gloves, and eye/face protection.

US Statements: Target organ(s): Kidneys. Central nervous system.

UNITED STATES REGULATORY INFORMATION

SARA LISTED: No

NOTES: This product is subject to SARA section 313 reporting requirements. This product is subject to SARA section 313 reporting requirements.

CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: No

NDSL: No

Section 16 - Other Information

DISCLAIMER

For R&D use only. Not for drug, household or other uses.

WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2004 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.