

1 - Product and Company Information

ProductName	4-FLUOROBENZYLZINC CHLORIDE, 0.5M SOLUTION IN TETRAHYDROFURAN (NO BULK SALES ALLOWED)
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2 - Hazards Identification

SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT

Highly flammable. Reacts violently with water. May form explosive peroxides. Harmful if swallowed. Irritating to eyes, respiratory system and skin. Limited evidence of a carcinogenic effect.

3 - Composition/Information on Ingredients

Product Name	CAS #	EC no	Annex I
4-FLUOROBENZYLZINC CHLORIDE, 0.5M SOLUTION IN TETRAHYDROFURAN	None	None	None
Ingredient Name	Percent	CAS #	EC no
TETRAHYDROFURAN 90 (Inhibitor free)	109-99-9	203-726-8	None
Symbols: F-Xi			
R-Phrases: 11-19-36/37			
Highly flammable. May form explosive peroxides. Irritating to eyes and respiratory system.			

4-FLUOROBENZYLZINC CHLORIDE	10	None	None	None
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Formula	C7H6ClFZn
Molecular Weight	210 AMU

4 - First Aid Measures

AFTER INHALATION

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

AFTER SKIN CONTACT

In case of contact, immediately wash skin with soap and copious amounts of water.

AFTER EYE CONTACT

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

AFTER INGESTION

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

5 - Fire Fighting Measures

EXTINGUISHING MEDIA

Suitable: Carbon Dioxide, dry chemical powder, or appropriate foam. Water can be applied as a spray or fog and if properly applied is capable of extinguishing the fire by sweeping the flames off the surface of the burning liquid.

SPECIAL RISKS

Specific Hazard(s): Vapor may travel considerable distance to source of ignition and flash back. Flammable liquid. Emits toxic fumes under fire conditions.
Explosion Hazards: Vapor may travel considerable distance to source of ignition and flash back. Container explosion may occur under fire conditions.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

SPECIFIC METHOD(S) OF FIRE FIGHTING

Use water spray to cool fire-exposed containers.

6 - Accidental Release Measures

PERSONAL PRECAUTION PROCEDURES TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area. Shut off all sources of ignition. Use nonsparking tools.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Cover with dry-lime, sand, or soda ash. Place in covered containers using non-sparking tools and transport outdoors. Ventilate area and wash spill site after material pickup is complete.

7 - Handling and Storage

HANDLING

Directions for Safe Handling: Avoid breathing vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE

Conditions of Storage: Keep container closed. Keep away from heat, sparks, and open flame. Handle and store under nitrogen. Unsuitable: In the absence of inhibitors, tetrahydrofuran tends

to absorb and react with oxygen from the air to form explosive peroxides which may detonate when they become concentrated by evaporation or distillation, are combined with other compounds resulting in an explosive mixture or are disturbed by heat, shock, or friction.
Incompatible Materials: Do not allow contact with water
Store at 2-8°C

SPECIAL REQUIREMENTS: Handle and store under inert gas. Do not distill to dryness.

8 - Exposure Controls / Personal Protection

ENGINEERING CONTROLS

Safety shower and eye bath. Use nonsparking tools. Mechanical exhaust required.

GENERAL HYGIENE MEASURES

Wash thoroughly after handling. Wash contaminated clothing before reuse.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator.
Hand Protection: Compatible chemical-resistant gloves.
Eye Protection: Chemical safety goggles.

9 - Physical and Chemical Properties

Appearance	Physical State: Liquid	
Property	Value	At Temperature or Pressure
pH	N/A	
BP/BP Range	N/A	
MP/MP Range	N/A	
Flash Point	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Oxidizing Properties	N/A	
Explosive Properties	N/A	
Explosion Limits	N/A	
Vapor Pressure	N/A	
Partition Coefficient	N/A	
Viscosity	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
Evaporation Rate	N/A	
Bulk Density	N/A	
Decomposition Temp.	N/A	
Solvent Content	N/A	
Water Content	N/A	
Surface Tension	N/A	
Conductivity	N/A	
Miscellaneous Data	N/A	
Solubility	N/A	

10 - Stability and Reactivity

STABILITY

Stable: Stable.
Reactions to Avoid: Test for peroxide formation periodically and before distillation. Do not distill to dryness.
Conditions to Avoid: Do not allow water to enter container because of violent reaction.
Materials to Avoid: Oxidizing agents, Oxygen, Acids, Bases, Reducing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

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

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

11 - Toxicological Information

SIGNS AND SYMPTOMS OF EXPOSURE

Coughing, chest pains, difficulty in breathing. Exposure to high airborne concentrations can cause anesthetic effects. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Exposure can cause: Can cause CNS depression.

ROUTE OF EXPOSURE

Skin Contact: Causes skin irritation.
Skin Absorption: May be harmful if absorbed through the skin.
Eye Contact: Causes eye irritation.
Inhalation: May be harmful if inhaled. Material is irritating to mucous membranes and upper respiratory tract.
Ingestion: May be harmful if swallowed.

TARGET ORGAN INFORMATION

Liver. Central nervous system. Kidneys.

CHRONIC EXPOSURE - CARCINOGEN

Result: This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification.

12 - Ecological Information

No data available.

13 - Disposal Considerations

SUBSTANCE DISPOSAL

Contact a licensed professional waste disposal service to dispose of this material. Burn in a chemical incinerator equipped with afterburner and scrubber but exert extra care in igniting material is highly flammable. Observe all federal, state, and local environmental regulations.

14 - Transport Information

RID/ADR

UN#: 2056

Class: 3

PG: II

Proper Shipping Name: Tetrahydrofuran solution

IMDG

UN#: 2056

Class: 3

PG: II

Proper Shipping Name: Tetrahydrofuran solution

Marine Pollutant: No

Severe Marine Pollutant: No

IATA

UN#: 2056

Class: 3

PG: II

Proper Shipping Name: Tetrahydrofuran solution

Inhalation Packing Group I: No

15 - Regulatory Information

CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

INDICATION OF DANGER: F-Xn

Highly Flammable. Harmful.

R-PHRASES: 11-14-19-22-36/37/38-40

Highly flammable. Reacts violently with water. May form explosive peroxides. Harmful if swallowed. Irritating to eyes, respiratory system and skin. Limited evidence of a carcinogenic effect.

S-PHRASES: 45-16-33-26-36/37/39

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

Caution: Substance not yet fully tested (EU).

COUNTRY SPECIFIC INFORMATION

Germany

WGK: 1

Self-Classification

16 - Other Information



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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. Lookchem 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.