

1 - Product and Company Information

ProductName 4-CYANOBUTYLZINC BROMIDE, 0.5M SOLUTION IN TETRAHYDROFURAN (NO BULK SALES ALLOWED)

2 - Hazards Identification

SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT

May form explosive peroxides. Harmful if swallowed. Irritating to eyes and skin. Reacts violently with water.

3 - Composition/Information on Ingredients

Product Name	CAS #	EC no	Annex I
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4-CYANOBUTYLZINC BROMIDE 0.5M SOLUTION IN TETRAHYDROFURAN	None	None	None
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Ingredient Name	Percent	CAS #	EC no	Annex I
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TETRAHYDROFURAN 89.95	109-99-9	203-726-8	None	None
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(Inhibitor free)

Symbols: F-Xi

R-Phrases: 11-19-36/37

Highly flammable. May form explosive peroxides. Irritating to eyes and respiratory system.

4-CYANOBUTYLZINC BROMIDE 10.05	None	None	None
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Formula C5H8BrNzN

Molecular Weight 227.4 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: Store under inert gas. Keep container closed. Keep away from heat, sparks, and open flame. Store in a cool dry place.

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: Store under inert gas. Do not distill to dryness. Test for peroxide formation periodically and before distillation.

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