

## MATERIAL SAFETY DATA SHEET

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Version 1.3

## Section 1 - Product and Company Information

Product Name	BERYLLIUM NITRATE, 99.99%, CA. 35 WT. % SOLUTION IN WATER
Product Number	465038
Brand	ALDRICH
Company	Sigma-Aldrich
Address	3050 Spruce Street SAINT LOUIS MO 63103 US
Technical Phone:	800-325-5832
Fax:	800-325-5052
Emergency Phone:	314-776-6555

## Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
BERYLLIUM NITRATE, 99.99%, CA. 35 WT. %SOLUTION IN WATER	13597-99-4	No
Formula	Be(NO3)2	
Synonyms	Beryllium dinitrate * Nitric acid, beryllium salt	
RTECS Number:	DS3675000	

## Section 3 - Hazards Identification

## EMERGENCY OVERVIEW

Oxidizing. Highly Toxic (USA) Very Toxic (EU).  
May cause cancer. May cause harm to the unborn child. Contact with  
combustible material may cause fire. Harmful in contact with skin  
and if swallowed. Very toxic by inhalation. Causes burns. May  
cause sensitization by skin contact.  
Cyanotic reagent. Target organ(s): Blood. Lungs.

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 immediately.

## 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

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### CONDITIONS OF FLAMMABILITY

May accelerate combustion.

### FLASH POINT

N/A

### AUTOIGNITION TEMP

N/A

### FLAMMABILITY

N/A

### EXTINGUISHING MEDIA

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

### FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Specific Hazard(s): Emits toxic fumes under fire conditions. May accelerate combustion. Contact with other material may cause fire.

### EXPOSURE HAZARD(S)

Material: Corrosive. Sensitizer. Cyanotic reagent.

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## Section 6 - Accidental Release Measures

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### PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area.

### PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves. Wear disposable coveralls and discard them after use.

### METHODS FOR CLEANING UP

Absorb on sand or vermiculite and place in closed containers for disposal. Ventilate area and wash spill site after material pickup is complete.

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## Section 7 - Handling and Storage

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### HANDLING

User Exposure: Do not breathe vapor. Avoid all contact. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

### STORAGE

Suitable: Keep tightly closed. Store in a cool dry place. Unsuitable: Do not store near, nor allow contact with, clothing and other combustible material.

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## Section 8 - Exposure Controls / PPE

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### 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. Faceshield (8-inch minimum).

#### GENERAL HYGIENE MEASURES

Wash thoroughly after handling.

#### EXPOSURE LIMITS, RTECS

Country	Source	Type	Value
USA	ACGIH	TWA	0.002 MG(BE)/M3
USA	OSHA.	PEL	8H TWA 0.002 MG(BE)/M3
New Zealand OEL			
Remarks: check ACGIH TLV			
USA	NIOSH		NOT TO EXCEED 0.0005 MG(BE)/M3

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#### Section 9 - Physical/Chemical Properties

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Molecular Weight	133,0200 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	1,2000 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	N/A
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

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#### Section 10 - Stability and Reactivity

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##### STABILITY

Stable: Stable.

Materials to Avoid: Oxidizing agents, Acids, Bases, Organic materials, Finely powdered metals, Chlorinated hydrocarbons.

##### HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Nitrogen oxides, Nitric acid, Beryllium oxides.

## HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

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## Section 11 - Toxicological Information

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### ROUTE OF EXPOSURE

Inhalation: May be fatal if inhaled.

Multiple Routes: Harmful if swallowed or absorbed through skin.

### SENSITIZATION

Skin: May cause allergic skin reaction.

### TARGET ORGAN(S) OR SYSTEM(S)

Bones. Spleen. Lungs. Blood. Liver. Lymph nodes. Kidneys. Male reproductive system. Heart.

### SIGNS AND SYMPTOMS OF EXPOSURE

Fever. Fatigue. 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 bronchi, chemical pneumonitis, and pulmonary edema. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. Nose bleeds. Anorexia. Exposure can cause: May cause cyanosis (blue-gray coloring of skin and lips caused by lack of oxygen).

### TOXICITY DATA

Intraperitoneal

Mouse

500 UG/KG

LD50

Intravenous

Mouse

3160 UG/KG

LD50

### CHRONIC EXPOSURE - CARCINOGEN

Result: Carcinogen.

### IARC CARCINOGEN LIST

Rating: Group 1

### ACGIH CARCINOGEN LIST

Rating: A2

### CHRONIC EXPOSURE - TERATOGEN

Result: May cause congenital malformation in the fetus.

Species: Rat

Dose: 31 UG/KG

Route of Application: Intravenous

Exposure Time: (18D PREG)

Result: Effects on Embryo or Fetus: Fetal death. Effects on

Embryo or Fetus: Extra embryonic structures (e.g., placenta, umbilical cord). Specific Developmental Abnormalities: Hepatobiliary system.

#### CHRONIC EXPOSURE - MUTAGEN

Species: Hamster  
Dose: 31 MG/L  
Cell Type: lung  
Mutation test: Sister chromatid exchange

#### CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

Species: Rat  
Dose: 10803 UG/KG  
Route of Application: Intratesticular  
Exposure Time: (1D MALE)  
Result: Paternal Effects: Spermatogenesis (including genetic material, sperm morphology, motility, and count). Paternal Effects: Testes, epididymis, sperm duct.

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#### Section 12 - Ecological Information

No data available.

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#### Section 13 - Disposal Considerations

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##### APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Contact a licensed professional waste disposal service to dispose of this material. Observe all federal, state, and local environmental regulations.

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#### Section 14 - Transport Information

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##### DOT

Proper Shipping Name: Oxidizing liquid, toxic, n.o.s.  
UN#: 3099  
Class: 5.1  
Packing Group: Packing Group II  
Hazard Label: Oxidizer  
Hazard Label: Toxic substances.  
PIH: Not PIH

##### IATA

Proper Shipping Name: Oxidizing liquid, toxic, n.o.s.  
IATA UN Number: 3099  
Hazard Class: 5.1  
Packing Group: II

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#### Section 15 - Regulatory Information

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##### EU ADDITIONAL CLASSIFICATION

Symbol of Danger: O-T+  
Indication of Danger: Oxidizing. Very toxic.  
R: 45-61-8-21/22-26-34-43  
Risk Statements: May cause cancer. May cause harm to the unborn child. Contact with combustible material may cause fire. Harmful in contact with skin and if swallowed. Very toxic by inhalation. Causes burns. May cause sensitization by skin contact.  
S: 53-17-26-36/37/39-45

Safety Statements: Avoid exposure - obtain special instructions before use. Keep away from combustible material. 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. 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: Oxidizing. Highly Toxic (USA) Very Toxic (EU).

Risk Statements: May cause cancer. May cause harm to the unborn child. Contact with combustible material may cause fire. Harmful in contact with skin and if swallowed. Very toxic by inhalation. Causes burns. May cause sensitization by skin contact.

Safety Statements: Avoid exposure - obtain special instructions before use. Keep away from combustible material. 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. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

US Statements: Cyanotic reagent. Target organ(s): Blood. Lungs.

#### 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. This product is subject to SARA section 313 reporting requirements.

TSCA INVENTORY ITEM: Yes

#### 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: Yes

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#### Section 16 - Other Information

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#### 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 2010 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.