

## MATERIAL SAFETY DATA SHEET

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Version 1.2

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Section 1 - Product and Company Information

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Product Name	BARIUM NITRATE, 99+%, A.C.S. REAGENT
Product Number	217581
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

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Section 2 - Composition/Information on Ingredient

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Substance Name	CAS #	SARA 313
BARIUM NITRATE	10022-31-8	No
Formula	Ba(NO <sub>3</sub> ) <sub>2</sub>	
Synonyms	Barium dinitrate * Dusicnan barnaty (Czech) * Nitrate de baryum (French) * Nitric acid, barium salt	
RTECS Number:	CQ9625000	

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Section 3 - Hazards Identification

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## EMERGENCY OVERVIEW

Oxidizing. Toxic (USA) Harmful (EU).  
Contact with combustible material may cause fire. Harmful by  
inhalation and if swallowed. Irritating to eyes and respiratory  
system.  
Target organ(s): Heart. Nerves.

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

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Section 4 - First Aid Measures

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## 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.

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Section 5 - Fire Fighting Measures

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## EXPLOSION HAZARDS

May explode when heated.

## EXPLOSION DATA

Sensitivity to Mechanical Impact: May be shock-sensitive.

FLASH POINT  
N/A

AUTOIGNITION TEMP  
N/A

FLAMMABILITY  
N/A

EXTINGUISHING MEDIA  
Suitable: Noncombustible. Use extinguishing media appropriate to surrounding fire conditions.

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

EXPOSURE HAZARD(S)  
Material: Toxic. Irritant.

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#### Section 6 - Accidental Release Measures

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PROCEDURE(S) OF PERSONAL PRECAUTION(S)  
Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP  
Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. 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 dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure. Do not drop.

STORAGE  
Suitable: Keep tightly closed. Keep away from combustible materials, heat, sparks, and open flame. Store in a cool dry place.

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#### Section 8 - Exposure Controls / PPE

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

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

GENERAL HYGIENE MEASURES  
Wash thoroughly after handling.

#### EXPOSURE LIMITS, RTECS

Country	Source	Type	Value
USA	ACGIH	TWA	0.5 MG(BA)/M3

USA MSHA Standard-air TWA 0.5 MG(BA)/M3  
USA OSHA. PEL 8H TWA 0.5 MG(BA)/M3  
New Zealand OEL  
Remarks: check ACGIH TLV

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## Section 9 - Physical/Chemical Properties

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Appearance	N/A	
Property	Value	At Temperature or Pressure
Molecular Weight	261.35 AMU	
pH	N/A	
BP/BP Range	N/A	
MP/MP Range	592 °C	
Freezing Point	N/A	
Vapor Pressure	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
SG/Density	3.23 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

Conditions to Avoid: Moisture. Heat.

Materials to Avoid: Acids, Bases, Acid anhydrides, Reducing agents.

### HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Nitrogen oxides.

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## Section 11 - Toxicological Information

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### ROUTE OF EXPOSURE

Skin Contact: May cause skin irritation.

Eye Contact: Causes eye irritation.

Inhalation: Material is irritating to mucous membranes and upper respiratory tract.

Multiple Routes: Harmful if inhaled or swallowed.

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

Heart. Nerves. Kidneys. G.I. System. Bone marrow. Spleen. Liver.

Blood.

#### SIGNS AND SYMPTOMS OF EXPOSURE

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

#### TOXICITY DATA

Oral  
Rat  
355 mg/kg  
LD50

Oral  
Mouse  
266 mg/kg  
LD50

Intraperitoneal  
Mouse  
293 MG/KG  
LD50  
Remarks: Autonomic Nervous System:Other (direct) parasympathomimetic. Behavioral:Muscle weakness. Gastrointestinal:Nausea or vomiting.

Intravenous  
Mouse  
16 MG/KG  
LD50

Oral  
Mammal  
390 mg/kg  
LD50  
Remarks: Autonomic Nervous System:Other (direct) parasympathomimetic. Behavioral:Muscle weakness. Gastrointestinal:Nausea or vomiting.

#### IRRITATION DATA

Skin  
Rabbit  
500 mg  
24H  
Remarks: Mild irritation effect

Eyes  
Rabbit  
100 mg  
24H  
Remarks: Moderate irritation effect

#### ACGIH CARCINOGEN LIST

Rating: A4

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#### Section 12 - Ecological Information

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No data available.

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#### Section 13 - Disposal Considerations

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APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

To a solution of the product in water, add an excess of dilute sulfuric acid. Let stand overnight. Remove any insolubles and bury in a landfill site approved for hazardous waste disposal. Observe all federal, state, and local environmental regulations.

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Section 14 - Transport Information

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DOT

Proper Shipping Name: Barium nitrate  
UN#: 1446  
Class: 5.1  
Packing Group: Packing Group II  
Hazard Label: Oxidizer  
Hazard Label: Toxic substances.  
PIH: Not PIH

IATA

Proper Shipping Name: Barium nitrate  
IATA UN Number: 1446  
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 Xn  
Indication of Danger: Oxidizing. Harmful.  
R: 8 20/22  
Risk Statements: Contact with combustible material may cause fire. Harmful by inhalation and if swallowed.  
S: 17 28  
Safety Statements: Keep away from combustible material. After contact with skin, wash immediately with plenty of polyethylene glycol.

US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Oxidizing. Toxic (USA) Harmful (EU).  
Risk Statements: Contact with combustible material may cause fire. Harmful by inhalation and if swallowed. Irritating to eyes and respiratory system.  
Safety Statements: Keep away from combustible material. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Take off immediately all contaminated clothing. Wear suitable protective clothing, gloves, and eye/face protection.  
US Statements: Target organ(s): Heart. Nerves.

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.  
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: Yes  
NDSL: No

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 2005 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.