



SIGMA-ALDRICH

Material Safety Data Sheet

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Section 1 - Product and Company Information

Product Name Barium chloride, 99.999%
Product Number 202738
Brand Aldrich Chemical

Company Sigma-Aldrich
Street Address 3050 Spruce Street
City, State, Zip, Country SAINT LOUIS, MO 63103 US
Technical Phone: 314 771 5765
Fax: 800 325 5052
Emergency Phone: 414 273 3850 Ext. 5996

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313	EC no	Annex I Index Number
BARIUM CHLORIDE, ANHYDROUS	10361-37-2	Yes	233-788-1	056-004-00-8

Formula BaCl₂
Synonyms Barium dichloride, NCI-C61074, SBA 0108E

Section 3 - Hazards Identification

Emergency Overview

Toxic.
Harmful by inhalation. Toxic if swallowed. Irritating to eyes, respiratory system and skin.
Target organ(s): Heart, Kidneys.

HMIS Rating
Health: 2* Flammability: 0 Reactivity: 1

NFPA Rating
Health: 2 Flammability: 0 Reactivity: 1

*additional chronic hazards present.

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.

Dermal Exposure

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

Eye Exposure

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.

Section 5 - Fire Fighting Measures

Autoignition Temp: 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)

Emits toxic fumes under fire conditions.

2

Section 6 - Accidental Release Measures

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.

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.

Section 7 - Handling and Storage

Handling

User Exposure

Do not breathe dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

Storage

Suitable

Keep tightly closed.

Special Requirements

Hygroscopic.

Section 8 - Exposure Controls / PPE

Engineering Controls

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

Personal Protective Equipment

Respiratory

Government approved respirator.

Hand

Compatible chemical-resistant gloves.

Eye

Chemical safety goggles.

General Hygiene Measures

Wash contaminated clothing before reuse. Wash thoroughly after handling.

Exposure Limits, RTECS

Aldrich Chemical - 202738

Page 2

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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

Section 9 - Physical/Chemical Properties

Appearance	Physical State
	Solid
Molecular Weight:	208.25 AMU
pH	N/A
BP/BP Range	N/A
MP/MP Range	963 °C
Freezing Point	N/A
Vapor Pressure	N/A
Vapor Density	N/A
Saturated Vapor Conc.	N/A
SG/Density	3.856 g/cm ³
Bulk Density	N/A
Odor Threshold	N/A
Volatle%	N/A
VOC Content	N/A
Water Content	N/A
Solvent Content	N/A
Evaporation Rate	N/A
Viscosity	N/A
Partition Coefficient	N/A
Decomposition Temp.	N/A
Flash Point °F	N/A
Flash Point °C	N/A
Explosion Limits	N/A
Flammability	N/A
Autoignition Temp	N/A
Solubility	N/A

N/A = not available

Section 10 - Stability and Reactivity

Stability
Stable
Stable.
Materials to Avoid
Strong oxidizing agents.

Hazardous Decomposition Products
Hazardous Decomposition Products
 Hydrogen chloride gas.

Hazardous Polymerization
Hazardous Polymerization
 Will not occur.

Section 11 - Toxicological Information

Route of Exposure

Skin Contact

May cause skin irritation.

Skin Absorption

May be harmful if absorbed through the skin.

Eye Contact

May cause eye irritation.

Inhalation

Harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.

Ingestion

Toxic if swallowed.

Target Organ(s) or System(s)

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

Signs and Symptoms of Exposure

Ingestion of soluble barium compounds can cause gastroenteritis, muscular paralysis, contractions of the smooth, striated, and cardiac muscles, vomiting, diarrhea, slow irregular pulse, and hypertension. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

RTECS Number: CQ8750000

Toxicity Data

Oral - Rat: 118 mg/kg (LD50)

Subcutaneous - Rat: 178 MG/KG (LD50)

Intraperitoneal - Mouse: 39 MG/KG (LD50)

Intravenous - Mouse: 12 MG/KG (LD50)

Oral - Guinea pig: 76 mg/kg (LD50)

Oral - Mammal: 398 mg/kg (LD50)

Remarks: Autonomic Nervous System:Other (direct) parasympathomimetic.

Behavioral:Muscle weakness.

Gastrointestinal:Nausea or vomiting.

Chronic Exposure - Carcinogen

Result: This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

ACGIH Carcinogen List

Rating

A4

Chronic Exposure - Reproductive Hazard

Species	Dose	Route of Application	Exposure Time
Rat	16659 UG/KG	Intratesticular	(1D MALE)

Result: Paternal Effects: Testes, epididymis, sperm duct.

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

Appropriate Method of Disposal of Substance or Preparation

Contact a licensed professional waste disposal service to dispose of this material.
Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.
Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: Barium compounds, n.o.s.
UN#: 1564
Class: 6.1
Packing Group: Packing Group III
Hazard Label: Keep away from food
PIH: Not PIH

IATA

Proper Shipping Name: Barium compound, n.o.s.
IATA UN Number: 1564
Hazard Class: 6.1
Packing Group: III

Section 15 - Regulatory Information

EU Directives Classification

Symbol of Danger: T
Indication of Danger

Toxic.

Risk Statements R: 20 25
Harmful by inhalation. Toxic if swallowed.

Safety Statements S: 45

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

Toxic.

Risk Statements
Harmful by inhalation. Toxic if swallowed. Irritating to eyes, respiratory system and skin.

Safety Statements
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

Target organ(s): Heart. Kidneys.

United States Regulatory Information

SARA Listed: Yes

Demimis: 1.0 %

Notes: This product is subject to SARA section 313 reporting requirements - barium compounds.

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

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

