

SAFETY DATA SHEET

Section 1: Identification

Product name: Barium chloride
Product use: For laboratory research purposes.
Supplier: Trace Sciences International
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CANADA
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Section 2: Hazard(s) Identification

2.1 GHS Classification

Acute toxicity, Oral (Category 3), H301
Acute toxicity, Inhalation (Category 4), H332
Serious eye damage/eye irritation (Category 2A), H319

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s):

H301 Toxic if swallowed.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.

Precautionary statement(s):

P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear eye protection/ face protection.
P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER/ doctor. Rinse mouth.
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P405 Store locked up.
P501 Dispose of contents/ container to an approved waste disposal plant.

Section 3: Composition/ Information on Ingredients

Formula : BaCl₂
Molecular Weight : 208.23 g/mol

Material	CAS-No.	EC-No.	Index-No.	Concentration
Barium Chloride	10361-37-2	233-788-1	056-004-00-8	<=100%

Section 4: First-Aid Measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move person out of dangerous area if safe to do so.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water for at least 15 minutes. Use chemical shower if available. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Remove contacts if possible.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Section 5: Fire-Fighting Measures

5.1 Conditions of flammability

Not flammable or combustible.

5.2 Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.3 Hazardous combustion products

Hazardous decomposition products formed under fire conditions: Hydrogen chloride gas, barium oxide

5.4 Special protective equipment for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.5 Further information

No data available

Section 6: Accidental Release Measures

6.1 Personal precautions

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Sweep up and shovel. Keep in suitable, closed containers for disposal.

Section 7: Handling and Storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

7.2 Conditions for safe storage

Hygroscopic.

Keep container tightly closed in a dry and well-ventilated place.

Section 8: Exposure Controls/Personal Protection

8.1 Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Basis
Barium chloride	10361-37-2	TWA	0.5 mg/m ³	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
		TWAEV	0.5 mg/m ³	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
		TWA	0.5 mg/m ³	Canada. British Columbia OEL
		TWA	0.5 mg/m ³	USA. ACGIH Threshold Limit Values (TLV)

8.2 Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection

Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection

Impervious clothing, flame retardant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Specific engineering controls

Use mechanical exhaust or laboratory fume hood to avoid exposure.

Section 9: Physical and Chemical Properties

Appearance

Form	Powder
Colour	White

Safety Data

pH	5 - 8 at 50 g/l at 20 °C (68 °F)
Melting point/freezing point	963 °C (1,765 °F)
Boiling point	1,560 °C (2,840 °F) at ca.1,013.25 hPa (760.00 mmHg)
Flash point	Not applicable
Flammability (solid, gas)	No data available
Ignition temperature	No data available
Auto-ignition temperature	No data available
Lower explosion limit	No data available
Upper explosion limit	No data available
Vapour pressure	No data available
Density	3.856 g/mL at 25 °C (77 °F)
Water solubility	370 g/l at 25 °C (77 °F) - soluble
Partition coefficient: n-octanol/water	No data available
Relative vapour density	No data available
Odour	Odourless
Odour Threshold	No data available
Evaporation rate	No data available

Section 10: Stability and Reactivity

10.1 Chemical stability

Stable under recommended storage conditions

10.2 Possibility of hazardous reactions

Risk of explosion with:
furan-2-percarbonic acid

Violent reactions possible with:
Halogen-halogen compounds, strong oxidizing agents, strong reducing agents, acids

10.3 Conditions to avoid

No data available

10.4 Materials to avoid

Strong oxidizing agents

10.5 Hazardous decomposition products

See section 5

Section 11: Toxicological Information

Acute toxicity

Oral

LD50 Oral - Rat - 118 mg/kg

Remarks: (RTECS)

Inhalation

No data available

Dermal

No data available

Other information on acute toxicity

No data available

Skin corrosion/irritation

Skin - reconstructed human epidermis (RhE)

Result: No skin irritation - 15 min

Remarks: (ECHA)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: irritating

(OECD Test Guideline 405)

Respiratory or skin sensitization

Local lymph node assay (LLNA) - Mouse

Result: negative

(OECD Test Guideline 429)

Germ cell mutagenicity

Test Type: Ames test

Test system: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

Test Type: Mutagenicity (mammal cell test): chromosome aberration.

Test system: Chinese hamster ovary cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 473

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Test system: Mouse lymphoma test

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

Carcinogenicity

No data available

Reproductive toxicity

Reproductive toxicity - Rat - Intratesticular
Paternal Effects: Testes, epididymis, sperm duct.

Specific target organ toxicity - single exposure (Globally Harmonized System)

No data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

No data available

Aspiration hazard

No data available

Signs and Symptoms of Exposure

Vomiting, Diarrhea

Additional Information

RTECS: CQ8750000

Section 12: Ecological Information

12.1 Toxicity

Toxicity to fish	Static test LC50 - Danio rerio (zebra fish) - > 174 mg/l - 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	LC50 - Daphnia magna (Water flea) - 14.5 mg/l - 48 h Remarks: (ECHA)
Toxicity to algae	Growth inhibition EC50 - Pseudokirchneriella subcapitata (green algae) - > 100 mg/l - 72 h Method: OECD Test Guideline 201
Toxicity to bacteria	Respiration inhibition EC50 - Sludge Treatment - > 1,000 mg/l - 3 h Method: OECD Test Guideline 209
Toxicity to fish (Chronic toxicity)	NOEC (Danio rerio (zebra fish)): >= 1.26 mg/l - 33 d Method: OECD Test Guideline 210
Toxicity to microorganisms	EC50 (activated sludge): > 943.1 mg/l - 3 h Method: OECD Test Guideline 209

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

Bioaccumulation: Lepomis macrochirus - 0.065 mg/l (barium chloride)
Bioconcentration factor (BCF): 22.8

12.4 Mobility in soil

No data available

12.5 PBT and vPvB assessment

No data available

12.6 Other adverse effects

No data available

Section 13: Disposal Considerations

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

Section 14: Transport Information

IATA

UN number: UN1564 Class: 6.1 Packing group: III
Proper shipping name: Barium compounds, n.o.s. (Barium chloride)

Section 15: Regulatory Information

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR

Section 16: Other Information

Further information

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