



# SZABO SCANDIC

Part of Europa Biosite

## Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

Weitere Information auf den folgenden Seiten!  
See the following pages for more information!



### Lieferung & Zahlungsart

siehe unsere [Liefer- und Versandbedingungen](#)

### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

### SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

[mail@szabo-scandic.com](mailto:mail@szabo-scandic.com)

[www.szabo-scandic.com](http://www.szabo-scandic.com)

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

# Barium chlorate monohydrate: sc-252401



The Power to Question

## MATERIAL SAFETY DATA SHEET

### 1 Identification of substance:

**Product Name:** Barium chlorate monohydrate  
**Catalog Number:** sc-252401  
**Supplier:** Santa Cruz Biotechnology, Inc.  
2145 Delaware Avenue  
Santa Cruz, California 95060  
800.457.3801 or 831.457.3800

**Emergency:** ChemWatch  
Within the US & Canada: 877-715-9305  
Outside the US & Canada: +800 2436 2255  
(1-800-CHEMCALL) or call +613 9573 3112

### 2 Hazards identification

#### Classification of the substance or mixture



GHS03 Flame over circle

H271 May cause fire or explosion; strong oxidizer.



GHS06 Skull and crossbones

H301 Toxic if swallowed.

H331 Toxic if inhaled.



GHS09 Environment

H411 Toxic to aquatic life with long lasting effects.

H401 Toxic to aquatic life.

#### Classification according to Directive 67/548/EEC or Directive 1999/45/EC



Xn; Harmful

R20/22: Harmful by inhalation and if swallowed.



O; Oxidizing

R9: Explosive when mixed with combustible material.



N; Dangerous for the environment

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

#### Label elements

#### Labelling according to EU guidelines:

#### Code letter and hazard designation of product:

Xn Harmful

O Oxidizing

N Dangerous for the environment

#### Risk phrases:

9 Explosive when mixed with combustible material.

20/22 Harmful by inhalation and if swallowed.

51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

#### Safety phrases:

13 Keep away from food, drink and animal feedingstuffs.

27 Take off immediately all contaminated clothing.

61 Avoid release to the environment. Refer to special instructions/Safety data sheets

**Hazard description:**  
**WHMIS classification**



**Classification system**  
**HMIS ratings (scale 0-4)**  
**(Hazardous Materials Identification System)**

HEALTH	2	Health (acute effects) = 2
FIRE	0	Flammability = 0
REACTIVITY	3	Reactivity = 3

**Other hazards**

**Results of PBT and vPvB assessment**

**PBT:** Not applicable.

**vPvB:** Not applicable.

### 3 Composition/information on ingredients

**Chemical characterization: Substances**

**(CAS#) Description:**

Barium chlorate monohydrate (CAS# 10294-38-9)

**Identification number(s):**

**EINECS Number:** 236-760-7

### 4 First aid measures

**Description of first aid measures**

**General information** Immediately remove any clothing soiled by the product.

**After inhalation**

Supply fresh air. If required, provide artificial respiration. Keep patient warm.

Seek immediate medical advice.

**After skin contact**

Immediately wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

**After eye contact**

Rinse opened eye for several minutes under running water. Then consult a doctor.

**After swallowing** Seek immediate medical advice.

### 5 Firefighting measures

**Extinguishing media**

**Suitable extinguishing agents**

Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

**Special hazards arising from the substance or mixture**

In case of fire, the following can be released:

Barium oxide

Hydrogen chloride (HCl)

This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.

**Advice for firefighters**

**Protective equipment:**

Wear self-contained respirator.

Wear fully protective impervious suit.

### 6 Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

**Environmental precautions:**

Do not allow material to be released to the environment without proper governmental permits.

**Methods and material for containment and cleaning up:**

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

**Reference to other sections**

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

## 7 Handling and storage

### Handling

#### Precautions for safe handling

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation at the workplace.

#### Information about protection against explosions and fires:

Substance/product can reduce the ignition temperature of flammable substances.

This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.

#### Conditions for safe storage, including any incompatibilities

##### Storage

Requirements to be met by storerooms and receptacles: No special requirements.

#### Information about storage in one common storage facility:

Store away from flammable substances.

Store away from reducing agents.

#### Further information about storage conditions:

Keep container tightly sealed. Store at room temperature.

Store in cool, dry conditions in well sealed containers.

## 8 Exposure controls/personal protection

#### Additional information about design of technical systems:

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

#### Control parameters

#### Components with limit values that require monitoring at the workplace:

Barium, and soluble compounds, as Ba

	mg/m <sup>3</sup>	
ACGIH TLV	0.5	Not classified as a human carcinogen
Austria MAK	0.5	
Belgium TWA	0.5	
Denmark TWA	0.5	
Finland TWA	0.5	
Germany MAK	0.5	(total dust)
Hungary	0.5-STEEL	
Ireland TWA	0.5	
Korea TLV	0.5	
Netherlands MAC-TGG	0.5	
Norway TWA	0.5	
Poland TWA	0.5; 1.5-STEEL	
Sweden TWA	0.5	
Switzerland MAK-W	0.5	
United Kingdom LTEL	0.5	
USA PEL	0.5	

Additional information: No data

#### Exposure controls

##### Personal protective equipment

##### General protective and hygienic measures

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

**Breathing equipment:** Use suitable respirator when high concentrations are present.

##### Protection of hands:

Check protective gloves prior to each use for their proper condition.

Impervious gloves

##### Material of gloves

The selection of suitable gloves not only depends on the material, but also on quality.

Quality will vary from manufacturer to manufacturer.

**Eye protection:** Safety glasses

**Body protection:** Protective work clothing.

## 9 Physical and chemical properties

#### Information on basic physical and chemical properties

##### General Information

##### Appearance:

Form:	Powder
Formula:	Ba(ClO <sub>3</sub> ) <sub>2</sub> ·H <sub>2</sub> O
Weight:	322.24

pH-value: Not applicable.

##### Change in condition

Melting point/Melting range:	Not determined
Boiling point/Boiling range:	Not determined
Sublimation temperature / start:	Not determined

<b>Flash point:</b>	Not applicable
<b>Flammability (solid, gaseous)</b>	Not determined.
<b>Ignition temperature:</b>	Not determined
<b>Decomposition temperature:</b>	Not determined
<b>Auto igniting:</b>	Not determined.
<b>Danger of explosion:</b>	Explosive when mixed with combustibile material.
<b>Explosion limits:</b>	
Lower:	Not determined
Upper:	Not determined
<b>Vapor pressure:</b>	Not applicable.
<b>Density at 20°C (68 °F):</b>	3.18 g/cm <sup>3</sup> (26.537 lbs/gal)
<b>Relative density</b>	Not determined.
<b>Vapour density</b>	Not applicable.
<b>Evaporation rate</b>	Not applicable.
<b>Solubility in / Miscibility with Water:</b>	Soluble
<b>Segregation coefficient (n-octonol/water):</b>	Not determined.
<b>Viscosity:</b>	
dynamic:	Not applicable.
kinematic:	Not applicable.
<b>Other information</b>	No further relevant information available.

## 10 Stability and reactivity

### Reactivity

#### Chemical stability

#### Thermal decomposition / conditions to be avoided:

Decomposition will not occur if used and stored according to specifications.

#### Possibility of hazardous reactions

Reacts with reducing agents

Reacts with flammable substances

**Incompatible materials:** Reducing agents

#### Hazardous decomposition products:

Barium oxide

Hydrogen chloride (HCl)

## 11 Toxicological information

### Information on toxicological effects

#### Acute toxicity:

#### Primary irritant effect:

**on the skin:** Irritant to skin and mucous membranes.

**on the eye:** Irritating effect.

**Sensitization:** No sensitizing effects known.

#### Subacute to chronic toxicity:

Barium compounds may cause severe gastroenteritis, including abdominal pain, vomiting and diarrhea, tremors, faintness, paralysis of the arms and legs, and slow or irregular heartbeat. Severe cases may produce collapse and death due to respiratory failure. Soluble barium compounds are more likely to cause these effects than insoluble compounds. Inhalation of fumes may cause sore throat, coughing, labored breathing, and irritation of the respiratory tract as well as the above symptoms.

#### Additional toxicological information:

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

EPA-CBD: Carcinogenic potential cannot be determined.

ACGIH A4: Not classifiable as a human carcinogen: Inadequate data on which to classify the agent in terms of its carcinogenicity in humans and/or animals.

## 12 Ecological information

### Toxicity

**Acquatic toxicity:** No further relevant information available.

**Persistence and degradability** No further relevant information available.

#### Behavior in environmental systems:

**Bioaccumulative potential** No further relevant information available.

**Mobility in soil** No further relevant information available.

**Ecotoxicological effects:**

**Remark:** Toxic for aquatic organisms

**Additional ecological information:**

**General notes:**

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

Also poisonous for fish and plankton in water bodies.

Do not allow material to be released to the environment without proper governmental permits.

Toxic for aquatic organisms

**Results of PBT and vPvB assessment**

**PBT:** Not applicable.

**vPvB:** Not applicable.

**Other adverse effects** No further relevant information available.

### 13 Disposal considerations

**Waste treatment methods**

**Recommendation** Consult state, local or national regulations to ensure proper disposal.

**Uncleaned packagings:**

**Recommendation:** Disposal must be made according to official regulations.

**Recommended cleansing agent:** Water, if necessary with cleansing agents.

### 14 Transport information

**DOT regulations:**



**Hazard class:** 5.1  
**Identification number:** UN1445  
**Packing group:** II  
**Proper shipping name (technical name):** BARIUM CHLORATE, SOLID  
**Label:** 5.1+6.1

**Land transport ADR/RID (cross-border)**



**ADR/RID class:** 5.1 (OT2) Oxidizing substances  
**Danger code (Kemler):** 56  
**UN-Number:** 1445

**Packaging group:** II  
**Special marking:** Symbol (fish and tree)  
**UN proper shipping name:** 1445 BARIUM CHLORATE, SOLID

**Maritime transport IMDG:**



**IMDG Class:** 5.1  
**UN Number:** 1445  
**Label:** 5.1+6.1  
**Packaging group:** II  
**Marine pollutant:** No  
**Segregation groups:** Chlorates  
**Proper shipping name:** BARIUM CHLORATE, SOLID

**Air transport ICAO-TI and IATA-DGR:**



**ICAO/IATA Class:** 5.1  
**UN/ID Number:** 1445  
**Label:** 5.1+6.1  
**Packaging group:** II  
**Proper shipping name:** BARIUM CHLORATE, SOLID

**UN "Model Regulation":** UN1445, BARIUM CHLORATE, SOLID, 5.1 (6.1), II

**Environmental hazards:** Environmentally hazardous substance, solid; Marine Pollutant

**Special precautions for user** Warning: Oxidizing substances

**Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

## 15 Regulatory information

*Safety, health and environmental regulations/legislation specific for the substance or mixture*

**Product related hazard informations:**

**Hazard symbols:**

Xn Harmful  
O Oxidizing  
N Dangerous for the environment

**Risk phrases:**

9 Explosive when mixed with combustible material.  
20/22 Harmful by inhalation and if swallowed.  
51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

**Safety phrases:**

13 Keep away from food, drink and animal feedingstuffs.  
27 Take off immediately all contaminated clothing.  
61 Avoid release to the environment. Refer to special instructions/Safety data sheets

**National regulations**

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

All components of this product are listed on the Canadian Non-Domestic Substances List (NDSL).

**Information about limitation of use:**

For use only by technically qualified individuals.  
This product contains barium and is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.

**Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information:

The above information is believed to be correct but does not purport to be complete and should be used only as a guide. The burden of safe use of this material rests entirely with the user.

3/2/2012