

Otto Chemie Pvt Ltd

An ISO 9001 : 2015 & GMP Certified Company
Office : No 603, 6th Floor, Tardeo AC Market, 87, Tardeo Road,
Tardeo, Mumbai, Maharashtra 400034, India (BHARAT)
Tel : + 91 98200 41841 Email : info@ottokemi.com Web : www.ottokemi.com

Creation Date: 30-06-2026

Revision Date: 25-05-2021

MATERIAL SAFETY DATA SHEET (MSDS)

SECTION 1: Product identifiers

Product Name: Barium granules, 3-6 mm, 99.9%
Product Code: B 7078
CAS No: 7440-39-3

1.2. Relevant identified uses of the substance or mixture and uses advised against
Use : Industrial. For professional use only.

1.3. Details of the supplier of the safety data sheet
Company identification
OTTO CHEMIE PVT LTD
No 603, 6th Floor, Tardeo AC Market, 87, Tardeo Road,
Tardeo, Mumbai, Maharashtra 400034, India (BHARAT)

1.4. Emergency telephone number
Phone no. : + 91 98200 41841 (10 : 00 am – 06 : 00 pm)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Flammable solids, (Category 1)

Substances and mixtures which
in contact with water emit

flammable gases, (Category 1)

Acute toxicity, (Category 3)

Skin corrosion, (Sub-category
1B)

Serious eye damage, (Category 1)

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram

Signal Word

Hazard Statements

H228

H260

H301

H314

Precautionary Statements

P210

P231 + P232

P260

P280

P303 + P361 + P353

P304 + P340 + P310

P305 + P351 + P338

Supplemental Hazard
Statements

Reduced Labeling (<= 125 ml)

H228: Flammable solid.

H260: In contact with water releases
flammable gases which may ignite
spontaneously.

H301: Toxic if swallowed.

H314: Causes severe skin burns and eye
damage.

H318: Causes serious eye damage.

Danger

Flammable solid.

In contact with water releases flammable gases which may
ignite spontaneously.

Toxic if swallowed.

Causes severe skin burns and eye damage.

Keep away from heat, hot surfaces, sparks, open flames and
other ignition sources. No smoking.

Handle and store contents under inert gas. Protect from
moisture.

Do not breathe dust.

Wear protective gloves/ protective clothing/ eye protection/ face
protection.

IF ON SKIN (or hair): Take off immediately all contaminated
clothing. Rinse skin with water.

IF INHALED: Remove person to fresh air and keep comfortable
for breathing. Immediately call a POISON CENTER/ doctor.

IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue
rinsing.

none

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Pictogram
Signal Word
Hazard Statements

H301
H314

Precautionary Statements

P260

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P303 + P361 + P353

P304 + P340 + P310

P305 + P351 + P338

Danger

Toxic if swallowed.

Causes severe skin burns and eye damage.

Do not breathe dust.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

none

Supplemental Hazard
Statements

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

Formula : Ba
Molecular weight : 137.33 g/mol
CAS-No. : 7440-39-3
EC-No. : 231-149-1

Component	Classification	Concentration
barium		
CAS-No. 7440-39-3 EC-No. 231-149-1	Flam. Sol. 1; Water-react 1; Acute Tox. 3; Skin Corr. 1B; Eye Dam. 1; H228, H260, H301, H314, H318	<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. Call in physician.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

In case of eye contact

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

If swallowed

If swallowed: give water to drink (two glasses at most). Seek medical advice immediately.

In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible. Do not attempt to neutralize.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

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SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Carbon dioxide (CO₂) Dry powder

Unsuitable extinguishing media

Water Foam

5.2 Special hazards arising from the substance or mixture

Barium oxide

Combustible.

May not get in touch with: Water

Development of hazardous combustion gases or vapours possible in the event of fire.

5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Further information

Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact.

Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains. Risk of explosion.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Keep workplace dry. Do not allow product to come into contact with water.

Advice on protection against fire and explosion Keep away from open flames, hot surfaces and sources of ignition.

Take precautionary measures against static discharge.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection.

Wash hands and face after working with substance. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Tightly closed. Keep away from heat and sources of ignition. Keep locked up or in an area accessible only to qualified or authorized persons.

Never allow product to get in contact with water during storage.

Store under argon.

Storage class

Storage class (TRGS 510): 4.3: Hazardous materials, which set free flammable gases upon contact with water

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with workplace control parameters

8.2 Exposure controls

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other

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substances and under conditions deviating from those stated in EN 16523-1 please
contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 480 min

Material tested:KCL 741 Dermatril® L

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 480 min

Material tested:KCL 741 Dermatril® L

Body Protection

Flame retardant antistatic protective clothing.

Respiratory protection

required when dusts are generated.

Our recommendations on filtering respiratory protection are based on the following
standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type: Filter type P3

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory
protective devices are carried out according to the instructions of the producer.

These measures have to be properly documented.

Control of environmental exposure

Do not let product enter drains. Risk of explosion.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Physical state

Pieces

b) Color

gray

c) Odor

No data available

d) Melting

Melting point/ range: 725 °C - lit.

point/freezing point

1.640 °C - lit.

e) Initial boiling point
and boiling range

f) Flammability (solid,
gas)

The substance or mixture is a flammable solid with the category
1.

g) Upper/lower
flammability or
explosive limits

No data available

h) Flash point

Not applicable

i) Autoignition
temperature

No data available

j) Decomposition
temperature

No data available

k) pH

No data available

l) Viscosity

Viscosity, kinematic: No data available

Viscosity, dynamic: No data available

No data available

Not applicable for inorganic substances

m) Water solubility

n) Partition coefficient:

n-octanol/water

o) Vapor pressure

No data available

p) Density

3,6 g/mL at 25 °C - lit.

Relative density

No data available

q) Relative vapor
density

No data available

r) Particle

No data available

characteristics

s) Explosive properties

No data available

t) Oxidizing properties

none

9.2 Other safety information

No data available

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SECTION 10: Stability and reactivity

10.1 Reactivity

The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

Heat.

Moisture.

10.5 Incompatible materials

Oxidizing agents, Water, acids, Oxygen, Chlorinated solvents, Carbon dioxide (CO₂), Halogens, Halogenated hydrocarbon, Alcohols, Sulfur compounds, Hydrogen sulfide gas

10.6 Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Toxicity to Animals:

Oral LD₅₀ Rat: 1500 mg/kg; Dermal LD₅₀ Rabbit: 2000mg/kg Inhalation LC₅₀ Rat: > 50mg/L.

Chronic Effects on Humans: CARCINOGENIC EFFECTS: Classified None. by NTP, None. by OSHA, None. by NIOSH.

Other Toxic Effects on Humans: Hazardous in case of skin contact (irritant), of inhalation (lung irritant).

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans: Not available.

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish static test LC₅₀ - Danio rerio (zebra fish) - > 3,5 mg/l - 96 h
(OECD Test Guideline 203)

Toxicity to daphnia

and other aquatic

invertebrates

static test EC₅₀ - Daphnia magna (Water flea) - 14,5 mg/l - 48 h

Remarks: (ECHA)

Toxicity to algae Growth inhibition ErC₅₀ - Pseudokirchneriella subcapitata (green algae) - > 1,15 mg/l - 72 h
(OECD Test Guideline 201)

Toxicity to bacteria static test EC₅₀ - activated sludge - > 1.000 mg/l - 3 h
(OECD Test Guideline 209)

Toxicity to

fish(Chronic toxicity)

semi-static test NOEC - Danio rerio (zebra fish) - >= 1,26 mg/l - 33 d

(OECD Test Guideline 210)

Toxicity to daphnia

and other aquatic

invertebrates(Chronic

toxicity)

semi-static test NOEC - Daphnia magna (Water flea) - 4,4 mg/l - 21 d

Remarks: (ECHA)

12.2 Persistence and degradability

The methods for determining the biological degradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

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12.6 Endocrine disrupting properties

Product:

Assessment

: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

Biological effects:

Product reacts with water.

Hazardous decomposition products

Harmful effect due to pH shift.

Discharge into the environment must be avoided.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

No data available

SECTION 14: Transport information

14.1 UN number

ADR/RID: 1400

14.2 UN proper shipping name

ADR/RID: BARIUM

IMDG: BARIUM

IATA: Barium

14.3 Transport hazard class(es)

ADR/RID: 4.3

14.4 Packaging group

ADR/RID: II

14.5 Environmental hazards

ADR/RID: no

14.6 Special precautions for user

Tunnel restriction code

Further information

: (D/E)

: No data available

IMDG: 1400

IATA: 1400

IMDG: 4.3

IATA: 4.3

IMDG: II

IATA: II

IMDG Marine pollutant: no

IATA: no

SECTION 15: Regulatory information

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

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

Authorisations and/or restrictions on use

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)

barium

National legislation

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

H2 ACUTE TOXIC

O2 OTHER HAZARDS

Other regulations

Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

Take note of Dir 94/33/EC on the protection of young people at work.

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

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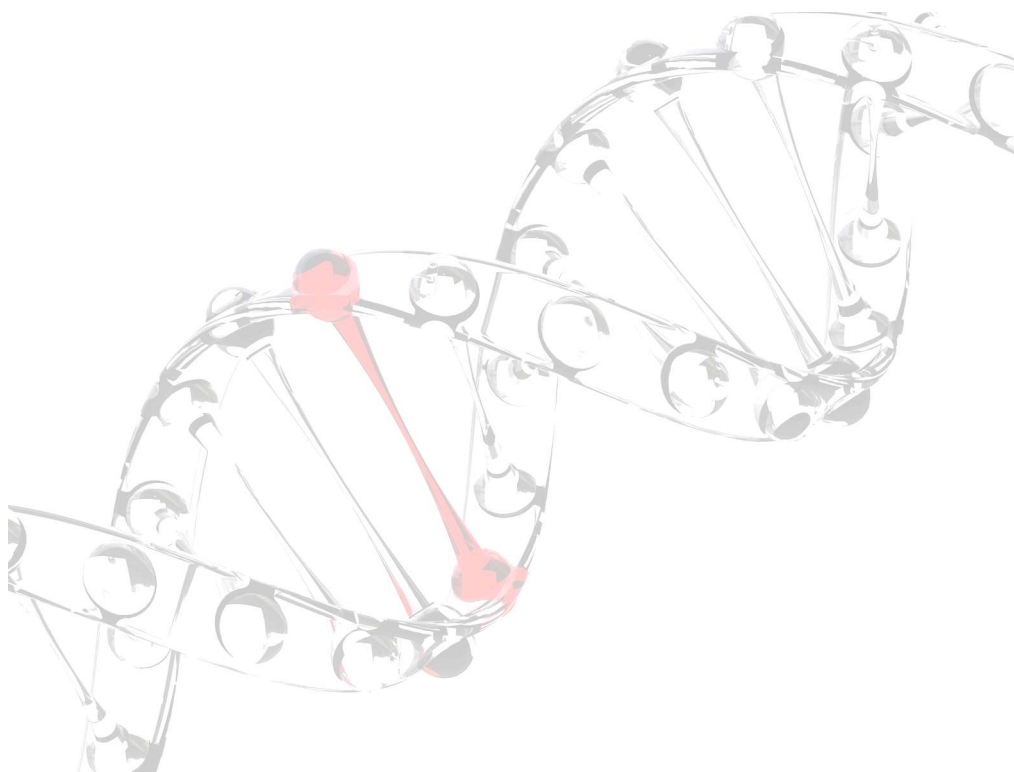
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SECTION 16: Other Information

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