



Safety Data Sheet

1. Identification of the substance/mixture and of the company/undertaking

Product identifier:

Product name: Barium chloride, 2-hydrate

SDS No. : Q0716E-1

Details of the supplier of the safety data sheet

Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.

Address: 3-1, Honmachibashi, Chuo-ku, Osaka, JAPAN

Division: Safety Management Dept. of Chemicals

Telephone number: +81-6-6946-8061

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2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture

HEALTH HAZARDS

Acute toxicity (Oral): Category 3

Skin corrosion/irritation: Category 2

Serious eye damage/eye irritation: Category 2A

Specific target organ toxicity – single exposure: Category 1 (nervous system; CVS; muscles; kidney; gastrointestinal tract)

Specific target organ toxicity – single exposure: Category 3 (Respiratory tract irritation)

Specific target organ toxicity – repeated exposure: Category 1 (CVS)

ENVIRONMENT HAZARDS

Hazardous to the aquatic environment (Acute): Category 3

Hazardous to the aquatic environment (Long-term): Category 3

(Note) GHS classification without description: Not classified/Classification not possible

Label elements



Signal word: Danger

HAZARD STATEMENT

Toxic if swallowed

Causes skin irritation

Causes serious eye irritation

Causes damage to organs after single exposure (nervous system; CVS; muscles; kidney; gastrointestinal tract)

May cause respiratory irritation

Causes damage to organs through prolonged or repeated exposure (CVS)

Harmful to aquatic life

Harmful to aquatic life with long lasting effects

PRECAUTIONARY STATEMENT

Prevention

Avoid release to the environment.

Do not breathe dust/fume/gas/mist/vapors/spray.

Use only outdoors or in a well-ventilated area.



Wash contaminated parts thoroughly after handling.
Wear protective gloves.
Wear eye protection/face protection.
Do not eat, drink or smoke when using this product.

Response

Get medical advice/attention if you feel unwell.
Call a POISON CENTER or doctor/physician if you feel unwell.
IF exposed or concerned: Call a POISON CENTER or doctor/physician.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation occurs: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
IF SWALLOWED: Rinse mouth.

Storage

Store in a well-ventilated place. Keep container tightly closed.

Disposal

Dispose of contents/container in accordance with local/national regulation.

3. Composition/information on ingredients**Mixture/Substance selection:****Substance**

Ingredient name: Barium chloride, 2-hydrate

Content (%): 99(min)

Chemical formula: $\text{BaCl}_2 \cdot 2\text{H}_2\text{O}$

Chemicals No, Japan: 1-79

CAS No.: 10326-27-9

MW: 244.26

Note : The figures shown above are not the specifications of the product.

4. First-aid measures**Descriptions of first-aid measures****General measures**

Get medical attention/advice if you feel unwell.

IF INHALED

Remove person to fresh air and keep comfortable for breathing.

Call a POISON CENTER or doctor/physician if you feel unwell.

IF ON SKIN (or hair)

Take off immediately all contaminated clothing. Rinse skin with water/shower.

Wash with plenty of soap and water.

If skin irritation or rash occurs: Get medical advice/attention.

IF IN EYES

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

If eye irritation persists: Get medical advice/attention.

IF SWALLOWED

Rinse mouth.

Immediately call a POISON CENTER or doctor/physician.



5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Use appropriate extinguishing media suitable for surrounding facilities.

Unsuitable extinguishing media

Unsuitable extinguishing media data is not available.

Advice for firefighters

Specific fire-fighting measures

Evacuate non-essential personnel to safe area.

Special protective equipment and precautions for fire-fighters

Wear fire/flame resistant/retardant clothing.

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

Firefighters should wear self-contained breathing apparatus with full face piece operated positive pressure mode.

6. Accidental release measures

Personnel precautions, protective equipment and emergency procedures

Ventilate area until material pick up is complete.

Wear proper protective equipment.

Environmental precautions

Prevent spills from entering sewers, watercourses or low areas.

Avoid raising dust.

Methods and materials for containment and cleaning up

Sweep up, place in a bag and hold for waste disposal.

Preventive measures for secondary accident

Collect spillage.

7. Handling and storage

Precautions for safe handling

Preventive measures

(Exposure Control for handling personnel)

Do not breathe dust/fume/gas/mist/vapors/spray.

(Protective measures against fire and explosion)

Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

(Exhaust/ventilator)

Exhaust/ventilator should be available.

(Safety treatments)

Avoid contact with skin.

Avoid contact with eyes.

Safety Measures

Use only outdoors or in a well-ventilated area.

Wear protective gloves, protective clothing or face protection.

Wear eye protection/face protection.

When using do not eat, drink or smoke.

Any incompatibilities

See "10.Stability and Reactivity"

Advice on general occupational hygiene

Wash contaminated parts thoroughly after handling.

Do not eat, drink or smoke when using this product.

Take off contaminated clothing and wash it before reuse.

Storage

**Conditions for safe storage**

- Keep container tightly closed.
- Store in a cool, dry place. Do not store in direct sunlight.
- Keep under lock and key.

Container and packaging materials for safe handling

- Glass
- Polyethylene

8. Exposure controls/personal protection**Control parameters****Adopted value**

- (Barium chloride, 2-hydrate)
- ACGIH(1990) TWA: 0.5mg-Ba/m³ (Eye, skin & GI irr; muscular stim)

OSHA-PEL

- (Barium chloride, 2-hydrate)
- TWA: 0.5mg-Ba/m³

Exposure controls**Appropriate engineering controls**

- Do not use in areas without adequate ventilation.
- Eye wash station should be available.
- Washing facilities should be available.

Individual protection measures**Respiratory protection**

- Wear respiratory protection.

Hand protection

- Wear protective gloves.

Eye protection

- Wear eye/face protection.

9. Physical and Chemical Properties**Information on basic physical and chemical properties**

Physical state: Crystals to powder

Color: Colorless to white

Odor: Odorless

Melting point/Freezing point: (The apparent melting point caused by loss of crystal water is given)
113°C

Boiling point or initial boiling point data is not available.

Boiling range data is not available.

Flammability (gases, liquids and solids) data is not available.

Lower and upper explosion limit/flammability limit data is not available.

Flash point data is not available.

Auto-ignition temperature data is not available.

Decomposition temperature data is not available.

pH: 5.0~7.0 (50g/L, 25°C)

Kinematic viscosity data is not available.

Solubility:

Solubility in water: 37.5 g/100 ml (26°C)

n-Octanol/water partition coefficient data is not available.

Vapor pressure data is not available.

Density and/or relative density: 3.86 g/cm³

Relative vapor density (Air=1) data is not available.

No Particle characteristics data is not available.



10. Stability and Reactivity

Reactivity

Not available.

Chemical stability

Stable under normal storage/handling conditions.

Possibility of hazardous reactions

Decomposes on heating. This produces toxic fumes. (ICSC 0615)

Conditions to avoid

Contact with fire source.

Incompatible materials

Not available.

Hazardous decomposition products

Chlorine compounds, Barium compounds

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[GHS Cat. Japan, base data]
(Barium chloride, 2-hydrate)
rat LD50=118mg/kg (NTP TR432, 1994)

Acute toxicity (Dermal)

[GHS Cat. Japan, base data]
(Barium chloride, 2-hydrate)
rat LD50 >2000 mg/kg (anhydride) (dihydrate; >2346 mg/kg) (SIDS, 2013)

Irritant properties

Skin corrosion/irritation

[GHS Cat. Japan, base data]
(Barium chloride, 2-hydrate)
Barium chloride, anhydrous(CAS No.10361-37-2): Causes irritation to skin (HSDB, Access on Oct. 2019)

Serious eye damage/irritation

[GHS Cat. Japan, base data]
(Barium chloride, 2-hydrate)
rabbit corneal opacity/iris/conjunctival redness/conjunctival oedema score:
0.43/0.20/2.47/2.43, fully recover after 21 days(REACH registration information, Access on June 2019)

Allergenic and sensitizing effects data is not available.

Mutagenic effects data is not available.

Carcinogenicity

(Barium chloride, 2-hydrate)
ACGIH-A4(1990) : Not Classifiable as a Human Carcinogen

Reproductive toxicity data is not available.

STOT

STOT-single exposure

[cat.1]

[GHS Cat. Japan, base data]
(Barium chloride, 2-hydrate)
nervous system; CVS; muscles; kidney; gastrointestinal tract (ATSDR, 2007 et al.)

[cat.3 (resp. irrit.)]

[GHS Cat. Japan, base data]
(Barium chloride, 2-hydrate)



respiratory tract irritation (HSDB, Access on Oct. 2019)

STOT-repeated exposure

[cat.1]

[GHS Cat. Japan, base data]

(Barium chloride, 2-hydrate)

CVS (ATSDR, 2007)

Aspiration hazard data is not available.

Information on other hazards

May cause lung disorders by massive inhalation of powdered substance.

-e.g. fibrosis of lung tissue, cough, sputum, breath shortness, dyspnea, decline of lung function, interstitial lung disease, pneumothorax

12. Ecological Information

Ecotoxicity

Aquatic toxicity

Harmful to aquatic life

Harmful to aquatic life with long lasting effects

Hazardous to the aquatic environment (Acute)

[GHS Cat. Japan, base data]

(Barium chloride, 2-hydrate)

Crustacea (Daphnia magna) (Barium chloride anhydrous) EC50=14.5mg Ba/L/48hr (as Barium chloride dihydrate; 25.8mg/L) (SIDS, 2013)

Water solubility

(Barium chloride, 2-hydrate)

37.5 g/100 ml (26°C) (ICSC, 1999)

Persistence and degradability

Persistence and degradability data is not available.

Bioaccumulative potential

Bioaccumulative potential data is not available.

Mobility in soil

Mobility in soil data is not available.

Other adverse effects

Ozone depleting chemical data is not available.

13. Disposal considerations

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging

Waste treatment methods

Avoid release to the environment (- if this is not the intended use).

Dispose of contents/container in accordance with local/national regulation.

14. Transport Information

UN No. or ID No.: 1564

UN Proper Shipping Name :

BARIUM COMPOUND, N.O.S.

Class or division (Transport hazard class) : 6.1

Packing group : III

ERG GUIDE No.: 154

Special provisions No.: 177; 223; 274

IMDG Code (International Maritime Dangerous Goods Regulations)

UN No.: 1564



Proper Shipping Name :
BARIUM COMPOUND, N.O.S.
Class or division : 6.1
Packing group : III
Special provisions No.: 177; 223; 274

IATA Dangerous Goods Regulations

UN No.: 1564
Proper Shipping Name :
BARIUM COMPOUND, N.O.S.
Class or division : 6.1
Hazard labels : Toxic
Packing group : III
Special provisions No.: A3; A82

Environmental hazards

MARPOL Annex III – Prevention of pollution by harmful substances
Marine pollutants (yes/no) : no
MARPOL Annex V – Prevention of pollution by garbage discharge
Specific target organ toxicity – repeated exposure: cat.1
Barium chloride, 2-hydrate

15. Regulatory Information

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

Chemicals listed in TSCA Inventory
Barium chloride, 2-hydrate

Other regulatory information

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

16. Other information**GHS classification and labelling**

Acute Tox. 3: H301 Toxic if swallowed
Skin Irrit. 2: H315 Causes skin irritation
Eye Irrit. 2A: H319 Causes serious eye irritation
STOT SE 1: H370 Causes damage to organs after single exposure
STOT SE 3: H335 May cause respiratory irritation
STOT RE 1: H372 Causes damage to organs through prolonged or repeated exposure
Aquatic Acute 3: H402 Harmful to aquatic life
Aquatic Chronic 3: H412 Harmful to aquatic life with long lasting effects

Reference Book

Globally Harmonized System of classification and labelling of chemicals, (7th revised edition, 2017), UN
Recommendations on the TRANSPORT OF DANGEROUS GOODS 20th edit., 2017 UN
IMDG Code, 2018 Edition (Incorporating Amendment 39-18)
IATA Dangerous Goods Regulations (61th Edition) 2020
Classification, labelling and packaging of substances and mixtures (Table 3 ECNO6182012)
2016 EMERGENCY RESPONSE GUIDEBOOK (US DOT)
2020 TLVs and BEIs. (ACGIH)
<http://monographs.iarc.fr/ENG/Classification/index.php>
Supplier's data/information

General Disclaimer

This data sheet was created based on the information we currently have and may be revised according to new information. In addition, the precautions apply only to normal handling,



and in the case of special handling, please make adequate countermeasure to maintain your safety.

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.

The GHS classification data given here is based on current Japan official data (NITE published in 2019).