Issue date: 8/19/2003
Revision date: 8/8/2024

Safety Data Sheet

1. Chemical product and company identification

Product name	:	Barium sulfate

Company information

Name of manufacturer	:	KANTO CHEMICAL CO., INC.
Address	:	2-1, Nihonbashi, Muromachi 2-Chome, Chuo-Ku, Tokyo, 103-0022, JP
Name of section	:	Business Administration Department, Reagent Division
Telephone number	:	+81-3-6214-1090
Facsimile number	:	+81-3-3241-1047
Mail address	:	BC32@kanto.co.jp
Reference No	:	04051
Recommended use	:	For research use only
Restrictions on use	:	Seek expert judgment when using the product for applications other than those recommended.

2. Hazards identification

GHS classification

Health hazards	Specific target organ toxicity (repeated exposure)	Category 1 (respiratory organs)
Environmental hazards	Aquatic acute	Category 3
	Aquatic chronic	Category 3

Hazard pictograms



Signal word	:	Danger
Hazard statements	:	Causes damage to organs (respiratory organs) through prolonged or repeated exposure Harmful to aquatic life Harmful to aquatic life with long lasting effects

Precautionary statements

Prevention	:	Do not breathe dust. Wash hands, forearms and face thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment.
Response	:	Get medical advice/attention if you feel unwell.
Disposal	:	Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

3. Composition/information on ingredients

Distinction of substance or	:	Substance

mixture

Chemical name	Concentration (%)	Formula	TSCA	EC-No.	CAS RN
Barium sulfate	100	BaSO4	Listed	231-784-4	7727-43-7

4. First aid measures

First aid measures

First-aid measures after inhalation : Remove the victim to fresh air, and make him blow his nose and gargle.

First-aid measures after skin contact : Wash the affected areas under running water.

First-aid measures after eye contact : Wash the affected areas under running water.

First-aid measures after ingestion : Give the victim water. If necessary, get medical attention.

Personal Protection in First Aid and Measures : Rescuers should wear proper protective equipment like rubber gloves, goggles.

5. Fire fighting measures

Suitable extinguishing media : This product is noncombustible.

Unsuitable extinguishing media : None

Firefighting instructions : Move containers from fire area if it can be done without risk, if not possible, apply water from a safe distance to cool and protect surrounding area.

Personal protection (Emergency response) : Wear breathing apparatus.

6. Accidental release measures

Personal Precautions, Protective Equipment and Emergency Procedures

General measures : Wear proper protective equipment and avoid contact with skin and inhalation of dust. Conduct operations from upwind and evacuate people downwind.

Environmental precautions

Environmental precautions : Attention should be given to avoid damage to the environment by flowing of spillage to rivers.

Methods and Equipment for Containment and Cleaning up

For containment : Sweep up the chemical and place in a chemical waste container.

7. Handling and storage

Handling

Technical measures : If necessary, wear proper protective equipment to avoid contact with skin or inhalation of dust.

Precautions for safe handling : Avoid formation of dust and aerosols.

Storage

Storage conditions : Store in a dark, cool place and tightly closed.

Material used in : Glass, polyethylene, polypropylene.

packaging/containers

8. Exposure controls / Personal protection equipment

ACGIH TWA	5 mg/m³

Appropriate engineering controls : Install a local ventilation system in case of dusty condition.

Protective equipment

Respiratory protection : If necessary, wear dust mask

Hand protection : Impervious protective gloves

Eye protection : Safety goggles

Skin and body protection : Protective clothing, protective boots

9. Physical and chemical properties

Physical state : Solid

Color : White

Odor : Odorless

pH : No data available

Melting point : No data available

Freezing point : No data available

Boiling point : No data available

Flash point : No data available

Auto-ignition temperature : No data available

Decomposition temperature : 1600 ° C

Flammability : Non flammable.

Vapor pressure : No data available

Relative density : No data available

Density : 4.5 g/cm³ (15℃)

Relative gas density : No data available

Solubility : Water: Insoluble.

Partition coefficient n-octanol/water (log Pow) : No data available

Explosive limits (vol %) : No data available

Viscosity, kinematic : No data available

Particle characteristics : No data available

10. Stability and reactivity

Reactivity : Reacts violently with aluminum powder.
May react with oxidizing substances.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : Stable under normal conditions of use.

Conditions to avoid : Light, heat.

Incompatible materials : Oxidizing substances.

Hazardous decomposition products : Sulfur oxide, barium oxide.

11. Toxicological information

Acute toxicity (oral)	:	Classification not possible
Acute toxicity (dermal)	:	Classification not possible
Acute toxicity (inhalation)	:	No classification (gas) No classification (vapor) Classification not possible (dust, mist)
Skin corrosion/irritation	:	Classification not possible
Serious eye damage/irritation	:	Classification not possible
Respiratory sensitization	:	Classification not possible
Skin sensitization	:	Classification not possible
Germ cell mutagenicity	:	Classification not possible
Carcinogenicity	:	No classification There is no carcinogenicity information on this substance itself. However, as described in the section on the classification of barium, from the results of experimental animal studies using barium chloride dihydrate, the EPA classified barium and its compounds as Group D or NL (IRIS (1998)), and ACGIH classified barium and its soluble compounds as A4 (ACGIH (7th, 2001)). Therefore, based on these classifications by other organizations, it was classified as "No classification".
Reproductive toxicity	:	Classification not possible Besides, there is a report that as results of a cohort study representing the incidence of malformations in children born from mothers who received an upper gastrointestinal X-ray examination using this substance as a contrast agent, it was concluded that the occurrence of malformations was at low frequency and not different from the control group, and there was no association between the radiation and the barium sulfate exposure in early pregnancy and the birth.
STOT-single exposure	:	Classification not possible Besides, in humans, multiple case reports are reported of adverse side effects (including fever, dyspnea, hypoxemia, allergy, mild fibrosis, and death) associated with the aspiration of barium sulfate occurring accidentally during its use as a contrast medium in radiographic studies of the gastrointestinal tract. Also as side effects of barium sulfate as a contrast agent, in addition to anaphylactoid symptoms, gastrointestinal symptoms such as difficulty in defecation, constipation, transient diarrhea/abdominal pain, anal pain and bleeding etc., and hypersensitivity such as rash, itching, urticaria, nausea and vomiting may appear.
STOT-repeated exposure	:	Causes damage to organs (respiratory organs) through prolonged or repeated exposure The toxicity of a barium compound is dependent on its water solubility; the lack of case reports on systemic toxicity despite routine oral administration for many years of barium sulfate as a radiocontrast medium indicates that this practically insoluble barium compound is not toxic by the oral route. In humans, in the inhalation route, reversible baritosis is reported in workers occupationally exposed to barium sulfate which is an insoluble barium salt or barite ore. From the above, pneumoconiosis due to inhalation exposure to this substance is reported. Therefore, this substance was classified in category 1 (respiratory organs).
Aspiration hazard	:	Classification not possible

12. Ecological information

Ecotoxicity

Aquatic acute	:	Harmful to aquatic life Daphnia magna EC50=32 mg/L/48h
Aquatic chronic	:	Harmful to aquatic life with long lasting effects

Persistence and degradability

No additional information available

Bioaccumulative potential

No additional information available

Mobility in soil

No additional information available

Hazardous to the ozone layer

Ozone	:	Classification not possible

13. Disposal considerations

Ecological waste information	:	Bury in a landfill site approved for the disposal of chemical and hazardous wastes. Or entrust approved waste disposal companies with the disposal.
Contaminated container and packaging	:	In case of disposal of empty bottles, dispose bottles after removing the content thoroughly.

14. Transport information

International Regulations

Transport by sea(IMDG)

UN-No. (IMDG)	:	Not applicable
Proper Shipping Name (IMDG)	:	Not applicable
Packing group (IMDG)	:	Not applicable
Transport hazard class(es) (IMDG)	:	Not applicable

Air transport(IATA)

UN-No. (IATA)	:	Not applicable
Proper Shipping Name (IATA)	:	Not applicable
Packing group (IATA)	:	Not applicable
Transport hazard class(es) (IATA)	:	Not applicable
Marine pollutant	:	Not applicable

15. Regulatory information

Regulatory information with regard to this substance in your country or region should be examined by your own responsibility.

16. Other information

Data sources	:	NITE Chemical Risk Information Platform (NITE-CHRIP), National Institute of Technology and Evaluation. Encyclopaedia Chimica, Kyoritsu Shuppan Co, Ltd. (1963) . ICSC Card (2009) . Handbook of 17524 Chemical Products, The Chemical Daily Co.

(2024) .

The information contained herein is based on several references and the present state of our knowledge. However the SDS does not always cover all information about the product, handle the product carefully.The information is intended to ordinary usage, in case of particular handlings, conduct appropriate safety measurements.The information herein is only provision of information, and it does not represent a guarantee the properties of the product.The Safety Data Sheet(SDS) is prepared based on JIS Z7253.