Date of issue : 17 July, 2003
Date of revision : 17 October, 2017

Safety Data Sheet

1. Product and company identification

Product name	:	Bismuth nitrate pentahydrate
Name of manufacturer	:	KANTO CHEMICAL CO., INC.
Address	:	2-1, Nihonbashi, Muromachi 2-Chome, Chuo-Ku, Tokyo, 103-0022, Japan
Name of section	:	Reagent division, catalog and products information section
Telephone number	:	+81-3-6214-1090
Facsimile number	:	+81-3-3241-1047
Mail address	:	BC32@gms.kanto.co.jp
SDS No.	:	04208

2. Summary of danger and Hazard

GHS classification

Physical and chemical hazard

Substances and mixtures which, in contact with water, emit flammable gases : Out of category

Human health hazard

Specific target organ systemic toxicity(single exposure) : Category 1

Specific target organ systemic toxicity(repeated exposure) : Category 1

Pictogram or symbol

Signal word : Danger

Hazard statement : Causes damage to organs (nervous system, kidney, osteoarticular)
Causes damage to organs (nervous system, osteoarticular, kidney) through prolonged or repeated exposure

Cautions

Safety measurements	:	Do not breathe dust, mist, and vapor. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.
First-aid measures	:	If exposed, get medical treatment. Get medical treatment, if you feel unwell.
Storage	:	Store locked up.
Disposal	:	Dispose of contents and containers appropriately in accordance with related regulations.

3. Composition/Information on ingredients

Substance/Mixture : Substance

Chemical name or commercial name : Bismuth nitrate pentahydrate

Synonyms : Bismuth trinitrate pentahydrate

Ingredients and composition

: Bismuth nitrate pentahydrate min. 98.2%

Chemical formula : Bi(NO3)3・5H2O

CAS No. : 10035-06-0

TSCA Inventory : Registered (as anhydrous)

EINECS No. : 2337918 (as anhydrous)

Dangerous and hazardous ingredients

: Bismuth nitrate pentahydrate

4. First aid measures

Inhalation : Remove the victim to fresh air, and make him blow his nose and gargle.

Skin contact : Wash the affected areas under running water.

Eye contact : Wash the affected areas under running water for at least 15 minutes. If necessary, get medical treatment.

Ingestion : Give the victim water or salt water and induce vomiting. If necessary, get medical attention.

5. Fire fighting measures

Extinguishing media : This product is noncombustible.

Prohibited extinguishing media

: None

Particular fire fighting : 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.

6. Accidental release measures

Cautions for personnel : Wear proper equipment and avoid contact with skin and inhalation of dust. Keep away personnel except for authorized ones from spillage area by stretching ropes.

7. Cautions of handling and storage

Handling

Engineering measures : Wear proper protective equipment not to contact with skin or inhale the dust. Do not mixed with combustible substances like organic compounds, sulfur, phosphorous.

Storage

Adequate storage condition

: Keep the bottle tightly closed and store at a cool place. (below 15℃)

Keep away from combustible substances.

Safety adequate container materials

: Glass, polyethylene, polypropylene

8. Exposure control/Personal protection

Engineering measures : Install a local ventilation system in case of dusty condition.

Control parameters

ACGIH(2015) : Not established

Protective equipment

Respiration protective equipment

: If necessary, wear dust mask

Hands protective equipment

: Impervious protective gloves

Eyes protective equipment

: Safety goggles

9. Physical and chemical properties

Appearance	: Crystal
Color	: Colorless
Odor	: Odorless
Boiling point	: Decomposition
Melting point	: Decomposition(30℃)
Flash point	: Noncombustible
Density	: 2.8g/cm3
Solubility	
Solubility in solvents	: Water: react with water and form bismuth oxynitrate.

10. Stability and reactivity

Stability	: Stable under normal usage.
Reactivity	: May react with reducing substances. As the substance has oxidizing property, tne mixture with power combustible materials may ignite or explode by heating, or shock.
Incompatible materials	: Reducing substances, combustible materials.
Hazardous decomposition products	: Nitrogen oxides

11. Toxicological information

Acute toxicity	: Oral : Not possible to classify because of insufficient data. Dermal : Not possible to classify because of insufficient data. Inhalation(vapor) : Not possible to classify because of insufficient data. Inhalation(dust, mist) : Not possible to classify because of insufficient data.
Skin corrosiveness/irritation	: Not possible to classify because of insufficient data.
Serious eye damage/eye irritation	: Not possible to classify because of insufficient data.
Respiratory sensitization or Skin sensitization	: Respiratory sensitization : Not possible to classify because of insufficient data. Skin sensitization : Not possible to classify because of insufficient data.
Mutagenicity	: Not possible to classify because of insufficient data.

Carcinogenic effects : Not possible to classify because of insufficient data

Effects on the reproductive system

: Not possible to classify because of insufficient data.

Specific target organ systemic toxicity single exposure

: Cause damage to organs (nervous system, kidney, osteoarticular)(category 1)

As general toxic effects to humans of bismuth and bismuth compounds, cause encephalopathy, nephropathy, osteoarthritis, gingivitis, stomatitis, and colitis, and there is description that inorganic bismuth becomes neurotoxic. In addition, there is also a description that clinical symptoms by acute poisoning is similar to the case of lead and mercury that can cause neurological abnormalities associated with encephalopathy, and renal dysfunction associated with nephrotic syndrome, it was classified into category 1.(nervous system, kidneys, osteoarthritis)

Specific target organ systemic toxicity repeated exposure

: Cause damage to organs (nervous system, osteoarticular, kidney) through prolonged or repeated exposure(category 1)

As general toxic effects to humans of bismuth and bismuth compounds, cause encephalopathy, nephropathy, osteoarthritis, gingivitis, stomatitis, and colitis, and there is description that inorganic bismuth becomes neurotoxic, it was classified into category 1.(nervous system, kidneys, osteoarthritis)

Aspiration hazard : Not possible to classify because of insufficient data.

12. Ecological information

Ecotoxicity

Fish toxicity : Acute aquatic toxicity : Not possible to classify because of insufficient data.

Chronic aquatic toxicity : Not possible to classify because of insufficient data.

Persistence and degradability

: Not available

Bioaccumulative potential : Not available

13. Disposal consideration

Residual disposal : Dissolve the chemical in a large amount of water and form bismuth sulfide precipitation by addition of sodium sulfide solution. Filter the precipitation and bury in a landfill site approved for hazardous waste disposal.

Or entrust approved waste disposal companies with the disposal.

Containers : In case of disposal of empty bottles, dispose bottles after removing the content thoroughly.

14. Transport information

UN class : Class 5.1(Oxidizing substances) P. G. Ⅲ

UN number : 1477

Marine regulation information

UN No. : 1477

Proper shipping name : NITRATES, INORGANIC, N.O.S.

Class : 5.1

Sub risk : -
Packing group : Ⅲ
Marine pollutant : Not applicable

Aviation regulation information
UN No. : 1477
Proper shipping name : Nitrates, inorganic, n.o.s.
Class : 5.1
Sub risk : -
Packing group : Ⅲ

15. Regulatory information

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

16. Other information

References

Encyclopaedia Chemica, Kyoritsu Shuppan Co., Ltd.(1963)

Dangerous Properties of Industrial Materials,6th ed. N.I.Sax Van Nostrand Reinhold Company(1984)

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, and it has the same required elements on the Material Safety Data Sheet(MSDS) which is prepared based on JIS Z7250:2010.