Issue date: 1/31/2024
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Safety Data Sheet

1. Chemical product and company identification

Product name : Lead(Ⅱ) iodide, 3N

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 : 24058-33
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	Carcinogenicity	Category 2
	Reproductive toxicity	Category 1A
	Specific target organ toxicity (single exposure)	Category 1 (blood, kidney, nervous system)
	Specific target organ toxicity (repeated exposure)	Category 1 (blood, kidney, nervous system)

Hazard pictograms

Signal word : Danger

Hazard statements : Suspected of causing cancer
May damage fertility or the unborn child
Causes damage to organs (blood, kidney, nervous system)
Causes damage to organs (blood, kidney, nervous system) through prolonged or repeated exposure

Precautionary statements

Prevention : Do not handle until all safety precautions have been read and understood.
Do not breathe dust.
Wash hands, forearms and face thoroughly after handling.
Do not eat, drink or smoke when using this product.
Wear protective gloves/protective clothing/eye protection/face protection.

Response : IF exposed or concerned: Call a POISON CENTER or doctor.
IF exposed or concerned: Get medical advice/attention.
Get medical advice/attention if you feel unwell.

Storage : Store locked up.

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 mixture : Substance

Chemical name	Concentration (%)	Formula	TSCA	EC-No.	CAS RN
Lead(Ⅱ) iodide	≥ 99.9	PbI2	Listed	233-256-9	10101-63-0

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 or salt water and make him vomit. 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) : Firefighters should wear protective equipment.

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 in a chemical waste container. Neutralize residue with calcium hydroxide or sodium carbonate water solution and then flush contaminated area with copious amounts of water.

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 packaging/containers	:	Glass, polyethylene, polypropylene.

8. Exposure controls / Personal protection equipment

ACGIH TWA	0.05 mg/m³ (as Pb)
ACGIH TWA	0.01 ppm (as iodide)

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	:	Orangish yellow
Odor	:	Odorless
pH	:	No data available
Melting point	:	402 ° C
Freezing point	:	No data available
Boiling point	:	954 ° C
Flash point	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Flammability	:	Non flammable.
Vapor pressure	:	No data available
Relative density	:	6.16
Density	:	No data available
Relative gas density	:	No data available
Solubility	:	Organic solvents: Insoluble in ethanol. Water: 0.04 % (0℃), Soluble in an aqueous solution of potassium iodide.
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	:	It reacts with sodium sulfide to produce lead sulfide and sodium iodide. Decomposes with acids.
Chemical stability	:	Stable under normal conditions. Decomposed by sunlight in the air.
Possibility of hazardous reactions	:	Stable under normal conditions of use.
Conditions to avoid	:	Light, heat.
Incompatible materials	:	Acids, oxidizing substances.
Hazardous decomposition products	:	Iodine, hydrogen iodide, lead oxides.

11. Toxicological information

Acute toxicity (oral)	:	Classification not possible
Acute toxicity (dermal)	:	Classification not possible
Acute toxicity (inhalation)	:	No classification (gas) Classification not possible (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 Besides, Japan Society for Occupational Health classified iodine and its compounds as a skin sensitizer group 2, but there is a cautionary statement that not all compounds were identified.
Germ cell mutagenicity	:	Classification not possible
Carcinogenicity	:	Suspected of causing cancer Japan Society for Occupational Health classifies lead and lead compounds as the group 2B(The chemical is possibly carcinogenic to humans.). ACGIH classifies "lead and inorganic compounds" as A3(confirmed animal carcinogen with unknown relevance to humans).
Reproductive toxicity	:	May damage fertility or the unborn child Based on the fact that lead has been known to possess developmental neurotoxic and reproductive toxic potentials in humans, it was classified into category 1A.

STOT-single exposure	:	Causes damage to organs (blood, kidney, nervous system) Based on toxicity of inorganic lead compounds. Based on the human evidence: "The effects observed in acute and chronic studies are very similar for inorganic lead compounds. Inhalation or oral ingestion of inorganic lead has been reported to induce oral contraction and thirst, along with nausea, vomiting, upper abdominal discomfort, loss of appetite, abdominal pain and constipation suggesting gastrointestinal toxicity. The effects on hematopoietic function such as hemoglobin synthesis inhibition due to delta-aminolevulinic acid/heme synthetic enzyme inhibition and anemia caused by shortened survival of red blood cells are considered representative of toxic actions of inorganic lead. Kidney effects are evidenced by interstitial nephropathy and decreased urinary output along with proximal renal tubular damage showing Fanconi's syndrome represented by proteinuria, hematuria, urinary cast, glycosuria and aminoaciduria. Inorganic lead adversely affects the central and peripheral nervous systems, displaying in particular weakening of the muscle of the limbs, pain and spasm. There have been rare reports of adults exhibiting ataxia, headache, paresthesia, depression and coma indicative of toxic effects on the central nervous system when exposing to extremely high doses. However, children are most sensitive to toxicity of lead, and neurodevelopmental toxicity manifested as restlessness, aggression, concentration difficulties and memory lapse has become serious problem in the U.S.". Thus, it was classified into category 1 (blood, kidney, nervous system).
STOT-repeated exposure	:	Causes damage to organs (blood, kidney, nervous system) through prolonged or repeated exposure Based on toxicity of inorganic lead compounds. Based on the human evidence: "The effects observed in acute and chronic studies are very similar for inorganic lead compounds. Inhalation or oral ingestion of inorganic lead has been reported to induce oral contraction and thirst, along with nausea, vomiting, upper abdominal discomfort, loss of appetite, abdominal pain and constipation suggesting gastrointestinal toxicity. The effects on hematopoietic function such as hemoglobin synthesis inhibition due to delta-aminolevulinic acid/heme synthetic enzyme inhibition and anemia caused by shortened survival of red blood cells are considered representative of toxic actions of inorganic lead. Kidney effects are evidenced by interstitial nephropathy and decreased urinary output along with proximal renal tubular damage showing Fanconi's syndrome represented by proteinuria, hematuria, urinary cast, glycosuria and aminoaciduria. Inorganic lead adversely affects the central and peripheral nervous systems, displaying in particular weakening of the muscle of the limbs, pain and spasm. There have been rare reports of adults exhibiting ataxia, headache, paresthesia, depression and coma indicative of toxic effects on the central nervous system when exposing to extremely high doses. However, children are most sensitive to toxicity of lead, and neurodevelopmental toxicity manifested as restlessness, aggression, concentration difficulties and memory lapse has become serious problem in the U.S.". Thus, it was classified into category 1 (blood, kidney, nervous system).
Aspiration hazard	:	Classification not possible

12. Ecological information

Ecotoxicity

Aquatic acute	:	Classification not possible
Aquatic chronic	:	Classification not possible

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	:	Disposal should be made by one of following methods. Or entrust approved waste disposal companies with the disposal. Solidification method : Solidify with cement and bury in a landfill site approved for hazardous waste disposal after confirming that dissolving quantity is under criteria. Roasting method : In case of a large amount of the chemical, recover metal lead by roast reduction method. <Note> ＊The pH of the neutralization should be above 8.5. The precipitation does not form completely below pH 8.5. ＊Dissolution test and dissolution standard for the disposal are in accordance with provisions under related laws. ＊In case of disposal by roasting method, it is desirable to entrust to disposal companies.
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 : Encyclopaedia Chimica, Kyoritsu Shuppan Co, Ltd. (1963) .
Handbook of dangeroous and hazardous chemicals, Japan Industrial Safety & Health Association. (2000-2001) .
Handbook of Poisonous and Deleterious substances, revised and enlarged edition, Yakumu Kohosa (2000) .
NITE Chemical Risk Information Platform (NITE-CHRIP), National Institute of Technology and Evaluation.

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.