Issue date: 11/20/2003
Revision date: 4/12/2024

Safety Data Sheet

1. Chemical product and company identification

Product name : Tin(Ⅱ) chloride, anhydrous

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	:	37503
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 (single exposure)	Category 3 (respiratory tract irritation.)
	Specific target organ toxicity (repeated exposure)	Category 1 (liver, kidney)
	Specific target organ toxicity (repeated exposure)	Category 2 (blood)
Environmental hazards	Aquatic acute	Category 1
	Aquatic chronic	Category 1

Hazard pictograms

Signal word : Danger

Hazard statements :
May cause respiratory irritation
Causes damage to organs (liver, kidney) through prolonged or repeated exposure
May cause damage to organs (blood) through prolonged or repeated exposure
Very toxic to aquatic life
Very toxic 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.
Use only outdoors or in a well-ventilated area.
Avoid release to the environment.

Response	:	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell. Get medical advice/attention if you feel unwell. Collect spillage.
Storage	:	Store in a well-ventilated place. Keep container tightly closed. 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
Tin(Ⅱ) chloride	≥ 90	SnCl2	Listed	231-868-0	7772-99-8

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	:	Gently rinse the affected eyes with clean water for at least 15 minutes.
First-aid measures after ingestion	:	Rinse mouth with water. Give the victim one or two glasses of water or milk. Do not induce vomiting. Get medical treatment as soon as possible.
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
Fire hazard	:	Thermal decomposition emits harmful hydrogen chloride.
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 discharge of spilled product into rivers and resulting environmental damage. When diluting spill with large amounts of water, discharge of untreated wastewater into the environment must be avoided.

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	Not established

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	:	Colorless - white
Odor	:	Odorless
pH	:	No data available
Melting point	:	246 ° C
Freezing point	:	No data available
Boiling point	:	623 ° C
Flash point	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	652 ° C
Flammability	:	Non flammable.
Vapor pressure	:	No data available
Relative density	:	No data available
Density	:	3.95 g/cm^3

Relative gas density	:	No data available
Solubility	:	Organic solvents: Soluble in ethanol. Water: 73 % (15℃)
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	:	Has reducing properties and reacts with oxidizing substances.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Thermal decomposition emits harmful hydrogen chloride.
Conditions to avoid	:	Light, heat.
Incompatible materials	:	Oxidizing substances.
Hazardous decomposition products	:	Chlorine, hydrogen chloride, Tin(Ⅳ) oxide.

11. Toxicological information

Acute toxicity (oral)	:	No classification rat LD50=2275mg/kg
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 Besides, there are reports that in a skin irritation test with rabbits, no skin irritation occurred when a 5% aqueous solution of this substance was applied for 18 hours, but that in a human patch test, 5% and 10% solutions showed skin irritation.
Serious eye damage/irritation	:	Classification not possible Besides, there is a description that inorganic tin compounds may be irritating to the eyes.
Respiratory sensitization	:	Classification not possible
Skin sensitization	:	Classification not possible Besides, there are reports that this substance showed no sensitization to rats, and that it was positive in human patch tests. However, these data were judged insufficient for use in the classification since the details are unknown.
Germ cell mutagenicity	:	No classification As for in vivo, although it was negative in a mouse bone marrow micronucleus test and weakly positive in a sister chromatid exchange test, clear dose-dependency was not confirmed. As for in vitro, it was positive in a chromosomal aberration test and a sister chromatid exchange test with cultured mammalian cells, and negative in a bacterial reverse mutation test and a mammalian cell gene mutation test.
Carcinogenicity	:	Classification not possible

Reproductive toxicity	:	No classification In a three-generation reproductive toxicity test with rats dosed by the oral route (feeding), even at the highest dose (800 mg/kg/day), no effects were observed in the growth and fertility of parental animals and in the development of offspring, and no malformation was observed either. In addition, in teratogenicity tests with mice, rats and hamsters dosed by the oral route (gavage), although no parental animal toxicities were described, there is a report that no effects on implantations, fetal survival and the incidence of fetal malformations (skeletal and soft tissue) were observed.
STOT-single exposure	:	May cause respiratory irritation Because it is described that inorganic tin compounds are irritating to the mucous membranes, it was classified into category 3 (respiratory tract irritation). Besides, it is reported that short-term oral administration of this substance to rats and mice induced effects on the central nervous system such as ataxia, general depression, limb weakness and flaccid paralysis, and renal lesions characterized by swelling and discoloration of the kidney, and tubular necrosis with subsequent regeneration. Moreover, although there is a report that necrosis was observed in the liver and the spleen by a single oral administration to mice, there is no description on the doses at which these findings were observed, and on the details as to whether the findings were for dead or surviving animals, therefore, it was impossible to adopt the above as indicators for the category.
STOT-repeated exposure	:	Causes damage to organs (liver, kidney) through prolonged or repeated exposure May cause damage to organs (blood) through prolonged or repeated exposure There are no findings of hazard by repeated exposure to this substance in humans. In a test in which rats were dosed by drinking water throughout their life from weaning until natural death, fatty degeneration of the liver and renal tubular vacuolization were observed within the dose range of category 1 (8 mg/L), and in a test in which rabbits were dosed by gavage for 4 months, transient anemia was observed at a ceiling dose of category 1 (10 mg/kg/day). In addition, in a 13-week feeding administration test with rats, anemia and changes in the liver tissue were observed at a ceiling dose of category 2 (3,000 ppm). Toxicity information on the experimental animals by the inhalation route was not obtained. From the above, based on findings in experimental animals, it was classified into category 1 (liver, kidney), category 2 (blood) for this hazard class.
Aspiration hazard	:	Classification not possible

12. Ecological information

Ecotoxicity

Aquatic acute	:	Very toxic to aquatic life Thalassiosira EC50=200 μg/L/72h
Aquatic chronic	:	Very toxic 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	:	Disposal should be made by one of following methods. Or entrust approved waste disposal companies with the disposal. Precipitation method : Dissolve in water and add calcium hydroxide or Sodium carbonate to precipitate. The precipitate is buried in a landfill site approved for the disposal of chemical and hazardous wastes. Roasting method : In case of a large amount of the chemical, recover metal tin by roast reduction method. <Note> ＊The pH should be more than 8.5, the precipitation does not form completely below pH 8.5. ＊The disposal of roasting method is desirable to entrust 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)	:	3077
Proper Shipping Name (IMDG)	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Packing group (IMDG)	:	III
Transport hazard class(es) (IMDG)	:	9

Air transport(IATA)

UN-No. (IATA)	:	3077
Proper Shipping Name (IATA)	:	Environmentally hazardous substance, solid, n.o.s.
Packing group (IATA)	:	III
Transport hazard class(es) (IATA)	:	9
Marine pollutant	:	Applicable
MFAG-No	:	171

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 17322 Chemical Products, The Chemical Daily Co. (2022) .
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.