



Safety Data Sheet

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

Product identifier:

Product name: Indium(III) chloride

SDS No. : 4139E-2

Details of the supplier of the safety data sheet

Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.

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

Division: Chemical Safety Management Department

Telephone number: +81-6-6946-8061

FAX: +81-6-6946-1607

e-mail address: kagakuhinanzenkanri@kishida.co.jp

2. Hazards identification

GHS classification and label elements of the product**Classification of the substance or mixture****HEALTH HAZARDS**

Germ cell mutagenicity: Category 2

Carcinogenicity: Category 2

Reproductive toxicity: Category 2

Specific target organ toxicity – single exposure: Category 1(lung)

Label elements

Signal word: Danger

HAZARD STATEMENT

Suspected of causing genetic defects

Suspected of causing cancer

Suspected of damaging fertility or the unborn child

Causes damage to organs(lung)

PRECAUTIONARY STATEMENT**Prevention**

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

Wash contaminated parts thoroughly after handling.

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

Response

IF exposed or concerned: Get medical advice/attention.

IF exposed or concerned: Call a POISON CENTER/doctor/physician.

Disposal

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



3. Composition/information on ingredients

Mixture/Substance selection:

Substance

Ingredient name:Indium(III) chloride

Content (%):98(min)

Chemical formula:InCl₃

Chemicals No, Japan:1-227

CAS No.:10025-82-8

MW:221.18

ECNO:233-043-0

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

4. First-aid measures

Descriptions of first-aid measures

General measures

IF exposed or concerned: Get medical advice/attention.

IF INHALED

Remove person to fresh air and keep comfortable for breathing.

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

IF ON SKIN (or hair)

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

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.

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

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.

Specific hazards arising from the substance or mixture

Containers may explode when heated.

Fire may produce irritating, corrosive and/or toxic gases.

Advice for firefighters

Specific fire-fighting measures

Evacuate non-essential personnel to safe area.

Special protective equipment and precautions for fire-fighters

Wear fire resistant or flame 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, hot surfaces, sparks, open flames and other ignition sources. No smoking.

(Exhaust/ventilator)

Exhaust/ventilator should be available.

(Safety treatments)

Avoid contact with skin.

Avoid contact with eyes.

Safety Measures

Wear protective gloves, protective clothing or 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.

Storage

Conditions for safe storage

Keep container tightly closed.

Store in a cool, dry place. Do not store in direct sunlight.

Container and packaging materials for safe handling

Polyethylene

8. Exposure controls/personal protection

Control parameters

Adopted value

(Indium(III) chloride)

ACGIH(1990) TWA: 0.1 mg-In/m³ (Pulm edema; pneumonitis; dental erosion; malaise)

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: Crystal or powder
- Color: White to yellowish white
- Odor data is not available.
- Melting point/Freezing point: 586°C
- Boiling point or initial boiling point: (Indium(III) chloride)(sublimation) 500°C
- 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 data is not available.
- Kinematic viscosity data is not available.
- Solubility:
 - Solubility in water: Very good
 - n-Octanol/water partition coefficient data is not available.
 - Vapor pressure data is not available.
 - Density and/or relative density: 3.46 g/cm³
 - Relative vapor density (Air=1) data is not available.
 - Particle characteristics data is not available.

10. Stability and Reactivity

- Reactivity
 - Not available.
- Chemical stability
 - Hygroscopic (absorbs moisture from the air).
- Possibility of hazardous reactions
 - Decomposes on heating. This produces toxic and corrosive fumes. Reacts with strong acids. (ICSC 1377)
- Conditions to avoid
 - Contact with incompatible materials.
 - Contact with fire source.
- Incompatible materials
 - Strong acids
- Hazardous decomposition products
 - Hydrogen chloride, Indium oxide

11. Toxicological Information

- Information on toxicological effects
 - Acute toxicity data is not available.
- Irritant properties
 - Skin corrosion/irritation data is not available.



Serious eye damage/irritation data is not available.

Allergenic and sensitizing effects data is not available.

Germ cell mutagenicity

[GHS Cat. Japan, base data]

(Indium(III) chloride)

cat. 2; mouse : PATTY 6th, 2012

Carcinogenicity

[GHS Cat. Japan, base data]

(Indium(III) chloride)

cat.2; (MHLW The Technical Guideline for Preventing Health Impairment of Workers Engaged in the Indium Tin Oxide Handling Processes, 2010)

Reproductive toxicity

[GHS Cat. Japan, base data]

(Indium(III) chloride)

cat. 2; PATTY 6th, 2012

STOT

STOT-single exposure

[cat.1]

[GHS Cat. Japan, base data]

(Indium(III) chloride)

lung (Journal of Occupational Health JP vol.49, 2007)

STOT-repeated exposure data is not available.

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

Ecotoxicity data is not available.

Water solubility

(Indium(III) chloride)

very good (ICSC, 2001)

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

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



14. Transport Information

- UN No. or ID No.: Not applicable
- Not applicable to IMDG Code
- Not applicable to IATA Dangerous Goods Regulations
- Environmental hazards
 - MARPOL Annex III – Prevention of pollution by harmful substances
 - Marine pollutants (yes/no) : no

15. Regulatory Information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Chemicals listed in TSCA Inventory
 - Indium(III) chloride
- Other regulatory information
 - Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

16. Other information

- GHS classification and labelling
 - Muta. 2: H341 Suspected of causing genetic defects
 - Carc. 2: H351 Suspected of causing cancer
 - Repr. 2: H361 Suspected of damaging fertility or the unborn child
 - STOT SE 1: H370 Causes damage to organs

Reference Book

- Globally Harmonized System of classification and labelling of chemicals, UN Recommendations on the TRANSPORT OF DANGEROUS GOODS 21th edit., 2019 UN
- IMDG Code, 2018 Edition (Incorporating Amendment 39-18)
- IATA Dangerous Goods Regulations (62nd Edition) 2021
- 2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)
- 2021 TLVs and BEIs. (ACGIH)

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 2020).