



Safety Data Sheet

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

Product identifier:

Product name: Antimony(III) oxide

SDS No. : 05331E-3

Relevant identified uses of the substance or mixture and uses advised against

Research and Development

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

Section 2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture

HEALTH HAZARDS

Acute toxicity (Oral): Category 4

Carcinogenicity: Category 1A

Specific target organ toxicity – single exposure: Category 2 (respiratory system)

Specific target organ toxicity – repeated exposure: Category 1 (respiratory system)

(Note) GHS classification without description: Not classified/Classification not possible

Label elements



Signal word: Danger

HAZARD STATEMENT

H302 Harmful if swallowed

H350 May cause cancer

H371 May cause damage to organs (respiratory system)

H372 Causes damage to organs through prolonged or repeated exposure (respiratory system)

PRECAUTIONARY STATEMENT

Prevention

P202 Do not handle until all safety precautions have been read and understood.

P260 Do not breathe dust/fume/gas/mist/vapors/spray.

P264 Wash contaminated parts thoroughly after handling.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P270 Do not eat, drink or smoke when using this product.

Response

P314 Get medical advice/attention if you feel unwell.

P308 + P313 IF exposed or concerned: Get medical advice/attention.

P308 + P311 IF exposed or concerned: Call a POISON CENTER/doctor/physician.

P330 IF SWALLOWED: Rinse mouth.



P301 + P312 IF SWALLOWED: Call a POISON CENTER/doctor/physician if you feel unwell.

Storage

P405 Store locked up.

Disposal

P501 Dispose of contents/container in accordance with local/national regulation.

Specific adverse human health effects

See "11. Toxicological Information".

Section 3. Composition/information on ingredients

Mixture/Substance selection:

Substance

Ingredient name	Content (%)	CAS RN	ENCS	Chemical formula
Antimony(III) oxide	≥97	1309-64-4	1-543	Sb ₂ O ₃

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

Impurities

Arsenic ≤0.10% (CAS RN 7440-38-2)

Lead ≤0.10% (CAS RN 7439-92-1)

Section 4. First-aid measures

Descriptions of first-aid measures

General measures

Get medical advice/attention if you feel unwell.

IF INHALED

Remove person to fresh air and keep comfortable for breathing.

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

IF ON SKIN

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.

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

Section 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

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

Runoff from fire control or dilution water may cause pollution.



See "10.Stability and Reactivity".

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 a full facepiece operated in the positive pressure mode.

Section 6. Accidental release measures

Personnel precautions, protective equipment and emergency procedures

Keep unauthorized personnel away.

Ventilate area until material pick up is complete.

Wear proper protective equipment.

Environmental precautions

Prevent spills from entering sewers, watercourses, low areas or rivers. To be careful not discharged to the environment without being properly handled waste water contaminated.

Methods and materials for containment and cleaning up

Liquid: Absorb spill with inert material (dry sand, earth, et al), then place in a chemical waste container.

Solid: Sweep up, place in a bag and hold for waste disposal.

Preventive measures for secondary accident

Collect spillage.

Section 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.

(Precautions)

Avoid contact with skin.

Avoid contact with eyes.

Safety Measures

Do not handle until all safety precautions have been read and understood.

Wear protective gloves/protective clothing/eye protection/face protection.

Wash hands and contaminated parts thoroughly after handling.

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 locked up. (P405)
- Store in a cool, dry place. Do not store in direct sunlight.
- Storage in accordance with local/national regulation.

Container and packaging materials for safe handling

- Use closed unbreakable containers.

Section 8. Exposure controls/personal protection**Control parameters****Administrative Control Levels and Concentration standard value**

- (Antimony(III) oxide)
Japan control value 0.1mg-Sb/m³
- (Lead)
Japan control value 0.05mg-Pb/m³
- (Arsenic)
Japan control value 0.003mg-As/m³

Occupational Exposure Limit**The Japan Society for Occupational Health**

- (Antimony(III) oxide)
0.1mg-Sb/m³
- (Lead)
0.03mg-Pb/m³
- (Arsenic)
Individual excess lifetime risk of cancer: 10E-3, Reference value: 3ug-As/m³; Individual
excess lifetime risk of cancer: 10E-4, Reference value: 0.3ug-As/m³

ACGIH

- (Antimony(III) oxide)
TWA: 0.02mg/m³(I) (Pneumonitis)
- (Lead)
TWA: 0.05mg-Pb/m³ (CNS & PNS impair; hematologic eff)
- (Arsenic)
TWA: 0.01mg/m³ (Lung cancer)

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

- Recommend to use protective equipment in conformity with the standards.
- Use appropriate protective equipment in accordance with local/national regulation.

Respiratory protection

- Wear respiratory protection (dust-proof mask/gas mask). Select chemical cartridge corresponding to type of gases when using a gas mask.

Hand protection

- Wear impervious protective glove.

Eye protection

- Wear eye/face protection. Wear safety goggles in cases gas is generated.



Skin and body protection
Wear protective clothing.

Section 9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state: Crystalline powder to powder

Color: White

Odor: Odorless

Melting point/Freezing point: 656°C

Boiling point or initial boiling point: (partially sublimes) 1550°C

Boiling range data is not available.

Flammability 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: (none) 0.00033g/100 ml (22.2°C)

Solubility in solvent data is not available.

Partition coefficient n-octanol/water data is not available.

Vapor pressure: 130 Pa (574°C)

Density and/or relative density: 5.9g/cm³

Relative vapor density (Air=1) data is not available.

Particle characteristics data is not available.

Other information

Other information is not available.

Section 10. Stability and Reactivity

Reactivity

Not available.

Chemical stability

Stable under normal storage/handling conditions.

Possibility of hazardous reactions

Decomposes on heating. This produces toxic fumes. Reacts under certain circumstances with hydrogen. This produces a very poisonous gas (stibine).(ICSC 0012)

Conditions to avoid

Contact with incompatible materials.

Contact with fire source.

Incompatible materials

Hydrogen

Hazardous decomposition products

Stibine

Section 11. Toxicological Information

Information on toxicological effects

**Acute toxicity****Acute toxicity (Oral)**

[Product]

Category 4, Harmful if swallowed

[Data for components of the product]

[NITE-CHRIP]

(Antimony(III) oxide)

human : In epidemiological cases, mortality was observed. (source: NITE)

(Arsenic)

rat LD50: 763 mg/kg (source: NITE)

Irritant properties

Skin corrosion/irritation data is not available.

Serious eye damage/irritation

[Data for components of the product]

[NITE-CHRIP]

(Arsenic)

Category 2 (source: NITE)

Allergenic and sensitizing effects data is not available.

Mutagenic effects data is not available.

Carcinogenicity

[Product]

Category 1A, May cause cancer

[Data for components of the product]

[NITE-CHRIP]

(Antimony(III) oxide)

Category 1B (source: NITE)

(Lead)

Category 2 (source: NITE)

(Arsenic)

Category 1A (source: NITE)

[IARC]

(Lead)

Group 2B : Possibly carcinogenic to humans

(Arsenic)

Group 1 : Carcinogenic to humans

[ACGIH]

(Antimony(III) oxide)

A2: Suspected Human Carcinogen

(Lead)

A3(as Pb): Confirmed Animal Carcinogen with Unknown Relevance to Humans

(Arsenic)

A1(as As): Confirmed Human Carcinogen

[NTP]

(Antimony(III) oxide)

RAHC : Reasonably Anticipated to be Human Carcinogens

(Lead)

RAHC : Reasonably Anticipated to be Human Carcinogens

(Arsenic)

Known : Known to be Human Carcinogens

[EU]



(Antimony(III) oxide)

Category 2; Substances suspected human carcinogens

Reproductive toxicity

[Data for components of the product]

[NITE-CHRIP]

(Lead)

Category 1A (source: NITE)

(Arsenic)

Category 2 (source: NITE)

Specific target organ toxicity (STOT)

STOT-single exposure

[Product]

Category 2, May cause damage to organs

[Data for components of the product]

[NITE-CHRIP]

(Antimony(III) oxide)

Category 2 (respiratory system) (source: NITE)

STOT-repeated exposure

[Product]

Category 1, Causes damage to organs through prolonged or repeated exposure

[Data for components of the product]

[NITE-CHRIP]

(Antimony(III) oxide)

Category 1 (respiratory system) (source: NITE)

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

Section 12. Ecological Information

Toxicity

Aquatic toxicity

[Data for components of the product]

Hazardous to the aquatic environment, short-term (acute)

[NITE-CHRIP]

(Antimony(III) oxide)

Fish (*Lepomis macrochirus*) 96-hour LC50: > 530 mg/L (source: NITE)

Crustacea (*Daphnia magna*) 48-hour EC50: 506 mg/L (source: NITE)

Algae (*Pseudokirchneriella subcapitata*) 72-hour EC50: > 2.87 mg/L (source: NITE)

Hazardous to the aquatic environment, long-term (chronic)

[NITE-CHRIP]

(Antimony(III) oxide)

Fish (*Pimephales promelas*) 33 - 35-day NOEC: > 0.00898 mg/L (source: NITE)

Water solubility

(Antimony(III) oxide)

0.00033g/100 mL (22.2°C) (source: ICSC, 2013)

(Lead)

practically insoluble (source: ICSC, 2019)



(Arsenic)

none (source: ICSC, 2011)

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.

Section 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 as industrial waste. Accordance with local/national regulation.

Section 14. Transport Information

UN Number or ID Number : Not regulated

IMDG Code (International Maritime Dangerous Goods Regulations)

UN Number or ID Number : Not regulated

IATA (Dangerous Goods Regulations)

UN Number or ID Number : Not regulated

Environmental hazards

Marine pollutants (yes/no) : no

Section 15. Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

U.S. Toxic Substances Control Act (TSCA) Inventory

Chemicals listed in TSCA Inventory

Antimony(III) oxide; Lead; Arsenic

Other regulatory information

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

Section 16. Other information

References and sources for data

Globally Harmonized System of classification and labelling of chemicals, UN

Recommendations on the TRANSPORT OF DANGEROUS GOODS 23rd edit., 2023 UN

IMDG Code, 2024 Edition (Incorporating Amendment 42-24)

IATA Dangerous Goods Regulations (66th Edition) 2025

2024 EMERGENCY RESPONSE GUIDEBOOK (US DOT)

2025 TLVs and BEIs. (ACGIH)

JIS Z 7252 : 2019

JIS Z 7253 : 2019



Recommendation of occupational exposure limits (2023–2024) (JSOH)

Supplier's data/information

General Disclaimer

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Unauthorized translation or modification is prohibited.

Please provide SDS to customers for selling or transferring.

All chemicals have unknown hazard. Handle the product with care.

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 Data published in Japan (National Institute of Technology and Evaluation (NITE) Chemical Risk Information Platform (NITE-CHRIP), up to FY2023).