


Safety Data Sheet (SDS)

Preparation of Antimony Trioxide (STOX-CFA)

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION							
Substance name: Product name: Company name: Address Charge section Phone number Fax number E-mail address Emergency telephone number Recommended use and restriction on use:	Preparation of Antimony Trioxide STOX-CFA NIHON SEIKO CO., LTD. 3-2 SHIMOMIYABI-CHO SHINJUKU-KU TOKYO 162-0822 JAPAN SALES DEPT. +81-3-3235-0031 +81-3-3235-0034 mail@nihonseiko.co.jp NAKASE REFINERY QUALITY ASSURANCE SECTION +81-79-667-2121 Industrial materials: Catalysts, etc.						
2. HAZARDS IDENTIFICATION							
GHS classification : Health hazards GHS label: Hazard pictogram Signal word Hazard statements Precautionary statements	<table style="width: 100%; border: none;"> <tr> <td style="width: 60%;">Carcinogenicity</td> <td style="width: 40%; text-align: right;">:Category 2</td> </tr> <tr> <td>Specific target organ toxicity (STOT, single exposure)</td> <td style="text-align: right;">:Category 2 (Central nervous system, kidneys, heart, respiratory)</td> </tr> <tr> <td>Specific target organ toxicity (STOT, repeated exposure)</td> <td style="text-align: right;">:Category 2 (Central nervous system, heart, respiratory)</td> </tr> </table> <div style="text-align: center; margin: 10px 0;">  </div> <p>Warning Suspected of causing cancer May cause damage to organs (Central nervous system, kidneys, heart, respiratory) May cause damage to organs through prolonged or repeat (Central nervous system, heart, respiratory)</p> <p>【Prevention】 Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe dust. Wash hand, etc. thoroughly after handling. Do not eat, drink or smoke when using this product.</p>	Carcinogenicity	:Category 2	Specific target organ toxicity (STOT, single exposure)	:Category 2 (Central nervous system, kidneys, heart, respiratory)	Specific target organ toxicity (STOT, repeated exposure)	:Category 2 (Central nervous system, heart, respiratory)
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Specific target organ toxicity (STOT, repeated exposure)	:Category 2 (Central nervous system, heart, respiratory)						

<p>Other hazard not applicable to GHS classification hazard: The summary of important signs and assumed emergency:</p>	<p>【Response】 If exposed or concerned: Call a doctor. Get medical advice/attention. Get medical advice/attention if you feel unwell. 【Storage】 Store locked up. 【Disposal】 Dispose of contents/container in accordance with local/regional/national/ international regulations(to be specified). No information. No information.</p>
<p>3.COMPOSITION / INFORMATION ON INGREDIENTS</p>	
<p>Substance/Mixture: General product description: Other name: Chemical property (Chemical formula etc.): CAS number: Component and its content: EINECS number: Impurity and stabilizing additive that contribute to GHS Classification:</p>	<p>Mixture STOX-CFA - Antimony Trioxide: Sb₂O₃ Ethylene Glycol: HOCH₂CH₂OH Antimony Trioxide: 1309-64-4 Ethylene Glycol: 107-21-1 Antimony Trioxide: 96.8% Ethylene Glycol: 3.0% Antimony Trioxide: 215-175-0 Ethylene Glycol: 203-473-3 As: 0.01%, Pb: 0.006%</p>
<p>4.FIRST AID MEASURES</p>	
<p>Following inhalation: Following skin contact: Following eye contact: After ingestion: Most important symptoms and effects ,both acute and delayed: Protection of person who do first aid: Special precaution statement for doctor:</p>	<p>Move affected person to fresh air. Seek medical attention. Wash with water and remove clothes if necessary. Flush eyes thoroughly with water, also under eyelids. If eye irritation persists, Seek medical attention. Rinse mouth with water. Seek medical attention. No information. No information. No information.</p>
<p>5.Fire-fighting measure</p>	
<p>Extinguishing media: Unsuitable extinguishing media: Special hazards arising from the Substance or mixture: Specific fire-fighting:</p>	<p>Use fire-fighting measures that suit the environment. The product is not combustible and does not support the combustion. No information. Antimony trioxide dust. Move the product to safe place promptly when it is a fire in the surrounding. If it is non-transferable, sprinkle the container and the circle with water and cool down.</p>

Protection for fire-fighter:	Wear suitable protective equipment in fire-fighting.
6.Accidental release measures Personal precautions, protective equipment and emergency procedures: Environmental precautions: Methods and material for containment and cleaning up: Prevention of second disaster:	Avoid formation of dust. Ensure adequate ventilation. Keep unprotected persons away. Although the substance has no acute toxicity, it is advised to avoid contact with skin, eyes, and clothing – wear suitable protective equipment. Avoid inhalation of dust. It is advised that in the event of an accidental release the product should be prevented from reaching the sewage system or any water course and penetrating the soil. Dispose of spilled material in accordance with the relevant regulations. In any case avoid dust formation. Sweep all spilled material or use an appropriate industrial vacuum cleaner. Collect spilled material in suitable containers or closed plastic bags for recovery or disposal. For more information on exposure controls/personal protection or disposal considerations, check section 8 and 13 of this safety data sheet.
7.Handling and storage Handling: Technological countermeasure Safety precaution Avoid contact Hygiene measure Storage: Safety storage condition Safety packaging material	Provide a local dust collection system in the places where dust can be generated. Provide dust protective mask in the handling position. Do not handle until all safety precautions have been read and understood. Work by wearing suitable protective equipment. Check section 10. Avoid inhalation or ingestion. General occupational hygiene measures are required to ensure a safe handling of the substance. These measures involve good personal and housekeeping practices (i.e. regular cleaning with suitable cleaning devices). No eating, drinking and smoking at the workplace. Wash hands after use. Remove contaminated clothing and protective equipment before entering eating areas. Shower and change clothes at end of work shift. Do not wear contaminated clothing at home. Do not blow dust off with compressed air. Store in well ventilated dry area with low humidity and sealed state. Establish whether the container conforms test standard on a voluntary basis.

8.EXPOSURE CONTROLS / PERSONAL PROTECTION	
Exposure control limits Effect of over exposure: ACGIH	①0.02mg/m ³ TLV-TWA (Antimony Trioxide) ②STEL: 50 ppm vapor fraction STEL: 10 mg/m ³ inhalable particulate matter, aerosol only TWA: 25 ppm vapor fraction (Ethylene glycol)
Engineering controls:	Prevent formation of dust where possible. Ensure appropriate ventilation/exhaustion at machinery and places where dust can be generated. Any deposit of dust which cannot be avoided must be regularly removed using preferably appropriate industrial vacuum cleaners or central vacuum systems. Waste air is to be released into the atmosphere only when it has passed through suitable dust separators. Waste water generated during the production process or cleaning operations should be collected and should preferably be treated in an on-site waste water treatment plant which ensures efficient removal.
Personal protective equipment: Respiratory protection Hand protection Eye protection Skin and body protection	Dust protective mask(As appropriate) Protective gloves Protective glasses Protective high boots and cloth
Special precaution statement	Avoid environmental discharge.
9.PHYSICAL AND CHEMICAL PROPERTIES	
Appearance: Physical state Figure Color	Solid Powder White
Odor:	Odorless
Melting point:	No information.
Initial boiling point and boiling range:	No information.
Flammability:	Non-flammable.
Upper/lower flammability or explosive limits:	Non-explosive.
Flash point:	No information.
Auto-ignition temperature:	No information.
Decomposition temperature:	No information.
pH:	No information.
kinematic viscosity:	No information.
Solubility(ies):	No information.
Partition coefficient n-octanol/water:	No information.
Vapor pressure:	No information.
Relative density:	No information.
Relative vapour density:	No information.
Particle characteristics:	No information.
Other:	No information.
10.STABILITY AND REACTIVITY	
Reactivity:	No information.
Chemical stability:	Under normal conditions of use and storage, the product is stable.

Possibility of hazardous reactions:	Reaction with H-equivalents releases antimony hydride (stibine, SbH ₃).
Conditions to avoid:	Avoid dust formation.
Incompatible materials:	Reaction with H-equivalents releases antimony hydride (stibine, SbH ₃). Strong acids/bases. Reducing agents. See section 7.
Hazardous decomposition products:	No information.
Other:	No information.

11. TOXICOLOGICAL INFORMATION

	Antimony Trioxide	Ethylene Glycol
Acute Toxicity (Oral):	Not Classified. LD ₅₀ rat > 20,000 mg/kg bw	Not Classified. LD ₅₀ rat 4,000-102,000 mg/kg
Acute Toxicity (Dermal):	Not Classified. LD ₅₀ rabbit > 8,300 mg/kg bw	Not Classified. LD ₅₀ rat 10,600 mg/kg
Acute Toxicity (Inhalation: dust/mist):	Not Classified. LC ₅₀ rat > 5,200 mg/m ³	Out of category(dust) Classification not possible(mist)
Acute Toxicity (Inhalation: fume/vapors):	Out of category to solids.	Out of category(fume) Classification not possible(vapors)
Skin corrosion/irritation:	Not Classified. Causes mild skin irritation. Especially can cause dermatitis on contact with sweat-damp region over again or prolonged contact. Dermatitis that known as "antimony spots" can cause rash after itchiness.	Not Classified.
Serious eye danger/irritation:	Not Classified.	Category 2B
Respiratory or skin sensitization:	Not Classified.	Not Classified(Skin sensitization) Classification not possible (Respiratory)
Germ cell mutagenicity:	Not Classified.	Not Classified.
Carcinogenicity:	Category 2	Not Classified.
Reproductive toxicity:	Not Classified.	Not Classified.
STOT single exposure:	Not Classified.	Category 1 (Central nervous system, kidneys, heart, respiratory)
STOT repeated exposure:	Not Classified.	Category 1 (Central nervous system, heart, respiratory)
Aspiration hazard:	Classification not possible.	Classification not possible.
Other:	No information.	No information.

12. ECOLOGICAL INFORMATION

Ecotoxicity:	No information as mixture.
Persistence and degradability:	No information as mixture.
Bioaccumulative potential:	No information as mixture.
Mobility in soil:	No information as mixture.
Hazardous to the ozone layer:	No information.
Other:	No information.

13.DISPOSAL CONSIDERATIONS		
Waste from residues:	Dispose of contents in accordance with local/regional/national /international regulations(to be specified).	
Contaminated container/packing:	Dispose of container in accordance with local/regional/national /international regulations(to be specified).	
14.TRANSPOT INFORMATION		
International regulation:		
UN code	Not applicable.*	
Proper shipping name	Not applicable.	
UN Class	Not applicable.	
Packing group	Not applicable.	
Marine pollutant	Not applicable.	
*UN regulation : The special provision SP45 is applicable to the UN number 1549 (Hazard class6.1 and packaging group III). It means that antimony sulfides and oxides, which contain not more than 0.5% of arsenic calculated on the total weight, are not subject to these regulations.		
15.REGULATORY INFORMATION		
Worldwide chemical inventories:	Antimony Trioxide	Ethylene Glycol
ENCS(Japan)	1-543	2-230
TSCA(USA)	Listed	Listed
ECL(Korea)	KE-09846	KE-13169
DSL(Canada)	Listed	Listed
PICCS(Philippines)	Listed	Listed
AICS(Australia)	Listed	Listed
IECSC(China)	Listed	Listed
NECI(Taiwan)	Listed	Listed
Other regulatory information:	Follow regulation and low of each country or region.	
16. OTHER INFORMATION		
Treatment of stated contents:	<p>The contents of this information sheet are based on the data, information available at moments, and may be revised by additional data coming up in future.</p> <p>The precautions mentioned in this sheet are intended for normal use of this material, when use in unusual manner, the proper safety method is required.</p> <p>Read this SDS before use the ingredients.</p> <p>Keep this SDS in your file for your timely reference. The contents of this information sheet are not warranted and the company can accept no liability to any customer or any other person.</p>	
References:	<ol style="list-style-type: none"> GHS taiou guideline Edit: Japan Chemical Industry Association Issuance: Japanese Standards Association Antimony Trioxide SDS form of International Antimony Association (i2a) 【Kaiteidai3ban】 Kinkyujioukyusochishishin Issuance: Japanese Standards Association OECD-SIAM(October 14-16. 2008)SIDS Initial Assessment Profile National Institute of Technology and Evaluation (NITE)_ Chemical Risk Information Platform (CHRIP) TRANSPORT OF DANGEROUS GOODS Model Regulations 17th vo 1 I en United Nation Shokubanoanzen site Ministry of Health, Labour and Welfare (Japan) Sangyouigaku vol.33 1991 	