Safety Data Sheet (SDS)

Preparation of Antimony Trioxide (STOX-CA)

1.CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Substance name:	Preparation of Antimony Trioxide
Product name:	STOX-CA
Company name:	NIHON SEIKO CO., LTD.
Address	3-2 SHIMOMIYABI-CHO SHINJUKU-KU TOKYO 162-0822 JAPAN
Charge section	SALES DEPT.
Phone number	+81-3-3235-0031
Fax number	+81-3-3235-0034
E-mail address	mail@nihonseiko.co.jp
Emergency telephone number	NAKASE REFINERY QUALITY ASSURANCE SECTION +81-79-667-2121
Recommended use and restriction on use:	Industrial materials: Catalysts, etc.

2.HAZARDS IDENTIFICATION

GHS classification :

Health hazards	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)

GHS label:

Hazard pictogram

Signal word: Warning

Hazard statements:
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)

Precautionary statements:
【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.

NIHON SEIKO CO., LTD.

	【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).
Other hazard not applicable to GHS classification hazard:	No information.
The summary of important signs and assumed emergency:	No information.

3.COMPOSITION / INFORMATION ON INGREDIENTS

Substance/Mixture:	Mixture
General product description:	STOX-CA
Other name:	-
Chemical property (Chemical formula etc.):	Antimony Trioxide: Sb_2O_3 Ethylene Glycol: $HOCH_2CH_2OH$
CAS number:	Antimony Trioxide: 1309-64-4 Ethylene Glycol: 107-21-1
Component and its content:	Antimony Trioxide: 96.8% Ethylene Glycol: 3.0%
EINECS number:	Antimony Trioxide: 215-175-0 Ethylene Glycol: 203-473-3
Impurity and stabilizing additive that contribute to GHS Classification:	As: 0.03%, Pb: 0.003%

4.FIRST AID MEASURES

Following inhalation:	Move affected person to fresh air. Seek medical attention.
Following skin contact:	Wash with water and remove clothes if necessary.
Following eye contact:	Flush eyes thoroughly with water, also under eyelids. If eye irritation persists, Seek medical attention.
After ingestion:	Rinse mouth with water. Seek medical attention.
Most important symptoms and effects ,both acute and delayed:	No information.
Protection of person who do first aid:	No information.
Special precaution statement for doctor:	No information.

5.Fire-fighting measure

Extinguishing media:	Use fire-fighting measures that suit the environment. The product is not combustible and does not support the combustion.
Unsuitable extinguishing media:	No information.
Special hazards arising from the Substance or mixture:	Antimony trioxide dust.
Specific fire-fighting:	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.

Protection for fire-fighter:	Wear suitable protective equipment in fire-fighting.

6.Accidental release measures

Personal precautions, protective equipment and emergency procedures:	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.
Environmental precautions:	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.
Methods and material for containment and cleaning up:	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.
Prevention of second disaster:	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	Provide a local dust collection system in the places where dust can be generated. Provide dust protective mask in the handling position.
Safety precaution	Do not handle until all safety precautions have been read and understood. Work by wearing suitable protective equipment.
Avoid contact	Check section 10.
Hygiene measure	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.
Storage:	
Safety storage condition	Store in well ventilated dry area with low humidity and sealed state.
Safety packaging material	Establish whether the container conforms test standard on a voluntary basis.

8.EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure control limits	
Effect of over exposure:	
ACGIH(2024)	①0.02mg/m3 TLV-TWA (Antimony Trioxide) ②STEL: 50 ppm vapor fraction STEL: 10 mg/m3 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	Dust protective mask(As appropriate)
Hand protection	Protective gloves
Eye protection	Protective glasses
Skin and body protection	Protective high boots and cloth
Special precaution statement	Avoid environmental discharge.

9.PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	
Physical state	Solid
Figure	Powder
Color	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/m³	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 Japan Society for Occupational Health: 2B ACGIH: Category A2 EPA: Not classified. NTP: Reasonably anticipated to be a human carcinogen EU: Category 2 IARC: Group 2A	Not Classified. ACGIH : A4
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:	-	-

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 groupⅢ). 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:	The contents of this information sheet are based on the data, information available at moments, and may be revised by additional dat a coming up in future. 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. Read this SDS before use the ingredients. 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.
References:	1.GHS taiou guideline Edit: Japan Chemical Industry Association Issuance: Japanese Standards Association 2.Antimony Trioxide SDS form of International Antimony Association (i2a) 3.【Kaiteidai3ban】Kinkyujioukyusochishishin Issuance: Japanese Standards Association 4.OECD-SIAM(October 14-16. 2012)SIDS Initial Assessment Profile

	5.National Institute of Technology and Evaluation (NITE)_ Chemical Risk Information Platform (CHRIP) 6.TRANSPORT OF DANGEROUS GOODS Model Regulations 17th vol I en United Nation 7.Shokubanoanzen site Ministry of Health, Labour and Welfare (Japan) 8.Sangyouigaku vol.33 1991