


# Safety Data Sheet (SDS)

Preparation of Antimony Trioxide (STOX-M)

<b>1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION</b>	
Substance 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-M) NIHON SEIKO CO., LTD. 3-2 SHIMOMIYABI-CHO SHINJUKU-KU TOKYO 162-0822 JAPAN NIHON SEIKO CO., LTD. SALES SECTION +81-3-3235-0031 +81-3-3235-0034 <a href="mailto:mail@nihonseiko.co.jp">mail@nihonseiko.co.jp</a> NIHON SEIKO CO., LTD. NAKASE REFINERY QUALITY ASSURANCE SECTION +81-79-667-2121  Industrial materials: Flame retardant additives of the resin , etc.
<b>2. HAZARDS IDENTIFICATION</b>	
GHS classification : Health hazards: GHS label: Hazard pictogram:  Signal word: Hazard statements: Precautionary statements:  Other hazard not applicable to GHS classification hazard: The summary of important signs and assumed emergency:	Carcinogenicity: Category 2  <div style="text-align: center;">  </div> Warning: Suspected of causing cancer <b>【Prevention】</b> 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. <b>【Response】</b> If exposed or concerned: Get medical advice/attention if you feel unwell. <b>【Storage】</b> Store locked up. <b>【Disposal】</b> Dispose of contents/container in accordance with local/regional/national/international regulations(to be specified).  No information.  No information.
<b>3. COMPOSITION / INFORMATION ON INGREDIENTS</b>	
Substance/Mixture: General product description: Other name:	Mixture STOX-M -

STOX-M

Issue No: Q0785-00

Issue Date: February 2, 2016

Page 1 of 6

 **NIHON SEIKO CO., LTD.**

<p>Chemical property (Chemical formula etc.):</p> <p>CAS number:</p> <p>Component and its content:</p> <p>EINECS number:</p> <p>Impurity and stabilizing additive that contribute to GHS Classification:</p>	<p>• Antimony Trioxide: Sb<sub>2</sub>O<sub>3</sub></p> <p>• Organic silane:</p> <p>Main component: β-(3,4-Epoxy cyclohexyl)ethyltrimethoxysilane]: C<sub>6</sub>H<sub>9</sub>(O)CH<sub>2</sub>C<sub>2</sub>Si(OCH<sub>3</sub>)<sub>3</sub></p> <p>Antimony Trioxide: 1309-64-4 β-(3,4-Epoxy cyclohexyl)ethyltrimethoxysilane]: 3388-04-3</p> <p>Antimony Trioxide: 99.1% Organic silane: 0.5%</p> <p>Antimony Trioxide: 215-175-0 β-(3,4-Epoxy cyclohexyl)ethyltrimethoxysilane]: 222-217-1</p> <p>As: 0.05%, Pb: 0.05%</p>
<p><b>4.FIRST AID MEASURES</b></p> <p>Following inhalation:</p> <p>Following skin contact:</p> <p>Following eye contact:</p> <p>After ingestion:</p> <p>Most important symptoms and effects ,both acute and delayed:</p> <p>Protection of person who do first aid:</p> <p>Special precaution statement for doctor:</p>	<p>Move affected person to fresh air. Seek medical attention.</p> <p>Wash with water and remove clothes if necessary.</p> <p>Flush eyes thoroughly with water, also under eyelids.</p> <p>Rinse mouth with water. Seek medical attention.</p> <p>No information.</p> <p>No information.</p> <p>No information.</p>
<p><b>5.Fire-fighting measure</b></p> <p>Extinguishing media:</p> <p>Unsuitable extinguishing media:</p> <p>Special hazards arising from the Substance or mixture:</p> <p>Specific fire-fighting:</p> <p>Protection for fire-fighter:</p>	<p>Use fire-fighting measures that suit the environment. The product is not combustible and does not support the combustion. No information.</p> <p>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> <p>Wear suitable protective equipment in fire-fighting.</p>
<p><b>6.Accidental release measures</b></p> <p>Personal precautions, protective equipment and emergency procedures:</p> <p>Environmental precautions:</p>	<p>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.</p> <p>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.</p>

<p>Methods and material for containment and cleaning up:</p> <p>Prevention of second disaster:</p>	<p>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.</p> <p>For more information on exposure controls/personal protection or disposal considerations, check section 8 and 13 of this safety data sheet.</p>
<p><b>7.Handling and storage</b></p> <p>Handling:</p> <p>Technological countermeasure (local ventilation/ General Ventilation etc.)</p> <p>Safety precaution</p> <p>Avoid contact</p> <p>Hygiene measure</p> <p>Storage:</p> <p>Safety storage condition</p> <p>Safety packaging material</p>	<p>Provide a local dust collection system in the places where dust can be generated. Provide dust protective mask in the handling position.</p> <p>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.</p> <p>Store in well ventilated dry area with low humidity and sealed state. Establish whether the container conforms test standard on a voluntary basis.</p>
<p><b>8.EXPOSURE CONTROLS / PERSONAL PROTECTION</b></p>	
<p>Engineering controls:</p> <p>Exposure control limits</p> <p>Effect of over exposure: ACGIH(2012)</p> <p>Personal protective equipment:</p> <p>Respiratory protection</p> <p>Hand protection</p> <p>Eye protection</p> <p>Skin and body protection</p> <p>Special precaution statement</p>	<p>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.</p> <p>0.5mg/m<sup>3</sup> TLV-TWA (Antimony and compounds, as Sb)</p> <p>Dust protective mask(As appropriate)</p> <p>Protective gloves</p> <p>Protective glasses</p> <p>Protective high boots and cloth</p> <p>Avoid environmental discharge.</p>

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	
Physical state	Solid
Figure	Powder
Color	White
Odor:	Odorless
Odor threshold:	Not applicable as odorless.
pH:	No information.
Melting point:	No information.
Initial boiling point and boiling range:	No information.
Flash point:	No information.
Evaporation rate:	No information.
Flammability (solid, gas):	Non-flammable. This substance does not contain any chemical groups that might lead to spontaneous ignition a short time after coming in contact with air at room temperature (circa 20°C).
Upper/lower flammability or explosive limits:	Non explosive.
Vapor pressure:	No information.
Vapor density:	No information.
Relative density:	No information.
Solubility(ies):	No information.
Partition coefficient n-octanol/water:	No information.
Auto-ignition temperature:	No information.
Decomposition temperature:	No information.
Viscosity:	Not applicable to solids.
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 <sup>-</sup> equivalents releases antimony hydride (stibine, SbH <sub>3</sub> ).
Conditions to avoid:	Avoid dust formation.
Incompatible materials:	Reaction with H <sup>-</sup> equivalents releases antimony hydride (stibine, SbH <sub>3</sub> ). Strong acids/bases. Reducing agents. See section 7.
Hazardous decomposition products:	No information.
Other:	No information.

## 11. TOXICOLOGICAL INFORMATION

Acute Toxicity (Oral):	Antimony Trioxide Not Classified. LD <sub>50</sub> rat > 20,000 mg/kg bw	Organic silane Not Classified. Acute toxicity estimates >2,000mg/kg rat
Acute Toxicity (Dermal):	Not Classified. LD <sub>50</sub> rabbit > 8,300 mg/kg bw	Not Classified. Acute toxicity estimates >2,000mg/kg rat
Acute Toxicity (Inhalation: dust/mist):	Not Classified. LC <sub>50</sub> rat > 5,200 mg/m <sup>3</sup>	Out of category(dust/mist)
Acute Toxicity (Inhalation: fume/vapors):	Out of category to solids.	Not Classified. Acute toxicity estimates(vapors) >20mg/l

<p>Skin corrosion/irritation:</p> <p>Serious eye danger/irritation: Respiratory or skin sensitization:</p> <p>Germ cell mutagenicity: Carcinogenicity:</p> <p>Reproductive toxicity: STOT single exposure: STOT repeated exposure: Aspiration hazard:</p>	<p>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.</p> <p>Not Classified. Not Classified.</p> <p>Not Classified. Category 2 Japan Society for Occupational Health: 2B ACGIH: Category A2 EPA: Not classified. NTP: Not classified. EU: Category 2 IARC: Group 2B</p> <p>Not Classified. Not Classified. Not Classified. Classification not possible.</p>	<p>Classification not possible.</p> <p>Classification not possible. Category 1 (Skin sensitization) Skin sensitization: May cause allergies. Respiratory sensitization: Classification not possible. Not Classified. Category 2</p> <p>Classification not possible. Classification not possible. Classification not possible. Classification not possible.</p>									
<p><b>12.ECOLOGICAL INFORMATION</b></p> <p>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.</p>											
<p><b>13.DISPOSAL CONSIDERATIONS</b></p> <p>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).</p>											
<p><b>14.TRANSPO INFORMATION</b></p> <p>International regulation: UN code Not applicable.* Proper shipping name Not applicable. UN Class Not applicable. Packing group Not applicable. Marine pollutant Not applicable.</p> <p>*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.</p>											
<p><b>15.REGULATORY INFORMATION</b></p> <table border="1"> <tr> <td>Worldwide chemical inventories:</td> <td>Antimony Trioxide</td> <td>β-(3,4-Epoxy-cyclohexyl)ethyltrimethoxysilane]</td> </tr> <tr> <td>ENCs(Japan)</td> <td>1-543</td> <td>3-2647</td> </tr> <tr> <td>TSCA(USA)</td> <td>Listed</td> <td>Listed</td> </tr> </table>			Worldwide chemical inventories:	Antimony Trioxide	β-(3,4-Epoxy-cyclohexyl)ethyltrimethoxysilane]	ENCs(Japan)	1-543	3-2647	TSCA(USA)	Listed	Listed
Worldwide chemical inventories:	Antimony Trioxide	β-(3,4-Epoxy-cyclohexyl)ethyltrimethoxysilane]									
ENCs(Japan)	1-543	3-2647									
TSCA(USA)	Listed	Listed									

ECL(Korea) DSL(Canada) PICCS(Philippines) AICS(Australia) IECSC(China) NECI(Taiwan) Other regulatory information:	KE-09846 Listed Listed Listed Listed Listed Listed Follow regulation and law of each country or region.	KE-34367 Listed Listed Listed Listed Listed Listed
<b>16. OTHER INFORMATION</b>		
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"> <li>1.GHS taiou guideline Edit: Japan Chemical Industry Association Issuance: Japanese Standards Association</li> <li>2.Antimony Trioxide SDS form of International Antimony Association (i2a)</li> <li>3. <b>【Kaiteidai3ban】</b> Kinkyujioukyusochishishin Issuance: Japanese Standards Association</li> <li>4.OECD-SIAM(October 14-16. 2012)SIDS Initial Assessment Profile</li> <li>5.National Institute of Technology and Evaluation (NITE)_ Chemical Risk Information Platform (CHRIP)</li> <li>6.TRANSPORT OF DANGEROUS GOODS Model Regulations 17<sup>th</sup> vol I en United Nation</li> <li>7.Shokubanoanzen site Ministry of Health, Labour and Welfare (Japan)</li> <li>8.Sangyouigaku vol.33 1991</li> </ol>	