



# NIPPON SHEET GLASS CO., LTD.

## Functional Products Division

4902 Komoricho Takachaya, Tsu, Mie, 514-0817, JAPAN  
TEL: 81-(0)59-238-1126 FAX: 81-(0)59-234-7676

SDS-338P01-E8

## SAFETY DATA SHEET (SDS)

### 1. IDENTIFICATION

#### Manufacturer's Information:

Nippon Sheet Glass Co., LTD.

Technical Glass Strategic Business Unit

Functional Products Division/ Quality Assurance Department

Address: 4902 Komoricho Takachaya Tsu-City Mie Pref. Japan, Zip Code 514-0817

Emergency Telephone: +81-59-238-1126 (8:00-17:00; Japan time), Fax +81-59-234-7676

Person in charge: Takeshi AMARI, e-mail: takeshi.amari@nsg.com

Date of Preparation: May. 26, 2015

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**Product Name(Trade Name)**

**MICROGLAS<sup>®</sup> METASHINE<sup>®</sup>**

**MC or ME@@@PS**

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#### Recommended use of the chemical and restrictions on use

Colorants for cosmetics and industrial use

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### 2. HAZARDS IDENTIFICATION

*\* The following GHS product classifications are for U.S., Canada, Mexico, China and Korea. For EU and other countries, please refer to the Section 16.*

#### Classification (Hazard and Category):

Skin sensitization: Category 1

Specific target organ toxicity (repeated exposure): Category 1 (eyes and respiratory organs)

#### GHS label elements:

*Pictogram, Signal Word, Hazard Statement and code*



Danger

May cause an allergic skin reaction (H317)

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

#### Prevention

Do not breathe dust. (P260)

Wash thoroughly after handling. (P264)

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

Contaminated work clothing should not be allowed out of the workplace. (P272)

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

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### Response

IF ON SKIN: Wash with plenty of soap and water. (P302 + P352)

If skin irritation or rash occurs: Get medical advice/attention. (P333 + P313)

Take off contaminated clothing and wash before reuse. (P362 + P364)

Get medical advice/attention if you feel unwell. (P314)

### Storage

Especially none but see section 7.

### Disposal

Dispose contents/container in accordance with local/regional/national/international regulations. (P501)

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Description: Mixture of substances listed below.

Chemical name:

Product code	Ingredient	Composition (wt%)		
		Glass	Silver	Tin Dioxide
MC2080PS		70~80	20~30	<0.1
MC5090PD		90~95	5~10	<0.1
MC5090PS		85~90	10~15	<0.1
MC5140PS		85~90	10~15	<0.1
MC5150PS		85~90	10~15	<0.1
MC5230PS		85~90	10~15	<0.1
MC5480PS		85~90	10~15	<0.1
ME2025PS		70~80	20~30	<0.1
ME2040PS		70~80	20~30	<0.1

\*MC: C-glass, ME: E-glass

Structure: Glass; Amorphous anastomosis, Silver; Ag, Tin dioxide; SnO<sub>2</sub>

Substance information:

	Glass	Silver	Tin Dioxide
CAS number	65997-17-3	7440-22-4	18282-10-5
TSCA	65997-17-3	7440-22-4	18282-10-5
EINECS number	266-046-0	231-131-3	242-159-0
UN Classification/number	Not applicable	Not applicable	Not applicable

## 4. FIRST AID MEASURES

Inhalation: Rinse out your mouth with water about 10 times. Also, blow your nose lightly. If itching or pain persists in your nose or throat, consult physician.

Skin contact: Do not rub. Rinse contacted areas with room temperature to cool water, then wash gently with mild soap. Taking a bath is effective for removing.

Eye contact: Flush with clear water for at least 15 minutes - seek medical attention for prolonged pain.

Swallowing: First induce vomiting to get rid of it up. Then, rinse your mouth with water. If you fail to vomit it up, consult physician.

This product is intended for industrial applications; in the unlikely event that this product is swallowed, consult a physician if any adverse medical conditions occur.

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### 5. FIRE FIGHTING MEASURES

Suitable extinguishing agents: Use fire extinguishing methods suitable to surrounding conditions.

Protective equipment: Please work from the windward. Do not inhale silver metal vapor. Use protective equipment suitable to surrounding conditions.

Others: MICROGLAS® METASHINE® itself is not flammable.

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### 6. ACCIDENTAL RELEASE MEASURES

Person-related safety precautions: Protective clothing, gloves, and a respirator are recommended for persons responding to an accidental release, especially of molten silver metal.

Measures for environmental protection: Silver metal has relatively low bioavailability and is not considered to pose immediate ecological risks. However, good management practices should always be applied in the storage and use of silver and its compounds. Releases of the product to water and soil should be prevented.

Measures for cleaning/collecting: Dispose contaminated material as waste according to item 13. Ensure adequate ventilation.

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### 7. HANDLING AND STORAGE

#### Handling:

Information for safe handling: Prevent formation of dust. Wear the protective gloves, glasses (preferably goggle type) and dust respirator (officially approved replacement of disposable type)

Information about fire - and explosion protection: No special measures required.

#### Storage:

Requirements to be met by storerooms and receptacles: No special requirements.

Information about storage in one common storage facility: Not required

Further information about storage conditions: Store in its original packaging in a clean, dry area, away from direct sunlight, high temperature or high humidity.

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### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Exposure Limits:

Glass flake dust

ACGIH (2003)	TLV	10mg/M <sup>3</sup> (Inhalable Particulate) 3mg/M <sup>3</sup> (Respirable Particulate)
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OSHA (2000)	PEL (8-hr TWA)	None established (5mg/M <sup>3</sup> ; respirable nuisance dust)
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Silver

ACGIH (2005)	TLV-TWA	0.1mg/M <sup>3</sup> A4
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Tin dioxide

ACGIH (2003)	TLV	2mg/M <sup>3</sup>
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Respiratory protection: If METASHINE® dust levels are high, respiratory protection for nuisance dust should be provided.

Ventilation: Mechanical, general or local exhaust may be required in some operations.

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Eye protection: Wear safety glasses with side shields if necessary.

Protective gloves: Wear protective gloves such as leather ones. May reduce skin irritation in some operations.

Protective clothing: Use of long sleeved shirts, buttoned to fit at the neck and wrists, long pants, and good personnel hygiene will maximize comfort.

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### 9. PHYSICAL AND CHEMICAL PROPERTIES

Form: Solid (Flake particle)

Odour: No specific odor.

Melting point: no data for a mixture. Ref) C-glass: Approx. 710 deg C, E-glass: approx. 840 deg C (Softening point), silver: 962 deg C.

Boiling point/Boiling range: Not applicable. Ref) silver: 2212 deg C.

Flash point: Not applicable

Self-igniting: Product is not self-igniting

Danger of explosion: Product does not present an explosion hazard.

Oxidizing property: Not applicable

Vapor pressure at 20°C: Not applicable

Density: Approx. 2.9 ~ 5.0 (bulk) ref) C/E-glass: Approx. 2.5/2.6 (bulk), silver: 10.5

Viscosity: Not applicable

Solubility in / Miscibility with water: Nil

Vapor density (air=1): Not applicable

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### 10. STABILITY AND REACTIVITY

Thermal decomposition/conditions to be avoided: Stable and not considered reactive under normal temperatures and pressures.

Dangerous reactions: Silver reacts with acetylene, acetylene compounds and ammonia to form explosive and shock sensitive compounds. Contact with strong hydrogen peroxide solutions will cause violent decomposition of the peroxide, releasing oxygen gas and increasing the fire and explosion potential. Silver is incompatible with bromine azide, chlorine trifluoride, ethyleneimine, oxalic and tartaric acids and with nitric acid in the presence of ethanol.

Dangerous decomposition products: No dangerous decomposition products known.

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### 11. TOXICOLOGICAL INFORMATION

Acute toxicity (Oral): Out of category for the mixture.

Ref) Ag: rat LD<sub>50</sub> > 5000mg/kg [HSDB (2003)],

SnO<sub>2</sub>: rat LD<sub>50</sub> > 20000mg/kg, mouse: LD<sub>50</sub> > 20000mg/kg

Acute toxicity (Dermal): Out of category for the mixture.

Ref) Ag: rabbit LD<sub>50</sub> > 2000mg/kg [HSDB (2003)],

SnO<sub>2</sub>: rat LD<sub>50</sub> > 6600mg/kg, mouse: LD<sub>50</sub> > 6600mg/kg

Acute toxicity (Inhalation): Not classified due to lack of data for the mixture.

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Skin corrosion/irritation: Out of category for the mixture.

Eye damage/irritation: Out of category for the mixture.

Sensitization - Respiratory: Not classified due to lack of data for the mixture.

Sensitization - Skin: May cause an allergic skin reaction for the mixture (Category 1). Ref) Silver metal may cause an allergic skin reaction.

Germ cell mutagenicity: Not classified due to lack of data for the mixture.

Carcinogenicity: Not classified due to lack of data for the mixture.

Toxic to reproduction: Not classified due to lack of data for the mixture.

Specific target toxicity (single exposure): Out of category for the mixture. Ref) There is information of damage of lungs with the edema of the lungs was generated by four hours exposure of the heating silver-metal vapor [ACGIH (7th, 2001)] but the product(s) is generally used under normal conditions.

Specific target toxicity (repeated exposure): Damage to eyes and respiratory organs (Category: 1) based on the description as follows. "Prolonged exposure to silver dust in the occupation made argyria which pigmentation on skin and a mucous membrane [ACGIH (7th, 2001), PATTY (5th, 2001)], decrease of the night vision [ATSDR ToxFAQs (1997)] and bronchitis by deposition to lungs [PATTY (5th, 2001), HSDB(2003)]"

Aspiration hazard: Not classified due to lack of data for the mixture.

Additional toxicological information: Glass is stable and any free silicic acid has not been detected in glass by the existing analysis method.

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## 12. ECOLOGICAL INFORMATION

Hazardous to the aquatic environment (acute): Not classified due to lack of data for the mixture. Ref) Silver metal is relatively insoluble, and therefore poses minimal ecological risks. However, its processing, use or extended exposure in aquatic and terrestrial environments may result in conversion of the metal to more bioavailable forms. In particular, silver compounds can be highly toxic to aquatic organisms.

Hazardous to the aquatic environment acute (chronic): Not classified due to lack of data for the mixture.

Hazardous to the ozone layer: Out of category for the mixture.

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## 13. DISPOSAL CONSIDERATIONS

Disposal procedures for solid waste: in accordance with local, state, and federal regulations.

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## 14. TRANSPORT INFORMATION

These products are not classified as dangerous goods according to international transport regulations. Avoid wetting or other careless handling to maintain product quality.

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## 15. REGULATORY INFORMATION

### - U.S. Federal and State Regulations

- TSCA 8(b) inventory: All substances are listed.
- TSCA 8(a) PAIR, TSCA 8(d) H and S data reporting - Silver
- OSHA: Listed in 1910.1000 TABLE Z-1 - Limits for Air Contaminants - Silver
- SARA 313 toxic chemical notification and release reporting - Silver: 1%



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- CERCLA: Hazardous substances - Silver: 1000 lbs. (453.6 kg)
- Rhode Island RTK hazardous substances, Pennsylvania RTK, Minnesota, Massachusetts RTK, New Jersey - Silver

### - Canadian Regulations

- WHMIS (Canada): CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC). CLASS D-2B: Material causing other toxic effects (TOXIC) - Silver.
- Listed on the Canadian Ingredient Disclosure List. - Silver

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## 16. OTHER INFORMATION

< Classifications of other countries [except for U.S., Canada, Mexico, China and Korea]>

### - EU classifications for the product

Under the Regulation (EC) No.1272/2008 and (EC) No.1907/2006 as amended, this product(s) is not classified for the mixture (“Out of category” or “Can not be categorized” for the mixture.) based on the CLP inventory.

\* Refer to the section 2~14 (except for classification in section 2) for other safety and chemical information. Please mind some classifications are different from above.

\* REACH registration number - (glass: exempted according to Annex V, other components; less than 1t/y at present)

### - Other countries classifications for the product

This product(s) is not classified for the mixture (“Out of category” or “Can not be categorized” for the mixture.) based on the CLP inventory.

For example, Malaysian regulation [P.U.(A) 310/2013] etc.

This information is based on our current level of knowledge, related to the product in the state in which it is delivered. It is intended to describe our products from the point of view of safety requirements and is not intended to guarantee particular properties.

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