

## Safety Data Sheet



### 1. Identification of the Substance/Mixture and the Supplier

Supplier : National Institute of Advanced Industrial Science and Technology (AIST)  
 Address : 1-3-1 Kasumigaseki, Chiyoda, Tokyo, Japan  
 Department : Reference Material Office, Center for Quality Management of Metrology, The National Metrology Institute of Japan  
 Person in Charge : Certified Reference Material Staff  
 Telephone No. : +81-29-861-4059 Fax No. : +81-29-861-4009  
 Emergency Contact : Same as above

Prepared on : August 29, 2007

Revised on : August 31, 2022

ID Number : 5004001

Identity of Substance/Mixture : Certified reference material: NMIJ CRM 5004-a  
 Polystyrene 1000  
 Recommended Use of the Chemical and Restriction on Use : This reference material can be used for calibration, quality control of analysis equipment and validation of analysis method/equipment for measurement of molecular weight distribution/average molecular weight of polymers. Do not use this reference material for other purposes than testing/research.  
 This CRM is a reference material (specified in the Japanese Industrial Standard (JIS) Q 0030).

### 2. Hazards Identification

GHS Classification: No classification

GHS Label Element: No classification

Signal Word : -

Hazards Statement: -

Other Hazards Statement : Toxic if inhaled or swallowed

Precautionary Statement : [Safety Precaution]

Harmful if swallowed.

[First-aid Action]

If swallowed: Drink lot of water and induce vomiting. Immediately get medical advice/attention.

[Storage]

Store this CRM in dark and clean place at normal room temperature, and seal tightly after use.

[Disposal]

Dispose of this reference material in accordance with applicable legislation and local government ordinance.

Entrust disposal of this reference material and its containers to a

professional waste disposal company licensed by prefectural government.

The other hazards than the above do not result in classification or are not covered by the GHS.

### 3. Composition/Information on Ingredients

Substance/Mixture	:	Single substance (Mixture of polystyrene with various molecular weights)
Chemical Identity	:	Polystyrene
Synonym	:	Styrene polymer
Chemical Formula	or	(C <sub>8</sub> H <sub>8</sub> ) <sub>i</sub> ; (i: Degree of polymerization)
Structural Formula		
Molecular weight	:	Weight-average molecular weight ( <i>M<sub>w</sub></i> ) : 1012.9 Number-average molecular weight ( <i>M<sub>n</sub></i> ) : 868.3
CAS number	:	9003-53-6
Content	:	Over 99.9 %
Reference Number in Gazetted List in Japan	:	Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. : (6)-120 Industrial Safety and Health Act : Published
Hazardous Ingredient	:	None

### 4. First-aid Measures

- ◇If in Eyes:
  1. Wash with plenty of clean water.
  2. Get medical advice/attention.
- ◇If on skin:
  1. Wash with plenty of soap and water.
  2. Take off/Remove contaminated clothing, shoes, etc. Get medical advice/attention.
- ◇If Inhaled:
  1. Remove victim to fresh air. Get medical advice/attention.
  2. Keep at rest and warm.
- ◇If Ingested:
  1. Rinse mouth thoroughly with water.
  2. Do not make victim take anything orally if unconscious.
  3. Get medical advice/attention.
- ◇Measures to be taken to protect the person applying first aid:
  1. Use personal protective equipment.

### 5. Fire-fighting Measures

Extinguishing Media	:	Water spray, carbon dioxide, dry chemical and hydrosoluble foam extinguisher (alcohol resistance foam)
Fire-Specific Hazards	:	Under the general environment, there is no risk of ignition. The combustion gas Include carbon monoxide and NO <sub>x</sub> , CN

- and etc. Carry out fire-fighting from the windward as far as possible, in order to avoid breathing hazardous gas.
- Specific Fire-Fighting Method : Remove any combustible sources from the seat of fire and extinguish using appropriate extinguishing agent. Transfer the movable container to a safe place promptly. If impossible to transfer, use water spray to cool the periphery. Carry out fire-fighting from the windward in order to avoid breathing hazardous gas.
- Protection of Fire-Fighters : Carry out fire-fighting from the windward in order to avoid breathing hazardous gas. Use personal protective equipment such as fire protection clothing, breathing apparatus, circulating oxygen respirator, rubber gloves, rubber boots, and etc.

## 6. Accidental Release Measures

- Personal Precaution  
Personal Protective : Use appropriate personal protective equipment during the operation to avoid contact with skin, eyes, and clothes.
- Equipment and  
Emergency  
Procedures : Ventilate the affected areas thoroughly, if it is in an indoor environment, until the clean-up operation is completed. Use appropriate personal protective equipment during the operation to avoid skin contact of splash etc. and inhalation of dust and gas.
- Environmental  
Precautions : Take precautions to prevent spillage from draining into rivers etc. to adversely impact the environment. Make it sure to appropriately treat contaminated wastewater in order to prevent untreated wastewater from being released into the surrounding environment.
- Recovery and  
Neutralization : Collect in empty containers that can be sealed.
- Prevention of  
Secondary Disaster : Mark the restricted area with rope etc. to keep out unauthorized people. Carry out the clean-up operation from the windward and make people on the leeward side evacuate.

## 7. Handling and Storage Precautions

### Handling

- Avoid contact with eyes, skin and clothing.
- Do not eat, drink or smoke when handling this reference material.
- Do not touch directly with hands
- Wash hands thoroughly after handling this reference material.
- Keep away from any possible contact with strong oxidizers.
- Avoid dust and vapor generation.

### Storage

- Store in a closed container in a clean light-shielded environment at room temperature.

## 8. Exposure Controls/Personal Protection

### Safety Precautions

Not defined

Permissible Concentration (Polystyrene)

Not specified

Engineering Controls

◇Precautions for storage

- Store in a closed container in a clean light-shielded environment at room temperature.
- Keep container tightly closed and install local ventilation system when dust is

generated.

Personal Protective Equipment (PPE)

- Protective mask, Protective gloves, Eye protector, Eye protector with side plates (Goggle-type as required), Protective clothing, Protective boots

Hygiene measure

Treat in accordance with rules on Industrial hygiene and Industrial safety.

## 9. Physical and Chemical Properties

• Appearance, etc.	: Highly viscous liquid
• Color	: Colorless
• Odor	: No data
• pH	: No data
• Melting point	: No data
• Boiling point	: No data
• Flashing point	: No data
• Explosive range	: No data
• Vapor pressure	: No data
• Relative vapor density(Air=1)	: No data
• Specific gravity or bulk specific gravity	: No data
• Solubility	: No data
• <i>n</i> -Octanol/water partition coefficient (Log Po/w)	: No data
• Auto-ignition temperature	: No data

## 10. Stability and Reactivity

Stability

- Stable against acids and alkalis but poor oil resistance

Reactivity

- Decomposed, when being heated above 300 °C, to generate toxic fumes such as styrene.

Conditions to Avoid

- Sunlight, Heat

Hazardous Decomposition Products

- Carbon monoxide (CO)

## 11. Toxicological Information

No data available

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## 12. Ecological Information

Persistence and Degradability

- No degradability by microorganisms and the like.

Bioaccumulative Potential

- No or limited concentration or bio-accumulation in fish/shellfish body

Ecotoxicity

- No data available
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## 13. Disposal Considerations

- Entrust disposal of this reference material and its containers to a professional waste disposal company licensed by prefectural governor.
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## 14. Transport Information

UN Number : Not applicable

UN : Not applicable

Classification

Shipping Name : Not applicable

Packing Group : -

ICAO/IATA : Not applicable

Marine : Not applicable

Pollutant

Precautions : Transport this reference material carefully while keeping it away from direct sunlight and fire and preventing accidental release due to falling, overturning, etc.

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## 15. Regulatory Information

- No applicable legislation
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## 16. Other Information

Others

The information in this document is not intended to be exhaustive and is based on currently available information and data. The measures given in this document are applicable only to normal handling conditions. When handling this reference material under special conditions etc., it is recommended to take safety measures appropriate to each specific application and context of use. This document is intended to provide information and not intended to guarantee anything in handling this reference material.

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