

Safety Data Sheet



1. Identification of the Substance/Mixture and the Supplier

Supplier	:	National Institute of Advand (AIST)	ced Industrial S	cie	nce and Technology
Address	:	1-3-1 Kasumigaseki, Chiyod	la, Tokyo, Japan	1	
Office in Charge	:	Reference Materials Office,	Center for Qual	ity	Management of
		Metrology, National Metrolo	ogy Institute of a	Jap	an
Person in Charge	:	Certified Reference Materia	l Staff		
Telephone No.	:	+81-29-861-4059	Fax No.	:	+81-29-861-4009
Emergency Contact	:	Same as above			
			Creation date	:	February 28, 2020
			Revised on	:	August 11, 2020
			ID Number	:	5721001
Identity of	:	Certified reference material	l: NMIJ CRM 57	721	-a
Substance/Mixture		Polystyrene Latex Particles	s (100 nm, Mono	dis	perse)
Recommended Use of the Chemical and Restriction on Use	:	This CRM is intended for u	use in the calib	rati	on and control of the
		precision of particle siz	ze measuring	ins	struments including
		differential mobility analyz	er (DMA), and v	vali	dation of particle size
		measurement methods.			
		Do not use this CRM for oth	ner purposes tha	ın t	esting/research.

2. Hazards Identification

GHS Classification : GHS Label Element : Signal Word : Hazards Statement :	Not classified - -
Other Hazards :	Toxic if inhaled or swallowed
Statement	
Precautionary :	[Safety Precaution]
Statement	Toxic if swallowed.
	Wash hands thoroughly after handling.
	Get the instruction manual before use. Do not handle until all safety
	precautions have been read and understood.
	[First-Aid Measure]
	If swallowed: Give/Drink plenty of water to induce vomiting.
	Immediately get medical advice/attention.
	[Storage]
	Protect from direct sunlight and store in a clean place at
	temperatures of 4 °C to 30 °C. Keep this reference material unfrozen. [Disposal]
	Dispose of this reference material in accordance with applicable



legislation and local government ordinance. Entrust disposal of this reference material to a professional waste disposal company licensed by prefectural governor.

The other hazards than the above do not result in classification or are not classifiable.

3. Composition/Information on Ingredients

Substance/Mixture	:	Mixture
Chemical name	:	Polystyrene Latex Particles
Ingredient(1)	:	Polystyrene
Synonym	:	Styrene polymer
Amount	:	About 1 %
Chemical formula	:	$(C_8H_8)_i$; (i:Degree of polymerization)
Molecular weight	:	-
Official Gazette	:	Act on the Evaluation of Chemical Substances and Regulation of
Reference No.		Their Manufacture, etc. : (6)-120
		Industrial Safety and Health Act :Published
CAS number	:	9003-53-6
Ingredient(2)	:	Sodium azide
Amount	:	About 0.05 %
Chemical formula	:	NaN ₃
Molecular weight	:	65.01
Official Gazette	:	Act on the Evaluation of Chemical Substances and Regulation of
Reference No.		Their Manufacture, etc. : (1)-482
		Industrial Safety and Health Act :Published
CAS number	:	26628-22-8
Ingredient(3)	:	Water
Amount	:	About 99 %
Chemical formula	:	H_2O
Molecular weight	:	18.02
Official Gazette	:	Act on the Evaluation of Chemical Substances and Regulation of $% \mathcal{L}^{(n)}$
Reference No.		Their Manufacture, etc. :-
		Industrial Safety and Health Act.: -
CAS number	:	7732-18-5
Hazardous Ingredient	:	Sodium azide

4. First-Aid Measures	8	
If in Eyes	:	Rinse cautiously with clean water for several minutes. Remove
		contact lenses, if present and easy to do. Continue rinsing. Get
		medical advice/attention immediately.
If on Skin	:	Remove/Take off contaminated clothing, etc. Rinse thoroughly
		with clean water. Wash contaminated clothing before reuse.
If Inhaled	:	Remove victim to fresh air and keep at rest and warm. Get
		medical advice/attention immediately.
If Swallowed	:	Rinse mouth thoroughly with water. Give/Drink plenty of water

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		to induce vomiting. Get medical advice/attention immediately.
Expected Acute and	:	No data available
Delayed Symptom		
Most Critical	:	No data available
Characteristic and		
Symptom		
Protection of First-Aid	:	Use personal protective equipment.
Responders		

5. Fire-Fighting Measures

Extinguishing Media	:	In the early stages of fire extinguishing activity, use powder, carbon dioxide, powder fire extinguishing equipment, etc. Foam extinguishing agent for water-soluble liquid (alcohol-resistant foam), carbon dioxide, powder, sand, and water
Fire-Specific Hazard	:	In case of fire, irritating or toxic fume (or gas) may be emitted.
Specific Fire-Fighting	:	Eliminate ignition sources at the origin of a fire and put out fire
Method		by using extinguishing media. Remove movable containers
		promptly to a safe place. If containers are immovable, cool their surroundings by spraying with water.
Protection of	:	Carry out fire-fighting from the windward in order to avoid
Fire-Fighters		breathing hazardous gas. Use personal protective equipment such
		as fire protection clothing, heat-resistant clothing, protective
		clothing, breathing apparatus, circulating oxygen respirator,
		rubber gloves, and rubber boots.

6. Accidental Release Measures

Personal Precaution	:	Treat spillage carefully and clean it thoroughly. Be cautious of slippery floor if the material remains.
Personal Protective	:	Use appropriate personal protective equipment during the
Equipment and		operation to avoid skin contact of splash, etc. and inhalation of dust
Emergency		and gas.
Procedure		
Environmental	:	Take precautions to prevent spillage from draining into rivers etc. to
Precaution		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	:	Adsorb spillage with liquid absorbent (sand, diatom earth,
Neutralization		acid-binding agent, universal binding agent, sawdust), etc. and
		collect contaminated items in an empty container.
Prevention of	:	Mark the restricted area with rope etc. to keep out unauthorized
Secondary Disaster		people. Carry out the clean-up operation from the windward and
		make people on the leeward side evacuate.

7. Handling and Storage



Handling		
Engineering	:	Keep away from hot surfaces and sparks.
Precaution		
Local and General	:	If vapor or mist is emitted: Seal the emission source and provide
Ventilation		local exhaust ventilation or general ventilation.
Precautions for Safe	:	Avoid rough handling such as turning over, dropping, giving a
Handling		shock to or dragging containers.
		Prevent spill, overflow and scattering, and avoid vapor emission.
		Keep container tightly closed after using this reference material.
		Wash hands, face, etc. thoroughly and gargle after handling this
		reference material.
		Restrict drinking, eating and smoking to a designated area.
		Do not bring gloves and other contaminated personal protective
		equipment into staff room.
		Make a place handling this reference material a restricted area
		to keep out unauthorized people.
		Use appropriate personal protective equipment to avoid
		inhalation and contact with eyes, skin and clothing.
		Use local ventilation system in indoor handling areas.
Storage		
Appropriate Storage	:	Protect from direct sunlight and store in a place at room
Condition		temperatures of 4 °C to 30°C. Keep this reference material
		unfrozen.
Safe Container	:	Polypropylene
Packaging Material		

8. Exposure Controls/Personal Protection

Threshold Limit Value • Not specified		
Permissible Concentration	ı	
• ACGIH TLV-TWA	:	Not specified
 Values recommended 	:	Not specified
by Japan Society for		
Occupational Health		
\cdot OSHA PEL TWA	:	Not specified
Engineering Control		
Ventilation/ Exhaust	:	Local exhaust ventilation system or general ventilation system
 Safety Management/ 	:	Measuring instrument, Detector tube
Gas Detector		
· Storage Propution	:	Ventilate along floor surface. Seal. Keep away from flammable
· Storage Trecaution		substances, reducing agents, and strong oxidizers.
Personal Protective equip	me	nt
Respiratory Protection	:	Protective mask, if necessary
Hands	:	Protective gloves
Eyes	:	Eye protector (Goggle type as necessary)



 $Skin \ and \ Body$

: Protective clothing

Hygiene Measure

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

9. Physical and Chemical Properties

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

10. Stability and Reactivity

 \diamondsuit Stability

• Stable against acids and alkaline materials, but not oil resistant

 \diamondsuit Stability

 \cdot Heating to 300 °C or above may induce decomposition to emit harmful fumes such as styrene.

 \diamondsuit Conditions to Avoid

• Sunlight, Heat, Contact with hot surfaces or oxidizing agents

♦ Hazardous Decomposition Products

 \cdot Carbon monoxides

11. Toxicological Information

Acute toxicity	:	No data available
Skin corrosivity/	:	No data available
irritation		
Serious eye damage/ Eye	:	No data available
irritation		
Respiratory sensitization	:	No data available
Skin sensitization	:	No data available
Germ cell mutagenicity	:	No data available
Carcinogenicity	:	Polystyrene is evaluated as Group 3 (cannot be classified as
		carcinogenic to humans) by IARC.



:	No data available
:	No data available
:	Rats were fed 2% polystyrene in 5% diet and had no effect.
:	No data available
	: : :

12. Ecological Information

Degradability, Concentration

• Not biodegradable

Bioaccumulative Potential

• This reference material is considered to have no or limited bioaccumulation and bioconcentration potential, in fish and shellfish.

Ecotoxicity

• No data available

13. Disposal Considerations

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

- When the above-mentioned treatments are not possible, entrust disposal of residual waste to a professional waste disposal company licensed by prefectural governor.
- Dispose of containers after thoroughly removing their contents.

14. Transport Information		
UN Number	:	N/A
UN Classification	:	N/A
Material name	:	-
Container grade	:	-
ICAO/IATA	:	N/A
Marine pollutant	:	N/A
Precaution	:	Transport this reference material carefully while keeping it away
		from direct sunlight and preventing accidental release due to
		dropping, falling, etc.

15. Regulatory Information

 $\boldsymbol{\cdot}$ No applicable laws and regulations

This SDS was originally prepared for the use of the reference material in Japan, and therefore Section 15 "Regulatory Information" covers only those laws and regulations which are enacted and enforced in Japan. In case of using this reference material outside of Japan, it is necessary to refer to and apply relevant laws and regulations of the country in which it is used.



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.