

Safety Data Sheet



1. Identification of the Substance/Mixture and the Supplier

Supplier : National Institute of Advanced Industrial Science and Technology (AIST)
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ID Number : 5703001

Identity of Substance/Mixture : Certified reference material: NMIJ CRM 5703-a
 Polystyrene latex nanoparticle, 200 nm
 Recommended Use of the Chemical and Restriction on Use : This CRM is intended for use in controlling the precision of analysis or confirming the validity of analytical methods or instruments for the determination of light-scattering-intensity-averaged diameter of nanoparticles in liquid phase using dynamic light scattering (DLS).
 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 : Not classified

GHS Label Element : -

Signal Word : -

Hazards Statement : -

Other Hazards : Toxic if inhaled or swallowed

Statement

Precautionary Statement : [Precaution]

Toxic by oral ingestion.

Wash hands thoroughly after handling.

Get the instruction manual before use. Do not handle until all safety precautions have been read and understood.

[Action]

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

[Storage]

Keep out direct sun light and store clean place at 4°C to 30°C.
Freezing I will strictly prohibited.

[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 or mixture : Mixture

Ingredient 1 : Polystyrene

Synonym : Styrene polymer

Chemical or structural formula : $(C_8H_8)_i$; (i:Degree of polymerization)

Molecular weight : -

CAS number : 9003-53-6

Content : About 1 %

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

Ingredient 2 : Sodium azide

Synonym : -

Chemical formula : NaN_3

Molecular weight : -

CAS number : 26628-22-8

Content : About 0.05 %

Reference Number in Gazetted List in Japan : Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. : (1) -482
: Industrial Safety and Health Act : Published

Ingredient 3

Chemical name : Water

Synonym :

Chemical formula : H_2O

Molecular weight : 18.02

CAS number : 7732-18-5

Content : About 99 %

Reference Number in Gazetted List in Japan : Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. : -

Industrial Safety and Health Act : -

Hazardous substance : Polystyrene latex, Sodium azide

4. First-aid Measures

- 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 polluted clothing, if reuse them.
- If Inhaled : Remove victim to fresh air and keep at rest and warm. Get medical advice/attention immediately.
- If Ingested : Rinse mouth thoroughly with water. Drink a lot of water then it induces vomiting. Immediately call a physician.
- Predicted immediate and delayed symptoms : -
- Most important symptom/effect : -
- Protecting Personnel in emergency measures : Use personal protective equipment.

5. Fire-fighting Measures

- Extinguishing Media : Early stage fire extinguishing activity with powder, carbon dioxide, powder fire extinguishing equipment, instrument. Foam extinguishing agent for water soluble liquid (alcohol-resistant foam), carbon dioxide, powder, sand, water.
- Fire-Specific Hazards : In the case of fire, irritating or toxic fume (or gas) may be generated.
- Specific Fire-Fighting Method : Eliminate ignition sources at the origin of a fire and put out fire by using extinguishing media. Remove movable containers promptly to a safe place. In the case of immovable containers, cool their surroundings with sprayed water.
- 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, heat-resistant clothing, protective clothing, breathing apparatus, circulating oxygen respirator, rubber gloves, and rubber boots.

6. Accidental Release Measures

- Personal Precaution : Treat the spill carefully and clean it thoroughly. If the material remains on the floor, it becomes very slippery and dangerous.
- Personal Protective Equipment and Emergency : Use appropriate personal protective equipment during the operation to avoid skin contact of splash etc. and inhalation of dust and gas.

Procedures

- 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 : Adsorb the spilled liquid to liquid absorbent (sand, diatom earth, acid-binding agent, universal binding agent, sawdust) etc. and collect the contaminated items in an empty container.
- 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

Handling

- Engineering Precautions : Keep away from hot surfaces and sparks.

Local and General Ventilation

- Precautions for Safe Handling : When vapor or mist is generated, seal the source, and provide local exhaust ventilation or central ventilation.

Precautions for Safe Handling

- : Avoid rough handling such as turning over, dropping, giving a shock to or dragging containers.
Prevent spill, overflow and scattering, and avoid vapor generation.
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 Conditions : Avoid direct sun light and store in a place at room temperature from 4 °C to 30°C. Freezing is strictly prohibited.
- Safe Container Packaging Material : Polypropylene

8. Exposure Controls/Personal Protection

Threshold Limit Value

- Not specified

Permissible Concentration

- ACGIH TLV-TWA : Not specified
- Values recommended : Not specified

by Japan Society for
Occupational Health

- OSHA PEL TWA : Not specified

Facility engineering

- Ventilation, exhaust : Local exhaust ventilation system or general ventilation system
- Safety : Measuring instrument, detector tube
management/ gas
detector
- Storing precaution : Ventilate along floor surface. Seal. Keep away from flammable
substances, reducing agents and strong oxidizers.

Personal Protective equipment

- 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
 - 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 : No data
- density(Air=1)
- Specific gravity or bulk : No data
specific gravity
 - Solubility : No data
 - *n*-Octanol/water partition : No data
coefficient (Log Po/w)
 - Auto-ignition temperature : No data

10. Stability and Reactivity

◇Stability

- Stable against acids and alkaline materials, but not oil resistant.

◇Stability

- Heating up to 300 °C or above may cause decomposition and results in a harmful
fumes such as styrene.

◇Conditions to Avoid

- Sunlight, Heat, contact with heated water or oxidizing agent.

- ◇ Hazardous Decomposition Products
 - Carbon monoxides
-

11. Toxicological Information

- No-data
-

12. Ecological Information

Degradability, concentration

- Not degradable by microorganisms

Bioaccumulative Potential

• This material is considered to have neither bioaccumulation nor bioconcentration effect, or very low in bioaccumulation or bioconcentration in fish and shellfish.

Ecotoxicity

- No-data
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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.
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14. Transport Information

UN Number : N/A

UN Classification : N/A

Material name : -

Container grade : -

ICAO/IATA : N/A

Marine pollutant : N/A

Precautions : Avoid direct sunlight and transfer with care not to spill/leak by dropping or falling, etc.

15. Regulatory Information

- No applicable laws and regulations
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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.
