

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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Prepared on : January 25, 2016

Revised on : August 31, 2022

ID Number : 6204002

Identity of Substance/Mixture : Certified reference material: NMIJ CRM 6204-b
 Ribonucleic Acid (RNA) Solutions for Quantitative Analysis
 Recommended Use of the Chemical and Restriction on Use : This CRM consists of five kinds of ribonucleic acid (RNA) solutions having different lengths (533 or 1033 bases of single-strand RNA) and sequences. This CRM is principally intended to be used to assign the value of an RNA sample for the evaluation and control of the precision of RNA analytical methods such as DNA microarray (DNA chip), quantitative reverse-transcription PCR method, and next-generation DNA sequencer. 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 : -

Signal Word : -

Hazards Statement : -

Precautionary Statement : [Safety Precaution]

Low risk in normal handling.

[First-aid Action]

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.

If on skin: Wash with plenty of soap and water. Get medical advice/attention if you feel inflammation.

If in eyes: Rinse cautiously with water for 15 minutes or more. Remove contact lenses, if present and easy to do.

If eye irritation persists: Get medical advice/attention.

If swallowed: Rinse his/her mouth with plenty of water. Get medical advice/attention if you feel unwell.

[Storage]

Store this CRM in dark and cool (at less than $-20\text{ }^{\circ}\text{C}$) place.

[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	: Single substance (aqueous solution)
Sample name (1)	: RNA500-A
Chemical Identity (1)	: Ribonucleic Acid (RNA) (Accession number: AB610939 (6204-a-500-1))
Content	: 33.4 ng/ μL
Molecular Weight	: 171 603.8
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 : -
CAS Number	: -
Hazardous Ingredient	: -
Sample name (2)	: RNA500-B
Chemical Identity (2)	: Ribonucleic Acid (RNA) (Accession number: AB610940 (CRM6204-a-500-2))
Content	: 32.3 ng/ μL
Molecular Weight	: 171 906.1
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 : -
CAS Number	: -
Hazardous Ingredient	: -
Sample name (3)	: RNA500-C
Chemical Identity (3)	: Ribonucleic Acid (RNA) (Accession number: AB610942 (6204-a-500-4))
Content	: 32.1 ng/ μL
Molecular Weight	: 171 547.8
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	: -
CAS Number	:	-
Hazardous Ingredient	:	-
Sample name (4)	:	RNA1000-A
Chemical Identity (4)	:	Ribonucleic Acid (RNA) (Accession number:AB610946 (6204-a-1000-3))
Content	:	68.2 ng/μL
Molecular Weight	:	332 585.9
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 : -
CAS Number	:	-
Hazardous Ingredient	:	-
Sample name (5)	:	RNA1000-B
Chemical Identity (5)	:	Ribonucleic Acid (RNA) (Accession number:AB610947 (6204-a-1000-4))
Content	:	64.1 ng/μL
Molecular Weight	:	331 744.9
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 : -
CAS Number	:	-
Hazardous Ingredient	:	-

4. First-aid Measures

If inhaled	:	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.
If on skin	:	Wash with plenty of soap and water. If experiencing symptoms: Get medical advice/attention as necessary.
If in eyes	:	Rinse cautiously with clean water for over 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
If swallowed	:	Rinse mouth thoroughly with water. Get medical advice/attention.
Expected Acute and Delayed Symptom	:	-
Most Critical Characteristic and Symptom	:	-
Protection for first aid provider	:	Use appropriate protective equipment to avoid inhalation.

5. Fire-fighting Measures

- Extinguishing media : Powder, foam, carbon dioxide, dry sand, water spray.
- Fire-Specific Hazards : In case of fire, may emit irritating or toxic fume (or gas).
- 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.
- Protecting fire- fighting personnel : Extinguish from windward, avoid inhaling toxic gases. Use personal protective equipment such as fire-resistant clothing, self-contained compressed air breathing apparatus, closed circuit breathing apparatus, rubber groves, rubber boots, etc.

6. Accidental Release Measures

- Personal Precaution : Use appropriate personal protective equipment during the operation to avoid skin contact and contamination of clothes.
- Personal Protective Protective equipment and emergency procedure : 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 : Adsorb spillage with waste clothes, wiping clothes or sand, and collect in empty containers.
- 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 : -
- Local and General Ventilation : 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 use.
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 area.

Storage

- Appropriate Storage : Avoid direct sun-light. Seal the case and store in a freezer (less than $-20\text{ }^{\circ}\text{C}$).
- Conditions
- Engineering Controls : -
- Incompatible : No data
- Materials
- Safe Container : Polyethylene, polypropylene
- Packaging Material

8. Exposure Controls/Personal Protection

Threshold Limit Value

Not specified

Permissible Concentration (RNA)

- ACGIH TLV-TWA : Not specified
- Value recommended by Japan Society for Occupational Health : Not specified
- OSHA PEL TWA : Not specified

Engineering Controls

Ventilation/Exhaust : When vapor or mist is generated, seal the source, and provide local exhaust ventilation or central ventilation.

Safety Control/ : -

Gas Detection

Storage Precaution : -

Personal Protective Equipment (PPE)

- Respiratory System : Protective mask
- Hands : Protective gloves
- Eyes : Protective glasses
- Skin and Body : Protective clothing

Hygiene Controls

Handle this reference material in accordance with industrial health and safety standards.

9. Physical and Chemical Properties

- Appearance, etc. : Liquid samples in 5 vials
- Color : Clear and colorless
- Odor : Odorless
- 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 : Soluble in water.
- *n*-Octanol/water partition coefficient (Log Po/w) : No data
- Auto-ignition temperature : No data

10. Stability and Reactivity

- ◇Chemical Stability
 - Stable under recommended storage conditions
- ◇Reactivity
 - No information available
- ◇Conditions to Avoid
 - Sunlight, Heat
- ◇Hazardous Decomposition Products
 - No information available

11. Toxicological Information

- No data available

12. Ecological Information

Persistence and Degradability

- No data available

Bioaccumulative Potential

- No data available

Ecotoxicity

- No data available

13. Disposal Considerations

- Residual Waste : Incineration method
 Incinerate in an incinerator equipped with scrubber
 Dispose in accordance with applicable legislation and local government ordinance.
 When the above-mentioned treatments are not possible, entrust disposal of this reference material to a professional waste disposal company licensed by local or national authority.
- Contaminated Container and Package : Dispose of containers after thoroughly removing their contents.

14. Transport Information

UN Number : Not applicable
UN Classification : Not applicable
Shipping Name : -
Packing Group : -
Marine Pollutant : Not applicable
Precautions : Check before transport if containers are free from leakage.
Load in a way to avoid overturning, falling and being broken, and take all necessary measures to prevent collapsing. Taking into account the storage conditions, transport and maintain the frozen state.

15. Regulatory Information

- No applicable laws and regulations

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.
