Safety Data Sheet

National Institute of Advanced Industrial Science and Technology AIST

1. Identification of the Substances and the Organization

Organization Name	:	National Institute of Advanced Industrial Science and Technology (AIST)
Address	:	1-3-1, Kasumigaseki, Chiyoda-ku, Tokyo, Japan
Department	:	Reference Materials Office, Center for Quality Management of Metrology, National Metrology Institute of Japan
Person in Charge	:	Certified Reference Material Staff
Phone Number	:	029-861-4059
Fax Number	:	029-861-4009
Emergency Contact	:	Same as above
Prepared on	:	June 6, 2012
Revised on	:	April 1, 2015
ID Number	:	6201002
Identity of Substance/Mixture	:	Certified reference material: NMIJ CRM 6201-b C-reactive Protein Solution (C-reactive Protein Solution)
Recommended Use of the Chemical and Restriction on Use	:	This reference material can be used, for calibration of analysis equipment in C-reactive Protein Solution analysis, quality control and validation/calibration of standard solutions. This reference material can also be used for calibration of analysis equipment and validation of analysis method/equipment of proteins based on the amino acid analysis. In case of use in immunological analysis and calibration of standard solutions such as serum, confirm the commutability of this reference material. Do not use this reference material for other purposes than testing/research.

2. Hazard Identification

GHS classification	:	Not applicable
GHS label element	:	-
Signal word	:	-
Hazards Statement	:	-
Other Hazards	:	Low hazardous nature in normal handling
Statement		Harmful, however, if inhaled or swallowed in large amounts.
Precautionary Statement	:	［Safety Precaution］ Use appropriate personal protective equipment ［First-Aid Measure］ Get medical advice/attention as required. ［Storage］ Store in a clean environment at refrigeration temperature (around

4 °C). Do not let this reference material frozen.
［Disposal］
Incinerate in small amount at a time in incinerator equipped with scrubber. If incinerator etc. is not available, 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 covered by the GHS.

3. Composition/Component Information

Substance/Mixture : Mixture
Chemical Identity : C-reactive Protein Solution
Certified Value Certified value of this reference material is as follows:

Chemical Identify	Certified Value Concentration (μmol /kg)	Expanded Uncertainty Concentration (μmol /kg)
C-reactive Protein Solution	40.0	1.6

Composition of Solution : 20 mmol/L trishydroxymethyl-aminomethane-hydrochloric acid buffer solution containing 0.14 mol/L NaCl, 2 mmol/L $CaCl_2$, 0.05 % NaN_3 (pH 7.5)
Molecular Weight : 23028
ID Number in Official Gazette Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. : -
The Industrial Safety and Health Law : -
CAS Number : -
Hazardous Ingredient : Nothing special

4 . Emergency Measures

If in Eyes : Rinse away immediately with clean water for 15 minutes or more. Get medical advice/attention.
If on Skin : Rinse away with plenty of soap and water. Get medical advice/attention as required if symptoms are observed.
If Inhaled : Remove victim to fresh air and keep at rest and warm. Get medical advice/attention.
If Ingested : Rinse mouth and make victim drink plenty of water. Get medical advice/attention immediately.
Expected Acute and Delayed Symptom : -
Most Critical Characteristic and Symptom : -
Protection of First-Aid Responder : -

5. Fire Fighting Measures

Extinguishing Media	:	Water, Powder, Carbon dioxide (CO_2), Foam, Dry sand
Fire-Specific Hazards	:	In the case of fire, irritating, irritating or toxic fume (or gas) may be generated.
Specific Fire-Fighting Method	:	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 protective clothing and compressed air open-circuit self-contained breathing apparatus.

6. Accidental Release Measures

Personal Precaution	:	Eliminate potential ignition sources in the vicinity promptly. Get fire-fighting kit ready to be prepared for ignition.
Personal Protective 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 spillage in empty containers by getting it adsorbed to wiping cloth, rag or earth and sand, etc. Rinse away the remains with plenty of water.
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

Engineering Precautions	:	Nothing special
Local and General Ventilation	:	Use local ventilation system in indoor handling areas.
Precautions for Safe Handling	:	Avoid rough handling such as turning over, dropping, giving a shock to or dragging containers. Keep container tightly closed after using this reference material. Wash hands, face etc. thoroughly and gargle after handling this reference material. 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.

Storage

Appropriate Storage Conditions	:	Store in a cool and clean environment (around 4 °C). Do not let this reference material frozen.
Safe Container Packaging Material	:	Polypropylene

8. Exposure Controls/Personal Protection

Threshold Limit Value

Not specified

Permissible Concentration

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

Engineering Controls

Ventilation/Exhaust	:	Local or general ventilation system
Safety control/ Gas detection	:	-
Storage Precautions	:	Install facilities to rinse eyes and to wash hands and body in the vicinity of a place handling this reference material and label them.

Personal Protective Equipment (PPE)

Respiratory System	:	Dust protective mask
Hands	:	Protective gloves
Eyes	:	Eye protector with side plates
Skin and Body	:	Protective clothing with long sleeves

Hygiene measure

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

9. Physical and Chemical Properties

・Appearance etc.	:	Liquid
・Color	:	Clear and colorless
・Odor	:	No data available
・pH	:	7.5
・Melting Point	:	No data available
・Boiling Point	:	No data available
・Flash Point	:	No data available
・Explosive Range	:	No data available
・Vapor Pressure	:	No data available
・Relative Vapor Density (Air:1)	:	No data available
・Solubility	:	Soluble in water

・Partition Coefficient : n-octanol/water log Po/w	:	No data available
・Spontaneous Ignition Point	:	No data available
・Decomposition Temperature	:	No data available
・Combustibility	:	No data available

10. Stability and Reactivity

◇Stability
・Stable in normal conditions
◇Reactivity
・Ca^{2+}-dependent associativity to phosphorylcholine
◇Conditions to Avoid
・Sunlight, Heat
◇Hazardous Decomposition Products
・No data available

11. Toxicological Information

Acute Toxicity	as sodium azide	
	Oral	Rat LD50: 27 mg/kg (RTECS)
	Inhalation	Rat LC50: 37 mg/kg (RTECS)
	Oral	Mouse LD50: 27 mg/kg (RTECS)

12. Ecological Information

Persistence and Degradability
・No data available
Bioaccumulative Potential
・No data available
Ecotoxicity
・No data available

13. Disposal Considerations

・Incinerate in small amount at a time in incinerator equipped with scrubber. If incinerator etc. is not available, entrust disposal of this reference material to a professional waste disposal company licensed by prefectural governor.

14. Transport Information

UN Number	: Not applicable
UN Classification	: 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. at refrigeration temperature (around 4 °C). Do not let this reference material frozen.

15. Applicable Legislation

No applicable legislation

16. Other Information

Others

The information in this Safety Data Sheet is not intended to be exhaustive and is based on currently-available information and data. The precautions given in this data sheet are applicable only to normal handling conditions. When handling this reference material under special conditions etc., it is recommended to take safety precautions appropriate to each specific application and context of use. This Safety Data Sheet (SDS) is intended to provide information and not intended to guarantee anything in handling the reference material. This Safety Data Sheet (SDS) is prepared based on JIS Z7253, and presents identical information to Material Safety Data Sheet (MSDS) prepared based on JIS Z7250:2010.