

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	
Office in Charge	: Reference Materials Office, Center for Quality Management of Metrology, 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 : January 25, 2016
		Revised on : March 31, 2017
		ID Number : 5122001
Identity of Substance/Mixture	: Certified reference material NMIJ CRM 5122-a Electrolytic Conductivity Standard Solution - Aqueous Solution of Potassium Chloride (0.1 mol kg ⁻¹)	
Recommended Use of the Chemical and Restriction on Use	: This reference material is intended for use in electrolytic conductivity calibration. Do not use this reference material for other purposes than testing/research.	

2. Hazards Identification

GHS Classification:	No classification
GHS Label Element:	—
Signal Word:	—
Hazards Statement:	—
Precautionary Statement:	[Precaution] Use appropriate personal protective equipment. [First-aid Action] If in eyes: Rinse cautiously with clean water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention immediately. If on skin: Wash with plenty of water. If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If respiratory symptoms occur, get medical advice/attention. [Storage] The solution of this CRM should be kept in the glass bottle. This CRM should be kept in a clean atmosphere at 15 °C to 30 °C. [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
Compound 1	: Water
Content	: Ca. 99 %
Chemical or structural formula	: H ₂ O
Molecular Weight	: 18.02
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	: 7732-18-5
Compound 2	: Potassium chloride
Content	: Ca. 0.7 %
Chemical or structural formula	: KCl
Molecular Weight	: 74.55
Reference Number in Gazetted List in Japan	: Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. : (1)-228 Industrial Safety and Health Act : Published
CAS Number	: 7447-40-7
Hazardous Ingredient	: -

4. First-aid Measures

If in eyes	: Rinse away thoroughly with clean water. Get medical advice/attention.
If on skin	: Rinse away thoroughly with clean water. Take off/Remove contaminated clothing, shoes, etc. Get medical advice/attention.
If inhaled	: Remove victim to fresh air and keep at rest and warm. Get medical advice/attention.
If swallowed	: Rinse mouth thoroughly with water. Get medical advice/attention when feeling unwell.
Expected Acute and Delayed Symptom	: -
Most Critical	: -
Characteristic and Symptom	
Protection of	: Use personal protective equipment.

First-Aid Responder

5. Fire-fighting Measures

- Extinguishing Media : Use a fire extinguishing agent suitable for surrounding fire.
- Fire-Specific Hazards : Nothing special
- 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 fireproof clothing, heat-resistant clothing, protective clothing, compressed air open-circuit self-contained breathing apparatus, compressed oxygen closed-circuit self-contained breathing apparatus, rubber gloves and rubber boots.

6. Accidental Release Measures

- Personal Precaution : Use appropriate personal protective equipment to avoid contact with skin, eyes and clothing.
- 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

- Handling
 - Engineering Precautions : Use local ventilation system in indoor handling areas.
 - 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 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 : The solution of this CRM should be kept in the glass bottle. This
Conditions CRM should be kept in a clean atmosphere at 15 °C to 30 °C.

Safe Container : Glass

Packaging Material

8. Exposure Controls/Personal Protection

Threshold Limit Value

Not specified

Permissible Concentration

- ACGIH TLV-TWA : Not specified
- Value recommended by Japan : Not specified

Society for Occupational Health

- OSHA PEL TWA : Not specified

Engineering Controls

Ventilation/Exhaust : Local ventilation system or General ventilation system

Safety Control/ : Measuring equipment, Detecting tube

Gas Detection

Storage Precaution : Install safety shower and facilities to rinse eyes and to wash hands in the vicinity of a place handling this reference material and label them clearly. Tightly closed.

Personal Protective Equipment (PPE)

Respiratory System : Protective mask, self-contained compressed air breathing apparatus

Hands : Protective gloves

Eyes : Protective glass

Skin and Body : Protective clothing, Protective face mask

Hygiene Controls

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

9. Physical and Chemical Properties

- Appearance, etc. : Liquid
- Color : Colorless

- Odor : Odorless
- pH : Neutral
- Melting point : No data
- Boiling point : No data
- Flashing point : Incombustible
- Explosive range : No data
- Vapor pressure : No data
- Relative vapor density(Air=1) : No data
- Specific gravity or bulk specific gravity : No data
- Solubility : It miscible with water at an arbitrary ratio. When mixed with ethanol, white precipitate (potassium chloride) is precipitated.
- *n*-Octanol/water partition coefficient (Log Po/w) : No data
- Auto-ignition temperature : Incombustible
- Decomposition temperature : No data
- Flammability : Incombustible

10. Stability and Reactivity

- ◇Chemical Stability
 - Stable under recommended storage conditions
- ◇Reactivity
 - No data
- ◇Conditions to Avoid
 - Sunlight, Heat
 - Contact with water-reactive combustible substance
- ◇Hazardous Decomposition Products
 - Halides and potassium oxide

11. Toxicological Information

As potassium chloride

Acute Toxicity	Oral Rat LD50=2600 mg/kg
Carcinogenicity	The available data are not sufficient. There were no findings that suggested carcinogenicity following 2 years of oral administration to rats; however, data in only one species are not sufficient for classification.
Reproductive Toxicity	In an oral administration test to pregnant rats and during the period of organogenesis of mice, no adverse effects on fetuses were observed; however, data on the sexual function and reproductive capacity of parent animals are not sufficient.
Specific Target Organ Toxicity/Systemic Toxicity (Repeated Exposure)	In the two-year oral administration test to male rats, the only effect was gastritis caused by irritation, and the NOAEL was 1820 mg/kg per day. In addition, all effects observed during the 105-day oral administration test of 520 mg/kg per day to female rats was

reversible and there was no severe toxic effect. These doses exceed the upper limit of guidance value category 2. It was reported that no adverse effects were observed after four weeks and six weeks of oral administration of 85 mg/kg and 69 mg/kg per day, respectively, to humans.

Others

The Toxicological Information is based on the information of raw materials, because there is not the available information as the mixture. This reference material is stable under the normal condition, and there is not the danger that a noxious additive ingredient elutes, however, when handling this reference material under special conditions such as the use under the high temperature etc., it is recommended to take safety precautions appropriate to use.

12. Ecological Information

Persistence and Degradability

- No data available

Bioaccumulative Potential

- No data available

Ecotoxicity

- Crustacea (Daphnia magna) LC50=660 (mg/l)48H

13. Disposal Considerations

- Residual Waste : Neutralization method
Mix gradually into a stirred solution such as milk of lime, followed by dilution with plenty of water.
Dispose in accordance with applicable regional, national and local laws and regulations.
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 : -
ICAO/IATA : -
Marine Pollutant : Enforcement Order Appendix 1 Hazardous Liquid Substance Class Z Substance
Precautions : Transport this reference material carefully while keeping it away from

direct sunlight and fire and preventing accidental release due to falling, overturning, etc.

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.
