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
Emergency Contact	:	Same as above
		Prepared on : June 30, 2025
		Revised on : -
		ID Number : 5123003
Identity of Substance/Mixture	:	Certified Reference material, NMIJ CRM 5123-c Electrolytic Conductivity Standard Solution – Aqueous Solution of Potassium Chloride (0.01 mol kg^{-1}))
Recommended Use of the Chemical and Restriction on Use	:	This reference material can be used for the calibration of electrolytic conductivity. This material shall not be used for purposes other than testing and research.

2. Hazards Identification

GHS classification	:	Classification not possible
GHS-labeling Element	:	-
Signal word	:	-
Hazard and toxicity information	:	-
Cautionary statement	:	[Safety Measures] Wear personal protective equipment. [Emergency Measures] Eye contact: Carefully rinse with water for several minutes. Then, if using contact lenses, remove if possible and continue rinsing. If eye irritation persists, seek medical attention. Skin contact: Wash with plenty of water. Inhalation: Move to fresh air and rest in a position that allows for easy breathing. In case of continued breathing-related symptoms, contact a physician. [Storage] Store in a sealed glass container in a clean place at a temperature between 15 °C and 30 °C. [Disposal]

Follow the pertinent regulations and ordinances established by the local government.
Use a waste-treatment firm certified by prefectural governor.

Classification is impossible or not applicable for hazards not mentioned above.

3. Composition/Information on Ingredients

Single substance or mixture	:	Mixture
Chemical or generic name	:	Aqueous Solution of Potassium Chloride
Ingredient 1		
Chemical name	:	Water
CAS number	:	7732-18-5
Content	:	Over 99 %
Chemical formula	:	H_2O
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 : -
Ingredient 2		
Chemical name	:	Potassium chloride
CAS number	:	7447-40-7
Content	:	Ca. 0.07 %
Chemical 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 : -

4. First-aid Measures

If inhaled	:	Remove victim to fresh air and keep at rest and warm. Get medical advice/attention.
If on skin	:	Rinse thoroughly with clean water. Remove contaminated clothing, shoes, etc. and seek medical advice.
In case of eye contact	:	Rinse thoroughly with clean water. Seek medical advice.
If swallowed	:	Wash the mouth well with water. Contact a doctor.
Protection of first-aiders	:	Rescuers should wear personal protective equipment.

5. Fire-fighting Measures

Extinguishing media	:	As this product is incombustible, use extinguishing media suitable for peripheral fire.
Fire extinguishing agents that must not be used	:	None
Specific hazards with regard to fire-fighting	:	None
Specific methods of fire-fighting	:	Eliminate the origin of fire and put the fire out with extinguishing media. If possible, move containers to a safe place. If not, cool the peripheral areas with water spray.
Protection for firefighters	:	Work from the windward side to prevent the inhalation of toxic gas. Use fire-prevention clothing, fireproof clothing, fire-protection clothing, respirator, circulating oxygen breathing apparatus, rubber gloves, rubber boots, and other appropriate protective equipment.

6. Accidental Release Measures

Personal precautions ,protective equipment and emergency measures	:	Wear suitable protective equipment to prevent contamination of skin, eyes and personal clothing. If indoors, provide adequate ventilation until treatment is complete. Wear suitable protective equipment when working to prevent splashes etc. from adhering to the skin and inhaling dust and fumes.
Environmental precautions	:	Prevent the released product from being drained into a river or other area that might cause environmental damage. Prevent the polluted discharge from being drained into the environment without being processed properly.
Recovery and neutralization	:	Absorb the leaked solution with a wet cloth, a dust cloth, sand, or some other absorbent, and collect in an empty container. Then, wash the area with plenty of water.
Prevention of secondary accidents	:	Surround the area with a rope or some other marker to prevent unauthorized people from entering the area. Work from the windward side and evacuate people to the leeward side.

7. Handling and Storage

Handling

Technical measures Local ventilation and general ventilation	:	Do not handle the container roughly by tipping, dropping, impacting or dragging. Do not leak, overflow or scatter, and do not unnecessarily generate vapour. Seal the container after use. Use local exhaust ventilation in handling areas in indoor workplaces.

Precautions for safe handling	:	Handle in such a way that aerosols and dust are not generated unnecessarily.
Contact avoidance	:	None
Hygiene measure	:	Handle in accordance with industrial hygiene and safety standards. Do not eat, drink or smoke except in designated areas. Wash hands and face thoroughly and gargle after handling. Do not bring gloves or other contaminated protective equipment into rest areas. Entry to the handling area is prohibited to all persons except those concerned. Wear suitable protective equipment to prevent inhalation and contact with eyes, skin and clothing.

Storage

Appropriate storage conditions	:	Seal in a glass container and store in a clean area at a temperature between 15 °C and 30 °C.
Safe packaging materials	:	Glass

8. Exposure Controls/Personal Protection

Standard control concentration

N/A

Threshold limit values

・ACGIH TLV-TWA	:	N/A
・Value recommended by Japanese Society of Occupational Health	:	N/A
・OSHA PEL TWA	:	N/A

Engineering controls

Ventilation and emission	:	Local ventilation equipment or general ventilation equipment
Safety management and gas detection	:	Measuring device, detection tube
Storage precautions	:	Provide safety shower and hand/eye-washing equipment near the handling location. Location of this equipment should be clearly displayed.

Protective equipment

Respiratory protection	:	Protective mask, respirator
Hand protection	:	Protective gloves
Eye protection	:	Protective glasses
Skin and body protection	:	Protective clothing, protective long boots

9. Physical and Chemical Properties

・Appearance, etc.	:	Liquid

・Color	:	Colorless and clear
・Odor	:	No smell
・Melting point/freezing point	:	No data
・Boiling point or initial distillation point and boiling point range	:	No data
・flammability	:	Incombustible
・Lower Explosive Limit and Upper Explosive Limit/Flammable Limit	:	No data
・Flash point	:	Incombustible
・Spontaneous ignition point	:	Incombustible
・ p H	:	No data
・Kinematic viscosity	:	No data
・Solubility	:	Mix with water at given proportions. White precipitate (potassium chloride) is generated in ethanol.
・*n*-Octanol/water partition coefficient (Log Po/w)	:	No data
・Vapor pressure	:	No data
・Density and/or relative density	:	No data
・Relative gas density	:	No data
・Particle properties	:	No data

10. Stability and Reactivity

◇Chemical Stability
- ・Stable under recommended storage conditions

◇Reactivity
- ・No data

◇Hazardous reactivity
- ・No data

◇Conditions to Avoid
- ・Sunlight, Heat
- ・Contact with water-reactive combustible substance

◇Incompatible hazardous substances
- ・No data

◇Hazardous Decomposition Products
- ・Halides and potassium oxide

11. Toxicological Information

[As potassium chloride]

Acute toxicity	Oral rat LD_{50}: 2600 mg/kg
Skin corrosive/irritating	no data
Severe damage to the	no data

eyes /eye irritation	
Respiratory sensitization or skin sensitization	no data
Germline mutagenicity (mutagenicity)	no data
Carcinogenicity	Insufficient data. Although a two-year oral administration trial for rats revealed no carcinogenicity, data from a single animal is insufficient for classification.
Genotoxicity	Although no negative impacts on biogenesis during the organ development phase were observed during the oral administration testing of pregnant rats and mice, data on sexual functions and reproductive potential of the parent animals are insufficient for classification.
Specific target organ toxicity (single exposure)	no data
Specific target organ/systemic toxicity (repeated exposure)	A two-year oral administration trial for male rats revealed gastritis as the only adverse effect, with an NOAEL of 1820 (mg/kg)/day. All adverse effects observed in a 105-day oral administration trial for female rats were observed with an NOAEL of 520 (mg/kg)/day and were recovered and not severely toxic. The dosage for these tests exceeds the upper limit for classification 2. No negative impacts were identified in human oral administration at 85 (mg/kg)/day for four weeks or 69 (mg/kg)/day for six weeks.

12. Ecological Information

Ecotoxicity

・Crustaceans (Daphnia magna) LC_{50} = 660 (mg/L)48H

Degradability/concentration

・No data.

Bioaccumulation potential

・No data.

Mobility in soil

・No data.

Hazardous to the ozone layer

・No data.

13. Disposal Considerations

Residues : Small amount: Dilute with plenty of water and dispose as effluent.
Large amount: Use a waste-treatment vendor certified by a prefectural governor.
To dispose, follow the pertinent regulations and ordinances

established by the local government.

Contaminated containers and packaging	:	To dispose of an empty container, completely remove the contents.

14. Transport Information

UN Dangerous Goods Number	:	Not applicable
UN classification	:	Not applicable
Product name	:	-
Packing group	:	-
ICAO/IATA	:	-
Marine pollutant	:	Not applicable
Matters to be attended to	:	Avoid direct sunlight. Prevent leakage caused by overturning, falling, and other disruptions. Transport with caution.

15. Regulatory Information

・No applicable laws and regulations

16. Other Information

Other

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.