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 8, 2015
		Revised on : August 13, 2020
		ID Number : 5121001
Identity of Substance/Mixture	:	Certified Reference material, NMIJ CRM 5121-a Electrolytic Conductivity Standard Solution – Aqueous Solution of Potassium Chloride (1 mol kg^{-1}))
Recommended Use of the Chemical and Restriction on Use	:	This reference material can be used for the calibration of electrolytic conductivity. Do not use this reference material for other purposes than testing/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] Seal in a glass container and store in a clean area 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

Substance or mixture	:	Mixture
Ingredient 1		
Chemical name	:	Potassium chloride
Concentration	:	Approximately 7%
Chemical or structural formula	:	Molecular formula: KCl
Molecular weight	:	74.55
CAS number	:	7447-40-7
Content	:	About 7%
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 : -
Ingredient 2		
Chemical name	:	Water
Synonym	:	
Chemical formula	:	H_2O
Molecular weight	:	18.02
CAS number	:	7732-18-5
Content	:	Over 90 %
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 : -

4. First-aid Measures

Eye contact	:	Immediately rinse with plenty of water for 15 minutes or more. In case of symptoms, seek medical attention.
Skin contact	:	Wash with soap and plenty of water.
Inhalation	:	Move to fresh air and gargle. Keep warm and rest.
Ingestion	:	Drink plenty of water and induce vomiting. In case of symptoms, seek medical attention.
Estimated acute and late symptom	:	-
Most important symptoms and	:	-

effects
Protection of first-aiders : -

5. Fire-fighting Measures

Extinguishing media : As this product is incombustible, use extinguishing media suitable for peripheral fire.
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 : Wear appropriate protective equipment to avoid exposure to skin, eyes, and clothing.
Protective equipment and emergency measures : When accidental release takes place indoors, thoroughly clear the air until emergency measures are complete. Before beginning, wear appropriate protective equipment to protect skin from droplets and to prevent inhalation of dust and gas.
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 : None
Local ventilation and general ventilation : In case steam or mist is generated, seal the source and provide local exhaust ventilation.
Precautions for safe handling : Avoid rough handling such as dropping, shocking, dragging, or otherwise agitating the container.

Do not cause the substance to leak, overflow, or drift, and prevent steam from being generated.
Seal the container after use.
Wash hands, face, and other necessary parts thoroughly, and gargle after handling.
Do not eat, drink, or smoke in places other than the designated areas.
Do not bring gloves and other contaminated protective equipment into the break area.
Only authorized people should be allowed in the handling area.
Wear appropriate protective equipment to prevent inhalation, or contact with eyes, skin, or clothing.
When handling indoors, provide local exhaust ventilation.

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

Hygiene measures

Handle in accordance with industrial hygiene and safety standards.

9. Physical and Chemical Properties

・Appearance, etc.	:	Liquid
・Color	:	Colorless and clear
・Odor	:	No smell
・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	:	Mix with water at given proportions. White precipitate (potassium chloride) is generated in ethanol.
・*n*-Octanol/water partition coefficient (Log Po/w)	:	No data
・Auto-ignition temperature	:	Incombustible
・Decomposition temperature	:	No data
・Flammability	:	Incombustible

10. Stability and Reactivity

◇Stability

・Stable under normal conditions.

◇Reactivity

・No data

◇Conditions to avoid

・Contact with sunlight and heat.

・Contact with a substance that generates inflammable gas through interaction with water.

◇Hazardous decomposition products

・Halide, potassium oxide

11. Toxicological Information

[As potassium chloride]

Acute toxicity	Oral rat LD50: 2600 mg/kg
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	A two-year oral administration trial for male rats revealed

organ/systemic toxicity (repeated exposure)	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

[As potassium chloride]
Degradability/Concentration
・No data
Bioaccumulation
・No data
Ecotoxicity
・Crustacea (Daphnia magna) 48-hour LC50: 660 mg/l

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

◇Act Relating to the Prevention of Marine Pollution and Maritime Disaster
・Appendix 1 of the Enforcement Order: Hazardous Liquid Substances (Group Z)

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.