

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
	Creation date : December 4, 2020
	Revised on : -
	ID Number : 5133002
Identity of Substance/Mixture	: Certified Reference Material, NMIJ CRM 5133-b, Secondary Electrolytic Conductivity Standard Solution (Aqueous Solution of Potassium Chloride (0.01 mol kg ⁻¹))
Recommended Use of the Chemical and Restriction on Use	: This CRM is intended for use in the calibration of electrolytic conductivity. Do not use this reference material for other purposes than testing/research.

2. Hazard Identification

GHS classification	: Classification not possible
GHS-labeling	: -
Element	
Signal word	: -
Hazard and toxicity information	: -
Precautionary statement	: [Safety Precaution] Wear personal protective equipment. [First-Aid Measure] 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]

Abide by applicable legislation and ordinances set by local governments.

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

Single substance or mixture : Mixture

Ingredient (1) : Water
 CAS number : 7732-18-5
 Amount : Over 99 %
 Chemical formula : H₂O
 Molecular weight : 18.02
 Official Gazette : Act on the Evaluation of Chemical Substances and Regulation of
 Reference No. Their Manufacture, etc. : —
 Industrial Safety and Health Act : —

Ingredient (2) : Potassium chloride
 CAS number : 7447-40-7
 Amount : Approximately 0.07%
 Chemical formula : KCl
 Molecular weight : 74.55
 Official Gazette : Act on the Evaluation of Chemical Substances and Regulation of
 Reference No. Their Manufacture, etc. : (1)-228
 Industrial Safety and Health Act : —

4. First-aid Measures

Inhalation : Move to fresh air and gargle. Keep warm and rest.
 Skin contact : Wash with soap and plenty of water.
 Remove/Take off contaminated clothing, etc. If skin irritation or rash occurs, seek medical examination/treatment.
 Eye contact : Immediately rinse with plenty of water for several minutes or more. In case of symptoms, seek medical attention.
 Ingestion : Rinse mouth thoroughly with water. In case of symptoms, seek medical attention.
 Protection of first-aiders : Use personal protective equipment.

5. Fire-fighting Measures

Extinguishing media : This reference material is incombustible. Use extinguishing media appropriate for surrounding fire.

Unusable extinguishing : No data
media

6. Accidental Release Measures

- Personal precaution, personal protective equipment and emergency procedure : Wear appropriate protective equipment to avoid exposure to skin, eyes, and clothing.
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 : Clean up contaminated items and areas thoroughly in accordance with applicable environmental regulations.

7. Handling and Storage

Handling

- Technical measures (Local ventilation and general ventilation) : Use only in well-ventilated area or in a place with local ventilation.
Install a safety shower and eye-washing facility near the place of handling, and clearly indicate its location.
Do not cause the substance to leak, overflow, or drift, and prevent steam from being generated.
Avoid breathing vapors, dust, mist and spray.
Seal the container after use.
Keep out unauthorized people.
Do not take contaminated clothes out of the workplace.
Avoid contact with eyes, skin and clothing.
Avoid rough handling such as dropping, shocking, dragging, or otherwise agitating the container.
- Precautions for safe handling : Avoid direct contact with skin and eyes. Use personal protective equipment.
- Incompatible substances or mixtures : Avoid contact with strong acids.
- Hygiene controls : Handle this reference material in accordance with industrial health and safety standards.
Restrict drinking, eating and smoking to a designated area.
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.
Keep out unauthorized people.
Use appropriate personal protective equipment to avoid inhalation and contact with eyes, skin, and clothing.

Storage

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

8. Exposure Controls/Personal Protection

Threshold limit value : N/A
Permissible concentration
ACGIH TLV-TWA : N/A
Value recommended by : N/A
Japanese Society of Occupational Health
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
Melting point : No data
Boiling point : No data
Flammability : Nonflammable
Explosive range : No data
Flashing point : Nonflammable
Auto-ignition temperature : Nonflammable

pH	: Neutral
Kinematic viscosity	: No data
Solubility	: Mix with water at given proportions. White precipitate (potassium chloride) is generated in ethanol.
<i>n</i> -Octanol/water partition coefficient (log Po/w)	: No data
Vapor pressure	: No data
Specific gravity or bulk specific gravity	: No data
Relative vapor density (Air=1)	: No data
Particle characteristics	: No data

10. Stability and Reactivity

Reactivity	: No data
Stability	: Stable at normal storage conditions.
Possibility of hazardous reactions	: No data
Conditions to avoid	: Sunlight, Heat.
Incompatible material	: Strong acids
Hazardous decomposition products	: Halide, potassium oxide.

11. Toxicological Information

[As potassium chloride]

Acute toxicity	Oral	(rat)	: LD ₅₀ 2,600 mg/kg
		(mouse)	: LD ₅₀ 2,462 mg/kg
	Inhalation(human)		: TCL ₀ 200 ppm
		(rat)	: LC ₅₀ 4,000 ppm/8 h
	Dermal	(mouse)	: LD ₅₀ 9,526 mg/kg
Skin corrosion/irritation	: No data		
Serious eye damage/ eye irritation	: No data		
Respiratory or skin sensitization	: No data		
Germ cell mutagenicity	: No data		
Carcinogenicity	: Not classifiable due to insufficient data. In a test of rat exposed through inhalation for 2 year, no carcinogenicity was observed. Data on only one animal is insufficient for classification.		
Reproductive toxicity	: 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/systemic toxicity (Single Exposure) : No data
- Specific target organ/systemic toxicity (repeated exposure) : In a test of male rat exposed through inhalation for 2 years, only gastritis as irritant was observed (NOAEL は 1820 (mg/kg)day). In a test of male rat exposed through inhalation of 520 (mg/kg)day for 105 days, effect was resiliency with no significant toxic effect. These doses are larger than the guidance value of class 2 No adverse effects were found in a test of human through inhalation of 85 (mg/kg)day for 4 weeks and 69 (mg/kg)day for 6 weeks.
- Aspiration hazards : No data

Section “Toxicological Information” is prepared based on the information on the raw materials because no information on the mixture is available.
This reference material is stable under normal condition, and there is no risk of noxious additive ingredient elusion. In case of handling this reference material under special conditions, such as high temperatures, however, it is recommended to take sufficient safety precautions for appropriate use.

12. Ecological Information

[As potassium chloride]

- Ecotoxicity : Crustaceans, Daphnia magna LC₅₀(48 h) : 600 mg/L
- Persistence and degradability : No data
- Bioaccumulative potential : No data
- Mobility in soil : No data
- Influence to the ozone layer : No data

13. Disposal Considerations

- Residues : Dispose of this reference material in accordance with applicable legislation and local government ordinance.
Entrust disposal of residual waste to a professional waste disposal company licensed by prefectural governor.
- Contaminated containers and packaging : Dispose of containers after thoroughly removing their contents.

14. Transport Information

International Regulations

- UN number : Not applicable
- Material name : —

UN classification	:	—
Container grade	:	—
Marine pollutant	:	—
Japanese Domestic Regulations		
Transport by road/rail	:	Comply with Fire Service Act, Poisonous and Deleterious Substances Control Act, High Pressure Gas Safety Act.
Transport by sea	:	Comply with Ship Safety Act and Act on Port Regulations.
Transport by air	:	Comply with Civil Aeronautics Act.

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)
- ◎ **This SDS was originally prepared for the use of the reference material in Japan, and therefore Section 15 “Regulatory Information” covers only those laws and regulations which are enacted and enforced in Japan. In case of using this reference material, it is necessary to refer to and apply relevant laws and regulations of the country in which it is used.**

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.