

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

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Emergency contact : Same as above

Creation date : April 1, 2021
 Revised on : —
 ID Number : 5134001

Identity of substance/mixture : Certified Reference Material, NMIJ CRM 5134-a
 Secondary Electrolytic Conductivity Standard Solution (Aqueous Solution of Potassium Chloride (0.001 mol kg⁻¹))

Recommended use of the chemical and restriction on use : This reference material 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 : Not classifiable

Pictograms : —

Signal word : —

Hazard statement : —

Precautionary statement : [Precaution]
 Use personal protective equipment.
 [Response]
 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
 If on skin: Rinse with plenty of water.
 If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult: Get medical advice/attention.
 [Storage]
 Keep glass container sealed in a plastic bag. Store in a clean place at temperature of 15 °C to 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 99.9 %
 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 0.007 %
 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

If inhaled : Remove victim to fresh air and keep at rest and warm. Get medical advice/attention.
 If on skin : Wash with soap and plenty of water.
 Remove/Take off contaminated clothing, etc. If skin irritation or rash occurs: Get medical advice/attention.
 In in eyes : Rinse cautiously with plenty of water for several minutes or more.
 Remove contact lenses, if present and easy to do. If eye irritation persists: Get medical advice/attention.
 If swallowed : Rinse mouth thoroughly with water. Get medical advice/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.
 Unsuitable extinguishing media : No data available

6. Accidental Release Measures

- Personal precautions, personal protective equipment, and emergency procedures : Use appropriate protective equipment to avoid contact with skin and eyes and contamination of personal clothing. Ventilate the affected areas thoroughly, if it is 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 spillages from draining into rivers, etc. to adversely affect the environment. Take precautions to prevent untreated wastewater from being released into the environment.
- Recovery and neutralization : Collect spillages in empty containers by getting it absorbed wiping cloth, rag, or soil and sand. Rinse away the remains with plenty of water.
- Prevention of secondary disaster : Clean up contaminated items and areas thoroughly in accordance with applicable environmental regulations.

7. Handling and Storage

Handling

- Engineering precautions (Local ventilation and general ventilation) : Use only in well-ventilated area. Install safety showers and eye washers near a handling place and clearly indicate their locations. Prevent this reference material from leaking, overflowing, or splashing. Do not allow vapors to be emitted. Avoid breathing vapors, dust, mist, and spray. Keep container sealed after use. Keep out unauthorized people. Do not take contaminated work clothing out of the workplace. Avoid contact with eyes, skin, and clothing. Avoid rough handling such as knocking over, dropping, giving a shock to, and dragging container.
- Precautions for safe handling : Avoid contact with skin and eyes. Use personal protective equipment.
- Incompatible substances or mixtures : Do not mix with strong acids.
- Hygiene controls : Handle this reference material in accordance with industrial health and safety codes. 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 conditions : Keep glass container sealed in plastic bag. Store in a clean area at temperature of 15 °C to 30 °C.

Safe container packaging materials : Glass

※Refer to the Certificate for appropriate storage conditions and instructions for use as a reference material.

8. Exposure Controls/Personal Protection

Threshold limit value : Not applicable

Permissible concentration

ACGIH TLV-TWA : Not applicable

Value recommended by Japanese Society of Occupational Health : Not applicable

OSHA PEL TWA : Not applicable

Engineering controls

Ventilation/Exhaust : Local ventilation equipment or general ventilation equipment

Safety control/Gas detection : Measuring device, Detection tube

Storage precautions : Provide safety shower and hand/eye-washing equipment near the handling location. Indicate their location clearly.

Protective equipment

Respiratory system : Protective mask, Respirator

Hands : Protective gloves

Eyes : Eye protector

Skin and body : Protective clothing, Protective boots

9. Physical and Chemical Properties

Appearance, etc. : Liquid

Color : Colorless and clear

Odor : No smell

Melting point : No data available

Boiling point : No data available

Flammability : Nonflammable

Explosive range : No data available

Flashing point : Nonflammable

Auto-ignition temperature : Nonflammable

pH : Neutral

Kinematic viscosity : No data available

Solubility : Mix with water at given proportions. If in ethanol, white

	precipitates (potassium chloride) are generated.
<i>n</i> -Octanol/water partition coefficient (log Po/w)	: No data available
Vapor pressure	: No data available
Density and/or relative density	: No data available
Relative vapor density (Air=1)	: No data available
Particle characteristics	: No data available

10. Stability and Reactivity

Reactivity	: No data available
Stability	: Stable under recommended storage conditions
Possibility of hazardous reactions	: No data available
Conditions to avoid	: Sunlight, Heat
Incompatible materials	: Strong oxidizers
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 available	
Serious eye damage/eye irritation	: No data available	
Respiratory or skin sensitization	: No data available	
Germ cell mutagenicity	: No data available	
Carcinogenicity	: Not classifiable due to insufficient data.	In a two-year oral administration test using rats, no findings to imply carcinogenicity were observed. The data on one species of animals alone is insufficient to determine classification.
Reproductive toxicity	: In an oral administration test using pregnant rats and mice in their organogenesis stage, no negative impacts on their offspring development were observed. There are, however, no sufficient data on sexual functions and reproductive potential of parent animals.	
Specific target organ toxicity (Single Exposure)	: No data available	

Specific target organ toxicity (repeated exposure) : In a two-year oral administration test using male rats, gastritis alone was observed as irritation (NOAEL:1820 (mg/kg) day). In a 105-day oral administration test using male rats, every effect was reversible and no significant toxic effect was observed (NOAEL: 520 (mg/kg) day). These doses are higher than upper limits of guidance values in Category 2. It was reported that no adverse effects were observed either in a four-week oral administration test (NOAEL: 85 (mg/kg) day) or in a six-week oral administration test (NOAEL: 69 (mg/kg) day) for humans.

Aspiration hazards : No data available
 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 conditions, and there is no risk of noxious additives elusion. In case of handling this reference material under special conditions, such as high temperatures, however, it is recommended to take sufficient safety precautions.

12. Ecological Information

[as potassium chloride]

Ecotoxicity : Crustaceans: Daphnia magna LC₅₀(48 h) : 600 mg/L
 Persistence and degradability : No data available
 Bioaccumulative potential : No data available
 Mobility in soil : No data available
 Harmful effects on ozone layer : No data available

13. Disposal Considerations

Residual wastes : 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 container and package : Dispose of containers after thoroughly removing their contents.

14. Transport Information

International Regulations

UN number : Not applicable
 Shipping name : —
 UN classification : —
 Packing group : —
 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.
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15. Regulatory Information

- ◇ Act for the Prevention of Marine Pollution and Maritime Disasters
 - Enforcement Order Appendix 1 : Hazardous Liquid Substance (Class Z equivalent substance)
 - ◎ **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.**
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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.
