

## MATERIAL SAFETY DATA SHEET(MSDS)

### 1. Product and company identification

Product name : 4M KCl Inner Solution (Parts No.HSG370200)  
Manufacturer : Hiranuma Sangyo Co., Ltd  
Address : 1739, Motoyoshida, Mito, Ibaraki, 310-0836, JAPAN  
Phone number : +81-29-247-6411  
Fax number : +81-29-247-6942  
Mail address : info@hiranuma.com  
MSDS No. : DEFA0001

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### 2. Summary of and Hazard

GHS classification  
Physical and chemical hazard  
Flammable liquids : Out of category  
Pyrophoric liquids : Out of category  
Self-heating substances and mixtures : Out of category  
Substances and mixtures which, in contact with water, emit flammable gases : Out of category  
Human health hazard  
Acute toxicity(oral) : Out of category  
Serious eye damage • Eye irritation : Out of category  
Specific target organ systemic toxicity (repeated exposure) : Out of category  
Environmental hazard  
Hazardous to the aquatic environment-acute hazard : Out of category  
Hazardous to the aquatic environment-chronic hazard : Out of category

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### 3. Composition/Information on ingredients

Substance/Mixture : Substance  
Chemical name or commercial name : Potassium chloride  
Ingredients and composition : Potassium chloride 25%  
Water 75%  
Chemical formula : Potassium chloride KCl  
CAS No. : Potassium chloride 7447-40-7  
TSCA Inventory : Potassium chloride Registered  
EINECS No. : Potassium chloride 231-211-8

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### 4. First aid measures

Inhalation : Remove the victim to fresh air, and make him blow his nose and gargle.  
Skin contact : Wash the affected areas under running water.  
Eye contact : Wash the affected areas under running water.  
Ingestion : Give the victim water. If necessary, get medical attention.

## 5. Fire fighting measures

- Extinguishing media : This product is noncombustible.  
Prohibited extinguishing media  
: None  
Particular fire fighting : Move containers from fire area if it can be done without risk, if not possible, apply water from a safe distance to cool and protect surrounding area.
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## 6. Accidental release measures

- Cautions for personnel : If necessary, wear proper protective equipment.  
Cautions for environment : Nothing particular  
Removal measure : Absorb spill with paper or cloth and flush residual area with copious amounts of water.
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## 7. Cautions of handling and storage

- Handling  
Engineering measures : Avoid contact with skin.  
Storage  
Adequate storage condition  
: Store in a dark, cool place and tightly closed.  
Safety adequate container materials  
: Glass, polyethylene, polypropylene
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## 8. Exposure control/Personal protection

- Engineering measures : Install a local ventilation system under dense vapor or dusty condition.  
Control parameters  
ACGIH(2009) : Not established  
Protective equipment  
Respiration protective equipment  
: Not necessary  
Hands protective equipment  
: If necessary, wear gloves.  
Eyes protective equipment  
: If necessary, wear goggles.
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## 9. Physical and chemical properties

- Appearance : Liquid  
Color : Colorless  
Odor : Odorless  
pH : Neutral  
Boiling point : Approx. 104°C  
Melting point : Approx. -15°C  
Flash point : Noncombustible  
Specific gravity : 1.17g/ml  
Solubility  
Solubility in solvents : Water ; Freely soluble
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## 10. Stability and reactivity

Stability : Stable under normal usage.  
Incompatible conditions : Light, heat

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## 11. Toxicological information

Acute toxicity : Oral : Out of category  
Dermal : Not possible to classify because of insufficient data.  
Inhalation (vapor): Not possible to classify because of insufficient data.  
Inhalation (dust, mist): Not possible to classify because of insufficient data.  
rat oral LD50=12080mg/kg (as calculated value)

Skin corrosiveness : Not possible to classify because of insufficient data.

Irritation to skin, eyes : Out of category  
Potassium chloride has irritation of rabbits eyes equivalent to GHS classification 2B, but this product is about 25% solution, the irritation of eyes is classified out of category.

Respiratory sensitization or Skin sensitization : Respiratory sensitization : Not possible to classify because of insufficient data.  
Skin sensitization : Not possible to classify because of insufficient data.

Mutagenicity : Not possible to classify because of insufficient data.

Carcinogenic effects : Not possible to classify because of insufficient data

Effects on the reproductive system : Not possible to classify because of insufficient data.

Specific target organ systemic toxicity single exposure : Not possible to classify because of insufficient data.

Specific target organ systemic toxicity repeated exposure : Out of category  
In oral administration test of male rats for 2 years, the only treatment related effect was gastritis as irritant effect, NOAEL was 1820mg/kg/day. In oral administration test of male rats for 105 days with 5250mg/kg/day, effects were all recovery properties and no significant toxicity was seen.

Aspiration hazard : Not possible to classify because of insufficient data.

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## 12. Ecological information

Acute toxicity : Oral : Out of category

Ecotoxicity  
Fish toxicity : Acute aquatic toxicity : Out of category  
Chronic aquatic toxicity : Out of category  
Daphnia magna LC50=2640mg/l/48H (as calculated value)

Rediability and degradability : Not available

Mobility : Not available

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## 13. Disposal consideration

Residual disposal : Dilute the chemical with a large amount of water and flush in a drain after confirming pH of the solution. Or entrust approved waste disposal

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Containers : companies with the disposal.  
: In case of disposal of empty bottles, dispose bottles after removing the content thoroughly.

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#### **14. Transport information**

UN class : Not applicable

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#### **15. Regulatory information**

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

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#### **16. Other information**

References Safety Data Sheets of No.32895 Potassium chloride saturated solution, KANTO CHEMICAL CO., INC.  
Safety Data Sheets of No.32326 Potassium chloride, KANTO CHEMICAL CO., INC.

The information contained herein is based on several references and the present state of our knowledge. However the MSDS does not always cover all information about the product, handle the product carefully. The information is intended to ordinary usage, in case of particular handlings, conduct appropriate safety measurements. The information herein is only provision of information, and it does not represent a guarantee the properties of the product.