

MATERIAL SAFETY DATA SHEET(MSDS)

1. Product and company identification

Product name : 4M KCl Inner Solution (c/AgCl) (Parts No.HSG370203)
Manufacturer : Hiranuma Sangyo Co., Ltd
Address : 1739, Motoyoshida, Mito, Ibaraki, 310-0836, JAPAN
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MSDS No. : DEFA0002

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

3. Composition/Information on ingredients

Substance/Mixture : Mixture

Chemical name or commercial name
: Potassium chloride, Silver chloride

Ingredients and composition
: Potassium chloride 25%
Silver chloride <0.01%
Water 75%

Chemical formula : Potassium chloride KCl
Silver chloride AgCl

CAS No. : Potassium chloride 7447-40-7
Silver chloride 7783-90-6

TSCA Inventory : Potassium chloride Registered
Silver chloride Registered

EINECS No. : Potassium chloride 231-211-8
Silver chloride 232-033-3

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.
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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

10. Stability and reactivity

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

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 our 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.

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)

Rediualbility and degradability
: Not available

Mobility : Not available

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 companies with the disposal.

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

14. Transport information

UN class : Not applicable

15. Regulatory information

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

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.