

MOEL's Public Notice No. 2023-9 (Standards for Classification and Labeling of Chemical Substances and Safety Data Sheets)

WAI4 - KGHS - KOREAN

Issue Date 05-Sep-2019

Revision Date 16-Sep-2024

Revision Number 1

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product Identifier

Product Name ECRE002, Eutech 4M KCl (Potassium Chloride) saturated Solution

Product No 01X211218

Pure substance/mixture Mixture

Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Use as laboratory reagent

Uses advised against No Information available

Manufacturer Address

Eutech Instruments Pte Ltd
part of Thermo Fisher Scientific
7 Gul Circle, #2M-01
Keppel Logistics Building
Singapore 629563

Importer

Thermo Fisher Scientific Solutions,
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Emergency Telephone Number

Emergency telephone: Medical: +(82) 070-7686-0086 or + 1-703-741-5970
CHEMTREC: 080 822 1374 (Local), CHEMTREC: 1-800-424-9300 or + 1-703-527-3887
Korea: 00-308-13-2549 (24 hours a day, 7 days a week)

Made in Singapore

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SECTION 2: HAZARDS IDENTIFICATION

Classification of the substance or mixture

Physical hazards

Based on available data, the classification criteria are not met

Health hazards

Based on available data, the classification criteria are not met

Environmental hazards

Based on available data, the classification criteria are not met

Label Elements

Signal Word None

Precautionary Statements

Prevention

None

Response

None

Storage

None

Disposal

None

Other Hazards

This product does not contain any known or suspected endocrine disruptors

NFPA

Health

-

Flammability

-

Instability

-

Physical hazards

N/A

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

| Component | Common Name | CAS No | Index No | Weight % |
|--------------------|--------------------------|-----------|----------|-----------|
| Water | No information available | 7732-18-5 | KE-35400 | 80 - 90 |
| Potassium Chloride | No information available | 7447-40-7 | KE-29086 | >=10 - 20 |

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SECTION 4: FIRST AID MEASURES

Description of first aid measures

| | |
|---|--|
| General Advice | Use first aid treatment according to the nature of the injury. Get medical attention immediately if symptoms occur. Show this safety data sheet to the doctor in attendance. |
| Eye Contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention. |
| Skin Contact | Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur. |
| Inhalation | Remove to fresh air. Get medical attention immediately if symptoms occur. |
| Ingestion | Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur. |
| Self-Protection of the First Aider | No special precautions required. |

Most important symptoms and effects, both acute and delayed

| | |
|--|-----------------------------|
| Most important symptoms and effects | None reasonably foreseeable |
|--|-----------------------------|

Indication of any immediate medical attention and special treatment needed

| | |
|---------------------------|-----------------------|
| Notes to Physician | Treat symptomatically |
|---------------------------|-----------------------|

SECTION 5: FIREFIGHTING MEASURES

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media

No information available

Specific Hazards Arising from the Chemical

No information available.

Explosion Data

Sensitivity to Mechanical Impact None

Sensitivity to Static Discharge None

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

| | |
|---|--|
| Personal Precautions | Ensure adequate ventilation. Use personal protective equipment as required. |
| <u>Environmental Precautions</u> | Should not be released into the environment. See Section 12 for additional Ecological Information. |

Methods and Material for Containment and Cleaning Up

| | |
|--------------------------------|---|
| Methods for Containment | Prevent further leakage or spillage if safe to do so. |
|--------------------------------|---|

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Methods for Cleaning Up Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling

Handling Wear personal protective equipment/face protection
Ensure adequate ventilation
Avoid contact with skin, eyes or clothing
Avoid ingestion and inhalation

Conditions for Safe Storage, Including any Incompatibilities

Storage Keep container tightly closed in a dry and well-ventilated place
Store at room temperature in the original container
Protect from direct sunlight

Incompatible Products No information available

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

| Component | CAS No | Korea | ACGIH TLV | OSHA PEL |
|--------------------|-----------|------------|------------|------------|
| Water | 7732-18-5 | Not listed | Not listed | Not listed |
| Potassium Chloride | 7447-40-7 | Not listed | Not listed | Not listed |

| Component | CAS No | European Union | The United Kingdom | Germany |
|--------------------|-----------|----------------|--------------------|------------|
| Water | 7732-18-5 | Not listed | Not listed | Not listed |
| Potassium Chloride | 7447-40-7 | Not listed | Not listed | Not listed |

ACGIH - Biological Exposure Indices

| Component | CAS No | ACGIH - Biological Exposure Indices |
|--------------------|-----------|-------------------------------------|
| Water | 7732-18-5 | Not listed |
| Potassium Chloride | 7447-40-7 | Not listed |

Appropriate engineering controls

Engineering Measures None under normal use conditions

Individual protection measures, such as personal protective equipment

Personal protective equipment Use only those certified by the Korea Occupational Safety and Health Administration.

Eye/face Protection Wear chemical splash goggles and face shield. If splashes are likely to occur: Face protection shield.

Skin and Body Protection Wear protective gloves/protective clothing.

Respiratory Protection None under normal use conditions. In case of inadequate ventilation wear respiratory protection.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls No information available

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

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| | |
|----------------|--------------------------|
| Physical State | Liquid |
| Appearance | Clear |
| Odor | Odorless |
| Odor Threshold | No information available |
| PH Range | 6-7 @ 25 °C |

| <u>Property</u> | <u>Values</u> | <u>Remarks • Method</u> |
|------------------------------|--------------------------|-------------------------|
| Melting point/freezing point | No information available | |
| Boiling Point/Range | No information available | |
| Flash Point (High in °C) | N/A | |
| Evaporation Rate | No information available | |
| Flammability (solid, gas) | No information available | |
| Flammability Limit in Air | | |
| Upper flammability limit: | No information available | |
| Lower flammability limit: | No information available | |
| Vapor pressure | No information available | |
| Vapor Density | No information available | |
| Specific Gravity | No information available | |
| Water Solubility | No information available | |
| Solubility in other solvents | No information available | |
| Partition coefficient | No information available | |
| Autoignition Temperature | - | |
| Decomposition Temperature | No information available | |
| Kinematic viscosity | No information available | |
| Dynamic viscosity | No information available | |
| Explosive Properties | No information available | |
| Oxidizing Properties | No information available | |

Other Information

| | |
|------------------|------------------------------|
| Softening Point | No information available |
| Molecular Weight | No information available |
| VOC Content(%) | No information available |
| Density | 1.0 g/cm ³ @ 25°C |
| Bulk Density | No information available |

SECTION 10: STABILITY AND REACTIVITY

Reactivity

No Information available

Chemical Stability

Stable under normal conditions

Possibility of Hazardous Reactions

None under normal processing

Conditions to Avoid

Extremes of temperature and direct sunlight.

Incompatible Materials

No information available

Hazardous Decomposition Products

Thermal decomposition can lead to release of irritating gases and vapors.

SECTION 11: TOXICOLOGICAL INFORMATION

Product Information

01X211218

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Information on likely routes of exposure

| | |
|------------|--|
| Inhalation | Not an expected route of exposure. |
| Ingestion | No known effect based on information supplied. |
| Eyes | Not an expected route of exposure. |
| Skin | No known effect based on information supplied. |

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---------------------------------|---------------------------|-------------|-----------------|
| Water 7732-18-5 | LD50 > 90 mL/kg (Rat) | - | - |
| Potassium Chloride 7447-40-7 | LD50 = 2600 mg/kg (Rat) | - | - |

Information on Toxicological Effects

Symptoms No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

| | |
|---------------------------------|---------------------------|
| Sensitization | No information available |
| Mutagenic Effects | No information available |
| Carcinogenicity | No information available. |
| Reproductive Effects | No information available |
| STOT - single exposure | No information available |
| STOT - repeated exposure | No information available |
| Target Organs | None known. |
| Aspiration hazard | No information available |

Numerical measures of toxicity - Product Information

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity

0% of the mixture consists of components(s) of unknown hazards to the aquatic environment

| Component | Freshwater Algae | Freshwater Fish | Water Flea |
|---------------------------------|---|--|---|
| Potassium Chloride 7447-40-7 | EC50: = 2500 mg/L, 72h (Desmodesmus subspicatus) | LC50: = 1060 mg/L, 96h static (Lepomis macrochirus) LC50: 750 - 1020 mg/L, 96h static (Pimephales promelas) | EC50: = 83 mg/L, 48h Static (Daphnia magna) EC50: = 825 mg/L, 48h (Daphnia magna) |

Persistence and Degradability

No information available

Bioaccumulation/ Accumulation

No information available

Mobility

No information available.

Other adverse effects

No information available

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SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste Disposal Methods Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging Improper disposal or reuse of this container may be dangerous and illegal.

SECTION 14: TRANSPORT INFORMATION

Road and Rail Transport Not Regulated

IATA Not regulated

IMDG/IMO Not regulated
Marine Pollutant Not Applicable

Special Precautions for User No special precautions required

SECTION 15: REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

Legend: X - Listed '-' - Not Listed

International Inventories

| Component | CAS No | KECL | TSCA | EINECS | IECSC | DSL | NDSL | PICCS | ENCS | AICS |
|--------------------|-----------|----------|------|-----------|-------|-----|------|-------|------|------|
| Water | 7732-18-5 | KE-35400 | X | 231-791-2 | X | X | - | X | X | X |
| Potassium Chloride | 7447-40-7 | KE-29086 | X | 231-211-8 | X | X | - | X | X | X |

| Component | CAS No | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements | Rotterdam Convention (PIC) | Basel Convention (Hazardous Waste) |
|--------------------|-----------|---|--|-------------------------------|---------------------------------------|
| Water | 7732-18-5 | Not applicable | Not applicable | Not applicable | Not applicable |
| Potassium Chloride | 7447-40-7 | Not applicable | Not applicable | Not applicable | Not applicable |

| Component | CAS No | OECD HPV | Persistent Organic Pollutant | Ozone Depletion Potential |
|--------------------|-----------|----------|---------------------------------|------------------------------|
| Water | 7732-18-5 | Listed | Not applicable | Not applicable |
| Potassium Chloride | 7447-40-7 | Listed | Not applicable | Not applicable |

Korean National Regulations

| Component | CAS No | Act on Registration and Evaluation of Chemical Substances (K-REACH) | Authorised Chemicals | Existing Substances Subject to Registration |
|--------------------|-----------|---|----------------------|--|
| Water | 7732-18-5 | Annex 1 - KE-35400 Exempt (Index No. 25) | Not applicable | Not applicable |
| Potassium Chloride | 7447-40-7 | Annex 1 - KE-29086 | Not applicable | Not applicable |

| Component | CAS No | Chemical Control Act - Toxic Chemicals | Chemical Control Act - Prohibited Chemicals | Chemical Control Act - Use Restricted Chemicals |
|--------------------|-----------|---|--|---|
| Water | 7732-18-5 | Not applicable | Not applicable | Not applicable |
| Potassium Chloride | 7447-40-7 | Not applicable | Not applicable | Not applicable |

| Component | CAS No | Chemical Control Act - | Chemical Control Act - | Chemical Control Act - |
|-----------|--------|------------------------|------------------------|------------------------|
|-----------|--------|------------------------|------------------------|------------------------|

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| | | Accident Precaution Chemicals (% in mixtures) | Accident Precaution Chemicals - Quantity limits Storage (% in mixtures) | Accident Precaution Chemicals - Quantity limits Manufacture/Use (% in mixtures) |
|--------------------|-----------|---|--|--|
| Water | 7732-18-5 | Not applicable | Not applicable | Not applicable |
| Potassium Chloride | 7447-40-7 | Not applicable | Not applicable | Not applicable |

| Component | CAS No | Waste Control Law | Ministry of Environment - CMR risk | Ministry of Environment - Critically Controlled Substance |
|--------------------|-----------|-------------------|---------------------------------------|---|
| Water | 7732-18-5 | Not applicable | Not applicable | Not applicable |
| Potassium Chloride | 7447-40-7 | Not applicable | Not applicable | Not applicable |

| Component | CAS No | ISHA - Harmful Agents Subject to Work Environment Monitoring | ISHA - Prohibited substances | ISHA - Substances requiring permission |
|--------------------|-----------|--|---------------------------------|---|
| Water | 7732-18-5 | Not applicable | Not applicable | Not applicable |
| Potassium Chloride | 7447-40-7 | Not applicable | Not applicable | Not applicable |

| Component | CAS No | ISHA - Substances subject to control | ISHA - Harmful Agents Requiring Health Examination | ISHA - Permissible Exposure Limits |
|--------------------|-----------|---|--|---------------------------------------|
| Water | 7732-18-5 | Not applicable | Not applicable | Not applicable |
| Potassium Chloride | 7447-40-7 | Not applicable | Not applicable | Not applicable |

| Component | CAS No | ISHA - Subject to Process Safety Reports (minimum quantity) | ISHA - Threshold Limit Values (TLVs) Chemicals | ISHA - Special management materials |
|--------------------|-----------|---|---|--|
| Water | 7732-18-5 | Not applicable | Not applicable | Not applicable |
| Potassium Chloride | 7447-40-7 | Not applicable | Not applicable | Not applicable |

National Fire Association - Dangerous Substances Minimum quantity requiring a permit

| Component | CAS No | Class 1 - Oxidising solids | Class 2 - Flammable solid | Class 3 - Spontaneously Combustible Substances and Dangerous Substances When Wet | Class 4 - Flammable liquids | Class 5 - Self-reactive substances | Class 6 - Oxidising liquids |
|--------------------|-----------|----------------------------------|---------------------------------|--|-----------------------------------|--|-----------------------------------|
| Water | 7732-18-5 | Not applicable | Not applicable | Not applicable | Not applicable | Not applicable | Not applicable |
| Potassium Chloride | 7447-40-7 | Not applicable | Not applicable | Not applicable | Not applicable | Not applicable | Not applicable |

Control Parameters

| Component | CAS No | Korea | ACGIH - Biological Exposure Indices |
|--------------------|-----------|------------|-------------------------------------|
| Water | 7732-18-5 | Not listed | Not listed |
| Potassium Chloride | 7447-40-7 | Not listed | Not listed |

US Management Information

OSHA - Occupational Safety and Health Administration

Not applicable

| Component | CAS No | Specifically Regulated Chemicals | Highly Hazardous Chemicals |
|--------------------|-----------|-------------------------------------|----------------------------|
| Water | 7732-18-5 | Not applicable | Not applicable |
| Potassium Chloride | 7447-40-7 | Not applicable | Not applicable |

CERCLA Not applicable

| Component | CAS No | CERCLA Extremely Hazardous Substances RQs | Hazardous Substances RQs | SARA 313 - Threshold Values % |
|-----------|--------|---|-----------------------------|----------------------------------|
| | | | | |

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| | | | | |
|--------------------|-----------|----------------|----------------|----------------|
| Water | 7732-18-5 | Not applicable | Not applicable | Not applicable |
| Potassium Chloride | 7447-40-7 | Not applicable | Not applicable | Not applicable |

GHS Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567

Based on available data, the classification criteria are not met.

SECTION 16: OTHER INFORMATION

Prepared By Regulatory Affairs
Prepared For Thermo Fisher Scientific Inc.©
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Reason for revision Initial Release.

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End of Safety Data Sheet