

SECTION1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name:
ECRE001, 4M KCl (Potassium Chloride) saturated with silver chloride Solution.
Product number: 01X211208 Reference Electrolyte.

1.2 Relevant Identified uses of the substance or mixture and uses advised against
No further relevant information available.

Application of the substance / the preparation:
For manufacturing pH sensors only.

1.3 Details of the supplier of the safety data sheet

Company name:
Thermo Fisher Scientific, Inc
Blk 55, Ayer Rajah Crescent, #04-16/24, Singapore 139949,
Website: www.eutechinst.com
Email: eutech@thermofisher.com
Telephone number: (65) 6778 6876.
Fax number: (65) 6773 0836.

1.4 Emergency telephone number
CHEMTREC 24 HR Emergency: SINGAPORE: 800-101-2201 International: +1 703-741-5970

SECTION2. Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)
The product (mixture) is classified as not hazardous.
Classification according to Directive 67/548/EEC or Directive 1999/45/EC.
The product (preparation) is classified as not hazardous.

2.2 Label elements

Labelling (CLP)
Hazard statements: not applicable.
Safety precautions: not applicable.

Labelling (67/548/EEC or Directive 1999/45/EC.)
R phrase(s): not applicable.
S phrase(s): not applicable.

SECTION3. Composition/information on ingredients

3.1 Substances: not applicable

3.2 Mixtures

Components:		Weight %
CAS: 7447-40-7, EC-No: 231-211-8	Potassium Chloride	< 30 %
CAS: 7783-90-6	Silver Chloride	< 0.1 %
CAS: 7732-18-5, EC-No: 231-791-2	Deionized water	> 77.0%

SECTION4. First aid measures

4.1 Description of first aid measures

General advice:
Consult a physician. Show this safety data sheet to the doctor in attendance.
After Inhalation:
Remove to fresh air. Call a physician if breathing becomes difficult.
After Skin contact:
Wash off with soap and plenty of water. Call a physician if irritation develops.
After Eye contact:
Rinse out with plenty of water for at least 15 minutes. If pain persists, summon medical advice.
After swallowing
Wash out mouth with plenty of water, provided person is conscious. Obtain medical attention if feeling unwell.
General Information:
Remove contaminated, soaked clothing immediately and dispose of safely.

SECTION5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents: Product is non-combustible. Extinguishing materials should therefore be selected according to surroundings.

5.2 Special hazards arising from the substance or mixture

Potassium oxides
Fire hazard: Not flammable.
Explosion hazard: Product is not explosive.
Reactivity: Hazardous reactions will not occur under normal conditions.

5.3 Advice for firefighters

Protective equipment:
Wear self-contained breathing apparatus.
Wear full protective suit.
Additional information
Product itself is non-combustible. Cool container with spray water from a safe distance. Contain escaping vapors with water.
Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

SECTION6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

6.2 Environmental precautions:

Do not allow product to reach sewage system or water bodies.

6.3 Methods and material for containment and cleaning up:

Soak up with inert absorbent material and dispose of properly. Clean up affected area. Dispose according to local regulation.

6.4 Reference to other sections:

No dangerous materials are released.

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

SECTION7. Handling and storage

7.1 precautions for safe handling

Avoid contact with skin and eyes. Avoid generation of vapors/aerosols. Do not inhale substance.

Information about protection against explosions and fires: The product is not flammable.

7.2 Conditions for safe storage, including any incompatibilities

Storage

Requirements to be met by storerooms and containers:

Store in cool location. Keep container tightly closed. Out of direct sun and away from heat source. Do not refrigerate.

Recommended storage temperature: 20 °C +/- 5 °C

Storage class 12=Non-combustible liquids.

7.3 Specific end use(s):

buffer solution, calibration solution.

SECTION8. Exposure controls/personal protection

Additional information about design of technical systems: No further data; see item 7.

8.1 Control parameters

Components with limit values that require monitoring at the workplace.

No Occupational Exposure Limits (OELs) have been established for this product or its chemical components.

8.2 Exposure controls

Appropriate engineering controls

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Personal protective equipment: Safety glasses. Gloves.



Material Of gloves

Nitrile rubber, NBR

Recommended thickness of the material: ≥ 0.11 mm

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Value for the permeation: Level = 1 (<10 min)

Materials for protective clothing: Not available

Hand protection: Wear chemically resistant protective gloves.

Eye protection: Chemical goggles or safety glasses.

Skin and body protection: Not available

Respiratory protection: Use NIOSH-approved air-purifying or supplied-air respirator where airborne concentrations of vapor or mist are expected to exceed exposure limits.

Other information: When using, do not eat, drink or smoke.

SECTION9. Physical and chemical properties

9.1 Information on basic physical and chemical properties	
Appearance:	
Form:	Liquid
colour:	Clear
Odour:	Odourless
Odour threshold:	Not applicable
pH-value	6 -7 at 25 °C
Melting point/Melting range:	Not determined
Boiling point/Boiling range:	Approximately 100 °C
Flash point:	Not applicable
Inflammability (solid, gaseous)	Not applicable
Danger Of explosion:	Not applicable
Critical values for explosion	
Lower:	Not applicable
Upper:	Not applicable
Density:	1.0 g/cm³ at 25 °C
Relative density	Not applicable
Vapour density	Not applicable
Evaporation rate	Not applicable
Solubility in / Miscibility with	
Water:	Soluble
Segregation coefficient (n-octanol/water):	Not applicable
Viscosity:	
Dynamic:	Not applicable
kinematic	Not applicable
Solvent content:	
Organic solvents:	Not applicable
Solids content:	Not applicable

9.2 Other information: No further relevant information available

SECTION10. Stability and reactivity

Reactivity

No further relevant information available.

Chemical Stability

Stable under standard ambient conditions.

Possibility Of Hazardous Reactions:

Not to be expected because of low concentration of the dissolved substances.

Conditions to avoid:

Heating

Incompatible materials:

Strong acids, Strong oxidizing agents

Hazardous decomposition products:

No further relevant information available.

SECTION11. Toxicological information

11.1 Information on toxicological effects

Toxicological effects:

Acute toxicity (oral): No further relevant information available.

Acute toxicity (dermal): No further relevant information available..

Acute toxicity (inhalative): No further relevant information available.

Skin corrosion/irritation: No further relevant information available.

Eye damage/irritation: No further relevant information available..

Sensitisation to the respiratory tract: No further relevant information available.

Skin sensitisation: No further relevant information available.

Germ cell mutagenicity/Genotoxicity: No further relevant information available..

Carcinogenicity: No further relevant information available.

Reproductive toxicity: No further relevant information available.

Effects on or via lactation: No further relevant information available..

Specific target organ toxicity (single exposure): No further relevant information available..

Specific target organ toxicity (repeated exposure): No further relevant information available.

Aspiration hazard: No further relevant information available.

Symptoms:

After ingestion of high quantities: Headache, nausea, inebriation, vomiting, abdominal pain, drowsiness, diarrhoea.

SECTION12. Ecological information

12.1 Toxicity

Aquatic toxicity:

No further relevant information available.

12.2 Persistence and degradability

No further relevant information available.

Other information:

No further relevant information available.

12.3 Bioaccumulative potential

No further relevant information available.

12.4 Mobility in soil

No further relevant information available.

Additional ecological information:

General notes:

No ecological problems are to be expected when the product is handled and used with due care and attention.

12.5 Results of PBT and vPvB assessment

No data available

12.6 Other adverse effects

No further relevant information available.

SECTION13. Disposal considerations

13.1 Waste treatment methods

Chemical residues are generally classified as special waste and thus covered by local regulations. Contact local authorities or disposal companies for advice. Handle contaminated packaging in the same way as the substance itself.

Uncleaned packagings:

Recommendation:

Disposal must be made according to official regulations.

Recommended cleaning agent:

Water, if necessary with cleaning agent.

SECTION14. Transport information

14.1 UN-Number ADR, ADN, IMDG, IATA	Not applicable.
14.2 UN proper shipping name ADR, ADN, IMDG, IATA	Not restricted
14.3 Transport hazard class(es) ADR, ADN, IMDG, IATA Class	Not applicable.
14.4 Packing group ADR, IMDG, IATA	Not applicable.
14.5 Environmental hazards: Marine pollutant:	No
14.6 Special precautions for user	Not applicable.
14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC code	Not applicable.
Transport/Additional information:	Not dangerous according to the above specifications.

SECTION 15. Regulatory information

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

National regulations

This safety datasheet complies with the requirements of Regulation According to Regulation (EC) No. 1272/2008 and GHS system.

Information about limitation of use: Not required.

Chemical safety assessment: For this mixture a chemical safety assessment is not required.

SECTION 16. Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Abbreviations and acronyms:

<p>ATE - Acute Toxicity Estimate CAS - Chemical Abstracts Service TSCA - United States Toxic Substances Control Act Section 8(b) Inventory DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances NLP - EU No Longer Polymers IECSC - Chinese Inventory of Existing Chemical Substances ENCS - Japanese Existing and New Chemical Substances KECL - Korean Existing and Evaluated Chemical Substances AICS - Australian Inventory of Chemical Substances PICCS - Philippines Inventory of Chemicals and Chemical Substances WEL - Workplace Exposure Limit TWA - Time Weighted Average DNEL - Derived No Effect Level PNEC - Predicted No Effect Concentration NOEC - No Observed Effect Concentration RPE - Respiratory Protective Equipment LD50 - Lethal Dose 50% LC50 - Lethal Concentration 50% EC50 - Effective Concentration 50%</p>	<p>POW - Partition coefficient Octanol:Water PBT - Persistent, Bioaccumulative, Toxic vPvB - very Persistent, very Bioaccumulative BCF - Bioconcentration factor</p> <p>IARC - International Agency for Research on Cancer NTP - National Toxicity Program OSHA - United States Occupational Safety and Health Administration ACGIH - American Conference of Governmental Industrial Hygienists NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health NFPA - United States National Fire Protection Association ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code ICAO/IATA - International Civil Aviation Organization/International Air Transport Association MARPOL - International Convention for the Prevention of Pollution from Ships DOT - United States Department of Transportation GHS: Globally Harmonized System of Classification and Labelling of Chemicals</p>
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Disclaimer

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.