SAFETY DATA SHEET

MOEL's Public Notice No. 2016-19 (Standards for Classification and Labeling of Chemical Substances and Safety Data Sheets)

WAI4 - KGHS - KOREAN **Issue Date** 05-Sep-2019 **Revision Date** 05-Sep-2019 **Revision Number** 1

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

Product Identifier

Product Name 447 µS/cm Conductivity Solution

Product No 35653-10

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

Supplier

Fisher Scientific Korea
D5,D6, Incheon Airport Logistics Complex
150, Gonghangdong-Ro Mapo-Gu 296 Beon-Gil
Jung-Gu, Incheon 400-340
Tel: +82-2-6196-5500
Fax: +82-2-6196-5501

Thermo Fisher Scientific©
Water and Lab Products
22 Alpha Road
Chelmsford, MA 01824, USA
1-978-232-6000

E-mail address

Chem.KR@thermofisher.com info.water@thermo.com

Emergency Telephone Number

Emergency telephone: **Medical: +(82) 070-7686-0086 or + 1-703-741-5970**
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 USA

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

Other Hazards

NFPA

Health	Flammability	Instability	Physical hazards
0	0	0	N/A

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Component	Common Name	CAS-No	Index No.	Weight %
Water	No information available	7732-18-5	KE-35400	99 - 100
Potassium Chloride	No information available	7447-40-7	KE-29086	0.5 - 1

SECTION 4: FIRST AID MEASURES

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 Move 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.
Environmental Precautions 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.

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
Ensure adequate ventilation
Avoid contact with skin, eyes and 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
Keep away 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

Biological Exposure Indices

Component	CAS-No	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, wear:. Face-shield.

Skin and Body Protection Wear protective gloves/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

Physical State	Liquid
Appearance	Clear
Odor	None
Odor Threshold	No information available
pH	6.25
PH Range	4.75 - 7.75

Property	Values	Remarks • Method
Melting point/freezing point	No information available	
Boiling Point/Range	~ 100 °C / 212 °F	
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	soluble	
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	No Information available
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

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.

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

Bioaccumulation/ Accumulation
No information available

Mobility
Will likely be mobile in the environment due to its water solubility.

Other adverse effects
No information available

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
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 - Accident Precaution Chemicals (% in mixtures)	Chemical Control Act - Accident Precaution Chemicals - Quantity limits Storage (% in mixtures)	Chemical Control Act - 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	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 EHS RQs	Hazardous Substances RQs	SARA 313 - Threshold Values %
Water	7732-18-5	Not applicable	Not applicable	Not applicable
Potassium Chloride	7447-40-7	Not applicable	Not applicable	Not applicable

CLP Classification - Regulation (EC) No 1272/2008

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

SECTION 16: OTHER INFORMATION

Prepared By Regulatory Affairs

Prepared For Thermo Fisher Scientific Inc.©

Issue Date 05-Sep-2019

Revision Date 05-Sep-2019

Reason for revision Initial Release.

MOEL's Public Notice No. 2016-19 (Standards for Classification and Labeling of Chemical Substances and Safety Data Sheets)

Disclaimer

IMPORTANT: The information contained in this SDS is correct to the best of our knowledge as of the issue date (or subsequent revision date, if any), and is to be used only as a guide. This SDS does not constitute a guarantee (express or implied) of any kind and we make no warranties of any kind as to the accuracy or completeness of the information contained herein or the merchantability or fitness of the product or this information for a particular purpose. It is the responsibility of each individual buyer/user to determine the suitability of this information and the product for its intended purposes. Product sales are subject to Thermo Fisher Scientifics standard terms and conditions of sale. This information relates only to the designated product as shipped

and may not be valid if the product is used in combination with any other materials or is not used in accordance with our instructions, or is altered in any way. It is the responsibility of the buyer/user to ensure that its activities comply with all applicable government requirements. Since conditions of use of the product are not under direct control of Thermo Fisher Scientific, it is the duty of the buyer/user to determine the necessary conditions for the safe use of the product. Thermo Fisher Scientific will not be liable for any injuries or damages resulting from handling, use, misuse or contact with the product.

End of Safety Data Sheet