1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Identifier

Product Name: ROSS Reference Electrode Filling Solution
Product Number(s): 810007
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/Supplier

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

E-mail address: info.water@thermo.com

Made in: USA

Emergency Telephone

24 Hour Emergency Phone Number
CHEMTREC®
Within USA and Canada: 1-800-424-9300
Outside USA and Canada: 1-703-527-3887
(collect calls accepted)
2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Label Elements

Emergency Overview

The product contains no substances which at their given concentration, are considered to be hazardous to health

Appearance Orange
Physical State Liquid
Odor None

Safety data sheet available on request

Precautionary Statements
Do not handle until all safety information has been read and understood.

Hazard not otherwise classified (HNOC)
No information available

Other Information
No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>Trade Secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium Chloride</td>
<td>7447-40-7</td>
<td>20 - 30%</td>
<td>*</td>
</tr>
</tbody>
</table>

*The exact percentage (concentration) of composition has been withheld as a trade secret.

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 thoroughly with plenty of water, also under the eyelids. Obtain medical attention.

Skin Contact
Wash off immediately with soap and plenty of water for at least 15 minutes while removing all contaminated clothing and shoes. If skin reactions occur, contact a physician.

Inhalation
Move to fresh air. If breathing is difficult, give oxygen. If symptoms persist, obtain medical attention.

Ingestion
Clean mouth with water and drink afterwards plenty of water. Do not induce vomiting. Call a physician or Poison Control Center immediately.
Protection of First-aiders

Use personal protective equipment. See Section 8 for more detail. Do not use mouth-to-mouth method if victim ingested or inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Most important symptoms and effects, both acute and delayed

Most important symptoms/effects No information available

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically

5. FIRE-FIGHTING 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.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Personal Precautions
Environmental Precautions
Use personal protective equipment. Refer to Section 8. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

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.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Handling
To avoid risks to human health and the environment, comply with the instructions for use
Wear personal protective equipment
Avoid breathing dust/fume/gas/mist/vapours/spray
Ensure adequate ventilation, especially in confined areas

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

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines
This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Appropriate engineering controls

Engineering Measures
Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face Protection
Wear chemical splash goggles. If splashes are likely to occur, wear a face-shield.

Skin and Body Protection
Wear protective gloves/clothing.

Respiratory Protection
None required under normal usage. In case of inadequate ventilation wear respiratory protection.

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Liquid</td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>Orange</td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>pH Range</td>
<td>5.0 - 8.5</td>
<td></td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>~ 100 °C / 212 °F</td>
<td></td>
</tr>
<tr>
<td>Flash Point (High in °C)</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper flammability limit:</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Lower flammability limit:</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Vapor Density</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Soluble in water</td>
<td></td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Decomposition Temperature</td>
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<td></td>
</tr>
<tr>
<td>Kinematic Viscosity</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Dynamic viscosity</td>
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<td></td>
</tr>
<tr>
<td>Explosive Properties</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Oxidizing Properties</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Other Information</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Softening Point</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>VOC Content(%)</td>
<td>No information available</td>
<td></td>
</tr>
</tbody>
</table>
10. STABILITY AND REACTIVITY

Reactivity
No Information available

Chemical Stability
Stable under normal conditions

Possibility of Hazardous Reactions
None under normal conditions

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

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

- Inhalation: No information available
- Eye Contact: No information available
- Skin Contact: No information available
- Ingestion: No information available

<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 Oral (mg/kg)</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium Chloride</td>
<td>2800</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>7447-40-7</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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
- Aspiration hazard: No information available

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document.
12. ECOLOGICAL INFORMATION

Ecotoxicity

0.2% of the mixture consists of components(s) of unknown hazards to the aquatic environment

<table>
<thead>
<tr>
<th>Component</th>
<th>Freshwater Algae</th>
<th>Freshwater Fish</th>
<th>Water Flea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium Chloride</td>
<td>2500: 72 h Desmodesmus subspicatus mg/L LC50</td>
<td>750 - 1020: 96 h Pimephales promelas mg/L LC50 static 1060: 96 h Lepomis macrochirus mg/L LC50 static</td>
<td>65: 48 h Daphnia magna mg/L EC50 Static 825: 48 h Daphnia magna mg/L EC50</td>
</tr>
</tbody>
</table>

Persistence and Degradability
No information available

Bioaccumulation/ Accumulation
No information available

Mobility
No information available.

Other adverse effects
No information available.

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.

14. TRANSPORT INFORMATION

DOT
Not regulated

TDG
Not regulated

MEX
Not regulated

ICAO
Not regulated

IATA
Not regulated

IMDG/IMO
Not regulated

RID
Not regulated

ADR
Not regulated

ADN
Not regulated

16. REGULATORY INFORMATION

International inventories
USINV
Complies
Product Name: ROSS Reference Electrode Filling Solution

Revision Date: 18-May-2015

CANINV: Complies
EINECS/ELINCS: Complies
ENCS: Does not Comply
IECSC: Complies
KECL: Complies
PICCS: Complies
AICS: Complies

USINVI/ TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
CANINIV/ DSL/INDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
ENCS - Japanese Existing and New Chemical Substances
IECSC - Chinese Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and and Title 40n of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazardous
Categorization

Acute Health Hazard: No
Chronic Health Hazard: No
Fire Hazard: No
Sudden Release of Pressure Hazard: No
Reactive Hazard: No

Clean Water Act
Not applicable

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

U.S. State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals

State Right-to-Know

U.S. EPA Label Information
No information available

16. OTHER INFORMATION

Prepared By: Environmental, Health and Safety
Prepared For: Thermo Fisher Scientific Inc.

Product Number(s): 610007

Document No. 205538-001

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Product Name  ROSS Reference Electrode Filling Solution

Issue Date  No information available
Revision Date  18-May-2015
Expiration Date  SDS is valid 3 years from revision date. Contact wai.techservbev@thermofisher.com for the latest revision.
Reason for revision  Update to CLP Format

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End of Safety Data Sheet