SECTION 1: IDENTIFICATION

1.1. Product Identifier
Product Name: Tris Lysis Buffer
Product Code: R60TX

1.2. Intended Use of the Product
Laboratory chemicals

1.3. Name, Address, and Telephone of the Responsible Party
Company
Meso Scale Diagnostics
1601 Research Blvd
Rockville, MD 20850-3128
T 240-314-2600

1.4. Emergency Telephone Number
Emergency Number : Within the U.S. and Canada (24 hours, toll-free)
CHEMTREC: 1-800-424-9300
International (Hours of operation: Monday – Friday, 1230 – 2130 UTC or 0830 – 1730 ET)
MSD direct dial: +1-240-314-2799

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture
GHS-US classification
Eye Irrit. 2A  H319
Full text of H-phrases: see section 16

2.2. Label Elements
GHS-US Labeling
Hazard Pictograms (GHS-US) : 

Signal Word (GHS-US) : Warning
Hazard Statements (GHS-US) : H319 - Causes serious eye irritation.
Precautionary Statements (GHS-US) : P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.
P280 - Wear protective gloves, protective clothing, and eye protection.
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 - If eye irritation persists: Get medical advice/attention.

2.3. Other Hazards
Exposure may aggravate pre-existing eye, skin, or respiratory conditions.

2.4. Unknown Acute Toxicity (GHS-US)
No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances
Not applicable

3.2. Mixture

<table>
<thead>
<tr>
<th>Name</th>
<th>Product Identifier</th>
<th>% (w/w)</th>
<th>GHS-US classification</th>
</tr>
</thead>
</table>
| Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy- | (CAS No) 9002-93-1 | 1.06 | Acute Tox. 4 (Oral), H302
| | | | Skin Irrit. 2, H315
| | | | Eye Dam. 1, H318
| | | | Aquatic Acute 2, H401 |
**SECTION 4: FIRST AID MEASURES**

4.1. **Description of First Aid Measures**

**General:** Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

**Inhalation:** When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.

**Skin Contact:** Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Obtain medical attention if irritation develops or persists.

**Eye Contact:** Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do so. Continue rinsing. Obtain medical attention if irritation persists.

**Ingestion:** Rinse mouth. Do NOT induce vomiting. Obtain medical attention.

4.2. **Most Important Symptoms and Effects Both Acute and Delayed**

**General:** Causes serious eye irritation.

**Inhalation:** Prolonged exposure may cause irritation.

**Skin Contact:** Prolonged exposure may cause skin irritation.

**Eye Contact:** Redness, pain, swelling, itching, burning, tearing, and blurred vision.

**Ingestion:** Ingestion may cause adverse effects.

**Chronic Symptoms:** Repeated or prolonged skin contact may cause dermatitis and defatting.

4.3. **Indication of Any Immediate Medical Attention and Special Treatment Needed**

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

**SECTION 5: FIRE-FIGHTING MEASURES**

5.1. **Extinguishing Media**

**Suitable Extinguishing Media:** Water spray, dry chemical, foam, carbon dioxide.

**Unsuitable Extinguishing Media:** Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. **Special Hazards Arising From the Substance or Mixture**

**Fire Hazard:** Product is not flammable.

**Explosion Hazard:** Product is not explosive.

**Reactivity:** Hazardous reactions will not occur under normal conditions.

5.3. **Advice for Firefighters**

**Precautionary Measures Fire:** Exercise caution when fighting any chemical fire.

**Firefighting Instructions:** Use water spray or fog for cooling exposed containers.

**Protection During Firefighting:** Do not enter fire area without proper protective equipment, including respiratory protection.

**Hazardous Combustion Products:** Carbon oxides (CO, CO₂).

**Other Information:** Do not allow run-off from fire fighting to enter drains or water courses.

**Reference to Other Sections**

Refer to section 9 for flammability properties.

**SECTION 6: ACCIDENTAL RELEASE MEASURES**

6.1. **Personal Precautions, Protective Equipment and Emergency Procedures**

**General Measures:** Do not breathe vapor, mist or spray. Do not get in eyes, on skin, or on clothing.

6.1.1. **For Non-Emergency Personnel**

**Protective Equipment:** Use appropriate personal protection equipment (PPE).

**Emergency Procedures:** Evacuate unnecessary personnel.

6.1.2. **For Emergency Personnel**

**Protective Equipment:** Equip cleanup crew with proper protection.

**Emergency Procedures:** Ventilate area. Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit.

6.2. **Environmental Precautions**

Prevent entry to sewers and public waters. Avoid release to the environment.
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6.3. Methods and Material for Containment and Cleaning Up
For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

6.4. Reference to Other Sections
See Section 8, Exposure Controls and Personal Protection. See Section 13, Disposal Considerations.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling
Precautions for Safe Handling: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Avoid breathing vapors, mist, spray. Do not get in eyes, on skin, or on clothing.
Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures.

7.2. Conditions for Safe Storage, Including Any Incompatibilities
Technical Measures: Comply with applicable regulations.
Storage Conditions: Keep container closed when not in use. Store in a dry, cool place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials.

7.3. Specific End Use(s)
Laboratory chemicals

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters
For substances listed in section 3 that are not listed here, there are no established Exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), OSHA (PEL), Canadian provincial governments, or the Mexican government.

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. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.
Personal Protective Equipment: Gloves. Protective goggles.

Materials for Protective Clothing: Chemically resistant materials and fabrics.
Hand Protection: Wear protective gloves.
Eye Protection: Chemical safety goggles.
Skin and Body Protection: Wear suitable protective clothing.
Respiratory Protection: If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn. In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.
Other Information: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties
Physical State: Liquid
Appearance: Not available
Odor: Not available
Odor Threshold: Not available
pH: Not available
Evaporation Rate: Not available
Melting Point: Not available
Freezing Point: Not available
Boiling Point: Not available
Flash Point: Not available
**Tris Lysis Buffer**

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<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto-ignition Temperature</td>
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</tr>
<tr>
<td>Decomposition Temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not available</td>
</tr>
<tr>
<td>Lower Flammable Limit</td>
<td>Not available</td>
</tr>
<tr>
<td>Upper Flammable Limit</td>
<td>Not available</td>
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<tr>
<td>Vapor Pressure</td>
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</tr>
<tr>
<td>Relative Vapor Density at 20 °C</td>
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</tr>
<tr>
<td>Relative Density</td>
<td>Not available</td>
</tr>
<tr>
<td>Specific Gravity</td>
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</tr>
<tr>
<td>Solubility</td>
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<tr>
<td>Partition Coefficient: N-Octanol/Water</td>
<td>Not available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not available</td>
</tr>
</tbody>
</table>

**SECTION 10: STABILITY AND REACTIVITY**

10.1. Reactivity: Hazardous reactions will not occur under normal conditions.
10.2. Chemical Stability: Stable under recommended handling and storage conditions (see section 7).
10.3. Possibility of Hazardous Reactions: Hazardous polymerization will not occur.
10.4. Conditions to Avoid: Direct sunlight, extremely high or low temperatures, and incompatible materials.
10.6. Hazardous Decomposition Products: None known.

**SECTION 11: TOXICOLOGICAL INFORMATION**

11.1. Information on Toxicological Effects - Product

Acute Toxicity: Not classified
LD50 and LC50 Data: Not available
Skin Corrosion/Irritation: Not classified
Serious Eye Damage/Irritation: Causes serious eye irritation.
Respiratory or Skin Sensitization: Not classified
Germ Cell Mutagenicity: Not classified
Teratogenicity: Not classified
Carcinogenicity: Not classified
Specific Target Organ Toxicity (Repeated Exposure): Not classified
Reproductive Toxicity: Not classified
Specific Target Organ Toxicity (Single Exposure): Not classified
Aspiration Hazard: Not classified
Symptoms/Injuries After Inhalation: Prolonged exposure may cause irritation.
Symptoms/Injuries After Skin Contact: Prolonged exposure may cause skin irritation.
Symptoms/Injuries After Eye Contact: Redness, pain, swelling, itching, burning, tearing, and blurred vision.
Symptoms/Injuries After Ingestion: Ingestion may cause adverse effects.
Chronic Symptoms: Repeated or prolonged skin contact may cause dermatitis and defatting.

11.2. Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data:

<table>
<thead>
<tr>
<th>Compound</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poly(oxy-1,2-ethanediyl), .alpha.-[4-{1,1,3,3-tetramethylbutyl}phenyl]-.omega.-hydroxy- (9002-93-1)</td>
<td></td>
</tr>
<tr>
<td>LD50 Oral Rat</td>
<td>1800 mg/kg</td>
</tr>
</tbody>
</table>

**SECTION 12: ECOLOGICAL INFORMATION**

12.1. Toxicity

Ecology - General: Harmful to aquatic life. Harmful to aquatic life with long lasting effects.

<table>
<thead>
<tr>
<th>Compound</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poly(oxy-1,2-ethanediyl), .alpha.-[4-{1,1,3,3-tetramethylbutyl}phenyl]-.omega.-hydroxy- (9002-93-1)</td>
<td></td>
</tr>
<tr>
<td>LC50 Fish 1</td>
<td>3 mg/l</td>
</tr>
</tbody>
</table>

12.2. Persistence and Degradability

Tris Lysis Buffer (3-3049-420002-B)
Persistence and Degradability: Not established.
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12.3. Bioaccumulative Potential

| Tris Lysis Buffer (3-3049-420002-B) | Bioaccumulative Potential | Not established. |

12.4. Mobility in Soil
Not available

12.5. Other Adverse Effects
Other Information: Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods
Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

Additional Information: Container may remain hazardous when empty. Continue to observe all precautions.

Ecology – Waste Materials: Avoid release to the environment. This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

SECTION 14: TRANSPORT INFORMATION

14.1. In Accordance with DOT
Not regulated for transport

14.2. In Accordance with IMDG
Not regulated for transport

14.3. In Accordance with IATA
Not regulated for transport

14.4. In Accordance with TDG
Not regulated for transport

SECTION 15: REGULATORY INFORMATION

15.1. US Federal Regulations

| Tris Lysis Buffer (3-3049-420002-B) | SARA Section 311/312 Hazard Classes | Immediate (acute) health hazard |
| Poly(oxy-1,2-ethanediyl), .alpha.-[4-{1,1,3,3-tetramethylbutyl}phenyl]-.omega.-hydroxy- (9002-93-1) | Listed on the United States TSCA (Toxic Substances Control Act) inventory |
| SARA Section 311/312 Hazard Classes | Immediate (acute) health hazard |

15.2. US State Regulations
No additional information available

15.3. Canadian Regulations

| Tris Lysis Buffer (3-3049-420002-B) | WHMIS Classification | Class D Division 2 Subdivision B - Toxic material causing other toxic effects |
| Poly(oxy-1,2-ethanediyl), .alpha.-[4-{1,1,3,3-tetramethylbutyl}phenyl]-.omega.-hydroxy- (9002-93-1) | Listed on the Canadian DSL (Domestic Substances List) |
| Listed on the Canadian IDL (Ingredient Disclosure List) |
| IDL Concentration 1 % |
| WHMIS Classification | Class D Division 2 Subdivision B - Toxic material causing other toxic effects |

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision Date : 26Jul2018
Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

| Acute Tox. 4 (Oral) | Acute toxicity (oral) Category 4 |
| Aquatic Acute 2 | Hazardous to the aquatic environment - Acute Hazard Category 2 |
| Aquatic Chronic 2 | Hazardous to the aquatic environment - Chronic Hazard Category 2 |
| Eye Dam. 1 | Serious eye damage/eye irritation Category 1 |

26Jul2018  EN (English US)  5/6
# Tris Lysis Buffer

## Safety Data Sheet

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<table>
<thead>
<tr>
<th>Party Responsible for the Preparation of This Document</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meso Scale Diagnostics</td>
</tr>
<tr>
<td>T 240-314-2600</td>
</tr>
</tbody>
</table>

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

<table>
<thead>
<tr>
<th>Eye Irrit. 2A</th>
<th>Serious eye damage/eye irritation Category 2A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin Irrit. 2</td>
<td>Skin corrosion/irritation Category 2</td>
</tr>
<tr>
<td>H302</td>
<td>Harmful if swallowed</td>
</tr>
<tr>
<td>H315</td>
<td>Causes skin irritation</td>
</tr>
<tr>
<td>H318</td>
<td>Causes serious eye damage</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation</td>
</tr>
<tr>
<td>H401</td>
<td>Toxic to aquatic life</td>
</tr>
<tr>
<td>H411</td>
<td>Toxic to aquatic life with long lasting effects</td>
</tr>
</tbody>
</table>

NA GHS SDS