Section 1: Material Identification

Material Name:
Buffer

Supplied By:
Swift Biosciences, Inc.
58 Parkland Plaza, Suite 100
Ann Arbor, MI  48103
24-Hour Emergency Telephone (CHEMTREC): 1-800-424-9300
Chemtrec should only be called in a chemical emergency (spill, leak, fire, exposure, or accident)

Section 2: Composition Information/ Ingredients

Hazardous/Non-Hazardous Components:
The product contains Tromethamine, Sodium Chloride, and Magnesium Chloride, 6-hydrate, which at its given concentration is not considered to be hazardous to health. We recommend handling all chemicals with caution.

Section 3: Hazards Identification

Principle Routes of Exposure/Potential Health effects:

<table>
<thead>
<tr>
<th>Route</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eyes</td>
<td>May cause eye irritation with susceptible persons.</td>
</tr>
<tr>
<td>Skin</td>
<td>May cause skin irritation in susceptible persons.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>May be harmful by inhalation.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>May be harmful if swallowed.</td>
</tr>
</tbody>
</table>

Specific effects:

<table>
<thead>
<tr>
<th>Effect Type</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carcinogenic effects</td>
<td>None</td>
</tr>
<tr>
<td>Mutagenic effects</td>
<td>None</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>None</td>
</tr>
<tr>
<td>Sensitization</td>
<td>None</td>
</tr>
<tr>
<td>Target organ effects</td>
<td>None under normal use conditions</td>
</tr>
</tbody>
</table>

HMIS:

<table>
<thead>
<tr>
<th>Property</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>Not known</td>
</tr>
<tr>
<td>Flammability</td>
<td>Not known</td>
</tr>
<tr>
<td>Reactivity</td>
<td>Not known</td>
</tr>
</tbody>
</table>
Section 4: First Aid Measures

Skin contact
Wash exposed area with soap and water. If irritation arises, call a physician.

Eye contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.

Ingestion
Give several glasses of milk or water. Vomiting may occur spontaneously, but it is not necessary to induce. Never give anything by mouth to an unconscious person.

Inhalation
Move to fresh air. If symptoms persist, call a physician. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Notes to physician
Treat symptomatically.

Section 5: Fire Fighting Measures

Suitable extinguishing media
Carbon dioxide, dry chemical, or appropriate foam.

Fire/explosion hazards
Combustible liquid. Emits toxic fumes under fire conditions.

Special protective equipment for firefighters
Wear self-contained breathing apparatus and protective suit.

Section 6: Accidental Release Measures

Personal precautions
Use personal protective equipment.

Clean-up method
Soak up with inert absorbent material and put in chemical waste container.

Section 7: Handling and Storage

Handling
Avoid inhalation and prolonged exposure. Use personal protective equipment such as gloves, goggles, and lab coat. Avoid contact with Eyes, Skin, and Clothing.

Storage
Keep tightly closed in properly labeled containers; store in a dry place, at directed temperature indicated on label.

Notes
Hygroscopic.

Section 8: Exposure Controls and Personal Protection

Exposure limits
We are not aware of any national exposure limit.

Engineering measures
Safety shower and eye wash. Ensure adequate ventilation.

Personal protective equipment:
Respiratory protection
NIOSH/MSHA-approved respirator.

Hand protection
Impervious gloves.

Eye protection
Safety glasses with side-shields.

Skin and body protection
Lightweight protective clothing.

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

Environmental exposure controls
Prevent product from entering drains.
Section 9: Physical and Chemical Properties

**General information:**
- **Form**: Liquid
- **Appearance**: Clear
- **Odor**: Faint

**Important health safety and environmental information:**
- **Boiling point/range**: No data available
- **Melting point/range**: No data available
- **Flash point**: No data available
- **Autoignition temperature**: No data available
- **Oxidizing properties**: No information available
- **Water solubility**: Soluble
- **pH**: 5.5-8.0

Section 10: Stability and Reactivity

**Stability**: Stable under normal conditions.

**Materials to avoid**: Strong oxidizing agents, strong bases

**Hazardous decomposition products**: Hydrogen chloride gas, magnesium oxide, carbon monoxide, carbon dioxide, nitrogen oxides, hydrogen chloride gas, carbon oxides, and sodium oxides.

**Other**: Protect from heat and moisture.

Section 11: Toxicological Information

**Acute toxicity**: Not hazardous

**Principle routes of exposure/potential health effects:**
- **Eyes**: May cause eye irritation with susceptible persons.
- **Skin**: May cause skin irritation in susceptible persons.
- **Inhalation**: May be harmful by inhalation.
- **Ingestion**: May be harmful if swallowed.

**Specific effects**
- **Carcinogenic effects**: None
- **Mutagenic effects**: None
- **Reproductive toxicity**: None
- **Sensitization**: None

**Target organ effects**: Single dose oral toxicity is low. Ingestion of larger amounts may cause injury. Signs and symptoms of excessive exposure may be central nervous system effects and increased blood sugar levels. Persons with preexisting conditions may be more susceptible.

**Notes**: Water hazard class 1 (self-assessment): slightly hazardous for water
Section 12: Ecological Information

Data not available.

Section 13: Disposal Considerations

Dispose of in accordance with local regulations.

Section 14: Transport Information

<table>
<thead>
<tr>
<th>IATA:</th>
<th>Proper shipping name</th>
<th>Classified as non-hazardous in the meaning of transport regulations. No DOT shipping name required.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hazard class</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>Subsidiary class</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>Packing group</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>UN-No</td>
<td>None</td>
</tr>
</tbody>
</table>

Section 15: Regulatory Information

**U.S. Federal Regulations:**

**SARA 313**
- This product is not regulated by SARA.

**Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)**
- This product does not contain HAPs.

**EPA (Environmental Protection Agency)**
- Cancerogenity categories: 7646-85-7 zinc chloride

**U.S. State Regulations:**
- This product does not contain chemicals listed under California Proposition 65. Tromethamine, Sodium Chloride, and Magnesium Chloride, 6-hydrate are listed under MA–RTK.

**International Inventories:** **International Inventories:** Tromethamine and Magnesium Chloride, 6-hydrate are listed under TSCA, PICCS, ENCS, DSL, and AICS.

**WHMIS hazard class:**
- This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

Section 16: Other Information

This material is sold for research and development purposes only. It is not for any human or animal therapeutic or clinical diagnostic use. It is not intended for food, drug, household, agricultural, or cosmetic use. An individual technically qualified to handle potentially hazardous chemicals must supervise the use of this material. The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since Swift Biosciences cannot control the actual methods, volumes, or conditions of use, the Company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein. THE INFORMATION IN THIS MSDS DOES NOT CONSTITUTE A WARRANTY, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.

END OF MSDS
Section 1: Material Identification

Material Name:
Reagent

Supplied By:
Swift Biosciences, Inc.
58 Parkland Plaza, Suite 100
Ann Arbor, MI  48103

24-Hour Emergency Telephone (CHEMTREC): 1-800-424-9300
Chemtrec should only be called in a chemical emergency (spill, leak, fire, exposure, or accident)

Section 2: Composition Information/ Ingredients

Hazardous/Non-Hazardous Components:
The material is composed of oligonucleotides (with and without non-radioactive modifications) suspended in 5 mM Tris(hydroxymethyl)aminomethane Hydrochloride with 0.05 mM Ethylenediaminetetraacetic acid, pH 8.0

Section 3: Hazards Identification

Principle Routes of Exposure/Potential Health effects:
- Eyes: May cause eye irritation with susceptible persons.
- Skin: May cause skin irritation in susceptible persons.
- Inhalation: May be harmful by inhalation.
- Ingestion: May be harmful if swallowed.

Specific effects:
- Carcinogenic effects: None
- Mutagenic effects: None
- Reproductive toxicity: None
- Sensitization: None
- Target organ effects: None under normal use conditions

HMIS:
- Health: 1
- Flammability: 0
- Reactivity: 0
Section 4: First Aid Measures

Skin contact
Rinse with plenty of water. If symptoms arise, call a physician.

Eye contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician. Do not induce vomiting without medical advice.

Ingestion
Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Do not induce vomiting without medical advice.

Inhalation
Move to fresh air. If symptoms persist, call a physician. If not breathing, give artificial respiration.

Notes to physician
Treat symptomatically.

Section 5: Fire Fighting Measures

Suitable extinguishing media
Water spray, carbon dioxide, dry chemical, or appropriate foam.

Special protective equipment for firefighters
Wear self-contained breathing apparatus and protective suit.

Section 6: Accidental Release Measures

Personal precautions
Use personal protective equipment.

Clean-up method
Soak up with inert absorbent material.

Section 7: Handling and Storage

Handling
Use personal protective equipment such as gloves, goggles, and lab coat. Avoid contact with Eyes, Skin, and Clothing.

Storage
Keep in properly labeled containers; store at directed temperature indicated on label.

Section 8: Exposure Controls and Personal Protection

Exposure limits
We are not aware of any national exposure limit.

Engineering measures
Ensure adequate ventilation, especially in confined areas.

Personal protective equipment:

Respiratory protection
In case of insufficient ventilation wear suitable respiratory equipment.

Hand protection
Impervious gloves.

Eye protection
Safety glasses with side-shields.

Skin and body protection
Lightweight protective clothing.

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

Environmental exposure controls
Prevent product from entering drains.
Section 9: Physical and Chemical Properties

**General information:**
Form Liquid

**Important health safety and environmental information:**
- Boiling point/range: No data available
- Melting point/range: No data available
- Flash point: No data available
- Autoignition temperature: No data available
- Oxidizing properties: No information available
- Water solubility: Soluble

Section 10: Stability and Reactivity

**Stability:** Stable under normal conditions.
**Materials to avoid:** Strong alkalis, acids and oxidizing agents.
**Hazardous decomposition products:** None under normal use.
**Polymerization:** Hazardous polymerization does not occur.

Section 11: Toxicological Information

**Acute toxicity:** Not hazardous
**Principle routes of exposure/potential health effects:**
- Eyes: May cause eye irritation with susceptible persons.
- Skin: May cause skin irritation in susceptible persons.
- Inhalation: May be harmful by inhalation.
- Ingestion: May be harmful if swallowed.

**Specific effects:**
- Carcinogenic effects: None
- Mutagenic effects: None
- Reproductive toxicity: None
- Sensitization: None

**Target organ effects:** None under normal use conditions.

Section 12: Ecological Information

**Ecotoxicity effects:** No information available
**Mobility:** No information available
**Biodegradation:** Inherently biodegradable
**Bioaccumulation:** Does not bioaccumulate

Section 13: Disposal Considerations

Dispose of in accordance with local regulations.
Section 14: Transport Information

IATA:

- Proper shipping name: Not classified as dangerous in the meaning of transport regulations
- Hazard class: None
- Subsidiary class: None
- Packing group: None
- UN-No: None

DOT: This substance is considered to be non-hazardous for transport. No shipping name required.

Section 15: Regulatory Information

U.S. Federal Regulations:

SARA 313
This product is not regulated by SARA.

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)
This product does not contain HAPs.

U.S. State Regulations:

California Proposition 65
This product does not contain chemicals listed under Proposition 65.

WHMIS hazard class:
Non-controlled

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

Section 16: Other Information

This material is sold for research and development purposes only. It is not for any human or animal therapeutic or clinical diagnostic use. It is not intended for food, drug, household, agricultural, or cosmetic use. An individual technically qualified to handle potentially hazardous chemicals must supervise the use of this material. The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since Swift Biosciences cannot control the actual methods, volumes, or conditions of use, the Company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein. THE INFORMATION IN THIS MSDS DOES NOT CONSTITUTE A WARRANTY, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.

END OF MSDS
Section 1: Material Identification

Material Name:
Enzyme

Supplied By:
Swift Biosciences, Inc.
58 Parkland Plaza, Suite 100
Ann Arbor, MI  48103
24-Hour Emergency Telephone (CHEMTREC): 1-800-424-9300
Chemtrec should only be called in a chemical emergency (spill, leak, fire, exposure, or accident)

Section 2: Composition Information/ Ingredients

Hazardous/Non-Hazardous Components: Glycerol (CAS# 56-81-5) 25-50%; Potassium Phosphate (CAS# 778-77-0)
The product contains no substances which at their given concentration, are considered to be hazardous to health. We recommend handling all chemicals with caution.

Section 3: Hazards Identification

Principle Routes of Exposure/Potential Health effects:

<table>
<thead>
<tr>
<th>Route</th>
<th>Effect</th>
</tr>
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<tbody>
<tr>
<td>Eyes</td>
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<td>Inhalation</td>
<td>May be harmful by inhalation.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>May be harmful if swallowed.</td>
</tr>
</tbody>
</table>

Specific effects:

- Carcinogenic effects: None
- Mutagenic effects: None
- Reproductive toxicity: None
- Sensitization: None
- Target organ effects: May cause kidney damage (Nephrotoxin)

HMIS:

- Health: 0
- Flammability: 1
- Reactivity: 0
Section 4: First Aid Measures

Skin contact
Wash exposed area with soap and water. If symptoms arise, call a physician.

Eye contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms arise, call a physician.

Ingestion
Give several glasses of milk or water. Vomiting may occur spontaneously, but it is not necessary to induce. Never give anything by mouth to an unconscious person.

Inhalation
Move to fresh air. If symptoms persist, call a physician. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Notes to physician
Treat symptomatically.

Section 5: Fire Fighting Measures

Suitable extinguishing media
Carbon dioxide, dry chemical, water spray, or alcohol resistant foam.

Fire/explosion hazards
None known.

Special protective equipment for firefighters
No special advice.

Section 6: Accidental Release Measures

Personal precautions
Use personal protective equipment.

Environmental precautions:
Dilute with water. Prevent from entering drains.

Clean-up method
Soak up with inert absorbent material.

Section 7: Handling and Storage

Handling
Avoid inhalation and prolonged exposure. Use personal protective equipment such as gloves, goggles, and lab coat. Avoid contact with Eyes, Skin, and Clothing.

Storage
Keep tightly closed in properly labeled containers; store at directed temperature indicated on label.

Section 8: Exposure Controls and Personal Protection

Exposure limits (OSHA PEL)
Glycerol: 15 mg/m³ total dust; 5 mg/m³ respirable fraction.

Engineering measures
Safety shower and eye wash. Ensure adequate ventilation.

Personal protective equipment:

Respiratory protection
NIOSH/MSHA-approved respirator.

Hand protection
Impervious gloves.

Eye protection
Safety glasses with side-shields.

Skin and body protection
Lightweight protective clothing.

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

Environmental exposure controls
Prevent product from entering drains.
Section 9: Physical and Chemical Properties

**General information:**
- **Form:** Liquid
- **Appearance:** Clear
- **Odor:** Faint

**Physical Properties:**
- **Boiling point/range:** 100°C
- **Melting point/range:** Undetermined
- **Flash point:** > 100°C
- **Autoignition temperature:** Not applicable
- **Ignition temperature:** 400 °C
- **Water solubility:** Soluble

**Explosion Limits in Air:**
- **Lower:** 0.9%
- **Specific Gravity:** Not determined
- **Vapor Pressure:** 0.1hPa @ 20 °C
- **Vapor Density:** Not determined
- **pH:** 8.0 @ 20 °C

Section 10: Stability and Reactivity

**Stability**
- Stable under normal conditions

**Materials to avoid**
- No dangerous reactions known

**Hazardous decomposition products**
- None known

Section 11: Toxicological Information

**Acute toxicity**
- Not hazardous

**Principle routes of exposure/potential health effects:**
- **Eyes:** May cause eye irritation with susceptible persons
- **Skin:** May cause skin irritation in susceptible persons
- **Inhalation:** May be harmful by inhalation
- **Ingestion:** May be harmful if swallowed

**Specific effects**
- **Carcinogenic effects:** None
- **Mutagenic effects:** None
- **Reproductive toxicity:** None
- **Sensitization:** None

**Target organ effects**
- May cause kidney damage (Nephrotoxin)

Section 12: Ecological Information

**Ecotoxicity effects**
- No information available

**Mobility**
- No information available

**Biodegradation**
- No information available

**Bioaccumulation**
- No information available

**General notes**
- Slightly hazardous for water. Prevent product from entering drains
Section 13: Disposal Considerations

Dispose of in accordance with local regulations

Section 14: Transport Information

**IATA:**

<table>
<thead>
<tr>
<th>Proper shipping name</th>
<th>Not classified as dangerous in the meaning of transport regulations. No DOT shipping name required.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard class</td>
<td>None</td>
</tr>
<tr>
<td>Subsidiary class</td>
<td>None</td>
</tr>
<tr>
<td>Packing group</td>
<td>None</td>
</tr>
<tr>
<td>UN-No</td>
<td>None</td>
</tr>
</tbody>
</table>

Section 15: Regulatory Information

**U.S. Federal Regulations:**

SARA 313
This product is not regulated by SARA.

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)
This product does not contain HAPs.

EPA (Environmental Protection Agency)
Cancerogenity categories: 7646-85-7 zinc chloride

Water Hazard Class
Water hazard class 1 – slightly hazardous for water.

**U.S. State Regulations:**
This product does not contain chemicals listed under California Proposition 65. Glycerol is listed under MA-RTK.

**International Inventories:** Glycerol is listed under TSCA, PICCS, ENCS, DSL, and AICS.

**WHMIS hazard class:**
This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

Section 16: Other Information

This material is sold for research and development purposes only. It is not for any human or animal therapeutic or clinical diagnostic use. It is not intended for food, drug, household, agricultural, or cosmetic use. An individual technically qualified to handle potentially hazardous chemicals must supervise the use of this material. The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since Swift Biosciences cannot control the actual methods, volumes, or conditions of use, the Company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein. THE INFORMATION IN THIS MSDS DOES NOT CONSTITUTE A WARRANTY, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.

END OF MSDS