MATERIAL SAFETY DATA SHEET

Product Name/Description: ChromaLink Digoxigenin (Sulfo-NHS)

I. Product and Company Description

Solulink Biosciences
9853 Pacific Heights Blvd, Ste H.
San Diego, CA 92121

For Product Information/Emergency Phone Number:

Emergency Telephone ChemTrec:
1-800-424-9300 (North America)
+1-703-527-3887 (International)

Solulink-858.625.0670 (For product use see product data sheet insert)

Chemical Name or Synonym:
ChromaLink Dig

II. Chemical Composition

ChromaLink Digoxigenin (Sulfo-NHS) is supplied as a dried pale-yellow residue

Chemical name: Sodium 1-(4-[[5-(3-{2-[2-(3-Digoxigeninyl-carbonylamino-propoxy)-ethoxy]-ethoxy}-propylcarbamoyl)-pyridin-2-yl]-hydrazonomethyl]-benzoyloxy)-2,5-dioxo-pyrrolidine-3-sulfonate

Molecular formula: C_{52}H_{67}N_{6}NaO_{17}S;
Molecular Weight: 1103.17

Chemical composition is similar and closely related to CAS # 129273-26-3

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>CAS Number</th>
<th>%</th>
<th>EC number</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>ChromaLink Digoxigenin (Sulfo-NHS)</td>
<td>Not listed</td>
<td>&gt;85%</td>
<td>Not available</td>
<td>T+, R26,R27, R28-33</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>S:28-36/37-45</td>
</tr>
</tbody>
</table>

III. Hazards Identification
Emergency Overview and Health Hazards: Highly toxic (USA), Very toxic (EU)

NFPA Rating (Scale 0-4): Health = 2  Fire = 0  Reactivity = 0
HMIS Rating (Scale 0-4): Health = 2  Fire = 0  Reactivity = 0

For additional information on toxicity, please refer to section XI.

A. Emergency Overview:

Information Pertaining To Particular Dangers for Man And Environment:

Physical Appearance: Nearly colorless dried residue

B. Potential Health Effects:

    Acute Eye:
    Direct contact may cause irritation with redness.
    Acute Skin:
    Toxic in contact with skin.
    Acute Inhalation:
    Toxic: danger of serious damage to health by prolonged exposure through inhalation.
    Acute ingestion:
    Toxic if swallowed.

IV. First Aid Measures

First Aid Measures for Accidental:

    Eye Exposure:
    In case of contact with eyes, immediately flush eyes with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating eye lids. SEEK MEDICAL ATTENTION IMMEDIATELY.
    Skin Exposure:
    In case of skin contact, wash affected areas with soap and water and flush the area with copious amounts of water. Remove contaminated clothing and SEEK MEDICAL ATTENTION IMMEDIATELY.
    Inhalation:
    In inhaled, move to fresh air. If not breathing, administer artificial respiration. If breathing is difficult, give oxygen or artificial respiration by qualified personnel. SEEK MEDICAL ATTENTION IMMEDIATELY.
    Ingestion:
    If swallowed, rinse mouth out with water provided person is conscious. Never give fluids or induce vomiting if the victim is unconscious or having convulsions. SEEK MEDICAL ATTENTION IMMEDIATELY.

V. Fire Fighting Measures

Fire Hazard Data:

    Fire: Materials contained in this product are not considered to be a fire hazard.
    Autoignition: not applicable
    Flash Point: not applicable
    Flammability Limits (vol/vol%): not applicable  Lower: Upper: not applicable
Extinguishing Media: Use extinguishing media appropriate for surrounding fire

Special Fire Fighting Procedures: Use extinguishing media appropriate for surrounding fire such as water spray, carbon dioxide, dry powder. Wear full protective clothing and NIOSH-approved self-contained breathing apparatus. Avoid inhalation of material or combustion by-products.

Unusual Fire and Explosion Hazards: None known

VI. Accidental Release Measures

Cleanup and Disposal of Spill:

Use lab personal protective equipment such as gloves, lab coat, goggles and self-contained breathing apparatus. Wipe spills with absorbent wipes and discard any product, residue, disposable container or liner in full compliance with national or international regulations. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

VII. Handling and Storage

Handling/Storage:

Do not breathe dust. Do not get into eyes, skin or clothing. Avoid prolonged or repeated exposure. Handle wearing gloves.

Store material dry at room temperature and keep container tightly closed.

VIII. Exposure Controls / Personal Protection

Exposure Guidelines:

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA-PELs</th>
</tr>
</thead>
<tbody>
<tr>
<td>ChromaLink</td>
<td>No occupational limits established</td>
<td>No occupational limits established</td>
<td>No occupational limits established</td>
</tr>
<tr>
<td>Digoxigenin (Sulfo-NHS)</td>
<td>No occupational limits established</td>
<td>No occupational limits established</td>
<td>No occupational limits established</td>
</tr>
</tbody>
</table>

Engineering Controls:
Ventilation must be adequate to maintain the ambient workplace atmosphere below the exposure limit(s) outlined in the MSDS. General room ventilation is satisfactory under anticipated use conditions.

Respiratory Protection:
Not required under anticipated use conditions.

Eye / Face Protection:
Wear appropriate safety glasses with side shields or chemical goggles as described by OSHA’s eye and face protection regulations in 29CFR 1910.133 or European Standard EN166.
Skin Protection:
Wear chemical resistant gloves (such as latex or neoprene) and protective clothing to prevent skin contact.

IX. Physical and Chemical Properties

Component: ChromaLink Digoxigenin (Sulfo-NHS)
Physical Appearance: Nearly colorless residue
Percent Purity: >85%
Boiling Point: No information available
Melting Point: No information available
Specific gravity: No information available
Freezing Point: No information available
Vapor pressure: No information available
Vapor density: No information available
Solubility: aqueous
Evaporation rate: No information available

X. Stability and Reactivity

Chemical Stability:
Stable, may be slightly hygroscopic.
Conditions to Avoid:
Temperatures > 104°C
Materials / Chemicals to Be Avoided:
Strong oxidizing agents
Hazardous Decomposition Products:
Carbon monoxide, carbon dioxide
Hazardous Polymerization:
Will not occur.

XI. Toxicological Information

Acute Oral Toxicity: 0.422 mg/kg (dog) data referred to Digoxigenin LD50
0.20 mg/kg (cat) data referred to Digoxigenin LD50
Acute Inhalation Toxicity: May be fatal if inhaled.
Carcinogenicity:
NTP: Unknown
IARC: Unknown
OSHA: Unknown

XII. Ecological Information

Ecotoxicological Information:
No data available on the product itself
Aquatic toxicity: Not applicable

XIII. Disposal Considerations

**Waste Disposal Method:**
Discard any product, residue, disposable container or liner in full compliance with national regulations.

**Container Handling and Disposal:**
Dispose of container and unused contents in accordance with national regulations.

XIV. Transportation Information

**Is product hazardous to ship?** Yes

**DOT**

**Proper Shipping Name:** Toxic solid, organic, n.o.s (Sodium 1-(4-[[5-(3-{[2-{[3-Digoxigeninyl-carbonylamino-propoxy]-ethoxy}-ethoxy]-propylcarbamoyl]-pyridin-2-yl]-hydrazonomethyl]-benzoyloxy)-2,5-dioxo-pyrrolidine-3-sulfonate)

<table>
<thead>
<tr>
<th>UN #:</th>
<th>2811</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard Class:</td>
<td>6.1</td>
</tr>
<tr>
<td>Packaging Group:</td>
<td>III</td>
</tr>
<tr>
<td>Subsidiary risk:</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

**IATA**

**Proper Shipping Name:** Toxic solids, organic, n.o.s (Sodium 1-(4-[[5-(3-{[2-{[3-Digoxigeninyl-carbonylamino-propoxy]-ethoxy}-ethoxy]-propylcarbamoyl]-pyridin-2-yl]-hydrazonomethyl]-benzoyloxy)-2,5-dioxo-pyrrolidine-3-sulfonate)

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</tr>
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<tr>
<td>Hazard Class:</td>
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</tr>
<tr>
<td>Packaging Group:</td>
<td>III</td>
</tr>
<tr>
<td>Subsidiary risk:</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

XV. Regulatory Information

**Indication of danger:** Very toxic R: 26/27/28/33

**Risk Assessment:** Very toxic by inhalation, in contact with skin and if swallowed. Danger of cumulative effects. S:28-36/37-45

**Safety Statement:** After contact with skin, wash immediately with plenty of polyethylene glycol. Wear suitable protective clothing and gloves. In case of accident or if you fell unwell, seek immediate medical advice (show the label where possible).

U.S. Federal Regulations:

**U.S. CERCLA/SARA/TSCA Regulartory Information:** Not Listed
Other Regulations:

U.S. State None
European/International Regulations

EC Classification: T+ Very toxic
EC Risk and Safety Phrases: R26 Very toxic by inhalation
R27 Very toxic in contact with skin
R28 Very toxic if swallowed
R33 Danger of cumulative effects

Risk Phrases: None
Safety Phrases: S28 After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of ... (to be specified by the manufacturer)
S29 Do not empty into drains; dispose of this material and its container in a safe way

XVI. Other Information

Key Legend Information:

N/A – Not Applicable
ND – Not Determined
ACGIH – American Conference of Governmental Industrial Hygienists
OSHA – Occupational Safety and Health Administration
TLV – Threshold Limit Value
PEL – Permissible Exposure Limit
TWA – Time Weighted Average
STEL – Short Term Exposure Limit
NTP – National Toxicology Program
IARC – International Agency for Research on Cancer

The information contained herein is based on the data available to us and is believed to be correct. However Solulink Incorporated makes no warranty, expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof be obtained from the use thereof.
1. **CHEMICAL IDENTIFICATION**
   - **Product Name:** 1X Modification Buffer
   - **Catalog Number:** S-4000

2. **COMPOSITION/INGREDIENTS**
   - **Ingredient name:** Sodium Phosphate, Dibasic
     - **CAS Number:** 7558-79-4
     - **%:** 25-45
   - **Ingredient name:** Sodium Chloride
     - **CAS Number:** 7647-14-5
     - **%:** 25-45
   - **Ingredient name:** Sodium Phosphate, Monobasic
     - **CAS Number:** 10049-21-5
     - **%:** 10-20

3. **PHYSICAL AND CHEMICAL PROPERTIES**
   - **Appearance:** Clear liquid
   - **Percent Purity:** 100%
   - **Boiling Point:** 100°C
   - **Freezing Point:** 0°C
   - **pH:** 8.0
   - **Solubility:** Aqueous
   - **Vapor Density:** NA
   - **Vapor Pressure:** NA

4. **HAZARDS IDENTIFICATION**
   - **Emergency Overview:** Avoid contact with skin and clothing. Wash thoroughly after handling.
   - **HMIS Rating:**
     - Health: 4
     - Flammability: 0
     - Reactivity: 2
   - **NFPA Rating:**
     - Health: 4
     - Flammability: 0
     - Reactivity: 2

5. **EXPOSURE CONTROLS/EMPLOYEE PROTECTION**
   - Wear appropriate NIOSH/MSHA-approved respirator, chemical-resistant gloves, safety goggles, and other protective clothing. Safety shower and eye bath required. Mechanical exhaust required. Wash thoroughly after handling.

6. **FIRST AID MEASURES**
   - **Eyes:** Immediately flush eyes with copious amounts of water for at least 15 minutes
   - **Skin:** Immediately wash skin with soap and copious amounts of water
   - **Inhalation:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult give oxygen
   - **Ingestion:** If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately.
   - **Other:** Wash contaminated clothing before re-use

7. **FIRE FIGHTING MEASURES**
Upper Flammable Limit: NA
Lower Flammable Limit: NA
Upper Explosion Limit: NA
Lower Explosion Limit: NA
Flashpoint: NA
Auto ignition Temperature: NA
Fire Extinguishing Media: NA
Unusual Fire/Explosion Data: NA

8. **ACCIDENTAL RELEASE**
   Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves. Sweep up, place in a bag, and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

9. **HANDLING AND STORAGE**
   Store in tightly sealed container at room temperature.

10. **WASTE DISPOSAL**
    Contact a licensed professional waste disposal service to dispose of this material. Observe all federal, State and local environmental regulations.

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Solulink, Inc. believes the above information to be accurate, but not necessarily all inclusive, and thus should only be used as a guide in the handling and use of this material. The data in this MSDS relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process. Solulink, Inc. shall not take responsibility for any damage resulting from handling or from contact with the above product. The information in this material safety data sheet meets the requirements of the United States Occupational Safety and Health Act and regulations promulgated thereunder 29 CFR § 1910.1200.
MATERIAL SAFETY DATA SHEET

1. **CHEMICAL IDENTIFICATION**
   - **Product Name:** 1X PBS Buffer
   - **Catalog Number:** S-4017-002

2. **COMPOSITION/INGREDIENTS**

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>CAS Number</th>
<th>%:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Phosphate, Dibasic</td>
<td>7558-79-4</td>
<td>25-45</td>
</tr>
<tr>
<td>Sodium Chloride</td>
<td>7647-14-5</td>
<td>25-45</td>
</tr>
<tr>
<td>Sodium Phosphate, Monobasic</td>
<td>10049-21-5</td>
<td>10-20</td>
</tr>
<tr>
<td>Sodium Azide</td>
<td>26628-22-8</td>
<td>0.05</td>
</tr>
</tbody>
</table>

3. **PHYSICAL AND CHEMICAL PROPERTIES**

   - **Appearance:** Clear liquid
   - **Percent Purity:** 100%
   - **Boiling Point:** 100°C
   - **Freezing Point:** 0°C
   - **pH:** 7.2
   - **Solubility:** Aqueous
   - **Vapor Density:** NA
   - **Vapor Pressure:** NA

4. **HAZARDS IDENTIFICATION**

   **Emergency Overview:**
   - Avoid contact with skin and clothing. Wash thoroughly after handling.
   - Sodium azide is highly toxic and is readily absorbed through skin. Sodium azide may react with lead and copper plumbing to form highly explosive metal azides.

   **HMIS Rating:**
   - **Health:** 4
   - **Flammability:** 0
   - **Reactivity:** 2

   **NFPA Rating:**
   - **Health:** 4
   - **Flammability:** 0
   - **Reactivity:** 2

5. **EXPOSURE CONTROLS/EMPLOYEE PROTECTION**

   Wear appropriate NIOSH/MSHA-approved respirator, chemical-resistant gloves, safety goggles, and other protective clothing. Safety shower and eye bath required. Mechanical exhaust required. Wash thoroughly after handling.

6. **FIRST AID MEASURES**
Eyes: Immediately flush eyes with copious amounts of water for at least 15 minutes
Skin: Immediately wash skin with soap and copious amounts of water
Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult give oxygen
Ingestion: If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately.
Other: Wash contaminated clothing before re-use

7. **FIRE FIGHTING MEASURES**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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<tbody>
<tr>
<td>Upper Flammable Limit</td>
<td>NA</td>
</tr>
<tr>
<td>Lower Flammable Limit</td>
<td>NA</td>
</tr>
<tr>
<td>Upper Explosion Limit</td>
<td>NA</td>
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<tr>
<td>Lower Explosion Limit</td>
<td>NA</td>
</tr>
<tr>
<td>Flashpoint</td>
<td>NA</td>
</tr>
<tr>
<td>Auto ignition Temperature</td>
<td>NA</td>
</tr>
<tr>
<td>Fire Extinguishing Media</td>
<td>NA</td>
</tr>
<tr>
<td>Unusual Fire/Explosion Data</td>
<td>NA</td>
</tr>
</tbody>
</table>

8. **ACCIDENTAL RELEASE**

Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves. Sweep up, place in a bag, and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

9. **HANDLING AND STORAGE**

Store in tightly sealed container at room temperature.

10. **WASTE DISPOSAL**

Contact a licensed professional waste disposal service to dispose of this material. Observe all federal, State and local environmental regulations.

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Solulink, Incorporated
9853 Pacific Heights Blvd, Suite H
San Diego, California 92121

Phone: (858) 625-0670
Fax: (858) 625-0770
1. **CHEMICAL IDENTIFICATION**

   Chemical Name: **DMF, Dimethylformamide**
   Catalog Number: **S 4001**
   Molecular Formula: **HCON(CH$_3$)$_2$**

2. **COMPOSITION/INGREDIENTS**

   CAS Number: Custom synthesized compound. No CAS Number.
   Components:

3. **PHYSICAL AND CHEMICAL PROPERTIES**

   Appearance: Colorless liquid
   Percent Purity: 99.8%
   Boiling Point: 153°C
   Melting Point: -61°C
   Vapor Density: 2.5
   Vapor Pressure: 2.6 mm Hg at 20°C
   Specific Gravity: 0.95
   Flash Point: 58°C
   Explosion limits: 2.2% - 15.2%
   Autoignition Temperature: 445°C

4. **REACTIVITY**

   Stability: stable

5. **EXPOSURE CONTROLS/EMPLOYEE PROTECTION**

   Wear appropriate NIOSH/MSHA-approved respirator, chemical-resistant gloves, safety goggles, and other protective clothing. Safety shower and eye bath required. Mechanical exhaust required. Wash thoroughly after handling.

6. **HAZARDS IDENTIFICATION**

   Precautionary Statement: May act as a carcinogen, exposure may result in fetal death. Long term exposure may result in kidney or liver damage
   Primary Routes of Entry: Harmful by inhalation, ingestion of skin contact
   PEL: NA
   TLV: NA
   LD50: NA
   Carcinogenicity: NA
   Toxicity: NA
   RTECS #: NA
   Acute Effects: NA
   Chronic Effects: NA
   Target Organs: NA

7. **FIRST AID MEASURES**

   Eyes: Immediately flush eyes with copious amounts of water for at least 15 minutes
   Skin: Immediately wash skin with soap and copious amounts of water
   Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult give oxygen
   Ingestion: If swallowed, wash out mouth with water provided person is conscious. Call a physician.
   Other: Wash contaminated clothing before re-use
8. **FIRE FIGHTING MEASURES**

Upper Flammable Limit: NA
Lower Flammable Limit: NA
Upper Explosion Limit: NA
Lower Explosion Limit: NA
Flashpoint: NA
Auto ignition Temperature: NA
Fire Extinguishing Media: NA
Unusual Fire/Explosion Data: NA

9. **ACCIDENTAL RELEASE**
Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves. Sweep up, place in a bag, and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

10. **HANDLING AND STORAGE**
Store desiccated at or below room temperature.

11. **WASTE DISPOSAL**
Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

Solulink, Inc. believes the above information to be accurate, but not necessarily all inclusive, and thus should only be used as a guide in the handling and use of this material. The data in this MSDS relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process. Solulink, Inc. shall not take responsibility for any damage resulting from handling or from contact with the above product. The information in this material safety data sheet meets the requirements of the United States Occupational Safety and Health Act and regulations promulgated thereunder 29 CFR § 1910.1200.
**Product Name/Description:** Digoxigenin IgG Control

**I. Product and Company Description**

Solulink Biosciences  
9853 Pacific Heights Blvd, Ste H.  
San Diego, CA 92121

**For Product Information/Emergency Phone Number:**

Emergency Telephone ChemTrec:  
1-800-424-9300 (North America)  
+1-703-527-3887 (International)

Solulink-858.625.0670 (For product use see product data sheet insert)

**Chemical Name or Synonym:**

Digoxigenin IgG Control

**II. Chemical Composition**

Digoxigenin-IgG Control appears as a white powdered residue that is dried down from a sodium phosphate buffered solution.

Chemical Composition: Complex protein (M.W. ~ 150 kD) of bovine origin that has been chemically modified with pendant digoxigenin molecules and dried down from a sodium phosphate buffered solution.

Chemical composition of attached digoxigenin molecules are closely related to CAS # 129273-26-3

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>CAS Number</th>
<th>%</th>
<th>EC number</th>
<th>Classification</th>
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</thead>
<tbody>
<tr>
<td>Digoxigenin IgG</td>
<td>Not listed</td>
<td>0.001 %</td>
<td>Not available</td>
<td>T+, R26,R27, R28-33</td>
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<td></td>
<td></td>
<td></td>
<td>S:28-36/37-45</td>
</tr>
<tr>
<td>Sodium phosphate, monobasic</td>
<td>10049-21-5</td>
<td>3.1%</td>
<td>231-449-2</td>
<td>Xi, R 36/37/38</td>
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<tr>
<td>Sodium phosphate, dibasic</td>
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<td>11.02 %</td>
<td>231-448-7</td>
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<tr>
<td>Sodium chloride</td>
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<td>85.87%</td>
<td>231-598-3</td>
<td>Xi, R 36/37/38</td>
</tr>
</tbody>
</table>

**III. Hazards Identification**

**Physical appearance:** white dry residue

OSHA status: This material is considered hazardous by the OSHA Hazard Communication Standard (29CFR1910.1200)

**NFPA Ratings (Scale 0-4):**  
Health = 2  Fire = 1  Reactivity = 1

Major Health Hazards: Warning! Respiratory tract irritation. Skin and eye irritation. Contains material that can cause target organ damage.
Potential Health Effects:

- **Acute Eye:** Direct contact may cause irritation with redness.
- **Acute Skin:** Direct contact may cause skin irritation with redness.
- **Acute Inhalation:** Acute and chronic exposure may cause irritation of the mucous membranes. Symptoms may include tightness and pain in the chest, coughing, and difficulty breathing. No significant adverse effects have been reported.
- **Acute ingestion:** Acute exposure may cause gastrointestinal irritation to the mouth and stomach.

IV. First Aid Measures

First Aid Measures for Accidental:

- **Eye Exposure:** Immediately flush eyes with copious amounts of water for at least 15 minutes. If irritation develops seek medical attention.
- **Skin Exposure:** Wash affected areas with soap and water. If irritation develops seek medical attention.
- **Inhalation:** Move to fresh air. If not breathing, administer artificial respiration. If breathing is difficult, give oxygen or artificial respiration by qualified personnel. SEEK MEDICAL ATTENTION.
- **Ingestion:** If a large amount is swallowed, rinse mouth out with water. Never give fluids or induce vomiting if the victim is unconscious or having convulsions. SEEK MEDICAL ATTENTION.

V. Fire Fighting Measures

Fire Hazard Data:

- **Fire:** Materials contained in this product are not considered to be a fire hazard.
- **Autoignition:** not applicable
- **Flash Point:** not applicable
- **Flammability Limits (vol/vol%):** not applicable  **Lower:**  **Upper:** not applicable

- **Extinguishing Media:** Use extinguishing media appropriate for surrounding fire

- **Special Fire Fighting Procedures:** Use extinguishing media appropriate for surrounding fire such as water spray, carbon dioxide, dry powder. Wear full protective clothing and NIOSH-approved self-contained breathing apparatus. Avoid inhalation of material or combustion by-products.

- **Unusual Fire and Explosion Hazards:** None

VI. Accidental Release Measures

Cleanup and Disposal of Spill:

Use standard lab personal protective equipment such as gloves, lab coat, and goggles and wipe spills with absorbent wipes and discard any product, residue, disposable container or liner in full compliance with national or international regulations. No special measures are indicated.

VII. Handling and Storage
Handling/Storage: Handle wearing gloves. Store material at room temperature.

VIII. Exposure Controls / Personal Protection

Exposure Guidelines:

<table>
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<tr>
<th>Ingredient Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA-PELs</th>
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</tr>
<tr>
<td>Sodium phosphate, monobasic</td>
<td>Not listed</td>
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<td>Not listed</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>N/A</td>
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</tr>
<tr>
<td>IgG-Digoxigenin (data for digoxigenin)</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
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</table>

Engineering Controls:
Ventilation must be adequate to maintain the ambient workplace atmosphere below the exposure limit(s) outlined in the MSDS. General room ventilation is satisfactory under anticipated use conditions.

Respiratory Protection:
Not required under anticipated use conditions.

Eye / Face Protection:
Wear appropriate safety glasses with side shields or chemical goggles as described by OSHA’s eye and face protection regulations in 29CFR 1910.133 or European Standard EN166.

Skin Protection:
Wear chemical resistant gloves (such as latex or neoprene) and protective clothing to prevent skin contact.

IX. Physical and Chemical Properties

Component: Digoxigenin-IgG
Physical Appearance: white powdered residue
Percent Purity: 100%
Boiling Point: not available
Melting Point: not available
Specific gravity: Not available
Freezing Point: Not Available

X. Stability and Reactivity

Chemical Stability:
Stable, may be slightly hygroscopic.

Conditions to Avoid:
Temperatures > 104°C

Materials / Chemicals to Be Avoided:
No information is available

Hazardous Decomposition Products:
Phosphorus oxides may form when heated to decomposition

Hazardous Polymerization:
Will not occur.

XI. Toxicological Information

Toxicity:

Digoxigenin: 0.422 mg/kg (dog) data referred to free Digoxigenin LD50
0.20 mg/kg (cat) data referred to Digoxigenin LD50

Digoxigenin: May be fatal if inhaled.

sodium chloride: LD50 Dermal Rabbit >10 gm/kg - LD50 Dermal Rabbit 10000 mg/kg -
LC50 Inhalation Rat >42 g/m3 1 h - LD50 Oral Rat 3 g/kg
Intraperitoneal: Rat 2600 mg/kg -LD50 Oral Mouse 4000 mg/kg -LD50 Oral Rat 3000
mg/kg -
LD50 Oral Rat 3000 mg/kg -LDLo
Intraperitoneal Rat 3.72 gm/kg –LDLo Subcutaneous Rat 3500 mg/kg -LC50 Inhalation
Dusts and mists: Rat >42 gm/m³ 1 hours

sodium phosphate, dibasic LD50 Oral Rat 17000 mg/kg -LDLo
Intraperitoneal Rat 1 gm/kg -LDLo Rat 1 gm/kg –Intramuscular

Chronic toxicity:

Conclusion/Summary : Not available.
Carcinogenicity: Conclusion/Summary: Not available.
Mutagenicity: Conclusion/Summary: Not available.
Teratogenicity: Conclusion/Summary: Not available.

Reproductive toxicity
sodium phosphate, dibasic -none
sodium chloride- none
sodium dihydrogen orthophosphate, monohydrate

Product/ingredient name ACGIH IARC EPA NIOSH NTP OSHA

Chronic effects: No known significant effects or critical hazards.
Carcinogenicity: No known significant effects or critical hazards.
Mutagenicity: No known significant effects or critical hazards.
Teratogenicity: No known significant effects or critical hazards.
Developmental effects: No known significant effects or critical hazards.
Fertility effects: No known significant effects or critical hazards.

XII. Ecological Information

Ecotoxicological Information:
Sodium phosphate leaches through the soil or the sediment at a moderate rate. Accumulates very little in bodies of living organisms.

XIII. Disposal Considerations

Waste Disposal Method:
Discard any product, residue, disposable container or liner in full compliance with national regulations.

Container Handling and Disposal:
Dispose of container and unused contents in accordance with national regulations.

XIV. Transportation Information

Shipping Name: ADR/RID/IATA/IMO/ICAO/US DOT

UN #: 2811
Hazard Class: 6.1
Packaging Group: III
Subsidiary risk: Not applicable
Proper Shipping Name: Toxic solid, organic, n.o.s (Sodium 1-4-[[5-3-2-3-Digoxigeninyl-carbonylamino-propoxy]-ethoxy]-ethoxy)-propylcarbamoyl-pyridin-2-yl]-hydrazonomethyl]-benzoyloxy)-2,5-dioxo-pyrrolidine-3-sulfonate)

XV. Regulatory Information

U.S. Federal Regulations:
SARA Title III Hazard Classes:
Fire Hazard: Not regulated
Reactive Hazard: Not regulated
Release of Pressure: Not regulated
Acute Health Hazard: Not regulated
Chronic Health Hazard: Not regulated

TSCA
All components of this product are on the TSCA inventory or are not listed.

Other Regulations:

U.S. State None
European/International Regulations

EC Classification Xi Irritant
EC Risk and Safety Phrases: R36 irritating to eyes
R37 irritating to respiratory system
R38 irritating to skin

Risk Phrases: None
Safety Phrases: S23 Keep out of reach of children
S24 Avoid skin contact.
S25 Avoid contact with eyes
S26 In case of contact with eyes, rinse immediately with water and seek medical advice
S46 If swallowed, see medical advice immediately and show this container to label
XVI. Other Information

Key Legend Information:

N/A – Not Applicable
ND – Not Determined
ACGIH – American Conference of Governmental Industrial Hygienists
OSHA – Occupational Safety and Health Administration
TLV – Threshold Limit Value
PEL – Permissible Exposure Limit
TWA – Time Weighted Average
STEL – Short Term Exposure Limit
NTP – National Toxicology Program
IARC – International Agency for Research on Cancer

The information contained herein is based on the data available to us and is believed to be correct. However Solulink Incorporated makes no warranty, expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof.
SECTION 1  Chemical Product and Company Identification

Product Name: 1M Tris
Catalog Number: S-4015-100

Company Identification

Solulink, Incorporated
9853 Pacific Heights Blvd, Suite H
San Diego, California 92121

Phone: (858) 625-0670
Fax: (858) 625-0770

In case of emergency Call CHEMTREC: USA 1-800-262-8200

SECTION 2  COMPOSITION/INGREDIENTS

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>CAS Number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tris (tris(hydroxymethyl) aminomethane</td>
<td>77-86-1</td>
<td>12</td>
</tr>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>88</td>
</tr>
</tbody>
</table>

SECTION 3  PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Liquid
Appearance: Clear
Percent Purity: 12%
Boiling Point: Not tested
Freezing Point: Not tested
pH: 8.9
Solubility: Aqueous
Vapor Density: Not tested
Vapor Pressure: Not tested

SECTION 4  HAZARDS IDENTIFICATION
Emergency Overview: Warning harmful material that if swallowed or inhaled causes irritation to skin, eyes, and respiratory tract.

Causes damage to the following organs: mucus membranes, gastrointestinal tract, skin, eyes, stomach.

Routes of entry: Absorbed through skin. Eye contact. Inhalation. Ingestion.

Carcinogenic effects: IARC (1,2A or 2B) : Not listed
Mutagenic effects: Not listed
Teratogenic effects: Not listed
Reproductive toxicity: Not listed

Avoid contact with skin and clothing. Wash thoroughly after handling.

HMIS Rating:
Health: 2
Flammability: 0
Reactivity: 0

NFPA Rating:
Health: 2
Flammability: 0
Reactivity: 0

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SECTION 5   EXPOSURE CONTROLS – PERSONAL PROTECTION

Gloves: Wear chemical-resistant gloves
Eye: Wear appropriate chemical safety goggles as described by 29CFR1910.133 or European standards EN166. Maintain eye wash and safety shower in work area.
Respirator: A respiratory protection program that meets OSHA 29 CFR 1910.134 and ANSI Z88 requirements or EN149 must be followed whenever workplace conditions warrant a respirator’s use.
Clothing: Wear appropriate lab coat to prevent skin exposure
Footwear: Wear closed shoes

---

SECTION 6   FIRST AID MEASURES

Notice to Reader: Get immediate medical attention

Eye contact: Immediately flush eyes with copious amounts of water for at least 15 minutes (caustic irritant). Get medical attention.
Skin: Immediately wash skin with soap and copious amounts of water for 15 minutes. Remove contaminated clothing and shoes. Get medical attention. Wash all exposed clothing and shoes before reuse.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult give oxygen.

Ingestion: If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately. Do not induce vomiting unless directed to do so by medical personnel.

SECTION 7  FIRE FIGHTING MEASURES

<table>
<thead>
<tr>
<th>Flammable</th>
<th>Slightly flammable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper Flammable Limit:</td>
<td>Not tested</td>
</tr>
<tr>
<td>Lower Flammable Limit:</td>
<td>Not tested</td>
</tr>
<tr>
<td>Upper Explosion Limit:</td>
<td>Not tested</td>
</tr>
<tr>
<td>Lower Explosion Limit:</td>
<td>Not tested</td>
</tr>
<tr>
<td>Flashpoint:</td>
<td>Not tested</td>
</tr>
<tr>
<td>Auto ignition Temperature:</td>
<td>Not tested</td>
</tr>
<tr>
<td>Fire Extinguishing Media:</td>
<td>Small fire: Water spray, dry chemical powder, or carbon dioxide</td>
</tr>
</tbody>
</table>

Unusual Fire/Explosion Data: Large fire: Water spray, fog or foam

SECTION 8  ACCIDENTAL RELEASE

Ventilate area of spill. Wear appropriate protective equipment as specified in Section 5. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid whenever possible. Collect liquid in an appropriate container or absorb with an inert material (e.g. vermiculite, dry sand, earth), and place in chemical waste container. Do not use combustible materials such as sawdust. Do not flush to sewer.

SECTION 9  HANDLING AND STORAGE

Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation.

Store in tightly sealed container at room temperature. Protect against physical damage. Isolate from incompatible substances.

SECTION 10  WASTE DISPOSAL

Contact a licensed professional waste disposal service to dispose of this material. Observe all federal, State and local environmental regulations.
Section 11    TOXICOLOGICAL INFORMATION

Toxic Effects on Humans: Hazardous in case of eye contact, ingestion, or inhalation (lung irritant)

Special Remarks on Toxicity to Animals: Not tested
Special Remarks on Chronic Effects on Humans: Not tested
Special Remarks on Other Toxic Effects on Humans: Irritant to eyes (caustic), skin and respiratory system.

Section 12   ECOLOGICAL INFORMATION

Aquatic toxicity: Not tested

Section 13    TRANSPORT INFORMATION

Special shipping information

PIN: Not listed
TDG: Not listed
DOT: Not listed
IMO: Not listed
ACAO: Not listed

Section 15    REGULATORY INFORMATION

OSH : Not listed
SARA: Not listed
TSCA: Not listed

Solulink, Inc. believes the above information to be accurate, but not necessarily all inclusive, and thus should only be used as a guide in the handling and use of this material. The data in this MSDS relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process. Solulink, Inc. shall not take responsibility for any damage resulting from handling or from contact with the above product. The information in this material safety data sheet meets the requirements of the United States Occupational Safety and Health Act and regulations promulgated thereunder 29 CFR § 1910.1200.

Material Safety Data Sheet
1. Product and company identification

Product name: Zeba™ Desalting Resin
Synonym: Zeba™ Desalting Columns; Zeba™ 96-Well Desalt Plates; Chromix™ Desalting Columns; Zeba™ Desalting Columns, 7K MWCO
Supplier: Solulink
Manufacturer: Thermo Fisher Scientific

Physical state: Liquid, [slurry gel]
OSHA/HCS status: While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.

Emergency overview: NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED. No known significant effects or critical hazards. Avoid prolonged contact with eyes, skin and clothing.

Routes of entry: Eye contact. Inhalation. Ingestion.

Inhalation: No known significant effects or critical hazards.
Ingestion: No known significant effects or critical hazards.
Skin: No known significant effects or critical hazards.
Eyes: No known significant effects or critical hazards.

Potential chronic health effects
Chronic effects: No known significant effects or critical hazards.
Carcinogenicity: No known significant effects or critical hazards.

Potential acute health effects
Inhalation: Eye contact. Inhalation. Ingestion.
Ingestion: No known significant effects or critical hazards.
Skin: No known significant effects or critical hazards.
Eyes: No known significant effects or critical hazards.

2. Hazards identification

3. Composition/information on ingredients

Substance/preparation: Preparation. There are no ingredients or additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. First aid measures

Inhalation: Move exposed person to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Get medical attention if symptoms occur. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Ingestion: Wash out mouth with water. Remove dentures if any. Move exposed person to fresh air. Keep person warm and at rest. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel or a certified hypnotist.
so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if symptoms occur. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Eye contact: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Protection of first-aiders: No action shall be taken involving any personal risk or without suitable training.

See section 11 for more detailed information on health effects and symptoms.

5. Fire-fighting measures

Flammability of the product: In a fire or if heated, a pressure increase will occur and the container may burst.

Extinguishing media

Suitable: Use an extinguishing agent suitable for the surrounding fire.

Not suitable: None known.

Special exposure hazards: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Hazardous combustion products: No specific data.

Special protective equipment for fire-fighters: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

Personal precautions: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).

Environmental precautions: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Large spill: Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

Small spill: Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

7. Handling and storage

Handling: Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage: Store between the following temperatures: 2 to 8°C (35.6 to 46.4°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.
Consult local authorities for acceptable exposure limits.

**Recommended monitoring:** If this product contains ingredients with exposure limits, personal workplace atmosphere procedures or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

<table>
<thead>
<tr>
<th>Engineering measures</th>
<th>No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hygiene measures</td>
<td>Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.</td>
</tr>
<tr>
<td>Personal protection</td>
<td>Respiratory: Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Hands: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Eyes: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. Skin: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.</td>
</tr>
<tr>
<td>Environmental exposure controls</td>
<td>Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.</td>
</tr>
</tbody>
</table>

9. **Physical and chemical properties**

<table>
<thead>
<tr>
<th>Physical state</th>
<th>Liquid, [slurry gel]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>White.</td>
</tr>
<tr>
<td>Relative density</td>
<td>1.22</td>
</tr>
<tr>
<td>Dispersibility properties</td>
<td>Easily dispersible in the following materials: cold water and hot water.</td>
</tr>
</tbody>
</table>

**Zebra™ Desalting Resin**

10. **Stability and reactivity**

<table>
<thead>
<tr>
<th>Chemical stability</th>
<th>The product is stable. Under normal conditions of storage and use, hazardous polymerization will not occur.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conditions to avoid</td>
<td>No specific data.</td>
</tr>
<tr>
<td>Incompatible materials</td>
<td>No specific data.</td>
</tr>
<tr>
<td>Hazardous decomposition products</td>
<td>Under normal conditions of storage and use, hazardous decomposition products should not be produced.</td>
</tr>
<tr>
<td>Possibility of hazardous reactions</td>
<td>Will not occur.</td>
</tr>
</tbody>
</table>

11. **Toxicological information**

**United States**

<table>
<thead>
<tr>
<th>Acute toxicity Conclusion/Summary</th>
<th>To the best of our knowledge, the toxicological properties of this product have not been thoroughly investigated.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chronic toxicity Conclusion/Summary</td>
<td>Not available.</td>
</tr>
<tr>
<td>Carcinogenicity Conclusion/Summary</td>
<td>Not available.</td>
</tr>
<tr>
<td>Mutagenicity Conclusion/Summary</td>
<td>Not available.</td>
</tr>
<tr>
<td>Teratogenicity Conclusion/Summary</td>
<td>Not available.</td>
</tr>
<tr>
<td>Reproductive toxicity Conclusion/Summary</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

**Europe**

<table>
<thead>
<tr>
<th>Chronic effects Conclusion/Summary</th>
<th>No known significant effects or critical hazards.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carcinogenicity Conclusion/Summary</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Mutagenicity</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>----------------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>Teratogenicity</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Developmental effects</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Fertility effects</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

## 12. Ecological information

<table>
<thead>
<tr>
<th>Environmental effects</th>
<th>No known significant effects or critical hazards.</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td></td>
</tr>
<tr>
<td>Aquatic ecotoxicity</td>
<td></td>
</tr>
<tr>
<td>Conclusion/Summary</td>
<td>Not available.</td>
</tr>
<tr>
<td>Other adverse effects</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>
13. Disposal considerations

**Waste disposal**: The generation of waste should be avoided or minimized wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

**Hazardous waste**: Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14. Transport information

<table>
<thead>
<tr>
<th>Regulatory information</th>
<th>UN number</th>
<th>Proper shipping name</th>
<th>Classes</th>
<th>PG*</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT Classification</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>IATA-DGR Class</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

PG*: Packing group

15. Regulatory information

**United States**

- **HCS Classification**: Not regulated.
- **U.S. Federal regulations**:
  - United States inventory (TSCA 8b): All components are listed or exempted.
  - SARA 302/304/311/312 extremely hazardous substances: No products were found.
  - SARA 302/304 emergency planning and notification: No products were found.
  - SARA 302/304/311/312 hazardous chemicals: No products were found.
  - SARA 311/312 MSDS, distribution - chemical inventory - hazard identification: No products were found.
  - Clean Water Act (CWA) 307: No products were found.
  - Clean Water Act (CWA) 311: No products were found.
  - Clean Air Act (CAA) 112 accidental release prevention: No products were found.
  - Clean Air Act (CAA) 112 regulated flammable substances: No products were found.
  - Clean Air Act (CAA) 112 regulated toxic substances: No products were found.

**Canada**

- **WHMIS (Canada)**: Not controlled under WHMIS (Canada).
- **Canadian lists**:
  - Canadian ARET: None of the components are listed.
  - Canadian NPRI: None of the components are listed.
  - Alberta Designated Substances: None of the components are listed.
  - Ontario Designated Substances: None of the components are listed.
  - Quebec Designated Substances: None of the components are listed.

**Canada inventory**: Canada inventory: All components are listed or exempted.
15. Regulatory information

EU regulations
Risk phrases: This product is not classified according to EU legislation.

International regulations
International lists: Australia inventory (AICS): All components are listed or exempted.
China inventory (IECSC): All components are listed or exempted.
Korea inventory (KECI): All components are listed or exempted.
Philippines inventory (PICCS): All components are listed or exempted.
Japan inventory (ENCS): All components are listed or exempted.

16. Other information

Label requirements: NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.

Hazardous Material Information System (U.S.A.):

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.):

Version: 1.04

Indicates information that has changed from previously issued version.

Notice to reader
To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

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