SAFETY DATA SHEET
Polysorbate 20

Section 1. Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product Code: 400035
Product Name: Polysorbate 20
Synonyms: Tween 20™;

1.2 Relevant identified uses of the substance or mixture and uses advised against:
Relevant identified uses: For research use only, not for human or veterinary use.

1.3 Details of the Supplier of the Safety Data Sheet:

Company Name: Cayman Chemical Company
1180 E. Ellsworth Rd.
Ann Arbor, MI 48108
Web site address: www.caymanchem.com
Information: Cayman Chemical Company +1 (734)971-3335

1.4 Emergency telephone number:

Emergency Contact: CHEMTREC Within USA and Canada: +1 (800)424-9300
CHEMTREC Outside USA and Canada: +1 (703)527-3887

Section 2. Hazards Identification

2.1 Classification of the Substance or Mixture:
2.1.1 Classification according to Regulation (EC) No 1272/2008 [CLP]:
Serious Eye Damage/Eye Irritation, Category 2A
Skin Sensitization, Category 1

2.2 Label Elements:
2.2.1 Labeling according to Regulation (EC) No 1272/2008 [CLP]:

GHS Signal Word: Warning
GHS Hazard Phrases:
H319: Causes serious eye irritation.
H317: May cause an allergic skin reaction.

GHS Precaution Phrases:
P264: Wash hands thoroughly after handling.
P280: Wear protective gloves/clothing and eye/face protection as specified by the manufacturer/supplier or the competent authority.
P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
P272: Contaminated work clothing should not be allowed out of the workplace.
P362+364: Take off contaminated clothing and wash it before reuse.

GHS Response Phrases:
P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+313: If eye irritation persists, get medical advice/attention.
P302+352: IF ON SKIN: Wash with plenty of soap and water.
P333+313: If skin irritation or rash occurs, seek medical advice/attention.

GHS Storage and Disposal Phrases:
2.3 Adverse Human Health

Effects and Symptoms:
- Causes serious eye irritation.
- Material may be irritating to the mucous membranes and upper respiratory tract.
- May be harmful by inhalation, ingestion, or skin absorption.
- May cause an allergic skin reaction.
- May cause respiratory system irritation.

To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

Section 3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>CAS # / RTECS #</th>
<th>Hazardous Components (Chemical Name)/REACH Registration No.</th>
<th>Concentration</th>
<th>EC No./EC Index No.</th>
<th>GHS Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>9005-64-5 TR7400000</td>
<td>Polyoxyethylenesorbitan Monolaurate (polysorbate 20; Sorbitan, monododecanoate, poly(oxy-1,2-ethanediyl) derivatives)</td>
<td>100.0 %</td>
<td>500-018-3 NA</td>
<td>No data available.</td>
</tr>
</tbody>
</table>

Section 4. First Aid Measures

4.1 Description of First Aid Measures:
- In Case of Inhalation: Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
- In Case of Skin Contact: Immediately wash skin with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.
- In Case of Eye Contact: Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined and tested by medical personnel.
- In Case of Ingestion: Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.

Section 5. Fire Fighting Measures

5.1 Suitable Extinguishing Media:
- Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.
- Use water spray to cool fire-exposed containers.

Unsuitable Extinguishing Media:
- A solid water stream may be inefficient.

5.2 Flammable Properties and Hazards:
- No data available.
- Flash Pt: No data.
- Explosive Limits: LEL: No data. UEL: No data.
- Autoignition Pt: No data.

5.3 Fire Fighting Instructions: As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.
Section 6. Accidental Release Measures

6.1 Protective Precautions, protective equipment and emergency procedures:
Avoid raising and breathing dust, and provide adequate ventilation.

6.2 Environmental precautions:
Take steps to avoid release into the environment, if safe to do so.

6.3 Methods and material for containment and cleaning:
Contain spill and collect, as appropriate.
Transfer to a chemical waste container for disposal in accordance with local regulations.

Section 7. Handling and Storage

7.1 Precautions to be taken in handling:
Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid prolonged or repeated exposure.

7.2 Precautions to be taken in storing:
Keep container tightly closed.
Store in accordance with information listed on the product insert.

Section 8. Exposure Controls/Personal Protection

8.1 Exposure Parameters:

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Partial Chemical Name</th>
<th>Britain EH40</th>
<th>France VL</th>
<th>Europe</th>
</tr>
</thead>
<tbody>
<tr>
<td>9005-64-5</td>
<td>Polyoxyethylenesorbitan Monolaurate (polysorbate 20; Sorbitan, monododecanoate, poly(oxy-1,2-ethanediyl) derivatives)</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Partial Chemical Name</th>
<th>OSHA TWA</th>
<th>ACGIH TWA</th>
<th>Other Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>9005-64-5</td>
<td>Polyoxyethylenesorbitan Monolaurate (polysorbate 20; Sorbitan, monododecanoate, poly(oxy-1,2-ethanediyl) derivatives)</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
</tbody>
</table>

8.2 Exposure Controls:

8.2.1 Engineering Controls (Ventilation etc.):
Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

8.2.2 Personal protection equipment:
- Eye Protection: Safety glasses
- Protective Gloves: Compatible chemical-resistant gloves
- Other Protective Clothing: Lab coat
- Respiratory Equipment: NIOSH approved respirator, as conditions warrant.

Work/Hygienic/Maintenance Practices:
- Do not take internally.
- Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
- Wash thoroughly after handling.
- No data available.
Section 9. Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Physical States: [ ] Gas [X] Liquid [ ] Solid
Appearance and Odor: A clear, yellow viscous liquid
Melting Point: No data.
Boiling Point: No data.
Flash Pt: No data.
Evaporation Rate: No data.
Explosive Limits:
    LEL: No data.
    UEL: No data.
Vapor Pressure (vs. Air or mm Hg): No data.
Vapor Density (vs. Air = 1): No data.
Specific Gravity (Water = 1): No data.
Solubility in Water: No data.
Autoignition Pt: No data.

9.2 Other Information

Percent Volatile: N.A.

Section 10. Stability and Reactivity

10.1 Reactivity: No data available.
10.2 Stability: Unstable [ ] Stable [X]
10.3 Stability Note(s): Stable if stored in accordance with information listed on the product insert.
Polymerization: Will occur [ ] Will not occur [X]
10.4 Conditions To Avoid: No data available.
10.5 Incompatibility - Materials strong oxidizing agents
To Avoid:
10.6 Hazardous Decomposition Or
    Byproducts: carbon dioxide
    carbon monoxide

Section 11. Toxicological Information

11.1 Information on Toxicological Effects:
The toxicological effects of this product have not been thoroughly studied.

Polysorbate 20 - Toxicity Data: Oral LD50 (rat): 36.7 ml/kg; Oral LD50 (hamster): 18 ml/kg; Oral LD50 (mouse): >33 g/kg; Irritation Data: Skin (human): 15 mg/3D mild;

Chronic Toxicological Effects: Polysorbate 20 - Investigated as a tumorigen and reproductive effector.

Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here. See actual entry in RTECS for complete information.

Polysorbate 20 RTECS Number: TR7400000

Carcinogenicity:
    NTP? No       IARC Monographs? No       OSHA Regulated? No

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>NTP</th>
<th>IARC</th>
<th>ACGIH</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>9005-64-5</td>
<td>Polyoxyethylenesorbitan Monolaurate (polysorbate 20; Sorbitan, monododecanoate, poly(oxy-1,2-ethanediyl) derivatives)</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
</tbody>
</table>
Section 12. Ecological Information

12.1 Toxicity: Avoid release into the environment. Runoff from fire control or dilution water may cause pollution.

12.2 Persistence and Degradability: No data available.

12.3 Bioaccumulative Potential: No data available.

12.4 Mobility in Soil: No data available.

12.5 Results of PBT and vPvB assessment: No data available.

Section 13. Disposal Considerations

13.1 Waste Disposal Method: Dispose in accordance with local, state, and federal regulations.

Section 14. Transport Information

14.1 LAND TRANSPORT (US DOT):
DOT Proper Shipping Name: Not dangerous goods.
DOT Hazard Class:
UN/NA Number:

14.1 LAND TRANSPORT (European ADR/RID):
ADR/RID Shipping Name: Not dangerous goods.
UN Number:
Hazard Class:

14.3 AIR TRANSPORT (ICAO/IATA):
ICAO/IATA Shipping Name: Not dangerous goods.

Additional Transport Information: Transport in accordance with local, state, and federal regulations.

Section 15. Regulatory Information

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>S. 302 (EHS)</th>
<th>S. 304 RQ</th>
<th>S. 313 (TRI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9005-64-5</td>
<td>Polyoxylethlenesorbitan Monolaurate (polysorbate 20; Sorbitan, monododecanoate, poly(oxy-1,2-ethanediyl) derivatives)</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>Other US EPA or State Lists</th>
</tr>
</thead>
<tbody>
<tr>
<td>9005-64-5</td>
<td>Polyoxylethlenesorbitan Monolaurate (polysorbate 20; Sorbitan, monododecanoate, poly(oxy-1,2-ethanediyl) derivatives)</td>
<td>CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No</td>
</tr>
</tbody>
</table>
Section 16. Other Information

Revision Date: 01/09/2015
Additional Information About This Product: No data available.

Company Policy or Disclaimer: DISCLAIMER: This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.
SAFETY DATA SHEET
Wash Buffer Concentrate (400X)

Section 1. Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product Code: 400062
1.1 Product Name: Wash Buffer Concentrate (400X)

1.2 Relevant identified uses of the substance or mixture and uses advised against:
   Relevant identified uses: For research use only, not for human or veterinary use.

1.3 Details of the Supplier of the Safety Data Sheet:

   Company Name: Cayman Chemical Company
   1180 E. Ellsworth Rd.
   Ann Arbor, MI 48108
   Web site address: www.caymanchem.com
   Information: +1 (734)971-3335

1.4 Emergency telephone number:

   Emergency Contact: CHEMTREC Within USA and Canada: +1 (800)424-9300
   CHEMTREC Outside USA and Canada: +1 (703)527-3887

Section 2. Hazards Identification

2.1 Classification of the Substance or Mixture:

2.1.1 Classification according to Regulation (EC) No 1272/2008 [CLP]:

   Based on evaluation of currently available data this substance or mixture is not classifiable according to GHS.

2.2 Label Elements:

2.2.1 Labeling according to Regulation (EC) No 1272/2008 [CLP]:

   GHS Signal Word:
   GHS Hazard Phrases: Based on evaluation of currently available data this substance or mixture is not classifiable according to GHS.

   GHS Precaution Phrases:
   No phrases apply.

   GHS Response Phrases:
   No phrases apply.

   GHS Storage and Disposal Phrases:
   Please refer to Section 7 for Storage and Section 13 for Disposal information.

2.3 Adverse Human Health Effects and Symptoms:

   Material may be irritating to the mucous membranes and upper respiratory tract.
   May be harmful by inhalation, ingestion, or skin absorption.
   May cause eye, skin, or respiratory system irritation.
   To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

Section 3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>CAS # / RTECS #</th>
<th>Hazardous Components (Chemical Name)/ REACH Registration No.</th>
<th>Concentration</th>
<th>EC No./ EC Index No.</th>
<th>GHS Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>7758-11-4 TC5580000</td>
<td>Potassium phosphate, dibasic</td>
<td>53.0 %</td>
<td>231-834-5 NA</td>
<td>No data available.</td>
</tr>
<tr>
<td>7778-77-0 TC6615500</td>
<td>Potassium phosphate, Monobasic</td>
<td>12.9 %</td>
<td>231-913-4 NA</td>
<td>No data available.</td>
</tr>
<tr>
<td>7732-18-5 ZC0110000</td>
<td>Water</td>
<td>34.1 %</td>
<td>231-791-2 NA</td>
<td>No data available.</td>
</tr>
</tbody>
</table>

Multi-region format
**SAFETY DATA SHEET**

Wash Buffer Concentrate (400X)

**Section 4. First Aid Measures**

4.1 Description of First Aid Measures: No data available.

   **In Case of Inhalation:** Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.

   **In Case of Skin Contact:** Immediately wash skin with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

   **In Case of Eye Contact:** Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined and tested by medical personnel.

   **In Case of Ingestion:** Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.

4.2 Important Symptoms and Effects, Both Acute and Delayed: Ingestion of large amounts can cause abdominal pain, lowered blood pressure, nausea, and vomiting.

**Section 5. Fire Fighting Measures**

5.1 Suitable Extinguishing Media: Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.

   Unsuitable Extinguishing Media: Use water spray to cool fire-exposed containers.

5.2 Flammable Properties and Hazards: No data available.

   **Flash Pt:** No data.

   **Explosive Limits:** LEL: No data. UEL: No data.

   **Autoignition Pt:** No data.

5.3 Fire Fighting Instructions: As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.

**Section 6. Accidental Release Measures**

6.1 Protective Precautions, Protective Equipment and Emergency Procedures: Avoid breathing vapors and provide adequate ventilation. As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).

6.2 Environmental Precautions: Take steps to avoid release into the environment, if safe to do so.

6.3 Methods and Material For Containment and Cleaning: Contain spill and collect, as appropriate. Transfer to a chemical waste container for disposal in accordance with local regulations.

**Section 7. Handling and Storage**

7.1 Precautions To Be Taken in Handling: Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid prolonged or repeated exposure.

7.2 Precautions To Be Taken in Storing: Keep container tightly closed. Store in accordance with information listed on the product insert.
Section 8. Exposure Controls/Personal Protection

8.1 Exposure Parameters:

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Partial Chemical Name</th>
<th>Britain EH40</th>
<th>France VL</th>
<th>Europe</th>
</tr>
</thead>
<tbody>
<tr>
<td>7758-11-4</td>
<td>Potassium phosphate, dibasic</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
<tr>
<td>7778-77-0</td>
<td>Potassium phosphate, Monobasic</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Partial Chemical Name</th>
<th>OSHA TWA</th>
<th>ACGIH TWA</th>
<th>Other Limits</th>
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</thead>
<tbody>
<tr>
<td>7758-11-4</td>
<td>Potassium phosphate, dibasic</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
<tr>
<td>7778-77-0</td>
<td>Potassium phosphate, Monobasic</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
</tbody>
</table>

8.2 Exposure Controls:

8.2.1 Engineering Controls
Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

8.2.2 Personal protection equipment:

Eye Protection: Safety glasses
Protective Gloves: Compatible chemical-resistant gloves
Other Protective Clothing: Lab coat
Respiratory Equipment: NIOSH approved respirator, as conditions warrant.

(Specify Type):

Work/Hygienic/Maintenance Practices:
Do not take internally.
Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
Wash thoroughly after handling.
No data available.

Section 9. Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties:

Physical States: [ ] Gas  [X] Liquid  [ ] Solid
Appearance and Odor: A clear, colorless solution
pH: 7.4
Melting Point: No data.
Boiling Point: No data.
Flash Pt: No data.
Evaporation Rate: No data.
Explosive Limits: LEL: No data. UEL: No data.
Vapor Pressure (vs. Air or mm Hg): No data.
Vapor Density (vs. Air = 1): No data.
Specific Gravity (Water = 1): No data.
Solubility in Water: No data.
Autoignition Pt: No data.
Wash Buffer Concentrate (400X)

Section 10. Stability and Reactivity

10.1 Reactivity: No data available.

10.2 Stability: Unstable [    ] Stable [ X ]

10.3 Stability Note(s): Stable if stored in accordance with information listed on the product insert.

10.4 Conditions To Avoid: No data available.

10.5 Incompatibility - Materials strong oxidizing agents

To Avoid:

10.6 Hazardous phosphorus oxides

Decomposition Or potassium oxides

Byproducts:

Section 11. Toxicological Information

11.1 Information on Toxicological Effects: The toxicological effects of this product have not been thoroughly studied.

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>NTP</th>
<th>IARC</th>
<th>ACGIH</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>7758-11-4</td>
<td>Potassium phosphate, dibasic</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>7778-77-0</td>
<td>Potassium phosphate, Monobasic</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

Section 12. Ecological Information

12.1 Toxicity: Avoid release into the environment.

Runoff from fire control or dilution water may cause pollution.

12.2 Persistence and Degradability: No data available.

12.3 Bioaccumulative Potential: No data available.

12.4 Mobility in Soil: No data available.

12.5 Results of PBT and vPvB assessment: No data available.

Section 13. Disposal Considerations

13.1 Waste Disposal Method: Dispose in accordance with local, state, and federal regulations.
Section 14. Transport Information

14.1 LAND TRANSPORT (US DOT):
   DOT Proper Shipping Name: Not dangerous goods.
   DOT Hazard Class: 
   UN/NA Number: 

14.1 LAND TRANSPORT (European ADR/RID):
   ADR/RID Shipping Name: Not dangerous goods.
   UN Number: 
   Hazard Class: 

14.3 AIR TRANSPORT (ICAO/IATA):
   ICAO/IATA Shipping Name: Not dangerous goods.
   Additional Transport Information: Transport in accordance with local, state, and federal regulations.

Section 15. Regulatory Information

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>S. 302 (EHS)</th>
<th>S. 304 RQ</th>
<th>S. 313 (TRI)</th>
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</thead>
<tbody>
<tr>
<td>7758-11-4</td>
<td>Potassium phosphate, dibasic</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>7778-77-0</td>
<td>Potassium phosphate, Monobasic</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>Other US EPA or State Lists</th>
</tr>
</thead>
<tbody>
<tr>
<td>7758-11-4</td>
<td>Potassium phosphate, dibasic</td>
<td>CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No</td>
</tr>
<tr>
<td>7778-77-0</td>
<td>Potassium phosphate, Monobasic</td>
<td>CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No</td>
</tr>
<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No</td>
</tr>
</tbody>
</table>

Regulatory Information Statement:
This SDS was prepared in accordance with 29 CFR 1910.1200 and Regulation (EC) No.1272/2008.

Section 16. Other Information

Revision Date: 01/09/2015
Additional Information About This Product:
No data available.

Company Policy or Disclaimer:
DISCLAIMER: This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.
Section 1. Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product Code: 10006880
Product Name: Transcription Factor Binding Assay Buffer (4X)

1.2 Relevant identified uses of the substance or mixture and uses advised against:
Relevant identified uses: For research use only, not for human or veterinary use.

1.3 Details of the Supplier of the Safety Data Sheet:

| Company Name: Cayman Chemical Company |
| Web site address: www.caymanchem.com |
| Information: Cayman Chemical Company |

1.4 Emergency telephone number:
Emergency Contact: CHEMTREC Within USA and Canada: +1 (800)424-9300
CHEMTREC Outside USA and Canada: +1 (703)527-3887

Section 2. Hazards Identification

2.1 Classification of the Substance or Mixture:

2.1.1 Classification according to Regulation (EC) No 1272/2008 [CLP]:
Acute Toxicity: Oral, Category 5
Skin Corrosion/Irritation, Category 3

2.2 Label Elements:

2.2.1 Labeling according to Regulation (EC) No 1272/2008 [CLP]:

GHS Signal Word: Warning

GHS Hazard Phrases:
H303: May be harmful if swallowed.
H316: Causes mild skin irritation.

GHS Precaution Phrases:
No phrases apply.

GHS Response Phrases:
P312: Call a POISON CENTER or doctor/physician if you feel unwell.
P332+313: If skin irritation occurs, get medical advice/attention.

GHS Storage and Disposal Phrases:
Please refer to Section 7 for Storage and Section 13 for Disposal information.

2.3 Adverse Human Health Effects and Symptoms:
Causes mild skin irritation.
Material may be irritating to the mucous membranes and upper respiratory tract.
May be harmful by inhalation, ingestion, or skin absorption.
May cause eye, skin, or respiratory system irritation.
To the best of our knowledge, the toxicological properties have not been thoroughly investigated.
Section 3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>CAS # / RTECS #</th>
<th>Hazardous Components (Chemical Name)/ REACH Registration No.</th>
<th>Concentration</th>
<th>EC No./ EC Index No.</th>
<th>GHS Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>68987-90-6 NA</td>
<td>Nonidet P-40</td>
<td>0.0 -1.0 %</td>
<td>NA/NA</td>
<td>Skin Corr. 2: H315</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Eye Damage 2: H319</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>STOT (SE) 3: H335</td>
</tr>
<tr>
<td>7365-45-9 TL6809000</td>
<td>HEPES, free acid</td>
<td>0.0 -5.0 %</td>
<td>230-907-9 NA</td>
<td>No data available.</td>
</tr>
<tr>
<td>7791-18-6 OM2975000</td>
<td>Magnesium chloride, hexahydrate</td>
<td>0.0 -5.0 %</td>
<td>NA/NA</td>
<td>No data available.</td>
</tr>
<tr>
<td>7447-40-7 TS8050000</td>
<td>Potassium chloride</td>
<td>0.0 -5.0 %</td>
<td>231-211-8 NA</td>
<td>Acute Tox.(O) 5: H303</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Aquatic (A) 3: H402</td>
</tr>
<tr>
<td>56-81-5 MA8050000</td>
<td>Glycerol</td>
<td>5.0 -20.0 %</td>
<td>200-289-5 NA</td>
<td>No data available.</td>
</tr>
<tr>
<td>7732-18-5 ZC0110000</td>
<td>Water</td>
<td>64.0 -95.0 %</td>
<td>231-791-2 NA</td>
<td>No data available.</td>
</tr>
</tbody>
</table>

Section 4. First Aid Measures

4.1 Description of First Aid Measures:
   - **In Case of Inhalation:** Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
   - **In Case of Skin Contact:** Immediately wash skin with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.
   - **In Case of Eye Contact:** Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined and tested by medical personnel.
   - **In Case of Ingestion:** Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.

Section 5. Fire Fighting Measures

5.1 Suitable Extinguishing Media:
   - Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.
   - Use water spray to cool fire-exposed containers.

5.2 Unsuitable Extinguishing Media:
   - A solid water stream may be inefficient.

5.3 Flammable Properties and Hazards:
   - **Flash Pt:** No data.
   - **Explosive Limits:** LEL: No data. UEL: No data.
   - **Autoignition Pt:** No data.

5.3 Fire Fighting Instructions:
   - As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.
Section 6. Accidental Release Measures

6.1 Protective Precautions, Emergency Procedures: Avoid breathing vapors and provide adequate ventilation.

As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).

6.2 Environmental Precautions: Take steps to avoid release into the environment, if safe to do so.

6.3 Methods and Material For Containment and Cleaning: Contain spill and collect, as appropriate.

Transfer to a chemical waste container for disposal in accordance with local regulations.

Section 7. Handling and Storage

7.1 Precautions To Be Taken in Handling: Avoid breathing dust/fume/gas/mist/vapours/spray.

Avoid prolonged or repeated exposure.

7.2 Precautions To Be Taken in Storing: Keep container tightly closed.

Store in accordance with information listed on the product insert.

Section 8. Exposure Controls/Personal Protection

8.1 Exposure Parameters:

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Partial Chemical Name</th>
<th>Britain EH40</th>
<th>France VL</th>
<th>Europe</th>
</tr>
</thead>
<tbody>
<tr>
<td>68987-90-6</td>
<td>Nonidet P-40</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
<tr>
<td>7365-45-9</td>
<td>HEPES, free acid</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
<tr>
<td>7791-18-6</td>
<td>Magnesium chloride, hexahydrate</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
<tr>
<td>7447-40-7</td>
<td>Potassium chloride</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
<tr>
<td>56-81-5</td>
<td>Glycerol</td>
<td>TWA: 10 mg/m3 ()</td>
<td>TWA: 10 mg/m3</td>
<td>No data.</td>
</tr>
<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Partial Chemical Name</th>
<th>OSHA TWA</th>
<th>ACGIH TWA</th>
<th>Other Limits</th>
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<td>68987-90-6</td>
<td>Nonidet P-40</td>
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<td>No data.</td>
<td>No data.</td>
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<tr>
<td>7365-45-9</td>
<td>HEPES, free acid</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
<tr>
<td>7791-18-6</td>
<td>Magnesium chloride, hexahydrate</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
<tr>
<td>7447-40-7</td>
<td>Potassium chloride</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
<tr>
<td>56-81-5</td>
<td>Glycerol</td>
<td>PEL: 15 (dust); 5 (resp.) mg/m3</td>
<td>TLV: 10 mg/m3</td>
<td>No data.</td>
</tr>
<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
</tbody>
</table>

8.2 Exposure Controls:

8.2.1 Engineering Controls: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

8.2.2 Personal protection equipment:

**Eye Protection:** Safety glasses

**Protective Gloves:** Compatible chemical-resistant gloves

**Other Protective Clothing:** Lab coat

**Respiratory Equipment:** NIOSH approved respirator, as conditions warrant.

**Work/Hygienic/Maintenance Practices:** Do not take internally.

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
**Wash thoroughly after handling.**

No data available.

### Section 9. Physical and Chemical Properties

**9.1 Information on Basic Physical and Chemical Properties**

- **Physical States:**
  - [ ] Gas
  - [X] Liquid
  - [ ] Solid

- **Appearance and Odor:** Solution

- **pH:** 7.9

- **Melting Point:** No data.

- **Boiling Point:** No data.

- **Flash Pt:** No data.

- **Evaporation Rate:** No data.

- **Flammability (solid, gas):** No data available.

- **Explosive Limits:**
  - LEL: No data.
  - UEL: No data.

- **Vapor Pressure (vs. Air or mm Hg):** No data.

- **Vapor Density (vs. Air = 1):** No data.

- **Specific Gravity (Water = 1):** No data.

- **Solubility in Water:** No data.

- **Autoignition Pt:** No data.

**9.2 Other Information**

- **Percent Volatile:** No data.

### Section 10. Stability and Reactivity

**10.1 Reactivity:** No data available.

**10.2 Stability:**

- Unstable [ ]
- Stable [X]

**10.3 Stability Note(s):** Stable if stored in accordance with information listed on the product insert.

**10.4 Conditions To Avoid:**

- No data available.

**10.5 Incompatibility - Materials**

- strong bases

**To Avoid:**

- strong oxidizing agents

**10.6 Hazardous**

- carbon dioxide

**Decomposition or Byproducts:**

- carbon monoxide
Section 11. Toxicological Information

11.1 Information on Toxicological Effects: The toxicological effects of this product have not been thoroughly studied.
   - Glycerol - Irritation Data: Eyes (rabbit): 500 mg (24h) mild; Skin (rabbit): 500 mg (24h) mild;
   - Chronic Toxicological Effects: Glycerol - Investigated as a mutagen, reproductive effector, and tumorigen.
   - Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here.
     See actual entry in RTECS for complete information.
   - Glycerol RTECS Number: MA8050000

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>NTP</th>
<th>IARC</th>
<th>ACGIH</th>
<th>OSHA</th>
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<tr>
<td>68987-90-6</td>
<td>Nonidet P-40</td>
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<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>7365-45-9</td>
<td>HEPES, free acid</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>7791-18-6</td>
<td>Magnesium chloride, hexahydrate</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>7447-40-7</td>
<td>Potassium chloride</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>56-81-5</td>
<td>Glycerol</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

Section 12. Ecological Information

12.1 Toxicity: Avoid release into the environment.
   Runoff from fire control or dilution water may cause pollution.

12.2 Persistence and Degradability: No data available.

12.3 Bioaccumulative Potential: No data available.

12.4 Mobility in Soil: No data available.

12.5 Results of PBT and vPvB assessment: No data available.

12.6 Other adverse effects: No data available.

Section 13. Disposal Considerations

13.1 Waste Disposal Method: Dispose in accordance with local, state, and federal regulations.

Section 14. Transport Information

14.1 LAND TRANSPORT (US DOT):
   - DOT Proper Shipping Name: Not dangerous goods.
   - DOT Hazard Class:
   - UN/NA Number:

14.1 LAND TRANSPORT (European ADR/RID):
   - ADR/RID Shipping Name: Not dangerous goods.
   - UN Number:
   - Hazard Class:

14.3 AIR TRANSPORT (ICAO/IATA):
   - ICAO/IATA Shipping Name: Not dangerous goods.
   - Additional Transport Information: Transport in accordance with local, state, and federal regulations.
Section 15. Regulatory Information

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>S. 302 (EHS)</th>
<th>S. 304 RQ</th>
<th>S. 313 (TRI)</th>
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</thead>
<tbody>
<tr>
<td>68987-90-6</td>
<td>Nonidet P-40</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>7365-45-9</td>
<td>HEPES, free acid</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>7791-18-6</td>
<td>Magnesium chloride, hexahydrate</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
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<td>Potassium chloride</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>56-81-5</td>
<td>Glycerol</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Other US EPA or State Lists

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>Other US EPA or State Lists</th>
</tr>
</thead>
<tbody>
<tr>
<td>68987-90-6</td>
<td>Nonidet P-40</td>
<td>CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No</td>
</tr>
<tr>
<td>7365-45-9</td>
<td>HEPES, free acid</td>
<td>CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No</td>
</tr>
<tr>
<td>7791-18-6</td>
<td>Magnesium chloride, hexahydrate</td>
<td>CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No</td>
</tr>
<tr>
<td>7447-40-7</td>
<td>Potassium chloride</td>
<td>CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No</td>
</tr>
<tr>
<td>56-81-5</td>
<td>Glycerol</td>
<td>CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No</td>
</tr>
<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No</td>
</tr>
</tbody>
</table>

Regulatory Information

This SDS was prepared in accordance with 29 CFR 1910.1200 and Regulation (EC) No.1272/2008.

Section 16. Other Information

Revision Date: 05/07/2015
Additional Information About This Product: No data available.
Company Policy or Disclaimer: DISCLAIMER: This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.
SAFETY DATA SHEET
Transcription Factor Antibody Binding Buffer (10X)

Section 1. Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product Code: 10006882
Product Name: Transcription Factor Antibody Binding Buffer (10X)

1.2 Relevant identified uses of the substance or mixture and uses advised against:
Relevant identified uses: For research use only, not for human or veterinary use.

1.3 Details of the Supplier of the Safety Data Sheet:

Company Name: Cayman Chemical Company
1180 E. Ellsworth Rd.
Ann Arbor, MI  48108
Web site address: www.caymanchem.com
Information: Cayman Chemical Company +1 (734)971-3335

1.4 Emergency telephone number:
Emergency Contact: CHEMTREC Within USA and Canada: +1 (800)424-9300
CHEMTREC Outside USA and Canada: +1 (703)527-3887

Section 2. Hazards Identification

2.1 Classification of the Substance or Mixture:

2.1.1 Classification according to Regulation (EC) No 1272/2008 [CLP]:
Acute Toxicity: Oral, Category 4
Skin Corrosion/Irritation, Category 2
Serious Eye Damage/Eye Irritation, Category 2

2.2 Label Elements:

2.2.1 Labeling according to Regulation (EC) No 1272/2008 [CLP]:

GHS Signal Word: Warning
GHS Hazard Phrases:
H302: Harmful if swallowed.
H315: Causes skin irritation.
H319: Causes serious eye irritation.

GHS Precaution Phrases:
P264: Wash (hands) thoroughly after handling.
P280: Wear (protective gloves/protective clothing/eye protection/face protection).

GHS Response Phrases:
P301+312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P302+352: IF ON SKIN: Wash with plenty of soap and water.
P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P330: Rinse mouth.
P332+313: If skin irritation occurs, get medical advice/attention.
P337+313: If eye irritation persists, get medical advice/attention.
P362+364: Take off contaminated clothing and wash it before reuse.

GHS Storage and Disposal Phrases:
SAFETY DATA SHEET
Transcription Factor Antibody Binding Buffer (10X)

2.3 Adverse Human Health Effects and Symptoms:
- Causes serious eye irritation.
- Causes skin irritation.
- Harmful if swallowed.
- Material may be irritating to the mucous membranes and upper respiratory tract.
- May be harmful by inhalation or skin absorption.
- May cause an allergic skin reaction.
- May cause respiratory system irritation.

To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

Section 3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>CAS # / RTECS #</th>
<th>Hazardous Components (Chemical Name)/ REACH Registration No.</th>
<th>Concentration</th>
<th>EC No./ EC Index No.</th>
<th>GHS Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>77-86-1 TY2900000</td>
<td>Trizma base</td>
<td>1.0 -10.0 %</td>
<td>201-064-4 NA</td>
<td>Skin Corr. 2: H315 Eye Damage 2: H319 STOT (SE) 3: H335</td>
</tr>
<tr>
<td>7647-14-5 VZ4725000</td>
<td>Sodium chloride</td>
<td>1.0 -15.0 %</td>
<td>231-598-3 NA</td>
<td>No data available.</td>
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<tr>
<td>9005-64-5 TR7400000</td>
<td>Polyoxylethylsorbitan Monolaurate (polysorbate 20; Sorbitan, monododecanoate, poly(oxy-1,2-ethanediyl) derivatives)</td>
<td>0.0 -5.0 %</td>
<td>500-018-3 NA</td>
<td>No data available.</td>
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<tr>
<td>9048-46-8 MT6446000</td>
<td>Bovine Serum Albumin (BSA)</td>
<td>0.0 -5.0 %</td>
<td>232-936-2 NA</td>
<td>Acute Tox.(O) 4: H302</td>
</tr>
<tr>
<td>7732-18-5 ZC0110000</td>
<td>Water</td>
<td>65.0 -98.0 %</td>
<td>231-791-2 NA</td>
<td>No data available.</td>
</tr>
</tbody>
</table>

Section 4. First Aid Measures

4.1 Description of First Aid Measures:

In Case of Inhalation: Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.

In Case of Skin Contact: Immediately wash skin with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

In Case of Eye Contact: Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined and tested by medical personnel.

In Case of Ingestion: Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.
Section 5. Fire Fighting Measures

5.1 Suitable Extinguishing Media:
Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.

Unsuitable Extinguishing Media:
Use water spray to cool fire-exposed containers.

5.2 Flammable Properties and Hazards:
Flash Pt: No data.
Explosive Limits: LEL: No data. UEL: No data.
Autoignition Pt: No data.

5.3 Fire Fighting Instructions: As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.

Section 6. Accidental Release Measures

6.1 Protective Precautions, Protective Equipment and Emergency Procedures:
Avoid breathing vapors and provide adequate ventilation.
As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).

6.2 Environmental Precautions:
Take steps to avoid release into the environment, if safe to do so.

6.3 Methods and Material For Containment and Cleaning:
Contain spill and collect, as appropriate.
Transfer to a chemical waste container for disposal in accordance with local regulations.

Section 7. Handling and Storage

7.1 Precautions To Be Taken in Handling:
Avoid breathing dust/fume/gas/mist/vapours/spray.
Avoid prolonged or repeated exposure.

7.2 Precautions To Be Taken in Storing:
Keep container tightly closed.
Store in accordance with information listed on the product insert.

Section 8. Exposure Controls/Personal Protection

8.1 Exposure Parameters:

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Partial Chemical Name</th>
<th>Britain EH40</th>
<th>France VL</th>
<th>Europe</th>
</tr>
</thead>
<tbody>
<tr>
<td>77-86-1</td>
<td>Trizma base</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
<tr>
<td>7647-14-5</td>
<td>Sodium chloride</td>
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<td>No data.</td>
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<tr>
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<td>No data.</td>
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<td>9048-46-8</td>
<td>Bovine Serum Albumin (BSA)</td>
<td>No data.</td>
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<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>No data.</td>
<td>No data.</td>
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<table>
<thead>
<tr>
<th>CAS #</th>
<th>Partial Chemical Name</th>
<th>OSHA TWA</th>
<th>ACGIH TWA</th>
<th>Other Limits</th>
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<td>77-86-1</td>
<td>Trizma base</td>
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<td>No data.</td>
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</tr>
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<td>7647-14-5</td>
<td>Sodium chloride</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
<tr>
<td>9005-64-5</td>
<td>Polyoxyethylenesorbitan Monolaurate (polysorbate 20; Sorbitan, monododecanoate, poly(oxy-1,2-ethanediyl) derivatives)</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
</tbody>
</table>
8.2 Exposure Controls:

8.2.1 Engineering Controls: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

8.2.2 Personal protection equipment:
- Eye Protection: Safety glasses
- Protective Gloves: Compatible chemical-resistant gloves
- Other Protective Clothing: Lab coat
- Respiratory Equipment: NIOSH approved respirator, as conditions warrant.

Work/Hygienic/Maintenance Practices:
- Do not take internally.
- Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
- Wash thoroughly after handling.
- No data available.

Section 9. Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties
- Physical States: [ ] Gas [X] Liquid [ ] Solid
- Appearance and Odor: Solution
- pH: 7.63
- Melting Point: No data.
- Boiling Point: No data.
- Flash Pt: No data.
- Evaporation Rate: No data.
- Flammability (solid, gas): No data available.
- Explosive Limits: LEL: No data. UEL: No data.
- Vapor Pressure (vs. Air or mm Hg): No data.
- Vapor Density (vs. Air = 1): No data.
- Specific Gravity (Water = 1): No data.
- Solubility in Water: No data.
- Autoignition Pt: No data.

9.2 Other Information
- Percent Volatile: No data.

Section 10. Stability and Reactivity

10.1 Reactivity: No data available.
10.2 Stability: Unstable [ ] Stable [X]
10.3 Stability Note(s): Stable if stored in accordance with information listed on the product insert.
- Polymerization: Will occur [ ] Will not occur [X]
10.4 Conditions To Avoid: No data available.
10.5 Incompatibility - Materials: Strong oxidizing agents
10.6 Decomposition or Hazardous To Avoid:
- carbon dioxide
- carbon monoxide
Section 11. Toxicological Information

11.1 Information on Toxicological Effects:
The toxicological effects of this product have not been thoroughly studied.

Trizma base - Toxicity Data:
- Oral LDLO (rabbit): 1,000 mg/kg;
- Oral TDLO (mouse): 3,000 mg/kg;
- Oral LD50 (rat): >3,000 mg/kg;
- Oral LD50 (mouse): 5,500 mg/kg;
- Oral TDLO (rat): 3,000 mg/kg;

Trizma base - Irritation Data:
- Skin (rabbit): 500 mg severe;

11.2 Chronic Toxicological Effects:
Trizma base- Investigated as a reproductive effector.

Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here. See actual entry in RTECS for complete information.

Trizma base RTECS Number: TY2900000

Carcinogenicity:
- NTP? No
- IARC Monographs? No
- OSHA Regulated? No

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>NTP</th>
<th>IARC</th>
<th>ACGIH</th>
<th>OSHA</th>
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</thead>
<tbody>
<tr>
<td>77-86-1</td>
<td>Trizma base</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
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<tr>
<td>7647-14-5</td>
<td>Sodium chloride</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
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<tr>
<td>9005-64-5</td>
<td>Polyoxyethylene sorbitan Monolaurate (polysorbate 20; Sorbitan, monododecanoate, poly(oxy-1,2-ethanediyl) derivatives)</td>
<td>n.a.</td>
<td>n.a.</td>
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<td>9048-46-8</td>
<td>Bovine Serum Albumin (BSA)</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
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<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

Section 12. Ecological Information

12.1 Toxicity:
Avoid release into the environment.
Runoff from fire control or dilution water may cause pollution.

12.2 Persistence and Degradability:
No data available.

12.3 Bioaccumulative Potential:
No data available.

12.4 Mobility in Soil:
No data available.

12.5 Results of PBT and vPvB assessment:
No data available.

12.6 Other adverse effects:
No data available.

Section 13. Disposal Considerations

13.1 Waste Disposal Method:
Dispose in accordance with local, state, and federal regulations.

Section 14. Transport Information

14.1 LAND TRANSPORT (US DOT):
- DOT Proper Shipping Name: Not dangerous goods.
- DOT Hazard Class: UN/NA Number:

14.1 LAND TRANSPORT (European ADR/RID):
- ADR/RID Shipping Name: Not dangerous goods.
- UN Number:
- Hazard Class: Multi-region format
### Section 15. Regulatory Information

**EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists**

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>S. 302 (EHS)</th>
<th>S. 304 RQ</th>
<th>S. 313 (TRI)</th>
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<td>Sodium chloride</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>9005-64-5</td>
<td>Polyoxethylene sorbitan Monolaurate (polysorbate 20; Sorbitan, monododecanoate, poly(oxy-1,2-ethanediyl) derivatives)</td>
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<td>No</td>
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<td>Water</td>
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<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>Other US EPA or State Lists</th>
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<tr>
<td>77-86-1</td>
<td>Trizma base</td>
<td>CAA HAP,ODC; HAP: CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No</td>
</tr>
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<td>7647-14-5</td>
<td>Sodium chloride</td>
<td>CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No</td>
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<td>Bovine Serum Albumin (BSA)</td>
<td>CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No</td>
</tr>
<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No</td>
</tr>
</tbody>
</table>

**Regulatory Information Statement:**

This SDS was prepared in accordance with 29 CFR 1910.1200 and Regulation (EC) No.1272/2008.

### Section 16. Other Information

**Revision Date:** 05/07/2015

**Additional Information About This Product:** No data available.

**Company Policy or Disclaimer:**

DISCLAIMER: This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.
SAFETY DATA SHEET
Transcription Factor Goat Anti-Rabbit HRP Conjugate

Section 1. Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product Code: 10006884

1.2 Relevant identified uses of the substance or mixture and uses advised against:

Relevant identified uses: For research use only, not for human or veterinary use.

1.3 Details of the Supplier of the Safety Data Sheet:

Company Name: Cayman Chemical Company
1180 E. Ellsworth Rd.
Ann Arbor, MI 48108

Web site address: www.caymanchem.com

1.4 Emergency telephone number:

Emergency Contact: CHEMTREC Within USA and Canada: +1 (800)424-9300

Cayman Chemical Company +1 (734)971-3335

Section 2. Hazards Identification

2.1 Classification of the Substance or Mixture:

2.1.1 Classification according to Regulation (EC) No 1272/2008 [CLP]:

Acute Toxicity: Oral, Category 4
Skin Corrosion/Irritation, Category 3
Respiratory Sensitization, Category 1
Skin Sensitization, Category 1

2.2 Label Elements:

2.2.1 Labeling according to Regulation (EC) No 1272/2008 [CLP]:

GHS Signal Word: Danger

GHS Hazard Phrases:
H302: Harmful if swallowed.
H316: Causes mild skin irritation.
H317: May cause an allergic skin reaction.
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

GHS Precaution Phrases:
P261: Avoid breathing {dust/fume/gas/mist/vapors/spray}.
P264: Wash {hands} thoroughly after handling.
P272: Contaminated work clothing should not be allowed out of the workplace.
P280: Wear {protective gloves/protective clothing/eye protection/face protection}.
P285: In case of inadequate ventilation wear respiratory protection.

GHS Response Phrases:
P301+312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P302+352: IF ON SKIN: Wash with plenty of soap and water.
P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P330: Rinse mouth.
### GHS Storage and Disposal Phrases:

Please refer to Section 7 for Storage and Section 13 for Disposal information.

2.3 **Adverse Human Health**  
**Effects and Symptoms:**
- Causes mild skin irritation.
- Harmful if swallowed.
- Material may be irritating to the mucous membranes and upper respiratory tract.
- May be harmful by inhalation or skin absorption.
- May cause an allergic skin reaction.
- May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- May cause eye or respiratory system irritation.

To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

## Section 3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>CAS # / RTECS #</th>
<th>Hazardous Components (Chemical Name)/ REACH Registration No.</th>
<th>Concentration</th>
<th>EC No./ EC Index No.</th>
<th>GHS Classification</th>
</tr>
</thead>
</table>
| 77-86-1 / TY2900000 | Trizma base | 0.0 - 5.0 % | 201-064-4 / NA | Skin Corr. 2: H315  
Eye Damage 2: H319  
STOT (SE) 3: H335 |
| 7647-14-5 / VZ4725000 | Sodium chloride | 0.0 - 5.0 % | 231-598-3 / NA | No data available. |
| 9048-46-8 / MT6446000 | Bovine Serum Albumin (BSA) | 0.0 - 5.0 % | 232-936-2 / NA | Acute Tox.(O) 4: H302 |
| NA / NA | Goat Anti-Rabbit HRP Conjugate | 0.0 - 1.0 % | NA / NA | No data available. |
| 7778-77-0 / TC6615500 | Potassium phosphate, Monobasic | 0.0 - 1.0 % | 231-913-4 / NA | No data available. |
| 1405-41-0 / LY2625000 | Gentimicin sulfate | 0.0 - 1.0 % | 215-778-9 / NA | Skin Sens. 1: H317  
Resp. Sens. 1: H334 |
| 7732-18-5 / ZC0110000 | Water | 32.0 - 80.0 % | 231-791-2 / NA | No data available. |
Section 4. First Aid Measures

4.1 Description of First Aid Measures:

In Case of Inhalation: Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.

In Case of Skin Contact: Immediately wash skin with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

In Case of Eye Contact: Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined and tested by medical personnel.

In Case of Ingestion: Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.

Section 5. Fire Fighting Measures

5.1 Suitable Extinguishing Media: Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.

Unsuitable Extinguishing Media: Use water spray to cool fire-exposed containers.

5.2 Flammable Properties and Hazards:

Flash Pt: No data.

Explosive Limits: LEL: No data. UEL: No data.

Autoignition Pt: No data.

5.3 Fire Fighting Instructions: As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.

Section 6. Accidental Release Measures

6.1 Protective Precautions, Protective Equipment and Emergency Procedures:

Avoid breathing vapors and provide adequate ventilation.

As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).

6.2 Environmental Precautions:

Take steps to avoid release into the environment, if safe to do so.

6.3 Methods and Material For Containment and Cleaning:

Contain spill and collect, as appropriate.

Transfer to a chemical waste container for disposal in accordance with local regulations.

Section 7. Handling and Storage

7.1 Precautions To Be Taken in Handling:

Avoid breathing dust/fume/gas/mist/vapours/spray.

Avoid prolonged or repeated exposure.

7.2 Precautions To Be Taken in Storing:

Keep container tightly closed.

Store in accordance with information listed on the product insert.

Section 8. Exposure Controls/Personal Protection

8.1 Exposure Parameters:

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Partial Chemical Name</th>
<th>Britain EH40</th>
<th>France VL</th>
<th>Europe</th>
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<tbody>
<tr>
<td>77-86-1</td>
<td>Trizma base</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
<tr>
<td>7647-14-5</td>
<td>Sodium chloride</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET
Transcription Factor Goat Anti-Rabbit HRP Conjugate

CAS # | Partial Chemical Name | OSHA TWA | ACGIH TWA | Other Limits
--- | --- | --- | --- | ---
77-86-1 | Trizma base | No data. | No data. | No data.
7647-14-5 | Sodium chloride | No data. | No data. | No data.
9048-46-8 | Bovine Serum Albumin (BSA) | No data. | No data. | No data.
NA | Goat Anti-Rabbit HRP Conjugate | No data. | No data. | No data.
56-81-5 | Glycerol | TWA: 10 mg/m³ | TWA: 10 mg/m³ | No data.
7778-77-0 | Potassium phosphate, Monobasic | No data. | No data. | No data.
1405-41-0 | Gentamicin sulfate | No data. | No data. | No data.
7732-18-5 | Water | No data. | No data. | No data.

8.2 Exposure Controls:

8.2.1 Engineering Controls: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

8.2.2 Personal protection equipment:

Eye Protection: Safety glasses
Protective Gloves: Compatible chemical-resistant gloves
Other Protective Clothing: Lab coat
Respiratory Equipment: NIOSH approved respirator, as conditions warrant.
(Specify Type):

Work/Hygienic/Maintenance Practices: Do not take internally.
Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
Wash thoroughly after handling.
No data available.

Section 9. Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Physical States: [ ] Gas [X] Liquid [ ] Solid
Appearance and Odor: Solution
pH: 7.4
Melting Point: No data.
Boiling Point: No data.
Flash Pt: No data.
Evaporation Rate: No data.
Flammability (solid, gas): No data available.
Explosive Limits: LEL: No data. UEL: No data.
Vapor Pressure (vs. Air or mm Hg): No data.
Vapor Density (vs. Air = 1): No data.
Section 10. Stability and Reactivity

10.1 Reactivity: No data available.

10.2 Stability: Unstable [ ] Stable [ X ]

10.3 Stability Note(s): Stable if stored in accordance with information listed on the product insert.

10.4 Conditions To Avoid: No data available.

10.5 Incompatibility - Materials

- strong bases
- strong oxidizing agents

10.6 Hazardous

- carbon dioxide
- carbon monoxide

Decomposition or Byproducts: Will occur [ ] Will not occur [ X ]

Section 11. Toxicological Information

11.1 Information on Toxicological Effects:
The toxicological effects of this product have not been thoroughly studied.

Glycerol - Irritation Data: Eyes (rabbit): 500 mg (24h) mild; Skin (rabbit): 500 mg (24h) mild;

Glycerol - Investigated as a mutagen, reproductive effector, and tumorigen.

Chronic Toxicological Effects:

Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here. See actual entry in RTECS for complete information.

Glycerol RTECS Number: MA8050000

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>NTP</th>
<th>IARC</th>
<th>ACGIH</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>77-86-1</td>
<td>Trizma base</td>
<td>n.a.</td>
<td>n.a.</td>
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<td>Bovine Serum Albumin (BSA)</td>
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<td>n.a.</td>
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<tr>
<td>1405-41-0</td>
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<td>n.a.</td>
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<td>Water</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

Section 12. Ecological Information

12.1 Toxicity: Avoid release into the environment.
Runoff from fire control or dilution water may cause pollution.

12.2 Persistence and Degradability: No data available.

12.3 Bioaccumulative Potential: No data available.

12.4 Mobility in Soil: No data available.

12.5 Results of PBT and vPvB assessment: No data available.
Section 13. Disposal Considerations

13.1 Waste Disposal Method: Dispose in accordance with local, state, and federal regulations.

Section 14. Transport Information

14.1 LAND TRANSPORT (US DOT):
DOT Proper Shipping Name: Not dangerous goods.
DOT Hazard Class:
UN/NA Number:

14.1 LAND TRANSPORT (European ADR/RID):
ADR/RID Shipping Name: Not dangerous goods.
UN Number:
Hazard Class:

14.3 AIR TRANSPORT (ICAO/IATA):
ICAO/IATA Shipping Name: Not dangerous goods.

Additional Transport Information: Transport in accordance with local, state, and federal regulations.

Section 15. Regulatory Information

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
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</thead>
<tbody>
<tr>
<td>77-86-1</td>
<td>Trizma base</td>
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<td>No</td>
<td>Yes-Cat. N106</td>
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<td>7647-14-5</td>
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<td>No</td>
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<td>No</td>
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<td>Bovine Serum Albumin (BSA)</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>NA</td>
<td>Goat Anti-Rabbit HRP Conjugate</td>
<td>No</td>
<td>No</td>
<td>No</td>
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<td>Glycerol</td>
<td>No</td>
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<td>7732-18-5</td>
<td>Water</td>
<td>No</td>
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<tbody>
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<td>7647-14-5</td>
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<td>Water</td>
<td>CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No</td>
</tr>
</tbody>
</table>
Regulatory Information
Statement: This SDS was prepared in accordance with 29 CFR 1910.1200 and Regulation (EC) No.1272/2008.

Section 16. Other Information

Revision Date: 05/07/2015
Additional Information About This Product: No data available.

Company Policy or Disclaimer: DISCLAIMER: This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.
SAFETY DATA SHEET
Transcription Factor Developing Solution

Section 1. Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product Code: 10006888
Product Name: Transcription Factor Developing Solution

1.2 Relevant identified uses of the substance or mixture and uses advised against:
Relevant identified uses: For research use only, not for human or veterinary use.

1.3 Details of the Supplier of the Safety Data Sheet:
Company Name: Cayman Chemical Company
1180 E. Ellsworth Rd.
Ann Arbor, MI 48108
Web site address: www.caymanchem.com
Information: Cayman Chemical Company +1 (734)971-3335

1.4 Emergency telephone number:
Emergency Contact: CHEMTREC Within USA and Canada: +1 (800)424-9300
CHEMTREC Outside USA and Canada: +1 (703)527-3887

Section 2. Hazards Identification

2.1 Classification of the Substance or Mixture:
2.1.1 Classification according to Regulation (EC) No 1272/2008 [CLP]:
Skin Corrosion/Irritation, Category 3

2.2 Label Elements:
2.2.1 Labeling according to Regulation (EC) No 1272/2008 [CLP]:
GHS Signal Word: Warning
GHS Hazard Phrases:
H316: Causes mild skin irritation.
GHS Precaution Phrases:
No phrases apply.
GHS Response Phrases:
P332+313: If skin irritation occurs, get medical advice/attention.
GHS Storage and Disposal Phrases:
Please refer to Section 7 for Storage and Section 13 for Disposal information.

2.3 Adverse Human Health Effects and Symptoms:
Material may be irritating to the mucous membranes and upper respiratory tract.
May be harmful by inhalation, ingestion, or skin absorption.
May cause eye or respiratory system irritation.
To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

Section 3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>CAS # / RTECS #</th>
<th>Hazardous Components (Chemical Name)/REACH Registration No.</th>
<th>Concentration</th>
<th>EC No./EC Index No.</th>
<th>GHS Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>NA NA</td>
<td>3,3',5,5'-Tetramethylbenzidine (TMB) solution &gt;99.0 %</td>
<td>NA</td>
<td>NA</td>
<td>No data available.</td>
</tr>
<tr>
<td>7722-84-1 MX0887000</td>
<td>Hydrogen peroxide &lt; 1.0 %</td>
<td>231-765-0 008-003-00-9</td>
<td>Ox. Liq. 1: H271 Acute Tox.(O) 4: H302 Skin Corr. 1A: H314 Acute Tox.(I) 4: H332</td>
<td></td>
</tr>
</tbody>
</table>

Multi-region format
Section 4. First Aid Measures

4.1 Description of First Aid Measures:

In Case of Inhalation: Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.

In Case of Skin Contact: Immediately wash skin with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

In Case of Eye Contact: Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined and tested by medical personnel.

In Case of Ingestion: Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.

Section 5. Fire Fighting Measures

5.1 Suitable Extinguishing Media: Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.

Unsuitable Extinguishing Media: Use water spray to cool fire-exposed containers.

5.2 Flammable Properties and Hazards:

Flash Pt: No data.

Explosive Limits: LEL: No data. UEL: No data.

Autoignition Pt: No data.

5.3 Fire Fighting Instructions: As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.

Section 6. Accidental Release Measures

6.1 Protective Precautions, Protective Equipment and Emergency Procedures:

Avoid breathing vapors and provide adequate ventilation.

As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).

6.2 Environmental Precautions: Take steps to avoid release into the environment, if safe to do so.

6.3 Methods and Material For Containment and Cleaning:

Contain spill and collect, as appropriate.

Transfer to a chemical waste container for disposal in accordance with local regulations.

Section 7. Handling and Storage

7.1 Precautions To Be Taken in Handling:

Avoid breathing dust/fume/gas/mist/vapours/spray.

Avoid prolonged or repeated exposure.

7.2 Precautions To Be Taken in Storing:

Keep container tightly closed.

Store in accordance with information listed on the product insert.

Other Precautions:

Air sensitive.

Light sensitive.
Section 8. Exposure Controls/Personal Protection

8.1 Exposure Parameters:

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Partial Chemical Name</th>
<th>Britain EH40</th>
<th>France VL</th>
<th>Europe</th>
</tr>
</thead>
<tbody>
<tr>
<td>NA</td>
<td>3,3’,5,5’-Tetramethylbenzidine (TMB) solution</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
<tr>
<td>7722-84-1</td>
<td>Hydrogen peroxide</td>
<td>TWA: 1.4 mg/m3 (1 ppm)</td>
<td>TWA: 1.5 mg/m3 (1 ppm)</td>
<td>No data.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Partial Chemical Name</th>
<th>OSHA TWA</th>
<th>ACGIH TWA</th>
<th>Other Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>NA</td>
<td>3,3’,5,5’-Tetramethylbenzidine (TMB) solution</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
<tr>
<td>7722-84-1</td>
<td>Hydrogen peroxide</td>
<td>PEL: 1 ppm</td>
<td>TLV: 1 ppm</td>
<td>No data.</td>
</tr>
</tbody>
</table>

8.2 Exposure Controls:

8.2.1 Engineering Controls: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

8.2.2 Personal protection equipment:
- Eye Protection: Safety glasses
- Protective Gloves: Compatible chemical-resistant gloves
- Other Protective Clothing: Lab coat
- Respiratory Equipment: NIOSH approved respirator, as conditions warrant.

Work/Hygienic/Maintenance Practices:
- Do not take internally.
- Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
- Wash thoroughly after handling.
- No data available.

Section 9. Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

- Physical States: [ ] Gas [ X ] Liquid [ ] Solid
- Appearance and Odor: Solution
- Melting Point: No data.
- Boiling Point: No data.
- Flash Pt: No data.
- Evaporation Rate: No data.
- Flammability (solid, gas): No data available.
- Explosive Limits:
  - LEL: No data.
  - UEL: No data.
- Vapor Pressure (vs. Air or mm Hg): No data.
- Vapor Density (vs. Air = 1): No data.
- Specific Gravity (Water = 1): No data.
- Solubility in Water: No data.
- Autoignition Pt: No data.
Section 10. Stability and Reactivity

10.1 Reactivity: No data available.
10.2 Stability: Unstable [ ] Stable [ X ]
10.3 Stability Note(s): Stable if stored in accordance with information listed on the product insert.
10.4 Conditions To Avoid: No data available.
10.5 Incompatibility - Materials strong oxidizing agents
10.6 Hazardous
    Decomposition or carbon dioxide
    Byproducts: carbon monoxide
    nitrogen oxides

Section 11. Toxicological Information

11.1 Information on Toxicological Effects: The toxicological effects of this product have not been thoroughly studied.

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>NTP</th>
<th>IARC</th>
<th>ACGIH</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>NA</td>
<td>3,3',5,5'-Tetramethylbenzidine (TMB) solution</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>7722-84-1</td>
<td>Hydrogen peroxide</td>
<td>n.a.</td>
<td>3</td>
<td>A3</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

Section 12. Ecological Information

12.1 Toxicity: Avoid release into the environment.
Runoff from fire control or dilution water may cause pollution.
12.2 Persistence and Degradability: No data available.
12.3 Bioaccumulative Potential: No data available.
12.4 Mobility in Soil: No data available.
12.5 Results of PBT and vPvB assessment: No data available.
12.6 Other adverse effects: No data available.

Section 13. Disposal Considerations

13.1 Waste Disposal Method: Dispose in accordance with local, state, and federal regulations.
Section 14. Transport Information

14.1 LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: Not dangerous goods.

DOT Hazard Class:

UN/NA Number:

14.1 LAND TRANSPORT (European ADR/RID):

ADR/RID Shipping Name: Not dangerous goods.

UN Number:

Hazard Class:

14.3 AIR TRANSPORT (ICAO/IATA):

ICAO/IATA Shipping Name: Not dangerous goods.

Additional Transport Information:

Transport in accordance with local, state, and federal regulations.

Section 15. Regulatory Information

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>S. 302 (EHS)</th>
<th>S. 304 RQ</th>
<th>S. 313 (TRI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NA</td>
<td>3,3',5,5'-Tetramethylbenzidine (TMB) solution</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>7722-84-1</td>
<td>Hydrogen peroxide</td>
<td>Yes 1000 LB</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>Other US EPA or State Lists</th>
</tr>
</thead>
<tbody>
<tr>
<td>NA</td>
<td>3,3',5,5'-Tetramethylbenzidine (TMB) solution</td>
<td>CAA HAP, ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No</td>
</tr>
<tr>
<td>7722-84-1</td>
<td>Hydrogen peroxide</td>
<td>CAA HAP, ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No</td>
</tr>
</tbody>
</table>

Regulatory Information Statement:

This SDS was prepared in accordance with 29 CFR 1910.1200 and Regulation (EC) No.1272/2008.

Section 16. Other Information

Revision Date: 05/07/2015

Additional Information About This Product:

No data available.

Company Policy or Disclaimer:

DISCLAIMER: This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.
## Section 1. Identification of the Substance/Mixture and of the Company/Undertaking

### 1.1 Product Code: 10006889

**Product Name:** Transcription Factor Stop Solution

### 1.2 Relevant identified uses of the substance or mixture and uses advised against:

**Relevant identified uses:** For research use only, not for human or veterinary use.

### 1.3 Details of the Supplier of the Safety Data Sheet:

**Company Name:** Cayman Chemical Company  
1180 E. Ellsworth Rd.  
Ann Arbor, MI 48108

**Web site address:** www.caymanchem.com

**Information:** Cayman Chemical Company  
+1 (734)971-3335

### 1.4 Emergency telephone number:

**Emergency Contact:** CHEMTREC Within USA and Canada: +1 (800)424-9300  
CHEMTREC Outside USA and Canada: +1 (703)527-3887

## Section 2. Hazards Identification

### 2.1 Classification of the Substance or Mixture:

#### 2.1.1 Classification according to Regulation (EC) No 1272/2008 [CLP]:

- **Skin Corrosion/Irritation, Category 1A**

### 2.2 Label Elements:

#### 2.2.1 Labeling according to Regulation (EC) No 1272/2008 [CLP]:

**GHS Signal Word:** Danger

**GHS Hazard Phrases:**

- H314: Causes severe skin burns and eye damage.

**GHS Precaution Phrases:**

- P264: Wash (hands) thoroughly after handling.  
- P280: Wear (protective gloves/protective clothing/eye protection/face protection).

**GHS Response Phrases:**

- P301+330+331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
- P303+361+353: IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.  
- P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
- P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
- P310: Immediately call a POISON CENTER or doctor/physician.  
- P360: Wash contaminated clothing before reuse.

**GHS Storage and Disposal Phrases:**

Please refer to Section 7 for Storage and Section 13 for Disposal information.
2.3 Adverse Human Health Effects and Symptoms:

Causes severe skin burns and eye damage.

Irritating to eyes, respiratory system, and skin.

Chronic exposure to mists containing sulfuric acid is a cancer hazard.

Harmful if swallowed, inhaled, or absorbed through the skin.

Inhalation may cause lung edema.

Long-term exposure to mist or vapors may cause damage to teeth.

Material is irritating to the mucous membranes and upper respiratory tract.

To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

Section 3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>CAS # / RTECS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>Concentration</th>
<th>EC No./ EC Index No.</th>
<th>GHS Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>7664-93-9 WS5600000</td>
<td>Sulfuric acid</td>
<td>0.0 -5.0 %</td>
<td>231-639-5 016-020-00-8</td>
<td>Skin Corr. 1A: H314</td>
</tr>
<tr>
<td>7732-18-5 ZC0110000</td>
<td>Water</td>
<td>95.0 -100.0 %</td>
<td>231-791-2 NA</td>
<td>No data available.</td>
</tr>
</tbody>
</table>

Section 4. First Aid Measures

4.1 Description of First Aid Measures:

In Case of Inhalation: Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.

In Case of Skin Contact: Immediately wash skin with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

In Case of Eye Contact: Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined and tested by medical personnel.

In Case of Ingestion: Do NOT induce vomiting. Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention.

4.2 Important Symptoms and Effects, Both Acute and Delayed:

Circulatory collapse with clammy skin, weak and rapid pulse, shallow respirations, and scanty urine may follow ingestion or skin contact.

Ingestion may cause: Sore throat, vomiting, and diarrhea.

Irritating to the skin, eyes, nose, throat, and respiratory tract.

Section 5. Fire Fighting Measures

5.1 Suitable Extinguishing Media: Use alcohol-resistant foam, carbon dioxide, or dry chemical spray.

Unsuitable Extinguishing Media: DO NOT USE WATER.

5.2 Flammable Properties and Hazards: Concentrated solutions react violently with water, spattering and liberating heat.

Emits toxic and corrosive fumes under fire conditions.

Not Flammable, but reacts with most metals to form flammable hydrogen gas.

Flash Pt: No data.

Explosive Limits: LEL: No data. UEL: No data.

Autoignition Pt: No data.

5.3 Fire Fighting Instructions: As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.
Section 6. Accidental Release Measures

6.1 Protective Precautions, Protective Equipment and Emergency Procedures:
- **Protective Precautions:** Avoid breathing vapors and provide adequate ventilation.
- **Protective Equipment and Emergency Procedures:** As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).

6.2 Environmental Precautions:
- **Methods and Material For Containment and Cleaning:** Contain spill and collect, as appropriate. Transfer to a chemical waste container for disposal in accordance with local regulations.

Section 7. Handling and Storage

7.1 Precautions To Be Taken in Handling:
- **Avoid breathing dust/fume/gas/mist/vapours/spray.**
- **Avoid prolonged or repeated exposure.**

7.2 Precautions To Be Taken in Storing:
- **Keep container tightly closed.**
- **Store in accordance with information listed on the product insert.**

Section 8. Exposure Controls/Personal Protection

8.1 Exposure Parameters:

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Partial Chemical Name</th>
<th>Britain EH40</th>
<th>France VL</th>
<th>Europe</th>
</tr>
</thead>
<tbody>
<tr>
<td>7664-93-9</td>
<td>Sulfuric acid</td>
<td>No data.</td>
<td>TWA: 1.0 mg/m3</td>
<td>No data.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>STEL: 3.0 mg/m3</td>
<td></td>
</tr>
<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Partial Chemical Name</th>
<th>OSHA TWA</th>
<th>ACGIH TWA</th>
<th>Other Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>7664-93-9</td>
<td>Sulfuric acid</td>
<td>PEL: 1 mg/m3</td>
<td>TLV: (1 mg/m3)</td>
<td>No data.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>STEL: (3 mg/m3)</td>
<td></td>
</tr>
<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
</tbody>
</table>

8.2 Exposure Controls:

8.2.1 Engineering Controls (Ventilation etc.):
- Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

8.2.2 Personal protection equipment:
- **Eye Protection:** Safety glasses
- **Protective Gloves:** Compatible chemical-resistant gloves
- **Other Protective Clothing:** Lab coat
- **Respiratory Equipment (Specify Type):** NIOSH approved respirator, as conditions warrant.

8.2.3 Work/Hygienic/Maintenance Practices:
- **Do not take internally.**
- Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
- Wash thoroughly after handling.
- No data available.
### Section 9. Physical and Chemical Properties

#### 9.1 Information on Basic Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Physical States</th>
<th>Gas</th>
<th>Liquid</th>
<th>Solid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance and Odor</td>
<td>Solution</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melting Point</td>
<td>No data.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boiling Point</td>
<td>No data.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flash Pt</td>
<td>No data.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No data.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Explosive Limits</td>
<td>LEL: No data.</td>
<td>UEL: No data.</td>
<td></td>
</tr>
<tr>
<td>Vapor Pressure (vs. Air or mm Hg)</td>
<td>No data.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vapor Density (vs. Air = 1)</td>
<td>No data.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific Gravity (Water = 1)</td>
<td>No data.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>No data.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Autoignition Pt</td>
<td>No data.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### 9.2 Other Information

| Percent Volatile | No data. |

### Section 10. Stability and Reactivity

#### 10.1 Reactivity:
No data available.

#### 10.2 Stability:
- Unstable [ ]
- Stable [X]

#### 10.3 Stability Note(s):
Stable if stored in accordance with information listed on the product insert.

#### 10.4 Conditions To Avoid:
heat

#### 10.5 Incompatibility - Materials

<table>
<thead>
<tr>
<th>bases</th>
</tr>
</thead>
<tbody>
<tr>
<td>To Avoid: halogens hydrides lithium metal acetylides metals organic material oxides potassium chlorate potassium perchlorate potassium permanganate sodium strong oxidizing agents strong reducing agents water</td>
</tr>
</tbody>
</table>

#### 10.6 Hazardous Decomposition or Byproducts:
- carbon dioxide hydrogen cyanide hydrogen sulfide
Section 11. Toxicological Information

11.1 Information on Toxicological Effects: The toxicological effects of this product have not been thoroughly studied.

**Sulfuric acid - Toxicity Data:**
- Oral LD50 (rat): 2,140 mg/kg
- Inhalation TCLO (human): 0.63 mg/m3
- Inhalation LC50 (mouse): 320 mg/m3
- Inhalation LC50 (guinea pig): 18 mg/m3 (8hr)
- Sulfuric acid - Irritation Data: Eyes (rabbit): 5 mg (30s) severe

**Chronic Toxicological Effects:** Sulfuric acid - Investigated as a reproductive effector.

**Carcinogenicity/Other Information:**
- IARC: 1 - Group 1: Carcinogenic to humans, Occupational exposure to strong-inorganic-acid mists containing sulfuric acid is carcinogenic to humans.

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>NTP</th>
<th>IARC</th>
<th>ACGIH</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>7664-93-9</td>
<td>Sulfuric acid</td>
<td>Known</td>
<td>Unknown</td>
<td>A2</td>
<td>n.a.</td>
</tr>
<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

Section 12. Ecological Information

12.1 Toxicity: Avoid release into the environment. Runoff from fire control or dilution water may cause pollution.

12.2 Persistence and Degradability: No data available.

12.3 Bioaccumulative Potential: No data available.

12.4 Mobility in Soil: No data available.

12.5 Results of PBT and vPvB assessment: No data available.

12.6 Other adverse effects: No data available.

Section 13. Disposal Considerations

13.1 Waste Disposal Method: Dispose in accordance with local, state, and federal regulations.

Section 14. Transport Information

14.1 LAND TRANSPORT (US DOT): 

**DOT Proper Shipping Name:** Sulfuric acid [with 51% or less acid]

**DOT Hazard Class:** 8 - CORROSIVE

**UN/NA Number:** 2796

**Packing Group:** II

14.1 LAND TRANSPORT (European ADR/RID):

**ADR/RID Shipping Name:** Sulfuric acid [with 51% or less acid]

**UN Number:** 2796

**Packing Group:** II

**Hazard Class:** 8 - CORROSIVE
14.3 AIR TRANSPORT (ICAO/IATA):

<table>
<thead>
<tr>
<th>ICAO/IATA Shipping Name:</th>
<th>Sulfuric acid [with 51% or less acid]</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN Number:</td>
<td>2796</td>
</tr>
<tr>
<td>Packing Group:</td>
<td>II</td>
</tr>
<tr>
<td>Hazard Class:</td>
<td>8 - CORROSIVE</td>
</tr>
<tr>
<td>IATA Classification:</td>
<td>8</td>
</tr>
</tbody>
</table>

Additional Transport Information: Transport in accordance with local, state, and federal regulations.

**Section 15. Regulatory Information**

**EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists**

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>S. 302 (EHS)</th>
<th>S. 304 RQ</th>
<th>S. 313 (TRI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7664-93-9</td>
<td>Sulfuric acid</td>
<td>Yes 1000 LB</td>
<td>Yes 1000 LB</td>
<td>Yes</td>
</tr>
<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>Other US EPA or State Lists</th>
</tr>
</thead>
<tbody>
<tr>
<td>7664-93-9</td>
<td>Sulfuric acid</td>
<td>CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No</td>
</tr>
<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No</td>
</tr>
</tbody>
</table>

Regulatory Information Statement: This SDS was prepared in accordance with 29 CFR 1910.1200 and Regulation (EC) No.1272/2008.

**Section 16. Other Information**

Revision Date: 05/07/2015

Additional Information About This Product: No data available.

Company Policy or Disclaimer: DISCLAIMER: This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.
SAFETY DATA SHEET
Transcription Factor Reagent A

Section 1. Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product Code: 10007472
Product Name: Transcription Factor Reagent A

1.2 Relevant identified uses of the substance or mixture and uses advised against:
   Relevant identified uses: For research use only, not for human or veterinary use.

1.3 Details of the Supplier of the Safety Data Sheet:

   Company Name: Cayman Chemical Company
   1180 E. Ellsworth Rd.
   Ann Arbor, MI  48108
   Web site address: www.caymanchem.com
   Information: Cayman Chemical Company +1 (734)971-3335

1.4 Emergency telephone number:
   Emergency Contact: CHEMTREC Within USA and Canada: +1 (800)424-9300
       CHEMTREC Outside USA and Canada: +1 (703)527-3887

Section 2. Hazards Identification

2.1 Classification of the Substance or Mixture:

2.1.1 Classification according to Regulation (EC) No 1272/2008 [CLP]:
   Based on evaluation of currently available data this substance or mixture is not classifiable according to GHS.
   GHS Hazard Phrases:
   No phrases apply.
   GHS Precaution Phrases:
   No phrases apply.
   GHS Response Phrases:
   Please refer to Section 7 for Storage and Section 13 for Disposal information.

2.2 Label Elements:

2.2.1 Labeling according to Regulation (EC) No 1272/2008 [CLP]:
   GHS Signal Word: None
   GHS Hazard Phrases:
   Based on evaluation of currently available data this substance or mixture is not classifiable according to GHS.
   GHS Precaution Phrases:
   No phrases apply.
   GHS Response Phrases:
   No phrases apply.
   GHS Storage and Disposal Phrases:
   Please refer to Section 7 for Storage and Section 13 for Disposal information.

2.3 Adverse Human Health Effects and Symptoms:
   Material may be irritating to the mucous membranes and upper respiratory tract.
   May be harmful by inhalation, ingestion, or skin absorption.
   May cause eye, skin, or respiratory system irritation.
   To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

Section 3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>CAS # / RTECS #</th>
<th>Hazardous Components (Chemical Name) / REACH Registration No.</th>
<th>Concentration</th>
<th>EC No./ EC Index No.</th>
<th>GHS Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>NA / NA</td>
<td>Transcription Factor Reagent A</td>
<td>&lt;=1.0 %</td>
<td>NA / NA</td>
<td>No data available.</td>
</tr>
</tbody>
</table>
Section 4. First Aid Measures

4.1 Description of First Aid Measures:
- **In Case of Inhalation:** Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
- **In Case of Skin Contact:** Immediately wash skin with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.
- **In Case of Eye Contact:** Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined and tested by medical personnel.
- **In Case of Ingestion:** Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.

Section 5. Fire Fighting Measures

5.1 Suitable Extinguishing Media:
- Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.
- Use water spray to cool fire-exposed containers.

5.2 Flammable Properties and Hazards:
- **Flash Pt:** No data.
- **Explosive Limits:**
  - LEL: No data.
  - UEL: No data.
- **Autoignition Pt:** No data.

5.3 Fire Fighting Instructions:
- As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.

Section 6. Accidental Release Measures

6.1 Protective Precautions, Protective Equipment and Emergency Procedures:
- Avoid breathing vapors and provide adequate ventilation.
- As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).

6.2 Environmental Precautions:
- Take steps to avoid release into the environment, if safe to do so.

6.3 Methods and Material For Containment and Cleaning:
- Contain spill and collect, as appropriate.
- Transfer to a chemical waste container for disposal in accordance with local regulations.

Section 7. Handling and Storage

7.1 Precautions To Be Taken in Handling:
- Avoid breathing dust/fume/gas/mist/vapours/spray.
- Avoid prolonged or repeated exposure.

7.2 Precautions To Be Taken in Storing:
- Keep container tightly closed.
- Store in accordance with information listed on the product insert.

Section 8. Exposure Controls/Personal Protection

8.1 Exposure Parameters:

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Partial Chemical Name</th>
<th>Britain EH40</th>
<th>France VL</th>
<th>Europe</th>
</tr>
</thead>
<tbody>
<tr>
<td>NA</td>
<td>Transcription Factor Reagent A</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET
Transcription Factor Reagent A

CAS # | Partial Chemical Name | OSHA TWA | ACGIH TWA | Other Limits
--- | --- | --- | --- | ---
NA | Transcription Factor Reagent A | No data. | No data. | No data.
7732-18-5 | Water | No data. | No data. | No data.

8.2 Exposure Controls:

8.2.1 Engineering Controls: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

8.2.2 Personal protection equipment:
- Eye Protection: Safety glasses
- Protective Gloves: Compatible chemical-resistant gloves
- Other Protective Clothing: Lab coat
- Respiratory Equipment: NIOSH approved respirator, as conditions warrant.
- Work/Hygienic/Maintenance Practices: Do not take internally.
- Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
- Wash thoroughly after handling.
- No data available.

Section 9. Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties
- Physical States: [ ] Gas [ X ] Liquid [ ] Solid
- Appearance and Odor: Solution
- Melting Point: No data.
- Boiling Point: No data.
- Flash Pt: No data.
- Evaporation Rate: No data.
- Flammability (solid, gas): No data available.
- Explosive Limits: LEL: No data. UEL: No data.
- Vapor Pressure (vs. Air or mm Hg): No data.
- Vapor Density (vs. Air = 1): No data.
- Specific Gravity (Water = 1): No data.
- Solubility in Water: No data.
- Autoignition Pt: No data.

9.2 Other Information
- Percent Volatile: No data.

Section 10. Stability and Reactivity

10.1 Reactivity: No data available.
10.2 Stability: Unstable [ ] Stable [ X ]
10.3 Stability Note(s): Stable if stored in accordance with information listed on the product insert.
- Polymerization: Will occur [ ] Will not occur [ X ]
10.4 Conditions To Avoid: No data available.
10.5 Incompatibility - Materials No data available.
- To Avoid:
10.6 Hazardous Decomposition or
Section 11. Toxicological Information

11.1 Information on Toxicological Effects: The toxicological effects of this product have not been thoroughly studied.

Carcinogenicity:

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>NTP</th>
<th>IARC</th>
<th>ACGIH</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>NA</td>
<td>Transcription Factor Reagent A</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

Section 12. Ecological Information

12.1 Toxicity: Avoid release into the environment. Runoff from fire control or dilution water may cause pollution.

12.2 Persistence and Degradability: No data available.

12.3 Bioaccumulative Potential: No data available.

12.4 Mobility in Soil: No data available.

12.5 Results of PBT and vPvB assessment: No data available.

12.6 Other adverse effects: No data available.

Section 13. Disposal Considerations

13.1 Waste Disposal Method: Dispose in accordance with local, state, and federal regulations.

Section 14. Transport Information

14.1 LAND TRANSPORT (US DOT):

<table>
<thead>
<tr>
<th>DOT Proper Shipping Name:</th>
<th>Not dangerous goods.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT Hazard Class:</td>
<td></td>
</tr>
<tr>
<td>UN/NA Number:</td>
<td></td>
</tr>
</tbody>
</table>

14.1 LAND TRANSPORT (European ADR/RID):

<table>
<thead>
<tr>
<th>ADR/RID Shipping Name:</th>
<th>Not dangerous goods.</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN Number:</td>
<td></td>
</tr>
<tr>
<td>Hazard Class:</td>
<td></td>
</tr>
</tbody>
</table>

14.3 AIR TRANSPORT (ICAO/IATA):

<table>
<thead>
<tr>
<th>ICAO/IATA Shipping Name:</th>
<th>Not dangerous goods.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional Transport Information:</td>
<td>Transport in accordance with local, state, and federal regulations.</td>
</tr>
</tbody>
</table>

Section 15. Regulatory Information

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>S. 302 (EHS)</th>
<th>S. 304 RQ</th>
<th>S. 313 (TRI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NA</td>
<td>Transcription Factor Reagent A</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>Other US EPA or State Lists</th>
</tr>
</thead>
<tbody>
<tr>
<td>NA</td>
<td>Transcription Factor Reagent A</td>
<td>CAA HAP, ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No</td>
</tr>
</tbody>
</table>
TRANSCRIPTION FACTOR REAGENT A

SAFETY DATA SHEET

Revision: 05/07/2015
Supersedes Revision: 06/04/2014

| 7732-18-5 | Water | CAA HAP, ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No |

**Regulatory Information**
- This SDS was prepared in accordance with 29 CFR 1910.1200 and Regulation (EC) No.1272/2008.

**Statement:**
- No data available.

**Section 16. Other Information**

**Revision Date:** 05/07/2015

**Additional Information About This Product:**
- No data available.

**Company Policy or Disclaimer:**
- DISCLAIMER: This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.
Transcription Factor SREBP 96-Well Strip Plate
Item No. 10008858

COMMENTS:
Each plate is coated with a dsDNA consensus sequence specific for SREBP. This Safety Data Sheet (SDS) is for the dsDNA only. A SDS on this material is not required as this substance is a naturally occurring animal product. However, we do recommend the following minimum precautions when using this substance:

- Do NOT get in eyes, on skin, or on clothing.
- Do NOT take internally.
- Wear protective gloves and safety glasses.
- Keep container closed.
- Store at correct temperature.
- Do NOT reuse this container.
- Do NOT release this material to the environment; dispose of by incineration in accordance with federal, state, and local regulations.
- Wash thoroughly after handling.

WARNING:
Not for human or animal disease diagnostics or therapeutic drug use.

The above information is believed to be correct but should only be used as a guide. Cayman Chemical disclaims any express or implied warranty as to the accuracy of the above information and shall not be held liable for any direct, incidental, or consequential damages resulting from reliance on the above information.

Copyright Cayman Chemical Company
Revision Date: 10/23/2012
Supercedes Revision: 03/03/2010
Section 1. Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product Code: 10008860
Product Name: Transcription Factor SREBP Competitor dsDNA

1.2 Relevant identified uses of the substance or mixture and uses advised against:
Relevant identified uses: For research use only, not for human or veterinary use.

1.3 Details of the Supplier of the Safety Data Sheet:

Company Name: Cayman Chemical Company
1180 E. Ellsworth Rd.
Ann Arbor, MI  48108

Web site address: www.caymanchem.com

Information: Cayman Chemical Company
+1 (734)971-3335

1.4 Emergency telephone number:

Emergency Contact: CHEMTREC Within USA and Canada: +1 (800)424-9300
CHEMTREC Outside USA and Canada: +1 (703)527-3887

Section 2. Hazards Identification

2.1 Classification of the Substance or Mixture:
2.1.1 Classification according to Regulation (EC) No 1272/2008 [CLP]:
Based on evaluation of currently available data this substance or mixture is not classifiable according to GHS.

2.2 Label Elements:
2.2.1 Labeling according to Regulation (EC) No 1272/2008 [CLP]:
GHS Signal Word: None
GHS Hazard Phrases: Based on evaluation of currently available data this substance or mixture is not classifiable according to GHS.
GHS Precaution Phrases: No phrases apply.
GHS Response Phrases: No phrases apply.

GHS Storage and Disposal Phrases: Please refer to Section 7 for Storage and Section 13 for Disposal information.

2.3 Adverse Human Health Effects and Symptoms:
Material may be irritating to the mucous membranes and upper respiratory tract.
May be harmful by inhalation, ingestion, or skin absorption.
May cause eye, skin, or respiratory system irritation.
To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

Section 3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>CAS # / RTECS #</th>
<th>Hazardous Components (Chemical Name)/REACH Registration No.</th>
<th>Concentration</th>
<th>EC No./EC Index No.</th>
<th>GHS Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>NA/NA</td>
<td>SREBP Reverse Complement</td>
<td>0.0 -1.0 %</td>
<td>NA/NA</td>
<td>No data available.</td>
</tr>
<tr>
<td>NA/NA</td>
<td>SREBP Forward Complement</td>
<td>0.0 -1.0 %</td>
<td>NA/NA</td>
<td>No data available.</td>
</tr>
<tr>
<td>7647-14-5</td>
<td>Sodium chloride</td>
<td>0.0 -1.0 %</td>
<td>231-598-3</td>
<td>No data available.</td>
</tr>
<tr>
<td>VZ4725000</td>
<td></td>
<td></td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>6132-04-3</td>
<td>Sodium citrate</td>
<td>0.0 -1.0 %</td>
<td>NA/NA</td>
<td>No data available.</td>
</tr>
</tbody>
</table>
Section 4. First Aid Measures

4.1 Description of First Aid Measures:

- **In Case of Inhalation:** Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.

- **In Case of Skin Contact:** Immediately wash skin with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

- **In Case of Eye Contact:** Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined and tested by medical personnel.

- **In Case of Ingestion:** Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.

Section 5. Fire Fighting Measures

5.1 Suitable Extinguishing Media: Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.

5.2 Flammable Properties and Hazards: No data available.

- **Flash Pt:** No data.
- **Explosive Limits:** LEL: No data. UEL: No data.
- **Autoignition Pt:** No data.

5.3 Fire Fighting Instructions: As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.

Section 6. Accidental Release Measures

6.1 Protective Precautions, Protective Equipment and Emergency Procedures:

- **Avoid breathing vapors and provide adequate ventilation.**
- **As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).**

6.2 Environmental Precautions:

- **Take steps to avoid release into the environment, if safe to do so.**

6.3 Methods and Material For Containment and Cleaning: Contain spill and collect, as appropriate. Transfer to a chemical waste container for disposal in accordance with local regulations.

Section 7. Handling and Storage

7.1 Precautions To Be Taken in Handling:

- **Avoid breathing dust/fume/gas/mist/vapours/spray.**
- **Avoid prolonged or repeated exposure.**

7.2 Precautions To Be Taken in Storing:

- **Keep container tightly closed.**
- **Store in accordance with information listed on the product insert.**
Section 8. Exposure Controls/Persnal Protection

8.1 Exposure Parameters:

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Partial Chemical Name</th>
<th>Britain EH40</th>
<th>France VL</th>
<th>Europe</th>
</tr>
</thead>
<tbody>
<tr>
<td>NA</td>
<td>SREBP Reverse Complement</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
<tr>
<td>NA</td>
<td>SREBP Forward Complement</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
<tr>
<td>7647-14-5</td>
<td>Sodium chloride</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
<tr>
<td>6132-04-3</td>
<td>Sodium citrate</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Partial Chemical Name</th>
<th>OSHA TWA</th>
<th>ACGIH TWA</th>
<th>Other Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>NA</td>
<td>SREBP Reverse Complement</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
<tr>
<td>NA</td>
<td>SREBP Forward Complement</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
<tr>
<td>7647-14-5</td>
<td>Sodium chloride</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
<tr>
<td>6132-04-3</td>
<td>Sodium citrate</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
</tbody>
</table>

8.2 Exposure Controls:

8.2.1 Engineering Controls: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

8.2.2 Personal protection equipment:

- Eye Protection: Safety glasses
- Protective Gloves: Compatible chemical-resistant gloves
- Other Protective Clothing: Lab coat
- Respiratory Equipment: NIOSH approved respirator, as conditions warrant.

Work/Hygienic/Maintenance Practices:
- Do not take internally.
- Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
- Wash thoroughly after handling.
- No data available.

Section 9. Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

- Physical States: [ ] Gas  [X] Liquid  [ ] Solid
- Appearance and Odor: Solution
- pH: 7.2
- Melting Point: No data.
- Boiling Point: No data.
- Flash Pt: No data.
- Evaporation Rate: No data.
- Flammability (solid, gas): No data available.
- Explosive Limits: LEL: No data.  UEL: No data.
- Vapor Pressure (vs. Air or mm Hg): No data.
- Vapor Density (vs. Air = 1): No data.
SAFETY DATA SHEET
Transmission Factor SREBP Competitor dsDNA

Specific Gravity (Water = 1): No data.
Solubility in Water: No data.
Autoignition Pt: No data.

9.2 Other Information
Percent Volatile: No data.

Section 10. Stability and Reactivity

10.1 Reactivity: No data available.
10.2 Stability: Unstable [ ] Stable [ X ]
10.3 Stability Note(s): Stable if stored in accordance with information listed on the product insert.
Polymerization: Will occur [ ] Will not occur [ X ]
10.4 Conditions To Avoid: No data available.
10.5 Incompatibility - Materials No data available.
To Avoid:
10.6 Hazardous No data available.
Decomposition or
Byproducts:

Section 11. Toxicological Information

11.1 Information on
The toxicological effects of this product have not been thoroughly studied.
Toxicological Effects:
Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>NTP</th>
<th>IARC</th>
<th>ACGIH</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>NA</td>
<td>SREBP Reverse Complement</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>NA</td>
<td>SREBP Forward Complement</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>7647-14-5</td>
<td>Sodium chloride</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>6132-04-3</td>
<td>Sodium citrate</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

Section 12. Ecological Information

12.1 Toxicity: Avoid release into the environment.
Runoff from fire control or dilution water may cause pollution.
12.2 Persistence and Degradability: No data available.
12.3 Bioaccumulative Potential: No data available.
12.4 Mobility in Soil: No data available.
12.5 Results of PBT and vPvB assessment: No data available.
12.6 Other adverse effects: No data available.
Section 13. Disposal Considerations

13.1 Waste Disposal Method: Dispose in accordance with local, state, and federal regulations.

Section 14. Transport Information

14.1 LAND TRANSPORT (US DOT):
   DOT Proper Shipping Name: Not dangerous goods.
   DOT Hazard Class: UN/NA Number:

14.1 LAND TRANSPORT (European ADR/RID):
   ADR/RID Shipping Name: Not dangerous goods.
   UN Number: Hazard Class:

14.3 AIR TRANSPORT (ICAO/IATA):
   ICAO/IATA Shipping Name: Not dangerous goods.
   Additional Transport Information: Transport in accordance with local, state, and federal regulations.

Section 15. Regulatory Information

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>S. 302 (EHS)</th>
<th>S. 304 RQ</th>
<th>S. 313 (TRI)</th>
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</thead>
<tbody>
<tr>
<td>NA</td>
<td>SREBP Reverse Complement</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>NA</td>
<td>SREBP Forward Complement</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>7647-14-5</td>
<td>Sodium chloride</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>6132-04-3</td>
<td>Sodium citrate</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>No</td>
<td>No</td>
<td>No</td>
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<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>Other US EPA or State Lists</th>
</tr>
</thead>
<tbody>
<tr>
<td>NA</td>
<td>SREBP Reverse Complement</td>
<td>CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No</td>
</tr>
<tr>
<td>NA</td>
<td>SREBP Forward Complement</td>
<td>CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No</td>
</tr>
<tr>
<td>7647-14-5</td>
<td>Sodium chloride</td>
<td>CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No</td>
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<tr>
<td>6132-04-3</td>
<td>Sodium citrate</td>
<td>CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No</td>
</tr>
<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No</td>
</tr>
</tbody>
</table>

Regulatory Information Statement:

This SDS was prepared in accordance with 29 CFR 1910.1200 and Regulation (EC) No.1272/2008.
### Section 16. Other Information

<table>
<thead>
<tr>
<th>Revision Date:</th>
<th>05/09/2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional Information About This Product:</td>
<td>No data available.</td>
</tr>
<tr>
<td>Company Policy or Disclaimer:</td>
<td>DISCLAIMER: This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.</td>
</tr>
</tbody>
</table>

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**SAFETY DATA SHEET**

Transcription Factor SREBP Competitor dsDNA

Revision: 05/09/2015
Supersedes Revision: 10/23/2012
SAFETY DATA SHEET
Transcription Factor SREBP-1 Positive Control

Section 1. Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product Code: 10010893
Product Name: Transcription Factor SREBP-1 Positive Control

1.2 Relevant identified uses of the substance or mixture and uses advised against:
Relevant identified uses: For research use only, not for human or veterinary use.

1.3 Details of the Supplier of the Safety Data Sheet:

Company Name: Cayman Chemical Company
1180 E. Ellsworth Rd.
Ann Arbor, MI 48108

Web site address: www.caymanchem.com

Information: Cayman Chemical Company
+1 (734)971-3335

1.4 Emergency telephone number:
Emergency Contact: CHEMTREC Within USA and Canada: +1 (800)424-9300
CHEMTREC Outside USA and Canada: +1 (703)527-3887

Section 2. Hazards Identification

2.1 Classification of the Substance or Mixture:

2.1.1 Classification according to Regulation (EC) No 1272/2008 [CLP]:
- Flammable Liquids, Category 4
- Acute Toxicity: Oral, Category 4
- Skin Corrosion/Irritation, Category 3
- Serious Eye Damage/Eye Irritation, Category 2A

2.2 Label Elements:

2.2.1 Labeling according to Regulation (EC) No 1272/2008 [CLP]:

GHS Signal Word: Warning

GHS Hazard Phrases:
- H227: Combustible liquid.
- H302: Harmful if swallowed.
- H316: Causes mild skin irritation.
- H319: Causes serious eye irritation.

GHS Precaution Phrases:
- P210: Keep away from (heat/sparks/open flames/hot surfaces). - No smoking.
- P264: Wash (hands) thoroughly after handling.
- P280: Wear (protective gloves/protective clothing/eye protection/face protection).

GHS Response Phrases:
- P301+312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
- P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P330: Rinse mouth.
- P332+313: If skin irritation occurs, get medical advice/attention.
- P337+313: If eye irritation persists, get medical advice/attention.
SAFETY DATA SHEET
Transcription Factor SREBP-1 Positive Control

GHS Storage and Disposal Phrases:
Please refer to Section 7 for Storage and Section 13 for Disposal information.

2.3 Adverse Human Health
Effects and Symptoms:
- Causes skin and serious eye irritation.
- DMSO has the potential to carry toxic materials or materials of unknown toxicity into the body.
- DMSO is readily absorbed through skin.
- Material may be irritating to the mucous membranes and upper respiratory tract.
- May be harmful by inhalation, ingestion, or skin absorption.
- May cause respiratory system irritation.
- To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

Section 3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>CAS # / RTECS #</th>
<th>Hazardous Components (Chemical Name)/REACH Registration No.</th>
<th>Concentration</th>
<th>EC No./EC Index No.</th>
<th>GHS Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>NA</td>
<td>TF SREBP-1 Positive Control</td>
<td>58.0 -95.0 %</td>
<td>NA</td>
<td>No data available.</td>
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<tr>
<td>7365-45-9</td>
<td>HEPES, free acid</td>
<td>0.0 -5.0 %</td>
<td>230-907-9</td>
<td>No data available.</td>
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<tr>
<td>7791-18-6</td>
<td>Magnesium chloride, hexahydrate</td>
<td>0.0 -5.0 %</td>
<td>NA</td>
<td>No data available.</td>
</tr>
<tr>
<td>68987-90-6</td>
<td>Nonidet P-40</td>
<td>0.0 -1.0 %</td>
<td>NA</td>
<td>Skin Corr. 2: H315</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Eye Damage 2: H319</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>STOT (SE) 3: H335</td>
</tr>
<tr>
<td>7447-40-7</td>
<td>Potassium chloride</td>
<td>0.0 -5.0 %</td>
<td>231-211-8</td>
<td>Acute Tox.(O) 5: H303</td>
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<tr>
<td></td>
<td></td>
<td></td>
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<td>Aquatic (A) 3: H402</td>
</tr>
<tr>
<td>56-81-5</td>
<td>Glycerol</td>
<td>5.0 -20.0 %</td>
<td>200-289-5</td>
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<tr>
<td>3483-12-3</td>
<td>DL-Dithiothreitol</td>
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<td>222-468-7</td>
<td>Acute Tox.(O) 4: H302</td>
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<tr>
<td></td>
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<td>Skin Corr. 2: H315</td>
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<td>Eye Damage 2A: H319</td>
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<td>STOT (SE) 3: H335 H336</td>
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<td>67-68-5</td>
<td>Dimethyl sulfoxide, anhydrous</td>
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<td>200-664-3</td>
<td>Flam. Liq. 4: H227</td>
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<td></td>
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<td>Eye Damage 2A: H319</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Skin Corr. 2: H315</td>
</tr>
</tbody>
</table>
## Section 4. First Aid Measures

**4.1 Description of First Aid Measures:**

**In Case of Inhalation:** Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.

**In Case of Skin Contact:** Immediately wash skin with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

**In Case of Eye Contact:** Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined and tested by medical personnel.

**In Case of Ingestion:** Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.

**4.2 Important Symptoms and Effects, Both Acute and Delayed:**

Exposure may cause: hematuria or shortness of breath (dyspnea).

Exposure may cause: gastrointestinal irritation with nausea, vomiting, diarrhea, headache, dizziness, and drowsiness.

Eye contact may cause blurry vision, burning sensation, redness, tearing, and vasodilation.

## Section 5. Fire Fighting Measures

**5.1 Suitable Extinguishing Media:** Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.

**Unsuitable Extinguishing Media:** Use water spray to cool fire-exposed containers.

**5.2 Flammable Properties and Hazards:** No data available.

- **Flash Pt:** No data.
- **Explosive Limits:** LEL: No data. UEL: No data.
- **Autoignition Pt:** No data.

**5.3 Fire Fighting Instructions:** As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.

## Section 6. Accidental Release Measures

**6.1 Protective Precautions, Protective Equipment and Emergency Procedures:** Avoid breathing vapors and provide adequate ventilation.

As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).

**6.2 Environmental Precautions:** Take steps to avoid release into the environment, if safe to do so.

**6.3 Methods and Material For Containment and Cleaning Up:** Contain spill and collect, as appropriate. Transfer to a chemical waste container for disposal in accordance with local regulations.

## Section 7. Handling and Storage

**7.1 Precautions To Be Taken in Handling:** Avoid breathing dust/fume/gas/mist/vapours/spray.

**7.2 Precautions To Be Taken in Storing:** Keep container tightly closed.

Store in accordance with information listed on the product insert.
### Section 8. Exposure Controls/Personal Protection

#### 8.1 Exposure Parameters:

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Partial Chemical Name</th>
<th>Britain EH40</th>
<th>France VL</th>
<th>Europe</th>
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<tr>
<td>NA</td>
<td>TF SREBP-1 Positive Control</td>
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<tr>
<td>7365-45-9</td>
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<td>No data.</td>
<td>No data.</td>
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<tr>
<td>7791-18-6</td>
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<td>No data.</td>
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<tr>
<td>68987-90-6</td>
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<td>No data.</td>
<td>No data.</td>
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<td>7447-40-7</td>
<td>Potassium chloride</td>
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<td>No data.</td>
<td>No data.</td>
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<tr>
<td>56-81-5</td>
<td>Glycerol</td>
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<td>No data.</td>
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<tr>
<td>67-68-5</td>
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<td>No data.</td>
<td>No data.</td>
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<table>
<thead>
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<th>CAS #</th>
<th>Partial Chemical Name</th>
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<th>ACGIH TWA</th>
<th>Other Limits</th>
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<td>No data.</td>
<td>No data.</td>
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<tr>
<td>7791-18-6</td>
<td>Magnesium chloride, hexahydrate</td>
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<td>No data.</td>
<td>No data.</td>
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<td>Nonidet P-40</td>
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<td>No data.</td>
<td>No data.</td>
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<tr>
<td>7447-40-7</td>
<td>Potassium chloride</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
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<tr>
<td>56-81-5</td>
<td>Glycerol</td>
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<tr>
<td>67-68-5</td>
<td>Dimethyl sulfoxide, anhydrous</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
</tbody>
</table>

#### 8.2 Exposure Controls:

8.2.1 **Engineering Controls**

Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

8.2.2 **Personal protection equipment:**

- **Eye Protection:** Safety glasses
- **Protective Gloves:** Compatible chemical-resistant gloves
- **Other Protective Clothing:** Lab coat
- **Respiratory Equipment**

**NIOSH approved respirator, as conditions warrant.**

**Specify Type:**

- **Work/Hygienic/Maintenance Practices:**
  - Do not take internally.
  - Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
  - Wash thoroughly after handling.
  - No data available.
SAFETY DATA SHEET
Transcription Factor SREBP-1 Positive Control

Section 9. Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Physical States: [ ] Gas [X] Liquid [ ] Solid
Appearance and Odor: Solution
pH: 7.9
Melting Point: No data.
Boiling Point: No data.
Flash Pt: No data.
Evaporation Rate: No data.
Flammability (solid, gas): No data available.
Explosive Limits: LEL: No data. UEL: No data.
Vapor Pressure (vs. Air or mm Hg): No data.
Vapor Density (vs. Air = 1): No data.
Specific Gravity (Water = 1): No data.
Solubility in Water: No data.
Autoignition Pt: No data.

9.2 Other Information

Percent Volatile: No data.

Section 10. Stability and Reactivity

10.1 Reactivity: No data available.
10.2 Stability: Unstable [ ] Stable [X]
10.3 Stability Note(s): Stable if stored in accordance with information listed on the product insert.
Polymerization: Will occur [ ] Will not occur [X]
10.4 Conditions To Avoid: No data available.
10.5 Incompatibility - Materials

To Avoid: strong bases
strong oxidizing agents
carbon dioxide
carbon monoxide

10.6 Hazardous Decomposition or

Byproducts:

Section 11. Toxicological Information

11.1 Information on Toxicological Effects: The toxicological effects of this product have not been thoroughly studied.
Toxicological Effects: DMSO - Toxicity Data: Oral LD50 (rat): 14,500 mg/kg; Skin LD50 (rat): 40,000 mg/kg; Oral LD50 (mouse): 7,920 mg/kg; Skin LD50 (mouse): 50,000 mg/kg; Skin TDLO (woman): 1,800 mg/kg; Inhalation LC50 (rat): >1,600 mg/m3 (4h);
DMSO - Irritation Data: Eyes (rabbit): 100 mg mild; Skin (rabbit): 500 mg (24h) mild;
Glycerol - Irritation Data: Eyes (rabbit): 500 mg (24h) mild; Skin (rabbit): 500 mg (24h) mild;
Chronic Toxicological Effects: DMSO and Glycerol - Investigated as a mutagen, reproductive effector, and tumorigen.
Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here.
See actual entry in RTECS for complete information.
DMSO RTECS Number: PV6210000
Glycerol RTECS Number: MA8050000
Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No
<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>NTP</th>
<th>IARC</th>
<th>ACGIH</th>
<th>OSHA</th>
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<td>n.a.</td>
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<tr>
<td>7365-45-9</td>
<td>HEPES, free acid</td>
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<tr>
<td>7791-18-6</td>
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<td>n.a.</td>
<td>n.a.</td>
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<tr>
<td>68987-90-6</td>
<td>Nonidet P-40</td>
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<td>n.a.</td>
</tr>
<tr>
<td>7447-40-7</td>
<td>Potassium chloride</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>56-81-5</td>
<td>Glycerol</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
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<tr>
<td>3483-12-3</td>
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<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>67-68-5</td>
<td>Dimethyl sulfoxide, anhydrous</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

Section 12. Ecological Information

12.1 Toxicity: Avoid release into the environment. Runoff from fire control or dilution water may cause pollution.

12.2 Persistence and Degradability: No data available.

12.3 Bioaccumulative Potential: No data available.

12.4 Mobility in Soil: No data available.

12.5 Results of PBT and vPvB assessment: No data available.

12.6 Other adverse effects: No data available.

Section 13. Disposal Considerations

13.1 Waste Disposal Method: Dispose in accordance with local, state, and federal regulations.

Section 14. Transport Information

14.1 LAND TRANSPORT (US DOT):
   DOT Proper Shipping Name: Not dangerous goods.
   DOT Hazard Class: UN/NA Number:

14.1 LAND TRANSPORT (European ADR/RID):
   ADR/RID Shipping Name: Not dangerous goods.
   UN Number: Hazard Class:

14.3 AIR TRANSPORT (ICAO/IATA):
   ICAO/IATA Shipping Name: Not dangerous goods.
   Additional Transport Information: Transport in accordance with local, state, and federal regulations.
Section 15. Regulatory Information

### EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

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<th>S. 313 (TRI)</th>
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<td>No</td>
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<td>No</td>
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<td>Nonidet P-40</td>
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<td>56-81-5</td>
<td>Glycerol</td>
<td>CAA HAP, ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No</td>
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<tr>
<td>3483-12-3</td>
<td>DL-Dithiothreitol</td>
<td>CAA HAP, ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No</td>
</tr>
<tr>
<td>67-68-5</td>
<td>Dimethyl sulfoxide, anhydrous</td>
<td>CAA HAP, ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No</td>
</tr>
</tbody>
</table>

**Regulatory Information Statement:** This SDS was prepared in accordance with 29 CFR 1910.1200 and Regulation (EC) No.1272/2008.

### Section 16. Other Information

**Revision Date:** 05/09/2015

**Additional Information About This Product:** No data available.

**Company Policy or Disclaimer:** DISCLAIMER: This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.
Section 1. Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product Code: 10010894
Product Name: Transcription Factor SREBP-1 Primary Antibody

1.2 Relevant identified uses of the substance or mixture and uses advised against:
Relevant identified uses: For research use only, not for human or veterinary use.

1.3 Details of the Supplier of the Safety Data Sheet:

Company Name: Cayman Chemical Company
1180 E. Ellsworth Rd.
Ann Arbor, MI 48108

Web site address: www.caymanchem.com
Information: +1 (734)971-3335

1.4 Emergency telephone number:
Emergency Contact: CHEMTREC Within USA and Canada: +1 (800)424-9300
CHEMTREC Outside USA and Canada: +1 (703)527-3887

Section 2. Hazards Identification

2.1 Classification of the Substance or Mixture:
2.1.1 Classification according to Regulation (EC) No 1272/2008 [CLP]:
Acute Toxicity: Oral, Category 2
Skin Corrosion/Irritation, Category 3
Aquatic Toxicity (Acute), Category 3
Aquatic Toxicity (Chronic), Category 3

GHS Hazard Phrases:
H300: Fatal if swallowed.
H316: Causes mild skin irritation.
H402: Harmful to aquatic life.
H412: Harmful to aquatic life with long lasting effects.

GHS Precaution Phrases:
P264: Wash [hands] thoroughly after handling.
P273: Avoid release to the environment.

GHS Response Phrases:
P301+310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P330: Rinse mouth.
P332+313: If skin irritation occurs, get medical advice/attention.

GHS Storage and Disposal Phrases:
Please refer to Section 7 for Storage and Section 13 for Disposal information.
2.3 Adverse Human Health Effects and Symptoms: Causes mild skin irritation.

Fatal if swallowed.

Harmful to aquatic life with long lasting effects.

Material may be irritating to the mucous membranes and upper respiratory tract.

May be harmful by inhalation or skin absorption.

May cause eye or respiratory system irritation.

To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

### Section 3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>CAS # / RTECS #</th>
<th>Hazardous Components (Chemical Name)/ REACH Registration No.</th>
<th>Concentration</th>
<th>EC No./ EC Index No.</th>
<th>GHS Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>NA / NA</td>
<td>TF SREBP-1 Primary Antibody</td>
<td>0.0 -1.0 %</td>
<td>NA / NA</td>
<td>No data available.</td>
</tr>
<tr>
<td>9048-46-8 / MT6446000</td>
<td>Bovine Serum Albumin (BSA)</td>
<td>0.0 -5.0 %</td>
<td>232-936-2 / NA</td>
<td>Acute Tox.(O) 4: H302</td>
</tr>
<tr>
<td>7647-14-5 / VZ4725000</td>
<td>Sodium chloride</td>
<td>0.0 -5.0 %</td>
<td>231-598-3 / NA</td>
<td>No data available.</td>
</tr>
<tr>
<td>77-86-1 / TY2900000</td>
<td>Trizma base</td>
<td>0.0 -5.0 %</td>
<td>201-064-4 / NA</td>
<td>Skin Corr. 2: H315</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Eye Damage 2: H319</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>STOT (SE) 3: H335</td>
</tr>
<tr>
<td>26628-22-8 / VY8050000</td>
<td>Sodium azide</td>
<td>0.0 -1.0 %</td>
<td>247-852-1 / 011-004-00-7</td>
<td>Acute Tox.(O) 2: H300</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Aquatic (A) 1: H400</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
<td>Aquatic (C) 1: H410</td>
</tr>
<tr>
<td>7732-18-5 / ZC0110000</td>
<td>Water</td>
<td>33.0 -80.0 %</td>
<td>231-791-2 / NA</td>
<td>No data available.</td>
</tr>
</tbody>
</table>

### Section 4. First Aid Measures

4.1 Description of First Aid Measures:

**In Case of Inhalation:** Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.

**In Case of Skin Contact:** Immediately wash skin with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

**In Case of Eye Contact:** Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined and tested by medical personnel.

**In Case of Ingestion:** Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.

4.2 Important Symptoms and Effects, Both Acute and Delayed:
Section 5. Fire Fighting Measures

5.1 Suitable Extinguishing Media:  Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.

Unsuitable Extinguishing Media:  Use water spray to cool fire-exposed containers.

5.2 Flammable Properties and Hazards:

Flash Pt:  No data.

Explosive Limits:  LEL: No data.  UEL: No data.

Autoignition Pt:  No data.

5.3 Fire Fighting Instructions:  As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.

Section 6. Accidental Release Measures

6.1 Protective Precautions, Protective Equipment and Emergency Procedures:  Avoid breathing vapors and provide adequate ventilation.

As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).

6.2 Environmental Precautions:  Take steps to avoid release into the environment, if safe to do so.

6.3 Methods and Material For Containment and Cleaning:  Contain spill and collect, as appropriate.

Transfer to a chemical waste container for disposal in accordance with local regulations.

Section 7. Handling and Storage

7.1 Precautions To Be Taken in Handling:  Avoid breathing dust/fume/gas/mist/vapours/spray.

Avoid prolonged or repeated exposure.

7.2 Precautions To Be Taken in Storing:  Keep container tightly closed.

Store in accordance with information listed on the product insert.

Section 8. Exposure Controls/Personal Protection

8.1 Exposure Parameters:

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Partial Chemical Name</th>
<th>Britain EH40</th>
<th>France VL</th>
<th>Europe</th>
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<tbody>
<tr>
<td>NA</td>
<td>TF SREBP-1 Primary Antibody</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
<tr>
<td>56-81-5</td>
<td>Glycerol</td>
<td>TWA: 10 mg/m3 ( ) STEL: ( )</td>
<td>TWA: 10 mg/m3</td>
<td>No data.</td>
</tr>
<tr>
<td>9048-46-8</td>
<td>Bovine Serum Albumin (BSA)</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
<tr>
<td>7647-14-5</td>
<td>Sodium chloride</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
<tr>
<td>77-86-1</td>
<td>Trizma base</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
<tr>
<td>26628-22-8</td>
<td>Sodium azide</td>
<td>TWA: 0.1 mg/m3 ( ) STEL: 0.3 mg/m3 ( )</td>
<td>TWA: 0.1 mg/m3 STEL: 0.3 mg/m3</td>
<td>TWA: 0.1 mg/m3 STEL: 0.3 mg/m3</td>
</tr>
<tr>
<td>7732-18-5</td>
<td>Water</td>
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<td>No data.</td>
<td>No data.</td>
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<table>
<thead>
<tr>
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<th>Partial Chemical Name</th>
<th>OSHA TWA</th>
<th>ACGIH TWA</th>
<th>Other Limits</th>
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<td>NA</td>
<td>TF SREBP-1 Primary Antibody</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
<tr>
<td>56-81-5</td>
<td>Glycerol</td>
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<td>TLV: 10 mg/m3</td>
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<tr>
<td>9048-46-8</td>
<td>Bovine Serum Albumin (BSA)</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET
Transcription Factor SREBP-1 Primary Antibody

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Chemical Name</th>
<th>Hazard Class</th>
<th>PPE Requirement</th>
<th>CEIL (mg/m3)</th>
<th>Air-Monitoring Equipment</th>
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<td>7647-14-5</td>
<td>Sodium chloride</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
<tr>
<td>77-86-1</td>
<td>Trizma base</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
<tr>
<td>26628-22-8</td>
<td>Sodium azide</td>
<td>No data.</td>
<td>CEIL: 0.29 mg/m3</td>
<td>No data.</td>
<td>No data.</td>
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<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
</tbody>
</table>

8.2 Exposure Controls:

8.2.1 Engineering Controls: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

8.2.2 Personal protective equipment:

Eye Protection: Safety glasses
Protective Gloves: Compatible chemical-resistant gloves
Other Protective Clothing: Lab coat
Respiratory Equipment: NIOSH approved respirator, as conditions warrant.
(Specify Type):

Work/Hygienic/Maintenance Practices: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
Wash thoroughly after handling.
No data available.

Section 9. Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Physical States: [ ] Gas [ X ] Liquid [ ] Solid
Appearance and Odor: Solution
pH: 7.4
Melting Point: No data.
Boiling Point: No data.
Flash Pt: No data.
Evaporation Rate: No data.
Flammability (solid, gas): No data available.
Explosive Limits: LEL: No data. UEL: No data.
Vapor Pressure (vs. Air or mm Hg): No data.
Vapor Density (vs. Air = 1): No data.
Specific Gravity (Water = 1): No data.
Solubility in Water: No data.
Autoignition Pt: No data.
Section 10. Stability and Reactivity

10.1 Reactivity: No data available.
10.2 Stability: Unstable [ ] Stable [ X ]
10.3 Stability Note(s): Stable if stored in accordance with information listed on the product insert.
10.4 Conditions To Avoid: No data available.
10.5 Incompatibility - Materials: strong bases
   To Avoid: strong oxidizing agents
10.6 Hazardous: carbon dioxide
   Decomposition or Byproducts: carbon monoxide

Section 11. Toxicological Information

11.1 Information on Toxicological Effects: The toxicological effects of this product have not been thoroughly studied.
   Glycerol - Irritation Data: Eyes (rabbit): 500 mg (24h) mild; Skin (rabbit): 500 mg (24h) mild;
   Glycerol - Investigated as a mutagen, reproductive effector, and tumorigen.
   Chronic Toxicological Effects: Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here.
   See actual entry in RTECS for complete information.
   Glycerol RTECS Number: MA8050000
   Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>NTP</th>
<th>IARC</th>
<th>ACGIH</th>
<th>OSHA</th>
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<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
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<tr>
<td>56-81-5</td>
<td>Glycerol</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>9048-46-8</td>
<td>Bovine Serum Albumin (BSA)</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>7647-14-5</td>
<td>Sodium chloride</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>77-86-1</td>
<td>Trizma base</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>26628-22-8</td>
<td>Sodium azide</td>
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<td>n.a.</td>
<td>A4</td>
<td>n.a.</td>
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<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

Section 12. Ecological Information

12.1 Toxicity: Avoid release into the environment.
   Runoff from fire control or dilution water may cause pollution.
12.2 Persistence and Degradability: No data available.
12.3 Bioaccumulative Potential: No data available.
12.4 Mobility in Soil: No data available.
12.5 Results of PBT and vPvB assessment: No data available.
12.6 Other adverse effects: No data available.
Section 13. Disposal Considerations

13.1 Waste Disposal Method: Dispose in accordance with local, state, and federal regulations.

Section 14. Transport Information

14.1 LAND TRANSPORT (US DOT):
   DOT Proper Shipping Name: Not dangerous goods.
   DOT Hazard Class:
   UN/NA Number:

14.1 LAND TRANSPORT (European ADR/RID):
   ADR/RID Shipping Name: Not dangerous goods.
   UN Number:
   Hazard Class:

14.3 AIR TRANSPORT (ICAO/IATA):
   ICAO/IATA Shipping Name: Not dangerous goods.

Additional Transport Information: Transport in accordance with local, state, and federal regulations.

Section 15. Regulatory Information

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

<table>
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<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>S. 302 (EHS)</th>
<th>S. 304 RQ</th>
<th>S. 313 (TRI)</th>
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<tbody>
<tr>
<td>NA</td>
<td>TF SREBP-1 Primary Antibody</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>56-81-5</td>
<td>Glycerol</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>9048-46-8</td>
<td>Bovine Serum Albumin (BSA)</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>7647-14-5</td>
<td>Sodium chloride</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>77-86-1</td>
<td>Trizma base</td>
<td>No</td>
<td>No</td>
<td>Yes-Cat. N106</td>
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<td>26628-22-8</td>
<td>Sodium azide</td>
<td>Yes 500 LB</td>
<td>Yes 1000 LB</td>
<td>Yes</td>
</tr>
<tr>
<td>7732-18-5</td>
<td>Water</td>
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<td>No</td>
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</table>

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>Other US EPA or State Lists</th>
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<tbody>
<tr>
<td>NA</td>
<td>TF SREBP-1 Primary Antibody</td>
<td>CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No</td>
</tr>
<tr>
<td>56-81-5</td>
<td>Glycerol</td>
<td>CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No</td>
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<tr>
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<td>Bovine Serum Albumin (BSA)</td>
<td>CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No</td>
</tr>
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<td>7647-14-5</td>
<td>Sodium chloride</td>
<td>CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No</td>
</tr>
<tr>
<td>77-86-1</td>
<td>Trizma base</td>
<td>CAA HAP,ODC: HAP; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No</td>
</tr>
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<td>26628-22-8</td>
<td>Sodium azide</td>
<td>CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No</td>
</tr>
<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No</td>
</tr>
</tbody>
</table>
Section 16. Other Information

Revision Date: 05/09/2015

Additional Information About This Product: No data available.

Company Policy or Disclaimer: DISCLAIMER: This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.