

according to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

**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**  
**2.1.2 Classification according to Directive 1999/45/EC:**  
**Xi: Irritant**  
**Risk Phrases: R36, R43**  
**For full text of R- phrases: see SECTION 15.**
- 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:**

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

### 2.2.2 Labeling according to Directive 1999/45/EC:



**Xi**

### 2.3 Adverse Human Health Causes serious eye irritation.

**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 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

CAS # / RTECS #	Hazardous Components (Chemical Name)/ REACH Registration No.	Concentration	EC No./ EC Index No.	Risk Phrases/ GHS Classification
9005-64-5 TR7400000	Polyoxyethylene (20) sorbitan monolaurate (Tween 20™)	100.0 %	500-018-3 NA	Xi; R36-43 Skin Sens. 1: H317 Eye Damage 2A: H319

## 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 20 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 20 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. 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. 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:**

CAS #	Partial Chemical Name	Britain EH40	France VL	Europe
9005-64-5	Polyoxyethylene (20) sorbitan monolaurate (Tween 20™)	No data.	No data.	No data.
CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
9005-64-5	Polyoxyethylene (20) sorbitan monolaurate (Tween 20™)	No data.	No data.	No data.

**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.
- 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.



**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**

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
9005-64-5	Polyoxyethylene (20) sorbitan monolaurate (Tween 20™)	No	No	No

CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists
9005-64-5	Polyoxyethylene (20) sorbitan monolaurate (Tween 20™)	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No

**European Community Hazard Symbol codes:**



**Xi**

**European Community Risk and Safety Phrases:**

- R36 Irritating to eyes.
- R43 May cause sensitization by skin contact.
- S24/25 Avoid contact with skin and eyes.
- S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

**Regulatory Information Statement:** This SDS was prepared in accordance with Regulation (EC) No.1272/2008 and European Directive 67/548/EEC as amended.

**Section 16. Other Information**

**Revision Date:** 12/09/2013

**Additional Information About** No data available.

**This Product:**

**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.

N.A.=Not available, N.P.=Not applicable, N.D.=Not determined, N.E.=Not established,  
N.R.=Not required

according to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

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

- 1.1 Product Code:** 400062  
**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:** 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: Skin, Category 5**  
**Serious Eye Damage/Eye Irritation, Category 1**
- 2.1.2 Classification according to Directive 1999/45/EC:**  
**Xi: Irritant**  
**Risk Phrases: R41**  
**For full text of R- phrases: see SECTION 15.**
- 2.2 Label Elements:**
- 2.2.1 Labeling according to Regulation (EC) No 1272/2008 [CLP]:**

**GHS Signal Word:** Danger**GHS Hazard Phrases:**

H313: May be harmful in contact with skin.

H318: Causes serious eye damage.

**GHS Precaution Phrases:**

P280: Wear protective gloves/clothing and eye/face protection as specified by the manufacturer/supplier or the competent authority.

**GHS Response Phrases:**

P312: 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.

P310: Immediately call a POISON CENTER or doctor/physician.

**GHS Storage and Disposal Phrases:**

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

**2.2.2 Labeling according to Directive 1999/45/EC:**


**Xi**

**2.3 Adverse Human Health** Causes serious eye damage.

**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 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

CAS # / RTECS #	Hazardous Components (Chemical Name)/ REACH Registration No.	Concentration	EC No./ EC Index No.	Risk Phrases/ GHS Classification
7758-11-4 TC5580000	Potassium phosphate, dibasic	53.0 %	231-834-5 NA	R41 Eye Damage 1: H318
7778-77-0 TC6615500	Potassium phosphate, Monobasic	12.9 %	231-913-4 NA	R52 Acute Tox.(D) 5: H313
7732-18-5 ZC0110000	Water	34.1 %	231-791-2 NA	No phrases apply. 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 20 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 20 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:** 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 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. 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:**

CAS #	Partial Chemical Name	Britain EH40	France VL	Europe
7758-11-4	Potassium phosphate, dibasic	No data.	No data.	No data.
7778-77-0	Potassium phosphate, Monobasic	No data.	No data.	No data.
7732-18-5	Water	No data.	No data.	No data.

  

CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
7758-11-4	Potassium phosphate, dibasic	No data.	No data.	No data.
7778-77-0	Potassium phosphate, Monobasic	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 (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.

**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.



**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**

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
7758-11-4	Potassium phosphate, dibasic	No	No	No
7778-77-0	Potassium phosphate, Monobasic	No	No	No
7732-18-5	Water	No	No	No

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

**European Community Hazard Symbol codes:**



**Xi**

**European Community Risk and Safety Phrases:**

R41 Risk of serious damage to the eyes.  
S24/25 Avoid contact with skin and eyes.  
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

**Regulatory Information Statement:** This SDS was prepared in accordance with Regulation (EC) No.1272/2008 and European Directive 67/548/EEC as amended.

**Section 16. Other Information****Revision Date:** 12/09/2013**Additional Information About** No data available.**This Product:****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.

N.A.=Not available, N.P.=Not applicable, N.D.=Not determined, N.E.=Not established,  
N.R.=Not required

## Transcription Factor p53 Competitor dsDNA

Revision: 02/28/2014

Supersedes Revision: 03/09/2009

according to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

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

- 1.1 Product Code:** 600024  
**Product Name:** Transcription Factor p53 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]:**  
**Serious Eye Damage/Eye Irritation, Category 2A**
- 2.1.2 Classification according to Directive 1999/45/EC:**  
**Xi: Irritant**  
**Risk Phrases: R36**  
**For full text of R- phrases: see SECTION 15.**
- 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.

**GHS Precaution Phrases:**

P264: Wash {hands} thoroughly after handling.

P280: Wear {protective gloves/protective clothing/eye protection/face protection}.

**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.

**GHS Storage and Disposal Phrases:**

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

**Transcription Factor p53 Competitor dsDNA**

Revision: 02/28/2014

Supersedes Revision: 03/09/2009

**2.2.2 Labeling according to Directive 1999/45/EC:**

**Xi**
**2.3 Adverse Human Health** Causes serious eye irritation.

**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 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**

CAS # / RTECS #	Hazardous Components (Chemical Name)/ REACH Registration No.	Concentration	EC No./ EC Index No.	Risk Phrases/ GHS Classification
NA NA	p53 Forward Complement	0.0 -1.0 %	NA NA	No phrases apply. No data available.
NA NA	p53 Reverse Complement	0.0 -1.0 %	NA NA	No phrases apply. No data available.
7647-14-5 VZ4725000	Sodium chloride	0.0 -5.0 %	231-598-3 NA	Xi; R36 Eye Damage 2A: H319
6132-04-3 TZ8595800	Sodium citrate	0.0 -5.0 %	NA NA	No phrases apply. No data available.
7732-18-5 ZC0110000	Water	88.0 -100.0 %	231-791-2 NA	No phrases apply. No data available.

**Section 4. First Aid Measures**
**4.1 Description of First Aid** No data available.

**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.

**Transcription Factor p53 Competitor dsDNA**

Revision: 02/28/2014

Supersedes Revision: 03/09/2009

**Section 5. Fire Fighting Measures**

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

CAS #	Partial Chemical Name	Britain EH40	France VL	Europe
NA	p53 Forward Complement	No data.	No data.	No data.
NA	p53 Reverse Complement	No data.	No data.	No data.
7647-14-5	Sodium chloride	No data.	No data.	No data.
6132-04-3	Sodium citrate	No data.	No data.	No data.
7732-18-5	Water	No data.	No data.	No data.
CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
NA	p53 Forward Complement	No data.	No data.	No data.
NA	p53 Reverse Complement	No data.	No data.	No data.
7647-14-5	Sodium chloride	No data.	No data.	No data.
6132-04-3	Sodium citrate	No data.	No data.	No data.
7732-18-5	Water	No data.	No data.	No data.

**Transcription Factor p53 Competitor dsDNA**

Revision: 02/28/2014

Supersedes Revision: 03/09/2009

**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.

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

Facilities storing or utilizing this material should be equipped with an eyewash and a safety shower.

Wash thoroughly after handling.

## 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.

**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:** No data available.

**10.6 Hazardous Decomposition Or Byproducts:** No data available.

**Transcription Factor p53 Competitor dsDNA**

Revision: 02/28/2014

Supersedes Revision: 03/09/2009

**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

**Section 12. Ecological Information**

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

**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**

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
NA	p53 Forward Complement	No	No	No
NA	p53 Reverse Complement	No	No	No
7647-14-5	Sodium chloride	No	No	No
6132-04-3	Sodium citrate	No	No	No
7732-18-5	Water	No	No	No

CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists
NA	p53 Forward Complement	CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No
NA	p53 Reverse Complement	CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No
7647-14-5	Sodium chloride	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No
6132-04-3	Sodium citrate	CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No
7732-18-5	Water	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No

**Transcription Factor p53 Competitor dsDNA**

Revision: 02/28/2014

Supersedes Revision: 03/09/2009

**European Community Hazard Symbol codes:****Xi****European Community Risk and Safety Phrases:**

R36 Irritating to eyes.  
S24/25 Avoid contact with skin and eyes.  
S37/39 Wear suitable gloves and eye/face protection.

**Regulatory Information Statement:** This SDS was prepared in accordance with Regulation (EC) No.1272/2008 and European Directive 67/548/EEC as amended.

**Section 16. Other Information**

**Revision Date:** 02/28/2014

**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 p53 Primary Antibody**

Revision: 02/28/2014

Supersedes Revision: 03/09/2009

according to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

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

- 1.1 Product Code:** 600023  
**Product Name:** Transcription Factor p53 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:** 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**  
**Acute Toxicity: Skin, Category 5**  
**Skin Corrosion/Irritation, Category 3**  
**Serious Eye Damage/Eye Irritation, Category 2A**
- 2.1.2 Classification according to Directive 1999/45/EC:**  
**Xn: Harmful**  
**Risk Phrases: R22, R36/37/38, R52**  
**For full text of R- phrases: see SECTION 15.**
- 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.  
 H313: May be harmful in contact with skin.  
 H316: Causes mild 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.  
 P330: Rinse mouth.  
 P312: Call a {POISON CENTER/doctor/...} if you feel unwell.  
 P332+313: If skin irritation occurs, get medical advice/attention.  
 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.

**Transcription Factor p53 Primary Antibody**

Revision: 02/28/2014

Supersedes Revision: 03/09/2009

**GHS Storage and Disposal Phrases:**

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

**2.2.2 Labeling according to Directive 1999/45/EC:**

**Xn**
**2.3 Adverse Human Health** Causes mild skin irritation.

**Effects and Symptoms:** Causes serious eye 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 respiratory system irritation.

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

**Section 3. Composition/Information on Ingredients**

CAS # / RTECS #	Hazardous Components (Chemical Name)/ REACH Registration No.	Concentration	EC No./ EC Index No.	Risk Phrases/ GHS Classification
NA NA	Transcription Factor p53 Primary Antibody	0.0 -1.0 %	NA NA	No phrases apply. No data available.
56-81-5 MA8050000	Glycerol	20.0 -50.0 %	200-289-5 NA	No phrases apply. No data available.
9048-46-8 MT6446000	Bovine Serum Albumin (BSA)	0.0 -5.0 %	232-936-2 NA	Xn; R22 Acute Tox.(O) 4: H302
7447-40-7 TS8050000	Potassium chloride	0.0 -1.0 %	231-211-8 NA	R52 Acute Tox.(O) 5: H303 Aquatic (A) 3: H402
7647-14-5 VZ4725000	Sodium chloride	0.0 -5.0 %	231-598-3 NA	Xi; R36 Eye Damage 2A: H319
77-86-1 TY2900000	Trizma base	0.0 -5.0 %	201-064-4 NA	Xi; R36/37/38 Skin Corr. 2: H315 Eye Damage 2A: H319 TOST (SE) 3: H335 H336
7558-79-4 WC4500000	Sodium phosphate, Dibasic	0.0 -1.0 %	231-448-7 NA	Xi; R36 Eye Damage 2A: H319
7778-77-0 TC6615500	Potassium phosphate, Monobasic	0.0 -1.0 %	231-913-4 NA	R52 Acute Tox.(D) 5: H313
7732-18-5 ZC0110000	Water	31.0 -80.0 %	231-791-2 NA	No phrases apply. No data available.

**Transcription Factor p53 Primary Antibody**

Revision: 02/28/2014

Supersedes Revision: 03/09/2009

**Section 4. First Aid Measures**

- 4.1 Description of First Aid** No data available.
- 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: damage to kidneys. Prolonged exposure may cause nausea, headache, 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:** A solid water stream may be inefficient.
- 5.2 Flammable Properties and Hazards:** Emits toxic fumes under fire conditions.
- 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. 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.

**Transcription Factor p53 Primary Antibody**

Revision: 02/28/2014

Supersedes Revision: 03/09/2009

**Section 8. Exposure Controls/Personal Protection**
**8.1 Exposure Parameters:**

CAS #	Partial Chemical Name	Britain EH40	France VL	Europe
NA	Transcription Factor p53 Primary Antibody	No data.	No data.	No data.
56-81-5	Glycerol	TWA: 10 mg/m3 () STEL: ()	TWA: 10 mg/m3	No data.
9048-46-8	Bovine Serum Albumin (BSA)	No data.	No data.	No data.
7447-40-7	Potassium chloride	No data.	No data.	No data.
7647-14-5	Sodium chloride	No data.	No data.	No data.
77-86-1	Trizma base	No data.	No data.	No data.
7558-79-4	Sodium phosphate, Dibasic	No data.	No data.	No data.
7778-77-0	Potassium phosphate, Monobasic	No data.	No data.	No data.
7732-18-5	Water	No data.	No data.	No data.

CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
NA	Transcription Factor p53 Primary Antibody	No data.	No data.	No data.
56-81-5	Glycerol	PEL: 15 (dust); 5 (resp.) mg/m3	TLV: 10 mg/m3	No data.
9048-46-8	Bovine Serum Albumin (BSA)	No data.	No data.	No data.
7447-40-7	Potassium chloride	No data.	No data.	No data.
7647-14-5	Sodium chloride	No data.	No data.	No data.
77-86-1	Trizma base	No data.	No data.	No data.
7558-79-4	Sodium phosphate, Dibasic	No data.	No data.	No data.
7778-77-0	Potassium phosphate, Monobasic	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 (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.

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

Facilities storing or utilizing this material should be equipped with an eyewash and a safety shower.

Wash thoroughly after handling.



**Transcription Factor p53 Primary Antibody**

Revision: 02/28/2014

Supersedes Revision: 03/09/2009

**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**

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
NA	Transcription Factor p53 Primary Antibody	No	No	No
56-81-5	Glycerol	No	No	No
9048-46-8	Bovine Serum Albumin (BSA)	No	No	No
7447-40-7	Potassium chloride	No	No	No
7647-14-5	Sodium chloride	No	No	No
77-86-1	Trizma base	No	No	Yes-Cat. N106
7558-79-4	Sodium phosphate, Dibasic	No	Yes 5000 LB	No
7778-77-0	Potassium phosphate, Monobasic	No	No	No
7732-18-5	Water	No	No	No

CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists
NA	Transcription Factor p53 Primary Antibody	CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No
56-81-5	Glycerol	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No
9048-46-8	Bovine Serum Albumin (BSA)	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No
7447-40-7	Potassium chloride	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No
7647-14-5	Sodium chloride	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No
77-86-1	Trizma base	CAA HAP,ODC: HAP; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No
7558-79-4	Sodium phosphate, Dibasic	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No
7778-77-0	Potassium phosphate, Monobasic	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA

**Transcription Factor p53 Primary Antibody**

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

**European Community Hazard Symbol codes:**



**Xn**

**European Community Risk and Safety Phrases:**

- R22 Harmful if swallowed.
- R36/37/38 Irritating to eyes, respiratory system and skin.
- R52 Harmful to aquatic organisms.
- S24/25 Avoid contact with skin and eyes.
- S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

**Regulatory Information Statement:** This SDS was prepared in accordance with Regulation (EC) No.1272/2008 and European Directive 67/548/EEC as amended.

**Section 16. Other Information**

**Revision Date:** 02/28/2014

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

**This Product:**

**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.

according to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

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

- 1.1 Product Code:** 600022  
**Product Name:** Transcription Factor p53 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 2**  
**Serious Eye Damage/Eye Irritation, Category 2**
- 2.1.2 Classification according to Directive 1999/45/EC:**  
**Xn: Harmful**  
**Risk Phrases: R22, R36/37/38, R41, R43, R52**  
**For full text of R- phrases: see SECTION 15.**
- 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.  
 H315: Causes skin irritation.  
 H319: Causes serious eye irritation.

**GHS Precaution Phrases:**

P280: Wear {protective gloves/protective clothing/eye protection/face protection}.  
 P210: Keep away from {heat/sparks/open flames/hot surfaces}. - No smoking.  
 P264: Wash {hands} thoroughly after handling.  
 P362+364: Take off contaminated clothing and wash it before reuse.

**GHS Response Phrases:**

P301+312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.  
 P330: Rinse mouth.  
 P302+352: IF ON SKIN: Wash with plenty of soap and water.  
 P332+313: If skin irritation occurs, get medical advice/attention.  
 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.

**GHS Storage and Disposal Phrases:**

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

**2.2.2 Labeling according to Directive 1999/45/EC:**



**Xn**

**2.3 Adverse Human Health** Causes skin irritation.

**Effects and Symptoms:** Causes 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.

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 respiratory irritation.

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

### Section 3. Composition/Information on Ingredients

CAS # / RTECS #	Hazardous Components (Chemical Name)/ REACH Registration No.	Concentration	EC No./ EC Index No.	Risk Phrases/ GHS Classification
NA NA	Transcription Factor p53 Positive Control	0.0 -10.0 %	NA NA	No phrases apply. No data available.
56-81-5 MA8050000	Glycerol	5.0 -20.0 %	200-289-5 NA	No phrases apply. No data available.
68987-90-6 NA	Nonidet P-40	0.0 -1.0 %	NA NA	Xi; R41 Eye Damage 1: H318
67-68-5 PV6210000	Dimethyl sulfoxide, anhydrous	0.0 -5.0 %	200-664-3 NA	Xi; R36/38 Flam. Liq. 4: H227 Eye Damage 2A: H319 Skin Corr. 2: H315
7791-18-6 OM2975000	Magnesium chloride, hexahydrate	0.0 -5.0 %	NA NA	Xi; R36/37/38 Skin Corr. 2: H315 Eye Damage 2A: H319 TOST (SE) 3: H335 H336
7447-40-7 TS8050000	Potassium chloride	0.0 -5.0 %	231-211-8 NA	R52 Acute Tox.(O) 5: H303 Aquatic (A) 3: H402
7365-45-9 TL6809000	HEPES, free acid	0.0 -5.0 %	230-907-9 NA	Xi; R43-36/37/38 Skin Corr. 2: H315 Eye Damage 2A: H319
3483-12-3 EK1610000	DL-Dithiothreitol	0.0 -1.0 %	222-468-7 NA	Xn; R22-36/37/38 Acute Tox.(O) 4: H302 Skin Corr. 2: H315 Eye Damage 2A: H319 TOST (SE) 3: H335 H336
7732-18-5 ZC0110000	Water	48.0 -95.0 %	231-791-2 NA	No phrases apply. No data available.

### Section 4. First Aid Measures

- 4.1 Description of First Aid** No data available.
- 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: damage to kidneys.  
 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.  
 Prolonged exposure may cause nausea, headache, and vomiting.

### Section 5. Fire Fighting Measures

- 5.1 Suitable Extinguishing Media:** Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.  
**Media:** Use water spray to cool fire-exposed containers.  
**Unsuitable Extinguishing Media:** A solid water stream may be inefficient.
- 5.2 Flammable Properties and Hazards:** Can release vapors that form explosive mixtures at temperatures at or above the flashpoint.  
 Container explosion may occur under fire conditions.  
 Emits toxic fumes under fire conditions.  
 Sensitive to static discharge.  
 Vapors can travel to a source of ignition and flash back.
- 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.  
 Note: Combustible as diluted in dimethyl sulfoxide

### 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.

**Transcription Factor p53 Positive Control**

Revision: 02/28/2014

Supersedes Revision: 03/09/2009

**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.  
 Keep away from sources of ignition.  
 Take precautionary measures against static discharge.
- 7.2 Precautions To Be Taken in Storing:** Keep away from heat, sparks and flame.  
 Keep container tightly closed.  
 Store in accordance with information listed on the product insert.
- Other Precautions:** Hygroscopic.

**Section 8. Exposure Controls/Personal Protection**
**8.1 Exposure Parameters:**

CAS #	Partial Chemical Name	Britain EH40	France VL	Europe
NA	Transcription Factor p53 Positive Control	No data.	No data.	No data.
56-81-5	Glycerol	TWA: 10 mg/m3 () STEL: ()	TWA: 10 mg/m3	No data.
68987-90-6	Nonidet P-40	No data.	No data.	No data.
67-68-5	Dimethyl sulfoxide, anhydrous	No data.	No data.	No data.
7791-18-6	Magnesium chloride, hexahydrate	No data.	No data.	No data.
7447-40-7	Potassium chloride	No data.	No data.	No data.
7365-45-9	HEPES, free acid	No data.	No data.	No data.
3483-12-3	DL-Dithiothreitol	No data.	No data.	No data.
7732-18-5	Water	No data.	No data.	No data.

CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
NA	Transcription Factor p53 Positive Control	No data.	No data.	No data.
56-81-5	Glycerol	PEL: 15 (dust); 5 (resp.) mg/m3	TLV: 10 mg/m3	No data.
68987-90-6	Nonidet P-40	No data.	No data.	No data.
67-68-5	Dimethyl sulfoxide, anhydrous	No data.	No data.	No data.
7791-18-6	Magnesium chloride, hexahydrate	No data.	No data.	No data.
7447-40-7	Potassium chloride	No data.	No data.	No data.
7365-45-9	HEPES, free acid	No data.	No data.	No data.
3483-12-3	DL-Dithiothreitol	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 (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.

**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.

### Section 9. Physical and Chemical Properties

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

**Physical States:**  Gas  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.  
**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   
**10.3 Stability Note(s):** No data available.  
**Polymerization:** Will occur  Will not occur   
**10.4 Conditions To Avoid:** No data available.  
**10.5 Incompatibility - Materials To Avoid:** acid chlorides  
 alkali metals  
 phosphorus halides  
 strong acids  
 strong bases  
 strong oxidizing agents  
 strong reducing agents  
**10.6 Hazardous Decomposition Or Byproducts:** carbon dioxide  
 carbon monoxide  
 sulfur oxides

**Transcription Factor p53 Positive Control**

Revision: 02/28/2014

Supersedes Revision: 03/09/2009

**Section 11. Toxicological Information**

**11.1 Information on Toxicological Effects:** The toxicological effects of this product have not been thoroughly studied.  
 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/m<sup>3</sup> (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 - Investigated as a mutagen, reproductive effector, and tumorigen.  
 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

**Section 12. Ecological Information**

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

**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**

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
NA	Transcription Factor p53 Positive Control	No	No	No
56-81-5	Glycerol	No	No	No
68987-90-6	Nonidet P-40	No	No	No
67-68-5	Dimethyl sulfoxide, anhydrous	No	No	No
7791-18-6	Magnesium chloride, hexahydrate	No	No	No
7447-40-7	Potassium chloride	No	No	No
7365-45-9	HEPES, free acid	No	No	No

3483-12-3	DL-Dithiothreitol	No	No	No
7732-18-5	Water	No	No	No
<b>CAS #</b>	<b>Hazardous Components (Chemical Name)</b>	<b>Other US EPA or State Lists</b>		
NA	Transcription Factor p53 Positive Control	CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No		
56-81-5	Glycerol	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No		
68987-90-6	Nonidet P-40	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No		
67-68-5	Dimethyl sulfoxide, anhydrous	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No		
7791-18-6	Magnesium chloride, hexahydrate	CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No		
7447-40-7	Potassium chloride	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No		
7365-45-9	HEPES, free acid	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No		
3483-12-3	DL-Dithiothreitol	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No		
7732-18-5	Water	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No		

**European Community Hazard Symbol codes:**


**Xn**

**European Community Risk and Safety Phrases:**

R22	Harmful if swallowed.
R36/37/38	Irritating to eyes, respiratory system and skin.
R41	Risk of serious damage to the eyes.
R43	May cause sensitization by skin contact.
R52	Harmful to aquatic organisms.
S24/25	Avoid contact with skin and eyes.
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37/39	Wear suitable protective clothing, gloves and eye/face protection.

**Regulatory Information Statement:**

This SDS was prepared in accordance with Regulation (EC) No.1272/2008 and European Directive 67/548/EEC as amended.

**Section 16. Other Information**

**Revision Date:** 02/28/2014

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

**This Product:**

**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.

# Product Information



## Transcription Factor p53 96-Well Strip Plate Item No. 600021

### COMMENTS:

Each plate is coated with a dsDNA consensus sequence specific for p53. 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: 02/28/2014

Supersedes Revision: 03/09/2009

### Cayman Chemical

#### Mailing address

1180 E. Ellsworth Road  
Ann Arbor, MI  
48108 USA

#### Phone

(800) 364-9897  
(734) 971-3335

#### Fax

(734) 971-3640

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custserv@caymanchem.com

#### Web

www.caymanchem.com

## Transcription Factor Binding Assay Buffer (4X)

Revision: 08/30/2013

Supersedes Revision: 09/13/2012

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



### Section 1. Identification of the Substance/Mixture and of the

**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  
**Emergency Contact:** CHEMTREC Within USA and Canada: +1 (800)424-9300  
**Alternate Emergency Contact:** CHEMTREC Outside USA and Canada: +1 (703)527-3887  
**Information:** Cayman Chemical Company +1 (734)971-3335  
**Web site address:** www.caymanchem.com

### Section 2. Hazards Identification

GHS Classification	Placard	Key word	GHS hazard phrase
Acute Toxicity: Oral, Category 5	none	Warning	May be harmful if swallowed
Skin Corrosion/Irritation, Category 2	Exclamation point	Warning	Causes skin irritation
Serious Eye Damage/Eye Irritation, Category 2	Exclamation point	Warning	Causes serious eye irritation
Target Organ Systemic Toxicity (single exposure), Category 3	Exclamation point	Warning	May cause respiratory irritation, or may cause drowsiness and dizziness

**GHS Hazard Phrases:**  
H303: May be harmful if swallowed.  
H315: Causes skin irritation.  
H319: Causes serious eye irritation.  
H335: May cause respiratory irritation.

**GHS Precaution Phrases:**  
P264: Wash {hands} thoroughly after handling.  
P280: Wear {protective gloves/protective clothing/eye protection/face protection}.  
P362+364: Take off contaminated clothing and wash it before reuse.  
P261: Avoid breathing {dust/fume/gas/mist/vapours/spray}.

**GHS Response Phrases:**  
P312: Call a {POISON CENTER/doctor/...} if you feel unwell.  
P302+352: IF ON SKIN: Wash with plenty of soap and water.  
P332+313: If skin irritation occurs, get medical advice/attention.  
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.  
P309+311: Call a POISON CENTER or doctor/physician if exposed or you feel unwell.  
P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

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

## Transcription Factor Binding Assay Buffer (4X)

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**Target Organs:** Eyes, Kidneys, Respiratory system, Skin.

**LD 50 / LC 50:** Please refer to Section 11.

**Medical Conditions Generally Aggravated By Exposure:** No data available.

### Section 3. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	EC#	Risk Phrases	RTECS #
1. Nonidet P-40	68987-90-6	0.0 -1.0 %	NA	R41	NA
2. HEPES, free acid	7365-45-9	0.0 -5.0 %	230-907-9	R43-36/37/38	TL6809000
3. Magnesium chloride, hexahydrate	7791-18-6	0.0 -5.0 %	NA	R36/37/38	OM2975000
4. Potassium chloride	7447-40-7	0.0 -5.0 %	231-211-8	R52	TS8050000
5. Glycerol	56-81-5	5.0 -20.0 %	200-289-5	R36	MA8050000
6. Water	7732-18-5	64.0 -95.0 %	231-791-2	No phrases apply.	ZC0110000

### Section 4. First Aid Measures

**4.1 Description of First Aid Measures:**

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

**4.1.2 In Case of Skin Contact:** Immediately wash skin with soap and plenty of water for at least 20 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

**4.1.3 In Case of Eye Contact:** Hold eyelids apart and flush eyes with plenty of water for at least 20 minutes. Have eyes examined and tested by medical personnel.

**4.1.4 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: damage to kidneys. Prolonged exposure may cause nausea, headache, and vomiting.

**4.3 Indication of any immediate medical attention and special treatment needed:** No data available.

### 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:** Emits toxic fumes under fire conditions.

**Flash Pt:** No data.

**Autoignition Pt:** No data available.

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

**Hazardous Combustion Products:** No data available.

**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.

## Transcription Factor Binding Assay Buffer (4X)

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**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.  
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.

**Hazard Label Information:** Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilation.  
Wash thoroughly after handling.

### Section 8. Exposure Controls/Personal Protection

Hazardous Components (Chemical Name)	CAS #	OSHA PEL	ACGIH TLV	Other Limits
1. Nonidet P-40	68987-90-6	No data.	No data.	No data.
2. HEPES, free acid	7365-45-9	No data.	No data.	No data.
3. Magnesium chloride, hexahydrate	7791-18-6	No data.	No data.	No data.
4. Potassium chloride	7447-40-7	No data.	No data.	No data.
5. Glycerol	56-81-5	15 (dust); 5 (resp.) mg/m3	10 mg/m3	No data.
6. Water	7732-18-5	No data.	No data.	No data.
Hazardous Components (Chemical Name)	CAS #	Britain EH40	France VL	Europe
1. Nonidet P-40	68987-90-6	No data.	No data.	No data.
2. HEPES, free acid	7365-45-9	No data.	No data.	No data.
3. Magnesium chloride, hexahydrate	7791-18-6	No data.	No data.	No data.
4. Potassium chloride	7447-40-7	No data.	No data.	No data.
5. Glycerol	56-81-5	TWA: 10 mg/m3 () STEL: ()	TWA: 10 mg/m3	No data.
6. Water	7732-18-5	No data.	No data.	No data.

**Protective Equipment Summary - Hazard Label Information:** Compatible chemical-resistant gloves    Eye wash station in work area    Lab coat    Safety glasses    Safety shower in work area    Vent Hood

**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.

**8.2.2.1 Eye Protection:** Safety glasses

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

**Other Protective Clothing:** Lab coat

**8.2.2.3 Respiratory Equipment (Specify Type):** 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.

**8.2.3 Environmental Exposure Controls:** No data available.

### Section 9. Physical and Chemical Properties

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

**Physical States:**                                     Gas     Liquid     Solid

**Appearance and Odor:**                        No data available.

**pH:**    7.9

**Melting Point:**                                    No data.



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<b>Boiling Point:</b>	No data.
<b>Flash Pt:</b>	No data.
<b>Evaporation Rate:</b>	No data.
<b>Vapor Pressure (vs. Air or mm Hg):</b>	No data.
<b>Vapor Density (vs. Air = 1):</b>	No data.
<b>Specific Gravity (Water = 1):</b>	No data.
<b>Solubility in Water:</b>	No data.
<b>Autoignition Pt:</b>	No data.
<b>Explosive Properties:</b>	No data available.
<b>Oxidizing Properties:</b>	No data available.
<b>9.2 Other Information</b>	
<b>Percent Volatile:</b>	No data.

## Section 10. Stability and Reactivity

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

## Section 11. Toxicological Information

<b>11.1 Information on Toxicological Effects:</b>	The toxicological effects of this product have not been thoroughly studied.
<b>Chronic Toxicological Effects:</b>	Glycerol - Irritation Data: Eyes (rabbit): 500 mg (24h) mild; Skin (rabbit): 500 mg (24h) mild; 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

Hazardous Components (Chemical Name)	CAS #	NTP	IARC	ACGIH	OSHA
1. Nonidet P-40	68987-90-6	n.a.	n.a.	n.a.	n.a.
2. HEPES, free acid	7365-45-9	n.a.	n.a.	n.a.	n.a.
3. Magnesium chloride, hexahydrate	7791-18-6	n.a.	n.a.	n.a.	n.a.
4. Potassium chloride	7447-40-7	n.a.	n.a.	n.a.	n.a.
5. Glycerol	56-81-5	n.a.	n.a.	n.a.	n.a.
6. Water	7732-18-5	n.a.	n.a.	n.a.	n.a.

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

## Section 12. Ecological Information

<b>12.1 Toxicity:</b>	Avoid release into the environment. Runoff from fire control or dilution water may cause pollution.
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**Transcription Factor Binding Assay Buffer (4X)**

Revision: 08/30/2013

Supersedes Revision: 09/13/2012

**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.**14.1 LAND TRANSPORT (European ADR/RID)****ADR/RID Shipping Name** Not dangerous goods.**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****European Community Hazard Symbol codes** Xi: Irritant**European Community Risk and Safety Phrases**

- R36/37/38 - Irritating to eyes, respiratory system and skin.
- R41 - Risk of serious damage to the eyes.
- R43 - May cause sensitization by skin contact.
- R52 - Harmful to aquatic organisms.
- S22 - Do not breathe dust.
- S24/25 - Avoid contact with skin and eyes.
- S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.

**US EPA SARA Title III**

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Nonidet P-40	68987-90-6	No	No	No	No
2. HEPES, free acid	7365-45-9	No	No	No	No
3. Magnesium chloride, hexahydrate	7791-18-6	No	No	No	No
4. Potassium chloride	7447-40-7	No	No	No	No
5. Glycerol	56-81-5	No	No	No	No
6. Water	7732-18-5	No	No	No	No

**Other US EPA or State Lists**

Hazardous Components (Chemical Name)	CAS #	CAA HAP,ODC	CWA NPDES	TSCA	CA PROP.65
1. Nonidet P-40	68987-90-6	No	No	Inventory	No
2. HEPES, free acid	7365-45-9	No	No	Inventory	No
3. Magnesium chloride, hexahydrate	7791-18-6	No	No	No	No
4. Potassium chloride	7447-40-7	No	No	Inventory	No
5. Glycerol	56-81-5	No	No	Inventory	No
6. Water	7732-18-5	No	No	Inventory	No

**Regulatory Information Statement:** This SDS was prepared in accordance with Regulation (EC) No.1272/2008 and European Directive 67/548/EEC as amended.**Section 16. Other Information****Revision Date:** 08/30/2013**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.

N.A.=Not available, N.P.=Not applicable, N.D.=Not determined, N.E.=Not established, N.R.=Not required

**Transcription Factor Antibody Binding Buffer  
(10X)**

Revision: 02/28/2014

Supersedes Revision: 06/13/2012

according to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

**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 3**  
**Skin Corrosion/Irritation, Category 2**  
**Serious Eye Damage/Eye Irritation, Category 2A**  
**Skin Sensitization, Category 1**
- 2.1.2 Classification according to Directive 1999/45/EC:**  
**Xn: Harmful**  
**Risk Phrases: R22, R36/37/38, R43**  
**For full text of R- phrases: see SECTION 15.**
- 2.2 Label Elements:**
- 2.2.1 Labeling according to Regulation (EC) No 1272/2008 [CLP]:**


**GHS Signal Word:** Danger

**GHS Hazard Phrases:**

H301: Toxic if swallowed.

H315: Causes skin irritation.

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/protective clothing/eye protection/face protection}.

P362+364: Take off contaminated clothing and wash it before reuse.

P261: Avoid breathing {dust/fume/gas/mist/vapours/spray}.

P272: Contaminated work clothing should not be allowed out of the workplace.

**GHS Response Phrases:**

P301+310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P330: Rinse mouth.

P302+352: IF ON SKIN: Wash with plenty of soap and water.

P332+313: If skin irritation occurs, get medical advice/attention.

**Transcription Factor Antibody Binding Buffer**

Revision: 02/28/2014

**(10X)**

Supersedes Revision: 06/13/2012

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.

P333+313: If skin irritation or rash occurs, seek medical advice/attention.

**GHS Storage and Disposal Phrases:**

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

**2.2.2 Labeling according to Directive 1999/45/EC:**

**Xn**
**2.3 Adverse Human Health** Causes serious eye irritation.

**Effects and Symptoms:** Causes skin irritation.

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.

Toxic if swallowed.

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

**Section 3. Composition/Information on Ingredients**

CAS # / RTECS #	Hazardous Components (Chemical Name)/ REACH Registration No.	Concentration	EC No./ EC Index No.	Risk Phrases/ GHS Classification
77-86-1 TY2900000	Trizma base	1.0 -10.0 %	201-064-4 NA	Xi; R36/37/38 Skin Corr. 2: H315 Eye Damage 2A: H319 TOST (SE) 3: H335 H336
7647-14-5 VZ4725000	Sodium chloride	1.0 -15.0 %	231-598-3 NA	Xi; R36 Eye Damage 2A: H319
9005-64-5 TR7400000	Polyoxyethylene (20) sorbitan monolaurate (Tween 20™)	0.0 -5.0 %	500-018-3 NA	Xi; R36-43 Skin Sens. 1: H317 Eye Damage 2A: H319
9048-46-8 MT6446000	Bovine Serum Albumin (BSA)	0.0 -5.0 %	232-936-2 NA	Xn; R22 Acute Tox.(O) 4: H302
7732-18-5 ZC0110000	Water	65.0 -98.0 %	231-791-2 NA	No phrases apply. No data available.

**Transcription Factor Antibody Binding Buffer**

Revision: 02/28/2014

**(10X)**

Supersedes Revision: 06/13/2012

**Section 4. First Aid Measures**

- 4.1 Description of First Aid** No data available.
- 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:** 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 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. 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:**

CAS #	Partial Chemical Name	Britain EH40	France VL	Europe
77-86-1	Trizma base	No data.	No data.	No data.
7647-14-5	Sodium chloride	No data.	No data.	No data.

Multi-region format

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9005-64-5	Polyoxyethylene (20) sorbitan monolaurate (Tween 20™)	No data.	No data.	No data.
9048-46-8	Bovine Serum Albumin (BSA)	No data.	No data.	No data.
7732-18-5	Water	No data.	No data.	No data.
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.
9005-64-5	Polyoxyethylene (20) sorbitan monolaurate (Tween 20™)	No data.	No data.	No data.
9048-46-8	Bovine Serum Albumin (BSA)	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 (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.

**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.

**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.

**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.

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**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 oxidizing agents  
**10.6 Hazardous Decomposition Or Byproducts:** carbon dioxide  
 carbon monoxide  
 hydrogen chloride gas  
 nitrogen oxides  
 sodium oxides

**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;  
**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

**Section 12. Ecological Information**

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

**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:**

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**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**

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
77-86-1	Trizma base	No	No	Yes-Cat. N106
7647-14-5	Sodium chloride	No	No	No
9005-64-5	Polyoxyethylene (20) sorbitan monolaurate (Tween 20™)	No	No	No
9048-46-8	Bovine Serum Albumin (BSA)	No	No	No
7732-18-5	Water	No	No	No

CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists
77-86-1	Trizma base	CAA HAP,ODC: HAP; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No
7647-14-5	Sodium chloride	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No
9005-64-5	Polyoxyethylene (20) sorbitan monolaurate (Tween 20™)	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No
9048-46-8	Bovine Serum Albumin (BSA)	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No
7732-18-5	Water	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No

**European Community Hazard Symbol codes:**

**Xn**
**European Community Risk and Safety Phrases:**

R22	Harmful if swallowed.
R36/37/38	Irritating to eyes, respiratory system and skin.
R43	May cause sensitization by skin contact.
S24/25	Avoid contact with skin and eyes.
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37/39	Wear suitable protective clothing, gloves and eye/face protection.

**Regulatory Information Statement:**

This SDS was prepared in accordance with Regulation (EC) No.1272/2008 and European Directive 67/548/EEC as amended.

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## Section 16. Other Information

**Revision Date:** 02/28/2014

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

**This Product:**

**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 Developing Solution

Revision: 08/30/2013

Supersedes Revision: 11/29/2012

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

## Section 1. Identification of the Substance/Mixture and of the

- 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
- Emergency Contact:** CHEMTREC Within USA and Canada: +1 (800)424-9300
- Alternate Emergency Contact:** CHEMTREC Outside USA and Canada: +1 (703)527-3887
- Information:** Cayman Chemical Company +1 (734)971-3335
- Web site address:** www.caymanchem.com

## Section 2. Hazards Identification

GHS Classification	Placard	Key word	GHS hazard phrase
Skin Corrosion/Irritation, Category 3	none	Warning	Causes mild skin irritation
<b>GHS Hazard Phrases:</b>	H316: Causes mild skin irritation.		
<b>GHS Precaution Phrases:</b>	No data available.		
<b>GHS Response Phrases:</b>	P332+313: If skin irritation occurs, get medical advice/attention.		
<b>GHS Storage and Disposal Phrases:</b>	Please refer to Section 7 for Storage and Section 13 for Disposal information.		
<b>2.3 Adverse Human Health Effects and Symptoms:</b>	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 or respiratory system irritation. To the best of our knowledge, the toxicological properties have not been thoroughly investigated.		
<b>Target Organs:</b>	No data available.		
<b>Medical Conditions Generally Aggravated By Exposure:</b>	No data available.		

## Section 3. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	EC#	Risk Phrases	RTECS #
1. 3,3',5,5'-Tetramethylbenzidine (TMB) solution	NA	>99.0 %	NA	No phrases apply.	NA
2. Hydrogen peroxide	7722-84-1	< 1.0 %	231-765-0	R5-8-20/22-35	MX0899000

## Section 4. First Aid Measures

- 4.1 Description of First Aid Measures:**
- 4.1.1 In Case of Inhalation:** Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
- 4.1.2 In Case of Skin Contact:** Immediately wash skin with soap and plenty of water for at least 20 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.
- 4.1.3 In Case of Eye Contact:** Hold eyelids apart and flush eyes with plenty of water for at least 20 minutes. Have eyes examined and tested by medical personnel.

## Transcription Factor Developing Solution

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<b>4.1.4 In Case of Ingestion:</b>	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.
<b>4.2 Important Symptoms and Effects, Both Acute and Delayed:</b>	No data available.
<b>4.3 Indication of any immediate medical attention and special treatment needed:</b>	No data available.

### Section 5. Fire Fighting Measures

<b>5.1 Suitable Extinguishing Media:</b>	Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray. Use water spray to cool fire-exposed containers.
<b>Unsuitable Extinguishing Media:</b>	A solid water stream may be inefficient.
<b>5.2 Flammable Properties and Hazards:</b>	No data available.
<b>Flash Pt:</b>	No data.
<b>Autoignition Pt:</b>	No data available.
<b>Explosive Limits:</b>	LEL: No data. <span style="margin-left: 100px;">UEL: No data.</span>
<b>Hazardous Combustion Products:</b>	No data available.
<b>5.3 Fire Fighting Instructions:</b>	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

<b>6.1 Protective Precautions, Protective Equipment and Emergency Procedures:</b>	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).
<b>6.2 Environmental Precautions:</b>	Take steps to avoid release into the environment, if safe to do so.
<b>6.3 Methods and Material For Containment and Cleaning Up:</b>	Contain spill and collect, as appropriate. Transfer to a chemical waste container for disposal in accordance with local regulations.

### Section 7. Handling and Storage

<b>7.1 Precautions To Be Taken in Handling:</b>	Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid prolonged or repeated exposure.
<b>7.2 Precautions To Be Taken in Storing:</b>	Keep container tightly closed. Store in accordance with information listed on the product insert.
<b>Other Precautions:</b>	Air sensitive. Light sensitive.
<b>Hazard Label Information:</b>	Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilation. Wash thoroughly after handling.

### Section 8. Exposure Controls/Personal Protection

Hazardous Components (Chemical Name)	CAS #	OSHA PEL	ACGIH TLV	Other Limits
1. 3,3',5,5'-Tetramethylbenzidine (TMB) solution	NA	No data.	No data.	No data.
2. Hydrogen peroxide	7722-84-1	1 ppm	1 ppm	No data.
Hazardous Components (Chemical Name)	CAS #	Britain EH40	France VL	Europe
1. 3,3',5,5'-Tetramethylbenzidine (TMB) solution	NA	No data.	No data.	No data.
2. Hydrogen peroxide	7722-84-1	TWA: 1.4 mg/m3 (1 ppm) STEL: 2.8 mg/m3 (2 ppm)	TWA: 1.5 mg/m3 (1 ppm)	No data.

<b>Protective Equipment Summary - Hazard Label Information:</b>	Compatible chemical-resistant gloves    Eye wash station in work area    Lab coat    Safety glasses    Safety shower in work area    Vent Hood
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<b>8.2.1 Engineering Controls (Ventilation etc.):</b>	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
<b>8.2.2.1 Eye Protection:</b>	Safety glasses
<b>8.2.2.2 Protective Gloves:</b>	Compatible chemical-resistant gloves
<b>Other Protective Clothing:</b>	Lab coat
<b>8.2.2.3 Respiratory Equipment (Specify Type):</b>	NIOSH approved respirator, as conditions warrant.
<b>Work/Hygienic/Maintenance Practices:</b>	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.
<b>8.2.3 Environmental Exposure Controls:</b>	No data available.

### Section 9. Physical and Chemical Properties

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

<b>Physical States:</b>	<input type="checkbox"/> Gas <input checked="" type="checkbox"/> Liquid <input type="checkbox"/> Solid
<b>Appearance and Odor:</b>	No data available.
<b>Melting Point:</b>	No data.
<b>Boiling Point:</b>	No data.
<b>Flash Pt:</b>	No data.
<b>Evaporation Rate:</b>	No data.
<b>Vapor Pressure (vs. Air or mm Hg):</b>	No data.
<b>Vapor Density (vs. Air = 1):</b>	No data.
<b>Specific Gravity (Water = 1):</b>	No data.
<b>Solubility in Water:</b>	No data.
<b>Autoignition Pt:</b>	No data.
<b>Explosive Properties:</b>	No data available.
<b>Oxidizing Properties:</b>	No data available.

**9.2 Other Information**

<b>Percent Volatile:</b>	No data.
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### Section 10. Stability and Reactivity

<b>10.1 Reactivity:</b>	No data available.
<b>10.2 Stability:</b>	Unstable <input type="checkbox"/> Stable <input checked="" type="checkbox"/>
<b>10.3 Stability Note(s):</b>	Stable if stored in accordance with information listed on the product insert.
<b>10.4 Conditions To Avoid:</b>	No data available.
<b>10.3 Polymerization:</b>	Will occur <input type="checkbox"/> Will not occur <input checked="" type="checkbox"/>
<b>10.5 Incompatibility - Materials To Avoid:</b>	strong oxidizing agents
<b>10.6 Hazardous Decomposition Or Byproducts:</b>	carbon dioxide carbon monoxide nitrogen oxides

### Section 11. Toxicological Information

<b>11.1 Information on Toxicological Effects:</b>	The toxicological effects of this product have not been thoroughly studied.
<b>Chronic Toxicological Effects:</b>	No data available.



## Transcription Factor Developing Solution

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Hazardous Components (Chemical Name)	CAS #	NTP	IARC	ACGIH	OSHA
1. 3,3',5,5'-Tetramethylbenzidine (TMB) solution	NA	n.a.	n.a.	n.a.	n.a.
2. Hydrogen peroxide	7722-84-1	n.a.	3	A3	n.a.

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

## Section 12. Ecological Information

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

## 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.

### 14.1 LAND TRANSPORT (European ADR/RID)

**ADR/RID Shipping Name** Not dangerous goods.

### 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

### European Community Hazard Symbol codes

No data available.

### European Community Risk and Safety Phrases

S24/25 - Avoid contact with skin and eyes.

S28 - After contact with skin, wash immediately with plenty of soap-suds.

S37/39 - Wear suitable gloves and eye/face protection.

### US EPA SARA Title III

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. 3,3',5,5'-Tetramethylbenzidine (TMB) solution	NA	No	No	No	No
2. Hydrogen peroxide	7722-84-1	Yes 1000 LB	Yes NA	No	No

### Other US EPA or State Lists

Hazardous Components (Chemical Name)	CAS #	CAA HAP,ODC	CWA NPDES	TSCA	CA PROP.65
1. 3,3',5,5'-Tetramethylbenzidine (TMB) solution	NA	No	No	No	No
2. Hydrogen peroxide	7722-84-1	No	No	Inventory	No

**Regulatory Information Statement:** This SDS was prepared in accordance with Regulation (EC) No.1272/2008 and European Directive 67/548/EEC as amended.

## Section 16. Other Information

**Revision Date:** 08/30/2013

### 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.

N.A.=Not available, N.P.=Not applicable, N.D.=Not determined, N.E.=Not established, N.R.=Not required

according to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

### 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**
- 2.1.2 Classification according to Directive 1999/45/EC:**  
**C: Corrosive**  
**Xi: Irritant**  
**Risk Phrases: R35**  
**For full text of R- phrases: see SECTION 15.**
- 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:**

P260: Do not breathe {dust/fume/gas/mist/vapours/spray}.

P264: Wash {hands} thoroughly after handling.

P280: Wear {protective gloves/protective clothing/eye protection/face protection}.

**GHS Response Phrases:**

P303+361+353: IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.

P363: Wash contaminated clothing before reuse.

P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P301+330+331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P310: Immediately call a {POISON CENTER/doctor/...}.

**GHS Storage and Disposal Phrases:**

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

**2.2.2 Labeling according to Directive 1999/45/EC:**

**C**

**Xi**

- 2.3 Adverse Human Health** Causes severe skin burns and eye damage.  
**Effects and Symptoms:** 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

CAS # / RTECS #	Hazardous Components (Chemical Name)/ REACH Registration No.	Concentration	EC No./ EC Index No.	Risk Phrases/ GHS Classification
7664-93-9 WS5600000	Sulfuric acid	0.0 -5.0 %	231-639-5 016-020-00-8	C;Xi; R35 Skin Corr. 1A: H314
7732-18-5 ZC0110000	Water	95.0 -100.0 %	231-791-2 NA	No phrases apply. No data available.

### Section 4. First Aid Measures

- 4.1 Description of First Aid** No data available.  
**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.
- Media:**
- 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:** 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. 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:**

CAS #	Partial Chemical Name	Britain EH40	France VL	Europe
7664-93-9	Sulfuric acid	No data.	TWA: 1.0 mg/m3 STEL: 3.0 mg/m3	No data.
7732-18-5	Water	No data.	No data.	No data.
CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
7664-93-9	Sulfuric acid	PEL: 1 mg/m3	TLV: (1 mg/m3) STEL: (3 mg/m3)	No data.
7732-18-5	Water	No data.	No data.	No data.

**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.

**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.

### 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.

**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:** heat

**10.5 Incompatibility - Materials To Avoid:** bases  
 halogens  
 hydrides  
 lithium  
 metal acetylides  
 metals  
 organic material  
 oxides  
 potassium chlorate  
 potassium perchlorate  
 potassium permanganate

	sodium
	strong oxidizing agents
	strong reducing agents
	water
<b>10.6 Hazardous Decomposition Or Byproducts:</b>	carbon dioxide hydrogen cyanide hydrogen sulfide

### Section 11. Toxicological Information

<b>11.1 Information on Toxicological Effects:</b>	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): 0.63mg/m <sup>3</sup> ; Inhalation LC50 (mouse): 320 mg/m <sup>3</sup> ; Inhalation LC50 (guinea pig): 18 mg/m <sup>3</sup> (8hr); Sulfuric acid - Irritation Data: Eyes (rabbit): 5 mg (30s) severe;
<b>Chronic Toxicological Effects:</b>	Sulfuric acid - 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. Sulfuric Acid RTECS Number: WS5600000
<b>Carcinogenicity/Other Information:</b>	IARC: 1 - Group 1: Carcinogenic to humans, Occupational exposure to strong-inorganic-acid mists containing sulfuric acid is carcinogenic to humans.
<b>Carcinogenicity:</b>	NTP? No      IARC Monographs? Yes      OSHA Regulated? No

### Section 12. Ecological Information

<b>12.1 Toxicity:</b>	Avoid release into the environment. Runoff from fire control or dilution water may cause pollution.
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### Section 13. Disposal Considerations

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

**14.1 LAND TRANSPORT (US DOT):**

<b>DOT Proper Shipping Name:</b>	Sulfuric acid [with 51% or less acid]		
<b>DOT Hazard Class:</b>	8	CORROSIVE	
<b>UN/NA Number:</b>	2796	<b>Packing Group:</b>	II


**14.1 LAND TRANSPORT (European ADR/RID):**

<b>ADR/RID Shipping Name:</b>	Sulfuric acid [with 51% or less acid]		
<b>UN Number:</b>	2796	<b>Packing Group:</b>	II
<b>Hazard Class:</b>	8 - CORROSIVE		

**14.3 AIR TRANSPORT (ICAO/IATA):**

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

<b>Additional Transport Information:</b>	Transport in accordance with local, state, and federal regulations.
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### Section 15. Regulatory Information

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

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
7664-93-9	Sulfuric acid	Yes 1000 LB	Yes 1000 LB	Yes
7732-18-5	Water	No	No	No

CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists
7664-93-9	Sulfuric acid	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No
7732-18-5	Water	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No

**European Community Hazard Symbol codes:**

**C**

**Xi**
**European Community Risk and Safety Phrases:**

R35	Causes severe burns.
S24/25	Avoid contact with skin and eyes.
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S30	Never add water to this product.
S36/37/39	Wear suitable protective clothing, gloves and eye/face protection.
S45	In case of accident or if you feel unwell, seek medical advice immediately (show the label whenever possible.)

**Regulatory Information Statement:** This SDS was prepared in accordance with Regulation (EC) No.1272/2008 and European Directive 67/548/EEC as amended.

### Section 16. Other Information

**Revision Date:** 02/28/2014

**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

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

according to Regulation (EC) No. 1907/2006

Revision: 08/30/2013  
Supersedes Revision: 09/13/2012

### Section 1. Identification of the Substance/Mixture and of the

- 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
- Emergency Contact:** CHEMTREC Within USA and Canada: +1 (800)424-9300
- Alternate Emergency Contact:** CHEMTREC Outside USA and Canada: +1 (703)527-3887
- Information:** Cayman Chemical Company +1 (734)971-3335
- Web site address:** www.caymanchem.com

### Section 2. Hazards Identification

- GHS Hazard Phrases:** Based on evaluation of currently available data this substance or mixture is not classifiable according to GHS.
- GHS Precaution Phrases:** No data available.
- GHS Response Phrases:** No data available.
- 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.
- Target Organs:** No data available.
- Medical Conditions Generally Aggravated By Exposure:** No data available.

### Section 3. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	EC#	Risk Phrases	RTECS #
1. Transcription Factor Reagent A	NA	<=1.0 %	NA	No phrases apply.	NA
2. Water	7732-18-5	>=99.0 %	231-791-2	No phrases apply.	ZC0110000

### Section 4. First Aid Measures

- 4.1 Description of First Aid Measures:**
- 4.1.1 In Case of Inhalation:** Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
- 4.1.2 In Case of Skin Contact:** Immediately wash skin with soap and plenty of water for at least 20 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.
- 4.1.3 In Case of Eye Contact:** Hold eyelids apart and flush eyes with plenty of water for at least 20 minutes. Have eyes examined and tested by medical personnel.
- 4.1.4 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:** No data available.

**4.3 Indication of any immediate medical attention and special treatment needed:** No data available.

### 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.

**Autoignition Pt:** No data available.

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

**Hazardous Combustion Products:** No data available.

**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.  
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.

**Hazard Label Information:** Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilation.  
Wash thoroughly after handling.

### Section 8. Exposure Controls/Personal Protection

Hazardous Components (Chemical Name)	CAS #	OSHA PEL	ACGIH TLV	Other Limits
1. Transcription Factor Reagent A	NA	No data.	No data.	No data.
2. Water	7732-18-5	No data.	No data.	No data.
Hazardous Components (Chemical Name)	CAS #	Britain EH40	France VL	Europe
1. Transcription Factor Reagent A	NA	No data.	No data.	No data.
2. Water	7732-18-5	No data.	No data.	No data.

**Protective Equipment Summary - Hazard Label Information:** Compatible chemical-resistant gloves Eye wash station in work area Lab coat Safety glasses Safety shower in work area Vent Hood

**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.

**8.2.2.1 Eye Protection:** Safety glasses

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

**Other Protective Clothing:** Lab coat

**8.2.2.3 Respiratory Equipment (Specify Type):** NIOSH approved respirator, as conditions warrant.



# SAFETY DATA SHEET

## Transcription Factor Reagent A

**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.

**8.2.3 Environmental Exposure Controls:** 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:** No data available.

**Melting Point:** No data.

**Boiling Point:** No data.

**Flash Pt:** No data.

**Evaporation Rate:** 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.

**Explosive Properties:** No data available.

**Oxidizing Properties:** No data available.

#### 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.

**10.3 Polymerization:** Will occur [ ] Will not occur [ X ]

**10.5 Incompatibility - Materials To Avoid:** No data available.

**10.6 Hazardous Decomposition Or Byproducts:** No data available.

### Section 11. Toxicological Information

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

**Chronic Toxicological Effects:** No data available.

Hazardous Components (Chemical Name)	CAS #	NTP	IARC	ACGIH	OSHA
1. Transcription Factor Reagent A	NA	n.a.	n.a.	n.a.	n.a.
2. Water	7732-18-5	n.a.	n.a.	n.a.	n.a.

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

### Section 12. Ecological Information

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

### 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.

**14.1 LAND TRANSPORT (European ADR/RID)**

**ADR/RID Shipping Name** Not dangerous goods.

**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

**European Community Hazard Symbol codes**

No data available.

**European Community Risk and Safety Phrases**

S24/25 - Avoid contact with skin and eyes.

S37/39 - Wear suitable gloves and eye/face protection.

**US EPA SARA Title III**

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Transcription Factor Reagent A	NA	No	No	No	No
2. Water	7732-18-5	No	No	No	No

**Other US EPA or State Lists**

Hazardous Components (Chemical Name)	CAS #	CAA HAP,ODC	CWA NPDES	TSCA	CA PROP.65
1. Transcription Factor Reagent A	NA	No	No	No	No
2. Water	7732-18-5	No	No	Inventory	No

**Regulatory Information Statement:** This SDS was prepared in accordance with Regulation (EC) No.1272/2008 and European Directive 67/548/EEC as amended.

### Section 16. Other Information

**Revision Date:** 08/30/2013

**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.

N.A.=Not available, N.P.=Not applicable, N.D.=Not determined, N.E.=Not established, N.R.=Not required

**Transcription Factor Goat Anti-Mouse HRP**

Revision: 02/28/2014

**Conjugate**

Supersedes Revision: 10/25/2012

according to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

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

- 1.1 Product Code:** 10009279  
**Product Name:** Transcription Factor Goat Anti-Mouse HRP Conjugate
- 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**  
**Acute Toxicity: Skin, Category 5**  
**Skin Corrosion/Irritation, Category 3**  
**Serious Eye Damage/Eye Irritation, Category 2A**
- 2.1.2 Classification according to Directive 1999/45/EC:**  
**Xn: Harmful**  
**Risk Phrases: R22, R36/37/38, R52**  
**For full text of R- phrases: see SECTION 15.**
- 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.  
 H313: May be harmful in contact with skin.  
 H316: Causes mild 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.  
 P330: Rinse mouth.  
 P312: Call a {POISON CENTER/doctor/...} if you feel unwell.  
 P332+313: If skin irritation occurs, get medical advice/attention.  
 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.

**Transcription Factor Goat Anti-Mouse HRP**

Revision: 02/28/2014

**Conjugate**

Supersedes Revision: 10/25/2012

**GHS Storage and Disposal Phrases:**

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

**2.2.2 Labeling according to Directive 1999/45/EC:**

**Xn**
**2.3 Adverse Human Health** Causes mild skin irritation.

**Effects and Symptoms:** Causes serious eye 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 respiratory system irritation.

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

**Section 3. Composition/Information on Ingredients**

CAS # / RTECS #	Hazardous Components (Chemical Name)/ REACH Registration No.	Concentration	EC No./ EC Index No.	Risk Phrases/ GHS Classification
NA NA	Goat Anti-Mouse IgG HRP	0.0 -1.0 %	NA NA	No phrases apply. No data available.
77-86-1 TY2900000	Trizma base	0.0 -5.0 %	201-064-4 NA	Xi; R36/37/38 Skin Corr. 2: H315 Eye Damage 2A: H319 TOST (SE) 3: H335 H336
7647-14-5 VZ4725000	Sodium chloride	0.0 -5.0 %	231-598-3 NA	Xi; R36 Eye Damage 2A: H319
7447-40-7 TS8050000	Potassium chloride	0.0 -1.0 %	231-211-8 NA	R52 Acute Tox.(O) 5: H303 Aquatic (A) 3: H402
7558-79-4 WC4500000	Sodium phosphate, Dibasic	0.0 -1.0 %	231-448-7 NA	Xi; R36 Eye Damage 2A: H319
7778-77-0 TC6615500	Potassium phosphate, Monobasic	0.0 -1.0 %	231-913-4 NA	R52 Acute Tox.(D) 5: H313
9048-46-8 MT6446000	Bovine Serum Albumin (BSA)	1.0 -10.0 %	232-936-2 NA	Xn; R22 Acute Tox.(O) 4: H302
56-81-5 MA8050000	Glycerol	20.0 -50.0 %	200-289-5 NA	Xi; R36/38 No data available.
7732-18-5 ZC0110000	Water	26.0 -79.0 %	231-791-2 NA	No phrases apply. No data available.

**Transcription Factor Goat Anti-Mouse HRP**

Revision: 02/28/2014

**Conjugate**

Supersedes Revision: 10/25/2012

**Section 4. First Aid Measures**

- 4.1 Description of First Aid** No data available.
- 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:** Prolonged exposure may cause nausea, headache, 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:** 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 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. 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:**

CAS #	Partial Chemical Name	Britain EH40	France VL	Europe
NA	Goat Anti-Mouse IgG HRP	No data.	No data.	No data.
77-86-1	Trizma base	No data.	No data.	No data.
7647-14-5	Sodium chloride	No data.	No data.	No data.
7447-40-7	Potassium chloride	No data.	No data.	No data.
7558-79-4	Sodium phosphate, Dibasic	No data.	No data.	No data.
7778-77-0	Potassium phosphate, Monobasic	No data.	No data.	No data.
9048-46-8	Bovine Serum Albumin (BSA)	No data.	No data.	No data.
56-81-5	Glycerol	TWA: 10 mg/m3 () STEL: ()	TWA: 10 mg/m3	No data.
7732-18-5	Water	No data.	No data.	No data.

CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
NA	Goat Anti-Mouse IgG HRP	No data.	No data.	No data.
77-86-1	Trizma base	No data.	No data.	No data.
7647-14-5	Sodium chloride	No data.	No data.	No data.
7447-40-7	Potassium chloride	No data.	No data.	No data.
7558-79-4	Sodium phosphate, Dibasic	No data.	No data.	No data.
7778-77-0	Potassium phosphate, Monobasic	No data.	No data.	No data.
9048-46-8	Bovine Serum Albumin (BSA)	No data.	No data.	No data.
56-81-5	Glycerol	PEL: 15 (dust); 5 (resp.) mg/m3	TLV: 10 mg/m3	No data.
7732-18-5	Water	No data.	No data.	No data.

**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.

**Work/Hygienic/Maintenance Practices:**

Do not take internally.

Facilities storing or utilizing this material should be equipped with an eyewash and a safety shower.

Wash thoroughly after handling.



**Transcription Factor Goat Anti-Mouse HRP**

Revision: 02/28/2014

**Conjugate**

Supersedes Revision: 10/25/2012

**Section 12. Ecological Information**

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

**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**

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
NA	Goat Anti-Mouse IgG HRP	No	No	No
77-86-1	Trizma base	No	No	Yes-Cat. N106
7647-14-5	Sodium chloride	No	No	No
7447-40-7	Potassium chloride	No	No	No
7558-79-4	Sodium phosphate, Dibasic	No	Yes 5000 LB	No
7778-77-0	Potassium phosphate, Monobasic	No	No	No
9048-46-8	Bovine Serum Albumin (BSA)	No	No	No
56-81-5	Glycerol	No	No	No
7732-18-5	Water	No	No	No

CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists
NA	Goat Anti-Mouse IgG HRP	CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No
77-86-1	Trizma base	CAA HAP,ODC: HAP; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No
7647-14-5	Sodium chloride	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No
7447-40-7	Potassium chloride	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No
7558-79-4	Sodium phosphate, Dibasic	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No

**Transcription Factor Goat Anti-Mouse HRP**

Revision: 02/28/2014

**Conjugate**

Supersedes Revision: 10/25/2012

7778-77-0	Potassium phosphate, Monobasic	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No
9048-46-8	Bovine Serum Albumin (BSA)	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No
56-81-5	Glycerol	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No
7732-18-5	Water	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No

**European Community Hazard Symbol codes:**



**Xn**

**European Community Risk and Safety Phrases:**

- R22 Harmful if swallowed.
- R36/37/38 Irritating to eyes, respiratory system and skin.
- R52 Harmful to aquatic organisms.
- S24/25 Avoid contact with skin and eyes.
- S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

**Regulatory Information Statement:** This SDS was prepared in accordance with Regulation (EC) No.1272/2008 and European Directive 67/548/EEC as amended.

**Section 16. Other Information**

**Revision Date:** 02/28/2014

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

**This Product:**

**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.