

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

Revision: 05/01/2012
Supersedes Revision: 01/13/2011

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

Product Code: 400035
Product Name: Polysorbate 20
Synonyms: Tween 20™;
Intended Use: For research use only, not for human or veterinary use.

Manufacturer Information

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

2. Hazards Identification

GHS Hazard Phrases: No data available.
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.
Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection
Potential Health Effects (Acute and Chronic): 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.
Target Organs: No data available.
LD 50 / LC 50: Please refer to Section 11.
Signs and Symptoms Of Exposure: To the best of our knowledge, the toxicological properties have not been thoroughly investigated.
Medical Conditions Generally Aggravated By Exposure: No data available.

3. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	EC#	Risk Phrases	RTECS #
1. Polyoxyethylene (20) sorbitan monolaurate (Tween 20™)	9005-64-5	100.0 %	500-018-3	No phrases apply.	TR7400000

4. First Aid Measures

Emergency and First Aid Procedures:

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.

5. Fire Fighting Measures

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.
Flammable Properties and Hazards:	No data available.
Hazardous Combustion Products:	No data available.
Flash Pt:	No data.
Autoignition Pt:	No data available.
Explosive Limits:	LEL: No data. UEL: No data.
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.

6. Accidental Release Measures

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).
Environmental Precautions:	Take steps to avoid release into the environment, if safe to do so.
Steps To Be Taken In Case Material Is Released Or Spilled:	Contain spill and collect, as appropriate. Transfer to a chemical waste container for disposal in accordance with local regulations.

7. Handling and Storage

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

8. Exposure Controls/Personal Protection

Hazardous Components (Chemical Name)	CAS #	OSHA PEL	ACGIH TLV	Other Limits
1. Polyoxyethylene (20) sorbitan monolaurate (Tween 20™)	9005-64-5	No data.	No data.	No data.
Hazardous Components (Chemical Name)	CAS #	Britain EH40	France VL	
1. Polyoxyethylene (20) sorbitan monolaurate (Tween 20™)	9005-64-5	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
Engineering Controls (Ventilation etc.):	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
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.

9. Physical and Chemical Properties

Information on Basic Physical and Chemical Properties

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

10. Stability and Reactivity

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

11. Toxicological Information

Toxicological Information:	The toxicological effects of this product have not been thoroughly studied.
Chronic Toxicological Effects:	Polysorbate 20 - Toxicity Data: Oral LD50 (rat): 36.7 ml/kg; Oral LD50 (hamster): 18 ml/kg; Oral LD50 (mouse): >33 g/kg; Irritation Data: Skin (human): 15 mg/3D mild; Polysorbate 20 - Investigated as a tumorigen and reproductive effector. Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here. See actual entry in RTECS for complete information. Polysorbate 20 RTECS Number: TR7400000

Hazardous Components (Chemical Name)	CAS #	NTP	IARC	ACGIH	OSHA
1. Polyoxyethylene (20) sorbitan monolaurate (Tween 20™)	9005-64-5	n.a.	n.a.	n.a.	n.a.

12. Ecological Information

General Ecological Information:	Avoid release into the environment. Runoff from fire control or dilution water may cause pollution.
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13. Disposal Considerations

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

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name Not dangerous goods.

LAND TRANSPORT (European ADR/RID)

ADR/RID Shipping Name Not dangerous goods.

AIR TRANSPORT (ICAO/IATA)

ICAO/IATA Shipping Name Not dangerous goods.

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

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. Polyoxyethylene (20) sorbitan monolaurate (Tween 20™)	9005-64-5	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. Polyoxyethylene (20) sorbitan monolaurate (Tween 20™)	9005-64-5	No	No	Inventory	No

Regulatory Information Statement: This SDS was prepared in accordance with 29 CFR 1910.1200, Regulation (EC) No.1272/2008, and European Directive 67/548/EEC as amended.

16. Other Information

Company Policy or Disclaimer

For research use only, not for human or veterinary use.

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



SAFETY DATA SHEET

Wash Buffer Concentrate (400X)

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

Revision: 05/01/2012
Supersedes Revision: 07/06/2010

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

Product Code: 400062

Product Name: Wash Buffer Concentrate (400X)

Intended Use: For research use only, not for human or veterinary use.

Manufacturer Information

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

2. Hazards Identification

GHS Hazard Phrases: No data available.

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.

Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection

Potential Health Effects (Acute and Chronic): 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.

Target Organs: No data available.

Signs and Symptoms Of Exposure: Ingestion of large amounts can cause abdominal pain, lowered blood pressure, nausea, and vomiting.
To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

Medical Conditions Generally Aggravated By Exposure: No data available.

3. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	EC#	Risk Phrases	RTECS #
1. Potassium phosphate, dibasic	7758-11-4	53.0 %	231-834-5	No phrases apply.	TC5580000
2. Potassium phosphate, Monobasic	7778-77-0	12.9 %	231-913-4	No phrases apply.	TC6615500
3. Water	7732-18-5	34.1 %	231-791-2	No phrases apply.	ZC0110000

4. First Aid Measures

Emergency and First Aid Procedures:

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.

5. Fire Fighting Measures

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.

Flammable Properties and Hazards: No data available.

Hazardous Combustion Products: No data available.

Flash Pt: No data.

Autoignition Pt: No data available.

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

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.

6. Accidental Release Measures

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).

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

Steps To Be Taken In Case Material Is Released Or Spilled: Contain spill and collect, as appropriate.
Transfer to a chemical waste container for disposal in accordance with local regulations.

7. Handling and Storage

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

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.

8. Exposure Controls/Personal Protection

Hazardous Components (Chemical Name)	CAS #	OSHA PEL	ACGIH TLV	Other Limits
1. Potassium phosphate, dibasic	7758-11-4	No data.	No data.	No data.
2. Potassium phosphate, Monobasic	7778-77-0	No data.	No data.	No data.
3. Water	7732-18-5	No data.	No data.	No data.
Hazardous Components (Chemical Name)	CAS #	Britain EH40	France VL	
1. Potassium phosphate, dibasic	7758-11-4	No data.	No data.	
2. Potassium phosphate, Monobasic	7778-77-0	No data.	No data.	
3. Water	7732-18-5	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

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

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.

9. Physical and Chemical Properties

Information on Basic Physical and Chemical Properties

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

Appearance and Odor: A clear, colorless solution

Boiling Point: No data.

pH: 7.4

Melting Point: No data.

Autoignition Pt: No data.

Flash Pt: No data.

Specific Gravity (Water = 1): No data.

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

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

Evaporation Rate: No data.

Solubility in Water: No data.

Other Information

Percent Volatile: No data.

10. Stability and Reactivity

Stability: Unstable [] Stable [X]

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

Conditions To Avoid: No data available.

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

Incompatibility - Materials To Avoid: strong oxidizing agents

Hazardous Decomposition Or Byproducts: phosphorus oxides
 potassium oxides

11. Toxicological Information

Toxicological Information: 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. Potassium phosphate, dibasic	7758-11-4	n.a.	n.a.	n.a.	n.a.
2. Potassium phosphate, Monobasic	7778-77-0	n.a.	n.a.	n.a.	n.a.
3. Water	7732-18-5	n.a.	n.a.	n.a.	n.a.

12. Ecological Information

General Ecological Information: Avoid release into the environment.
 Runoff from fire control or dilution water may cause pollution.



SAFETY DATA SHEET

Wash Buffer Concentrate (400X)

13. Disposal Considerations

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

14. Transport Information

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name Not dangerous goods.

LAND TRANSPORT (European ADR/RID)

ADR/RID Shipping Name Not dangerous goods.

AIR TRANSPORT (ICAO/IATA)

ICAO/IATA Shipping Name Not dangerous goods.

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

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. Potassium phosphate, dibasic	7758-11-4	No	No	No	No
2. Potassium phosphate, Monobasic	7778-77-0	No	No	No	No
3. 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. Potassium phosphate, dibasic	7758-11-4	No	No	Inventory	No
2. Potassium phosphate, Monobasic	7778-77-0	No	No	Inventory	No
3. Water	7732-18-5	No	No	Inventory	No

Regulatory Information Statement: This SDS was prepared in accordance with 29 CFR 1910.1200, Regulation (EC) No.1272/2008, and European Directive 67/548/EEC as amended.

16. Other Information

Company Policy or Disclaimer

For research use only, not for human or veterinary use.

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 Binding Assay Buffer (4X)

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

Revision: 06/13/2012
Supersedes Revision: 01/13/2011

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

Product Code: 10006880

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

Intended Use: For research use only, not for human or veterinary use.

Manufacturer Information

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

2. Hazards Identification

GHS Hazard Phrases: No data available.

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.

Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection

Potential Health Effects (Acute and Chronic): 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.

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

Signs and Symptoms Of Exposure: Prolonged exposure may cause nausea, headache, and vomiting.
To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

Medical Conditions Generally Aggravated By Exposure: No data available.

3. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	EC#	Risk Phrases	RTECS #
1. Poly(oxy-1,2-ethanediyl), .alpha.-(octylphenyl)-.omega.-hydroxy-, branched	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	OM2975000
4. Potassium chloride	7447-40-7	0.0 -5.0 %	231-211-8	No phrases apply.	TS8050000
5. Glycerol	56-81-5	5.0 -20.0 %	200-289-5	No phrases apply.	MA8050000
6. Water	7732-18-5	64.0 -95.0 %	231-791-2	No phrases apply.	ZC0110000

4. First Aid Measures

Emergency and First Aid Procedures:

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.

Transcription Factor Binding Assay Buffer (4X)

Revision: 06/13/2012

Supersedes Revision: 01/13/2011

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.

5. Fire Fighting Measures

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.
Flammable Properties and Hazards:	Emits toxic fumes under fire conditions.
Hazardous Combustion Products:	No data available.
Flash Pt:	No data.
Autoignition Pt:	No data available.
Explosive Limits:	LEL: No data. UEL: No data.
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.

6. Accidental Release Measures

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).
Environmental Precautions:	Take steps to avoid release into the environment, if safe to do so.
Steps To Be Taken In Case Material Is Released Or Spilled:	Contain spill and collect, as appropriate. Transfer to a chemical waste container for disposal in accordance with local regulations.

7. Handling and Storage

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

8. Exposure Controls/Personal Protection

Hazardous Components (Chemical Name)	CAS #	OSHA PEL	ACGIH TLV	Other Limits
1. Poly(oxy-1,2-ethanediyl), .alpha.-(octylphenyl)-.omega.-hydroxy-, branched	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	
1. Poly(oxy-1,2-ethanediyl), .alpha.-(octylphenyl)-.omega.-hydroxy-, branched	68987-90-6	No data.	No data.	
2. HEPES, free acid	7365-45-9	No data.	No data.	

Transcription Factor Binding Assay Buffer (4X)

Revision: 06/13/2012

Supercedes Revision: 01/13/2011

Hazardous Components (Chemical Name)	CAS #	Britain EH40	France VL
3. Magnesium chloride, hexahydrate	7791-18-6	No data.	No data.
4. Potassium chloride	7447-40-7	No data.	No data.
5. Glycerol	56-81-5	TWA: 10 mg/m3 (STEL: ()	TWA: 10 mg/m3
6. Water	7732-18-5	No data.	No data.

Protective Equipment Summary - Hazard Label Information:	Compatible chemical-resistant gloves glasses Safety shower in work area Vent Hood	Eye wash station in work area Lab coat Safety
Engineering Controls (Ventilation etc.):	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.	
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.	

9. Physical and Chemical Properties

Information on Basic Physical and Chemical Properties

Physical States:	[] Gas [X] Liquid [] Solid
Appearance and Odor:	No data available.
Boiling Point:	No data.
pH:	7.9
Melting Point:	No data.
Autoignition Pt:	No data.
Flash Pt:	No data.
Specific Gravity (Water = 1):	No data.
Vapor Pressure (vs. Air or mm Hg):	No data.
Vapor Density (vs. Air = 1):	No data.
Evaporation Rate:	No data.
Solubility in Water:	No data.
Other Information	
Percent Volatile:	No data.

10. Stability and Reactivity

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

Transcription Factor Binding Assay Buffer (4X)

Revision: 06/13/2012

Supercedes Revision: 01/13/2011

11. Toxicological Information

Toxicological Information: 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. Poly(oxy-1,2-ethanediyl), .alpha.-(octylphenyl)-.omega.-hydroxy-, branched	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.

12. Ecological Information

General Ecological Information: Avoid release into the environment.
Runoff from fire control or dilution water may cause pollution.

13. Disposal Considerations

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

14. Transport Information

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name Not dangerous goods.

LAND TRANSPORT (European ADR/RID)

ADR/RID Shipping Name Not dangerous goods.

AIR TRANSPORT (ICAO/IATA)

ICAO/IATA Shipping Name Not dangerous goods.

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

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. Poly(oxy-1,2-ethanediyl), .alpha.-(octylphenyl)-.omega.-hydroxy-, branched	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. Poly(oxy-1,2-ethanediyl), .alpha.-(octylphenyl)-.omega.-hydroxy-, branched	68987-90-6	No	No	Inventory	No



SAFETY DATA SHEET

Transcription Factor Binding Assay Buffer (4X)

Revision: 06/13/2012

Supersedes Revision: 01/13/2011

Hazardous Components (Chemical Name)	CAS #	CAA HAP,ODC	CWA NPDES	TSCA	CA PROP.65
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 29 CFR 1910.1200, Regulation (EC) No.1272/2008, and European Directive 67/548/EEC as amended.

16. Other Information

Company Policy or Disclaimer

For research use only, not for human or veterinary use.

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

Revision: 06/13/2012

(10X)

Supersedes Revision: 01/13/2011

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



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

Product Code: 10006882
Product Name: Transcription Factor Antibody Binding Buffer (10X)
Intended Use: For research use only, not for human or veterinary use.
Manufacturer Information
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

2. Hazards Identification

GHS Classification	Placard	Key word	GHS Hazard
Skin Corrosion/Irritation, Category 2	Exclamation point	Warning	Causes skin irritation
Serious Eye Damage/Eye Irritation, Category 2A	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: 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/clothing and eye/face protection as specified by the manufacturer/supplier or the competent authority.
P261: Avoid breathing dust/fume/gas/mist/vapours/spray.

GHS Response Phrases: P302+352: IF ON SKIN: Wash with plenty of soap and water.
P332+313: If skin irritation occurs, get medical advice/attention.
P362: Take off contaminated clothing and wash before re-use.
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.

Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection

Potential Health Effects (Acute and Chronic): Causes skin and serious eye irritation.
Material may be irritating to the mucous membranes and upper respiratory tract.
May be harmful by inhalation, ingestion, or skin absorption.
May cause respiratory system irritation.

Target Organs: No data available.

Transcription Factor Antibody Binding Buffer

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Signs and Symptoms Of Exposure: To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

Medical Conditions Generally Aggravated By Exposure: No data available.

3. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	EC#	Risk Phrases	RTECS #
1. Trizma base	77-86-1	1.0 -10.0 %	201-064-4	R36/37/38	TY2900000
2. Sodium chloride	7647-14-5	1.0 -15.0 %	231-598-3	No phrases apply.	VZ4725000
3. Polyoxyethylene (20) sorbitan monolaurate (Tween 20™)	9005-64-5	0.0 -5.0 %	500-018-3	No phrases apply.	TR7400000
4. Bovine Serum Albumin (BSA)	9048-46-8	0.0 -5.0 %	232-936-2	No phrases apply.	MT6446000
5. Water	7732-18-5	65.0 -98.0 %	231-791-2	No phrases apply.	ZC0110000

4. First Aid Measures

Emergency and First Aid Procedures:

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.

5. Fire Fighting Measures

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.

Flammable Properties and Hazards: No data available.

Hazardous Combustion Products: No data available.

Flash Pt: No data.

Autoignition Pt: No data available.

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

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.

6. Accidental Release Measures

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).

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

Steps To Be Taken In Case Material Is Released Or Spilled: Contain spill and collect, as appropriate. Transfer to a chemical waste container for disposal in accordance with local regulations.

7. Handling and Storage

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

Transcription Factor Antibody Binding Buffer

Revision: 06/13/2012

(10X)

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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.

8. Exposure Controls/Personal Protection

Hazardous Components (Chemical Name)	CAS #	OSHA PEL	ACGIH TLV	Other Limits
1. Trizma base	77-86-1	No data.	No data.	No data.
2. Sodium chloride	7647-14-5	No data.	No data.	No data.
3. Polyoxyethylene (20) sorbitan monolaurate (Tween 20™)	9005-64-5	No data.	No data.	No data.
4. Bovine Serum Albumin (BSA)	9048-46-8	No data.	No data.	No data.
5. Water	7732-18-5	No data.	No data.	No data.

Hazardous Components (Chemical Name)	CAS #	Britain EH40	France VL
1. Trizma base	77-86-1	No data.	No data.
2. Sodium chloride	7647-14-5	No data.	No data.
3. Polyoxyethylene (20) sorbitan monolaurate (Tween 20™)	9005-64-5	No data.	No data.
4. Bovine Serum Albumin (BSA)	9048-46-8	No data.	No data.
5. Water	7732-18-5	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
Engineering Controls (Ventilation etc.):	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
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.

9. Physical and Chemical Properties

Information on Basic Physical and Chemical Properties	
Physical States:	<input type="checkbox"/> Gas <input checked="" type="checkbox"/> Liquid <input type="checkbox"/> Solid
Appearance and Odor:	No data available.
Boiling Point:	No data.
pH:	7.63
Melting Point:	No data.
Autoignition Pt:	No data.
Flash Pt:	No data.
Specific Gravity (Water = 1):	No data.
Vapor Pressure (vs. Air or mm Hg):	No data.
Vapor Density (vs. Air = 1):	No data.
Evaporation Rate:	No data.
Solubility in Water:	No data.

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

Revision: 06/13/2012

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Other Information
Percent Volatile: No data.

10. Stability and Reactivity
Stability: Unstable [] Stable [X]

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

Conditions To Avoid: No data available.

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

Incompatibility - Materials To Avoid: strong oxidizing agents

Hazardous Decomposition Or Byproducts: carbon dioxide
carbon monoxide
hydrogen chloride gas
nitrogen oxides
sodium oxides

11. Toxicological Information
Toxicological Information: 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

Hazardous Components (Chemical Name)	CAS #	NTP	IARC	ACGIH	OSHA
1. Trizma base	77-86-1	n.a.	n.a.	n.a.	n.a.
2. Sodium chloride	7647-14-5	n.a.	n.a.	n.a.	n.a.
3. Polyoxyethylene (20) sorbitan monolaurate (Tween 20™)	9005-64-5	n.a.	n.a.	n.a.	n.a.
4. Bovine Serum Albumin (BSA)	9048-46-8	n.a.	n.a.	n.a.	n.a.
5. Water	7732-18-5	n.a.	n.a.	n.a.	n.a.

12. Ecological Information
General Ecological Information: Avoid release into the environment.
Runoff from fire control or dilution water may cause pollution.

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

14. Transport Information
Globally Harmonized System of Classification and Labelling

Skin Corrosion/Irritation, Category 2 - Warning! Causes skin irritation

Serious Eye Damage/Eye Irritation, Category 2A - Warning! Causes serious eye irritation

Target Organ Systemic Toxicity (single exposure), Category 3 - Warning! May cause respiratory irritation, or may cause drowsiness and dizziness

LAND TRANSPORT (US DOT)
DOT Proper Shipping Name Not dangerous goods.

LAND TRANSPORT (European ADR/RID)
ADR/RID Shipping Name Not dangerous goods.

**Transcription Factor Antibody Binding Buffer**

Revision: 06/13/2012

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

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. Trizma base	77-86-1	No	No	Yes-Cat. N106	No
2. Sodium chloride	7647-14-5	No	No	No	No
3. Polyoxyethylene (20) sorbitan monolaurate (Tween 20™)	9005-64-5	No	No	No	No
4. Bovine Serum Albumin (BSA)	9048-46-8	No	No	No	No
5. 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. Trizma base	77-86-1	HAP	No	Inventory	No
2. Sodium chloride	7647-14-5	No	No	Inventory	No
3. Polyoxyethylene (20) sorbitan monolaurate (Tween 20™)	9005-64-5	No	No	Inventory	No
4. Bovine Serum Albumin (BSA)	9048-46-8	No	No	Inventory	No
5. Water	7732-18-5	No	No	Inventory	No

Regulatory Information Statement: This SDS was prepared in accordance with 29 CFR 1910.1200, Regulation (EC) No.1272/2008, and European Directive 67/548/EEC as amended.**16. Other Information****Company Policy or Disclaimer**

For research use only, not for human or veterinary use.

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-Rabbit HRP Conjugate

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

Revision: 06/13/2012
Supersedes Revision: 01/13/2011

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

Product Code: 10006884

Product Name: Transcription Factor Goat Anti-Rabbit HRP Conjugate

Intended Use: For research use only, not for human or veterinary use.

Manufacturer Information

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

2. Hazards Identification

GHS Hazard Phrases: No data available.

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.

Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection

Potential Health Effects (Acute and Chronic): 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.

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

Signs and Symptoms Of Exposure: Prolonged exposure may cause nausea, headache, and vomiting.
To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

Medical Conditions Generally Aggravated By Exposure: No data available.

3. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	EC#	Risk Phrases	RTECS #
1. Trizma base	77-86-1	0.0 -0.1 %	201-064-4	R36/37/38	TY2900000
2. Sodium chloride	7647-14-5	0.0 -0.1 %	231-598-3	No phrases apply.	VZ4725000
3. Bovine Serum Albumin (BSA)	9048-46-8	0.0 -5.0 %	232-936-2	No phrases apply.	MT6446000
4. Goat Anti-Rabbit HRP Conjugate	NA	0.0 -5.0 %	NA	No data available.	NA
5. Glycerol	56-81-5	15.0 -50.0 %	200-289-5	No phrases apply.	MA8050000
6. Water	7732-18-5	39.8 -85.0 %	231-791-2	No phrases apply.	ZC0110000

4. First Aid Measures

Emergency and First Aid Procedures:

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.

**Transcription Factor Goat Anti-Rabbit HRP**

Revision: 06/13/2012

Conjugate

Supersedes Revision: 01/13/2011

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.

5. Fire Fighting Measures

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.
Flammable Properties and Hazards:	Emits toxic fumes under fire conditions.
Hazardous Combustion Products:	No data available.
Flash Pt:	No data.
Autoignition Pt:	No data available.
Explosive Limits:	LEL: No data. UEL: No data.
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.

6. Accidental Release Measures

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).
Environmental Precautions:	Take steps to avoid release into the environment, if safe to do so.
Steps To Be Taken In Case Material Is Released Or Spilled:	Contain spill and collect, as appropriate. Transfer to a chemical waste container for disposal in accordance with local regulations.

7. Handling and Storage

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

8. Exposure Controls/Personal Protection

Hazardous Components (Chemical Name)	CAS #	OSHA PEL	ACGIH TLV	Other Limits
1. Trizma base	77-86-1	No data.	No data.	No data.
2. Sodium chloride	7647-14-5	No data.	No data.	No data.
3. Bovine Serum Albumin (BSA)	9048-46-8	No data.	No data.	No data.
4. Goat Anti-Rabbit HRP Conjugate	NA	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	
1. Trizma base	77-86-1	No data.	No data.	
2. Sodium chloride	7647-14-5	No data.	No data.	
3. Bovine Serum Albumin (BSA)	9048-46-8	No data.	No data.	
4. Goat Anti-Rabbit HRP Conjugate	NA	No data.	No data.	
5. Glycerol	56-81-5	TWA: 10 mg/m3 () STEL: ()	TWA: 10 mg/m3	

Transcription Factor Goat Anti-Rabbit HRP

Revision: 06/13/2012

Conjugate

Supercedes Revision: 01/13/2011

Hazardous Components (Chemical Name)	CAS #	Britain EH40	France VL
6. Water	7732-18-5	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		
Engineering Controls (Ventilation etc.):	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.		
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.		

9. Physical and Chemical Properties

Information on Basic Physical and Chemical Properties

Physical States:	<input type="checkbox"/> Gas <input checked="" type="checkbox"/> Liquid <input type="checkbox"/> Solid
Appearance and Odor:	No data available.
Boiling Point:	No data.
pH:	7.4
Melting Point:	No data.
Autoignition Pt:	No data.
Flash Pt:	No data.
Specific Gravity (Water = 1):	No data.
Vapor Pressure (vs. Air or mm Hg):	No data.
Vapor Density (vs. Air = 1):	No data.
Evaporation Rate:	No data.
Solubility in Water:	No data.
Other Information	
Percent Volatile:	No data.

10. Stability and Reactivity

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

11. Toxicological Information

Toxicological Information:	The toxicological effects of this product have not been thoroughly studied.
Chronic Toxicological Effects:	No data available.



SAFETY DATA SHEET

Transcription Factor Goat Anti-Rabbit HRP

Revision: 06/13/2012

Conjugate

Supercedes Revision: 01/13/2011

Hazardous Components (Chemical Name)	CAS #	NTP	IARC	ACGIH	OSHA
1. Trizma base	77-86-1	n.a.	n.a.	n.a.	n.a.
2. Sodium chloride	7647-14-5	n.a.	n.a.	n.a.	n.a.
3. Bovine Serum Albumin (BSA)	9048-46-8	n.a.	n.a.	n.a.	n.a.
4. Goat Anti-Rabbit HRP Conjugate	NA	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.

12. Ecological Information

General Ecological Information:

Avoid release into the environment.

Runoff from fire control or dilution water may cause pollution.

13. Disposal Considerations

Waste Disposal Method:

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

14. Transport Information

LAND TRANSPORT (US DOT)**DOT Proper Shipping Name**

Not dangerous goods.

LAND TRANSPORT (European ADR/RID)**ADR/RID Shipping Name**

Not dangerous goods.

AIR TRANSPORT (ICAO/IATA)**ICAO/IATA Shipping Name**

Not dangerous goods.

Additional Transport Information:

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

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. Trizma base	77-86-1	No	No	Yes-Cat. N106	No
2. Sodium chloride	7647-14-5	No	No	No	No
3. Bovine Serum Albumin (BSA)	9048-46-8	No	No	No	No
4. Goat Anti-Rabbit HRP Conjugate	NA	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. Trizma base	77-86-1	HAP	No	Inventory	No
2. Sodium chloride	7647-14-5	No	No	Inventory	No
3. Bovine Serum Albumin (BSA)	9048-46-8	No	No	Inventory	No
4. Goat Anti-Rabbit HRP Conjugate	NA	No	No	No	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 29 CFR 1910.1200, Regulation (EC) No.1272/2008, and European Directive 67/548/EEC as amended.

Transcription Factor Goat Anti-Rabbit HRP

Revision: 06/13/2012

Conjugate

Supercedes Revision: 01/13/2011

16. Other Information

Company Policy or Disclaimer

For research use only, not for human or veterinary use.

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 Developing Solution**

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

Revision: 06/13/2012
 Supersedes Revision: 01/13/2011

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

Product Code: 10006888
Product Name: Transcription Factor Developing Solution
Intended Use: For research use only, not for human or veterinary use.
Manufacturer Information
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

2. Hazards Identification

GHS Hazard Phrases: No data available.
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.
Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection
Potential Health Effects (Acute and Chronic): 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.
Target Organs: No data available.
Signs and Symptoms Of Exposure: To the best of our knowledge, the toxicological properties have not been thoroughly investigated.
Medical Conditions Generally Aggravated By Exposure: No data available.

3. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	EC#	Risk Phrases
1. Transcription Factor Developing Solution	NA	100.0 %	NA	No phrases apply.

4. First Aid Measures

Emergency and First Aid Procedures:
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.

Transcription Factor Developing Solution

Revision: 06/13/2012

Supercedes Revision: 01/13/2011

5. Fire Fighting Measures

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.
Flammable Properties and Hazards:	No data available.
Hazardous Combustion Products:	No data available.
Flash Pt:	No data.
Autoignition Pt:	No data available.
Explosive Limits:	LEL: No data. UEL: No data.
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.

6. Accidental Release Measures

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).
Environmental Precautions:	Take steps to avoid release into the environment, if safe to do so.
Steps To Be Taken In Case Material Is Released Or Spilled:	Contain spill and collect, as appropriate. Transfer to a chemical waste container for disposal in accordance with local regulations.

7. Handling and Storage

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

8. Exposure Controls/Personal Protection

Hazardous Components (Chemical Name)	CAS #	OSHA PEL	ACGIH TLV	Other Limits
1. Transcription Factor Developing Solution	NA	No data.	No data.	No data.
Hazardous Components (Chemical Name)	CAS #	Britain EH40	France VL	
1. Transcription Factor Developing Solution	NA	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
Engineering Controls (Ventilation etc.):	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
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.

Transcription Factor Developing Solution

Revision: 06/13/2012

Supercedes Revision: 01/13/2011

9. Physical and Chemical Properties

Information on Basic Physical and Chemical Properties

Physical States: Gas Liquid Solid
Appearance and Odor: No data available.
Boiling Point: No data.
Melting Point: No data.
Autoignition Pt: No data.
Flash Pt: No data.
Specific Gravity (Water = 1): No data.
Vapor Pressure (vs. Air or mm Hg): No data.
Vapor Density (vs. Air = 1): No data.
Evaporation Rate: No data.
Solubility in Water: No data.
Other Information
Percent Volatile: No data.

10. Stability and Reactivity

Stability: Unstable Stable
Stability Note(s): Stable if stored in accordance with information listed on the product insert.
Conditions To Avoid: No data available.
Polymerization: Will occur Will not occur
Incompatibility - Materials To Avoid: strong oxidizing agents
Hazardous Decomposition Or Byproducts: carbon dioxide
 carbon monoxide
 nitrogen oxides

11. Toxicological Information

Toxicological Information: 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 Developing Solution	NA	n.a.	n.a.	n.a.	n.a.

12. Ecological Information

General Ecological Information: Avoid release into the environment.
 Runoff from fire control or dilution water may cause pollution.

13. Disposal Considerations

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

14. Transport Information

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name Not dangerous goods.

LAND TRANSPORT (European ADR/RID)

ADR/RID Shipping Name Not dangerous goods.

AIR TRANSPORT (ICAO/IATA)

**Transcription Factor Developing Solution**

Revision: 06/13/2012

Supercedes Revision: 01/13/2011

ICAO/IATA Shipping Name Not dangerous goods.**Additional Transport Information:** Transport in accordance with local, state, and federal regulations.**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 Developing Solution	NA	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 Developing Solution	NA	No	No	No	No

Regulatory Information Statement: This SDS was prepared in accordance with 29 CFR 1910.1200, Regulation (EC) No.1272/2008, and European Directive 67/548/EEC as amended.

16. Other Information**Company Policy or Disclaimer**

For research use only, not for human or veterinary use.

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

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



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

Product Code: 10006889
Product Name: Transcription Factor Stop Solution
Intended Use: For research use only, not for human or veterinary use.

Manufacturer Information

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

2. Hazards Identification

GHS Classification	Placard	Key word	GHS Hazard
Skin Corrosion/Irritation, Category 1A	Corrosive	Danger	Causes severe skin burns and eye damage

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/clothing and eye/face protection as specified by the manufacturer/supplier or the competent authority.

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 or doctor/physician.

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

Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection

Potential Health Effects (Acute and Chronic): 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.

Target Organs: Eyes, Lungs, Teeth, Respiratory system, Skin.

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

Signs and Symptoms Of Exposure: 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.
 To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

Medical Conditions Generally Aggravated By No data available.

Exposure:

3. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	EC#	Risk Phrases	RTECS #
1. Sulfuric acid	7664-93-9	0.0 -5.0 %	231-639-5	R35	WS5600000
2. Water	7732-18-5	95.0 -100.0 %	231-791-2	No phrases apply.	ZC0110000

4. First Aid Measures

Emergency and First Aid Procedures:

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: 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.

5. Fire Fighting Measures

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

Unsuitable Extinguishing Media: DO NOT USE WATER.

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.

Hazardous Combustion Products: No data available.

Flash Pt: No data.

Autoignition Pt: No data available.

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

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.

6. Accidental Release Measures

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).

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

Steps To Be Taken In Case Material Is Released Or Spilled: Contain spill and collect, as appropriate. Transfer to a chemical waste container for disposal in accordance with local regulations.

7. Handling and Storage

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

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.

8. Exposure Controls/Personal Protection

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

Protective Equipment Summary - Hazard Label Information:	Compatible chemical-resistant gloves glasses Safety shower in work area Vent Hood	Eye wash station in work area Lab coat Safety
Engineering Controls (Ventilation etc.):	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.	
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.	

9. Physical and Chemical Properties

Information on Basic Physical and Chemical Properties

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

10. Stability and Reactivity

Stability:	Unstable <input type="checkbox"/> Stable <input checked="" type="checkbox"/>
Stability Note(s):	Stable if stored in accordance with information listed on the product insert.
Conditions To Avoid:	heat
Polymerization:	Will occur <input type="checkbox"/> Will not occur <input checked="" type="checkbox"/>
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

Hazardous Decomposition Or Byproducts: carbon dioxide
 hydrogen cyanide
 hydrogen sulfide

11. Toxicological Information

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

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

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

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

Hazardous Components (Chemical Name)	CAS #	NTP	IARC	ACGIH	OSHA
1. Sulfuric acid	7664-93-9	Known	Unknown	A2	n.a.
2. Water	7732-18-5	n.a.	n.a.	n.a.	n.a.

12. Ecological Information

General Ecological Information: Avoid release into the environment. Runoff from fire control or dilution water may cause pollution.

13. Disposal Considerations

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

14. Transport Information

Globally Harmonized System of Classification and Labelling

Skin Corrosion/Irritation, Category 1A - Danger! Causes severe skin burns and eye damage

LAND TRANSPORT (US DOT)

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

LAND TRANSPORT (European ADR/RID)

ADR/RID Shipping Name Sulfuric acid [with 51% or less acid]
UN Number: 2796



SAFETY DATA SHEET

Transcription Factor Stop Solution

Hazard Class:	8 - CORROSIVE
Packing Group:	II
AIR TRANSPORT (ICAO/IATA)	
ICAO/IATA Shipping Name	Sulfuric acid [with 51% or less acid]
UN Number:	2796
Hazard Class:	8 - CORROSIVE
Packing Group:	II
IATA Classification:	8
Additional Transport Information:	Transport in accordance with local, state, and federal regulations.

15. Regulatory Information

European Community Hazard Symbol codes Xi: Irritant

European Community Risk and Safety Phrases

- R36/38 - Irritating to eyes and skin.
- 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.
- S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label whenever possible.)

US EPA SARA Title III

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Sulfuric acid	7664-93-9	Yes 1000 LB	Yes 1000 LB	Yes	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. Sulfuric acid	7664-93-9	No	No	Inventory	No
2. Water	7732-18-5	No	No	Inventory	No

Regulatory Information Statement: This SDS was prepared in accordance with 29 CFR 1910.1200, Regulation (EC) No.1272/2008, and European Directive 67/548/EEC as amended.

16. Other Information

Company Policy or Disclaimer

For research use only, not for human or veterinary use.

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



SAFETY DATA SHEET

Transcription Factor Reagent A

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

Revision: 06/13/2012
Supersedes Revision: 01/13/2011

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

Product Code: 10007472

Product Name: Transcription Factor Reagent A

Intended Use: For research use only, not for human or veterinary use.

Manufacturer Information

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

2. Hazards Identification

GHS Hazard Phrases: No data available.

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.

Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection

Potential Health Effects (Acute and Chronic): 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.

Target Organs: No data available.

Signs and Symptoms Of Exposure: To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

Medical Conditions Generally Aggravated By Exposure: No data available.

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

4. First Aid Measures

Emergency and First Aid Procedures:

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.

5. Fire Fighting Measures

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.
Flammable Properties and Hazards:	No data available.
Hazardous Combustion Products:	No data available.
Flash Pt:	No data.
Autoignition Pt:	No data available.
Explosive Limits:	LEL: No data. UEL: No data.
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.

6. Accidental Release Measures

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).
Environmental Precautions:	Take steps to avoid release into the environment, if safe to do so.
Steps To Be Taken In Case Material Is Released Or Spilled:	Contain spill and collect, as appropriate. Transfer to a chemical waste container for disposal in accordance with local regulations.

7. Handling and Storage

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

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	
1. Transcription Factor Reagent A	NA	No data.	No data.	
2. Water	7732-18-5	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
Engineering Controls (Ventilation etc.):	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
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.

9. Physical and Chemical Properties

Information on Basic Physical and Chemical Properties

Physical States: Gas Liquid Solid
Appearance and Odor: No data available.
Boiling Point: No data.
Melting Point: No data.
Autoignition Pt: No data.
Flash Pt: No data.
Specific Gravity (Water = 1): No data.
Vapor Pressure (vs. Air or mm Hg): No data.
Vapor Density (vs. Air = 1): No data.
Evaporation Rate: No data.
Solubility in Water: No data.
Other Information
Percent Volatile: No data.

10. Stability and Reactivity

Stability: Unstable Stable
Stability Note(s): Stable if stored in accordance with information listed on the product insert.
Conditions To Avoid: No data available.
Polymerization: Will occur Will not occur
Incompatibility - Materials To Avoid: No data available.
Hazardous Decomposition Or Byproducts: No data available.

11. Toxicological Information

Toxicological Information: 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.

12. Ecological Information

General Ecological Information: Avoid release into the environment.
 Runoff from fire control or dilution water may cause pollution.

13. Disposal Considerations

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

14. Transport Information

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name Not dangerous goods.

LAND TRANSPORT (European ADR/RID)

ADR/RID Shipping Name Not dangerous goods.

AIR TRANSPORT (ICAO/IATA)

ICAO/IATA Shipping Name Not dangerous goods.



SAFETY DATA SHEET

Transcription Factor Reagent A

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

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 29 CFR 1910.1200, Regulation (EC) No.1272/2008, and European Directive 67/548/EEC as amended.

16. Other Information

Company Policy or Disclaimer

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



TF CREB (Phospho-Ser133) Competitor dsDNA

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

Revision: 06/13/2012

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

Product Code: 10009488

Product Name: TF CREB (Phospho-Ser133) Competitor dsDNA

Intended Use: For research use only, not for human or veterinary use.

Manufacturer Information

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

2. Hazards Identification

GHS Hazard Phrases: No data available.

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.

Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection

Potential Health Effects (Acute and Chronic): 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.

Target Organs: No data available.

Signs and Symptoms Of Exposure: To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

Medical Conditions Generally Aggravated By Exposure: No data available.

3. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	EC#	Risk Phrases	RTECS #
1. TF CREB (Phospho-Ser133) Competitor dsDNA	NA	0.0 -5.0 %	NA	No phrases apply.	NA
2. Sodium chloride	7647-14-5	0.0 -1.0 %	231-598-3	No phrases apply.	VZ4725000
3. Sodium citrate	6132-04-3	0.0 -1.0 %	NA	No phrases apply.	NA
4. Water	7732-18-5	93.0 -100.0 %	231-791-2	No phrases apply.	ZC0110000

4. First Aid Measures

Emergency and First Aid Procedures:

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.

TF CREB (Phospho-Ser133) Competitor dsDNA

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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.

5. Fire Fighting Measures

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.

Flammable Properties and Hazards: No data available.

Hazardous Combustion Products: No data available.

Flash Pt: No data.

Autoignition Pt: No data available.

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

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.

6. Accidental Release Measures

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).

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

Steps To Be Taken In Case Material Is Released Or Spilled: Contain spill and collect, as appropriate.
Transfer to a chemical waste container for disposal in accordance with local regulations.

7. Handling and Storage

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

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.

8. Exposure Controls/Personal Protection

Hazardous Components (Chemical Name)	CAS #	OSHA PEL	ACGIH TLV	Other Limits
1. TF CREB (Phospho-Ser133) Competitor dsDNA	NA	No data.	No data.	No data.
2. Sodium chloride	7647-14-5	No data.	No data.	No data.
3. Sodium citrate	6132-04-3	No data.	No data.	No data.
4. Water	7732-18-5	No data.	No data.	No data.
Hazardous Components (Chemical Name)	CAS #	Britain EH40	France VL	
1. TF CREB (Phospho-Ser133) Competitor dsDNA	NA	No data.	No data.	
2. Sodium chloride	7647-14-5	No data.	No data.	
3. Sodium citrate	6132-04-3	No data.	No data.	
4. Water	7732-18-5	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

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

TF CREB (Phospho-Ser133) Competitor dsDNA

Revision: 06/13/2012

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.

9. Physical and Chemical Properties

Information on Basic Physical and Chemical Properties

Physical States: Gas Liquid Solid
Appearance and Odor: No data available.
Boiling Point: No data.
Melting Point: No data.
Autoignition Pt: No data.
Flash Pt: No data.
Specific Gravity (Water = 1): No data.
Vapor Pressure (vs. Air or mm Hg): No data.
Vapor Density (vs. Air = 1): No data.
Evaporation Rate: No data.
Solubility in Water: No data.
Other Information
Percent Volatile: No data.

10. Stability and Reactivity

Stability: Unstable Stable
Stability Note(s): Stable if stored in accordance with information listed on the product insert.
Conditions To Avoid: No data available.
Polymerization: Will occur Will not occur
Incompatibility - Materials To Avoid: No data available.
Hazardous Decomposition Or Byproducts: No data available.

11. Toxicological Information

Toxicological Information: 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. TF CREB (Phospho-Ser133) Competitor dsDNA	NA	n.a.	n.a.	n.a.	n.a.
2. Sodium chloride	7647-14-5	n.a.	n.a.	n.a.	n.a.
3. Sodium citrate	6132-04-3	n.a.	n.a.	n.a.	n.a.
4. Water	7732-18-5	n.a.	n.a.	n.a.	n.a.

12. Ecological Information

General Ecological Information: Avoid release into the environment.
 Runoff from fire control or dilution water may cause pollution.

**13. Disposal Considerations****Waste Disposal Method:** Dispose in accordance with local, state, and federal regulations.**14. Transport Information****LAND TRANSPORT (US DOT)****DOT Proper Shipping Name** Not dangerous goods.**LAND TRANSPORT (European ADR/RID)****ADR/RID Shipping Name** Not dangerous goods.**AIR TRANSPORT (ICAO/IATA)****ICAO/IATA Shipping Name** Not dangerous goods.**Additional Transport Information:** Transport in accordance with local, state, and federal regulations.**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. TF CREB (Phospho-Ser133) Competitor dsDNA	NA	No	No	No	No
2. Sodium chloride	7647-14-5	No	No	No	No
3. Sodium citrate	6132-04-3	No	No	No	No
4. 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. TF CREB (Phospho-Ser133) Competitor dsDNA	NA	No	No	No	No
2. Sodium chloride	7647-14-5	No	No	Inventory	No
3. Sodium citrate	6132-04-3	No	No	No	No
4. Water	7732-18-5	No	No	Inventory	No

Regulatory Information Statement: This SDS was prepared in accordance with 29 CFR 1910.1200, Regulation (EC) No.1272/2008, and European Directive 67/548/EEC as amended.**16. Other Information****Company Policy or Disclaimer**

For research use only, not for human or veterinary use.

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

Product Information



TF CREB (Phospho-Ser133) 96-Well Strip Plate Item No. 10009489

COMMENTS:

Each plate is coated with dsDNA consensus sequence specific for CREB. This Material Safety Data Sheet (MSDS) is for the dsDNA only. An MSDS 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.

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Revision Date: 06/13/2012

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TF CREB (Phospho-Ser133) Primary Antibody

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

Revision: 06/13/2012

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

Product Code: 10009848

Product Name: TF CREB (Phospho-Ser133) Primary Antibody

Intended Use: For research use only, not for human or veterinary use.

Manufacturer Information

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

2. Hazards Identification

GHS Hazard Phrases: No data available.

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.

Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection

Potential Health Effects (Acute and Chronic): 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.

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

Signs and Symptoms Of Exposure: Prolonged exposure may cause nausea, headache, and vomiting.
To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

Medical Conditions Generally Aggravated By Exposure: No data available.

3. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	EC#	Risk Phrases	RTECS #
1. TF CREB (Phospho-Ser133) Primary Antibody	NA	5.0 -20.0 %	NA	No phrases apply.	NA
2. Glycerol	56-81-5	35.0 -55.0 %	200-289-5	No phrases apply.	MA8050000
3. Bovine Serum Albumin (BSA)	9048-46-8	1.0 -5.0 %	232-936-2	No phrases apply.	MT6446000
4. Trizma base	77-86-1	1.0 -5.0 %	201-064-4	R36/37/38	TY2900000
5. Sodium chloride	7647-14-5	1.0 -5.0 %	231-598-3	No phrases apply.	VZ4725000
6. HEPES, free acid	7365-45-9	0.0 -1.0 %	230-907-9	R43-36/37/38	TL6809000
7. Water	7732-18-5	9.0 -57.0 %	231-791-2	No phrases apply.	ZC0110000

4. First Aid Measures

Emergency and First Aid Procedures:

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.

TF CREB (Phospho-Ser133) Primary Antibody

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.

5. Fire Fighting Measures

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.
Flammable Properties and Hazards:	Emits toxic fumes under fire conditions.
Hazardous Combustion Products:	No data available.
Flash Pt:	No data.
Autoignition Pt:	No data available.
Explosive Limits:	LEL: No data. UEL: No data.
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.

6. Accidental Release Measures

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).
Environmental Precautions:	Take steps to avoid release into the environment, if safe to do so.
Steps To Be Taken In Case Material Is Released Or Spilled:	Contain spill and collect, as appropriate. Transfer to a chemical waste container for disposal in accordance with local regulations.

7. Handling and Storage

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

8. Exposure Controls/Personal Protection

Hazardous Components (Chemical Name)	CAS #	OSHA PEL	ACGIH TLV	Other Limits
1. TF CREB (Phospho-Ser133) Primary Antibody	NA	No data.	No data.	No data.
2. Glycerol	56-81-5	15 (dust); 5 (resp.) mg/m3	10 mg/m3	No data.
3. Bovine Serum Albumin (BSA)	9048-46-8	No data.	No data.	No data.
4. Trizma base	77-86-1	No data.	No data.	No data.
5. Sodium chloride	7647-14-5	No data.	No data.	No data.
6. HEPES, free acid	7365-45-9	No data.	No data.	No data.
7. Water	7732-18-5	No data.	No data.	No data.
Hazardous Components (Chemical Name)	CAS #	Britain EH40	France VL	
1. TF CREB (Phospho-Ser133) Primary Antibody	NA	No data.	No data.	
2. Glycerol	56-81-5	TWA: 10 mg/m3 () STEL: ()	TWA: 10 mg/m3	
3. Bovine Serum Albumin (BSA)	9048-46-8	No data.	No data.	
4. Trizma base	77-86-1	No data.	No data.	

TF CREB (Phospho-Ser133) Primary Antibody

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Hazardous Components (Chemical Name)	CAS #	Britain EH40	France VL
5. Sodium chloride	7647-14-5	No data.	No data.
6. HEPES, free acid	7365-45-9	No data.	No data.
7. Water	7732-18-5	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
Engineering Controls (Ventilation etc.):	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
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.

9. Physical and Chemical Properties

Information on Basic Physical and Chemical Properties

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

10. Stability and Reactivity

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

TF CREB (Phospho-Ser133) Primary Antibody

11. Toxicological Information

Toxicological Information: 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. TF CREB (Phospho-Ser133) Primary Antibody	NA	n.a.	n.a.	n.a.	n.a.
2. Glycerol	56-81-5	n.a.	n.a.	n.a.	n.a.
3. Bovine Serum Albumin (BSA)	9048-46-8	n.a.	n.a.	n.a.	n.a.
4. Trizma base	77-86-1	n.a.	n.a.	n.a.	n.a.
5. Sodium chloride	7647-14-5	n.a.	n.a.	n.a.	n.a.
6. HEPES, free acid	7365-45-9	n.a.	n.a.	n.a.	n.a.
7. Water	7732-18-5	n.a.	n.a.	n.a.	n.a.

12. Ecological Information

General Ecological Information: Avoid release into the environment.
Runoff from fire control or dilution water may cause pollution.

13. Disposal Considerations

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

14. Transport Information

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name Not dangerous goods.

LAND TRANSPORT (European ADR/RID)

ADR/RID Shipping Name Not dangerous goods.

AIR TRANSPORT (ICAO/IATA)

ICAO/IATA Shipping Name Not dangerous goods.

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

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. TF CREB (Phospho-Ser133) Primary Antibody	NA	No	No	No	No
2. Glycerol	56-81-5	No	No	No	No
3. Bovine Serum Albumin (BSA)	9048-46-8	No	No	No	No
4. Trizma base	77-86-1	No	No	Yes-Cat. N106	No
5. Sodium chloride	7647-14-5	No	No	No	No
6. HEPES, free acid	7365-45-9	No	No	No	No
7. 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. TF CREB (Phospho-Ser133) Primary Antibody	NA	No	No	No	No
2. Glycerol	56-81-5	No	No	Inventory	No
3. Bovine Serum Albumin (BSA)	9048-46-8	No	No	Inventory	No

**TF CREB (Phospho-Ser133) Primary Antibody**

Revision: 06/13/2012

Hazardous Components (Chemical Name)	CAS #	CAA HAP,ODC	CWA NPDES	TSCA	CA PROP.65
4. Trizma base	77-86-1	HAP	No	Inventory	No
5. Sodium chloride	7647-14-5	No	No	Inventory	No
6. HEPES, free acid	7365-45-9	No	No	Inventory	No
7. Water	7732-18-5	No	No	Inventory	No

Regulatory Information Statement:

This SDS was prepared in accordance with 29 CFR 1910.1200, Regulation (EC) No.1272/2008, and European Directive 67/548/EEC as amended.

16. Other Information**Company Policy or Disclaimer**

For research use only, not for human or veterinary use.

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



TF CREB (Phospho-Ser133) Positive Control

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

Revision: 06/13/2012

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

Product Code: 10009849

Product Name: TF CREB (Phospho-Ser133) Positive Control

Intended Use: For research use only, not for human or veterinary use.

Manufacturer Information

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

2. Hazards Identification

GHS Hazard Phrases: No data available.

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.

Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection

Potential Health Effects (Acute and Chronic): 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.

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

Signs and Symptoms Of Exposure: Prolonged exposure may cause nausea, headache, and vomiting.
To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

Medical Conditions Generally Aggravated By Exposure: No data available.

3. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	EC#	Risk Phrases	RTECS #
1. TF CREB (Phospho-Ser133) Positive Control	NA	10.0 -42.0 %	NA	No phrases apply.	NA
2. Glycerol	56-81-5	1.0 -15.0 %	200-289-5	No phrases apply.	MA8050000
3. HEPES, free acid	7365-45-9	0.0 -5.0 %	230-907-9	R43-36/37/38	TL6809000
4. Sodium chloride	7647-14-5	1.0 -10.0 %	231-598-3	No phrases apply.	VZ4725000
5. Magnesium chloride, hexahydrate	7791-18-6	0.0 -1.0 %	NA	R36/37	OM2975000
6. Ethylenediamine Tetraacetic Acid	60-00-4	0.0 -1.0 %	200-449-4	R36/37/38	AH4025000
7. DL-Dithiothreitol	3483-12-3	0.0 -1.0 %	222-468-7	R22-36/37/38	EK1610000
8. AEBSF	30827-99-7	0.0 -1.0 %	608-547-2	R34	NA
9. Disodium beta-glycerophosphate	819-83-0	0.0 -5.0 %	212-464-3	R36/37/38	UA0600000
10. Dimethyl sulfoxide, anhydrous	67-68-5	0.0 -5.0 %	200-664-3	R36	PV6210000
11. Water	7732-18-5	14.0 -88.0 %	231-791-2	No phrases apply.	ZC0110000

TF CREB (Phospho-Ser133) Positive Control

4. First Aid Measures

Emergency and First Aid Procedures:

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.

5. Fire Fighting Measures

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.

Flammable Properties and Hazards: Emits toxic fumes under fire conditions.

Hazardous Combustion Products: No data available.

Flash Pt: No data.

Autoignition Pt: No data available.

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

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.

6. Accidental Release Measures

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).

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

Steps To Be Taken In Case Material Is Released Or Spilled: Contain spill and collect, as appropriate. Transfer to a chemical waste container for disposal in accordance with local regulations.

7. Handling and Storage

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

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.

8. Exposure Controls/Personal Protection

Hazardous Components (Chemical Name)	CAS #	OSHA PEL	ACGIH TLV	Other Limits
1. TF CREB (Phospho-Ser133) Positive Control	NA	No data.	No data.	No data.
2. Glycerol	56-81-5	15 (dust); 5 (resp.) mg/m3	10 mg/m3	No data.
3. HEPES, free acid	7365-45-9	No data.	No data.	No data.
4. Sodium chloride	7647-14-5	No data.	No data.	No data.
5. Magnesium chloride, hexahydrate	7791-18-6	No data.	No data.	No data.

TF CREB (Phospho-Ser133) Positive Control

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Percent Volatile: No data.

10. Stability and Reactivity

Stability: Unstable [] Stable [X]

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

Conditions To Avoid: No data available.

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

Incompatibility - Materials To Avoid: strong bases
strong oxidizing agents

Hazardous Decomposition Or Byproducts: carbon dioxide
carbon monoxide

11. Toxicological Information

Toxicological Information: 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. TF CREB (Phospho-Ser133) Positive Control	NA	n.a.	n.a.	n.a.	n.a.
2. Glycerol	56-81-5	n.a.	n.a.	n.a.	n.a.
3. HEPES, free acid	7365-45-9	n.a.	n.a.	n.a.	n.a.
4. Sodium chloride	7647-14-5	n.a.	n.a.	n.a.	n.a.
5. Magnesium chloride, hexahydrate	7791-18-6	n.a.	n.a.	n.a.	n.a.
6. Ethylenediamine Tetraacetic Acid	60-00-4	n.a.	n.a.	n.a.	n.a.
7. DL-Dithiothreitol	3483-12-3	n.a.	n.a.	n.a.	n.a.
8. AEBSF	30827-99-7	n.a.	n.a.	n.a.	n.a.
9. Disodium beta-glycerophosphate	819-83-0	n.a.	n.a.	n.a.	n.a.
10. Dimethyl sulfoxide, anhydrous	67-68-5	n.a.	n.a.	n.a.	n.a.
11. Water	7732-18-5	n.a.	n.a.	n.a.	n.a.

12. Ecological Information

General Ecological Information: Avoid release into the environment.
Runoff from fire control or dilution water may cause pollution.

13. Disposal Considerations

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

14. Transport Information

LAND TRANSPORT (US DOT)
DOT Proper Shipping Name Not dangerous goods.

LAND TRANSPORT (European ADR/RID)
ADR/RID Shipping Name Not dangerous goods.

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

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

15. Regulatory Information

European Community Hazard Symbol codes

No data available.

European Community Risk and Safety Phrases

**TF CREB (Phospho-Ser133) Positive Control**

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- 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. TF CREB (Phospho-Ser133) Positive Control	NA	No	No	No	No
2. Glycerol	56-81-5	No	No	No	No
3. HEPES, free acid	7365-45-9	No	No	No	No
4. Sodium chloride	7647-14-5	No	No	No	No
5. Magnesium chloride, hexahydrate	7791-18-6	No	No	No	No
6. Ethylenediamine Tetraacetic Acid	60-00-4	No	Yes 5000 LB	No	No
7. DL-Dithiothreitol	3483-12-3	No	No	No	No
8. AEBSF	30827-99-7	No	No	No	No
9. Disodium beta-glycerophosphate	819-83-0	No	No	No	No
10. Dimethyl sulfoxide, anhydrous	67-68-5	No	No	No	No
11. 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. TF CREB (Phospho-Ser133) Positive Control	NA	No	No	No	No
2. Glycerol	56-81-5	No	No	Inventory	No
3. HEPES, free acid	7365-45-9	No	No	Inventory	No
4. Sodium chloride	7647-14-5	No	No	Inventory	No
5. Magnesium chloride, hexahydrate	7791-18-6	No	No	No	No
6. Ethylenediamine Tetraacetic Acid	60-00-4	No	No	Inventory	No
7. DL-Dithiothreitol	3483-12-3	No	No	Inventory	No
8. AEBSF	30827-99-7	No	No	No	No
9. Disodium beta-glycerophosphate	819-83-0	No	No	Inventory	No
10. Dimethyl sulfoxide, anhydrous	67-68-5	No	No	Inventory	No
11. Water	7732-18-5	No	No	Inventory	No

Regulatory Information Statement:

This SDS was prepared in accordance with 29 CFR 1910.1200, Regulation (EC) No.1272/2008, and European Directive 67/548/EEC as amended.

16. Other Information**Company Policy or Disclaimer**

For research use only, not for human or veterinary use.

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