

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

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

- 1.1 Product Code:** 400035  
**Product Name:** Polysorbate 20  
**Synonyms:** Tween 20™;
- 1.2 Relevant identified uses of the substance or mixture and uses advised against:**  
**Relevant identified uses:** For research use only, not for human or veterinary use.
- 1.3 Details of the Supplier of the Safety Data Sheet:**  
**Company Name:** Cayman Chemical Company  
 1180 E. Ellsworth Rd.  
 Ann Arbor, MI 48108  
**Web site address:** www.caymanchem.com  
**Information:** Cayman Chemical Company +1 (734)971-3335
- 1.4 Emergency telephone number:**  
**Emergency Contact:** CHEMTREC Within USA and Canada: +1 (800)424-9300  
 CHEMTREC Outside USA and Canada: +1 (703)527-3887

**Section 2. Hazards Identification**

- 2.1 Classification of the Substance or Mixture:**  
**2.1.1 Classification according to Regulation (EC) No 1272/2008 [CLP]:**  
 Serious Eye Damage/Eye Irritation, Category 2A  
 Skin Sensitization, Category 1  
**2.1.2 Classification according to Directive 1999/45/EC:**  
 Xi: Irritant  
 Risk Phrases: R36, R43  
 For full text of R- phrases: see SECTION 15.
- 2.2 Label Elements:**  
**2.2.1 Labeling according to Regulation (EC) No 1272/2008 [CLP]:**



**GHS Signal Word:** Warning

**GHS Hazard Phrases:**

H319: Causes serious eye irritation.  
 H317: May cause an allergic skin reaction.

**GHS Precaution Phrases:**

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

**GHS Response Phrases:**

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

**GHS Storage and Disposal Phrases:**

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

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



**Xi**

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

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

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

**Section 4. First Aid Measures**

**4.1 Description of First Aid Measures:**

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

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

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

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

**Section 5. Fire Fighting Measures**

**5.1 Suitable Extinguishing Media:** Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.  
**Media:** Use water spray to cool fire-exposed containers.  
**Unsuitable Extinguishing Media:** A solid water stream may be inefficient.

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

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

### Section 6. Accidental Release Measures

- 6.1 Protective Precautions, Protective Equipment and Emergency Procedures:** Avoid raising and breathing dust, and provide adequate ventilation. As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).
- 6.2 Environmental Precautions:** Take steps to avoid release into the environment, if safe to do so.
- 6.3 Methods and Material For Containment and Cleaning Up:** Contain spill and collect, as appropriate. Transfer to a chemical waste container for disposal in accordance with local regulations.

### Section 7. Handling and Storage

- 7.1 Precautions To Be Taken in Handling:** Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid prolonged or repeated exposure.
- 7.2 Precautions To Be Taken in Storing:** Keep container tightly closed. Store in accordance with information listed on the product insert.

### Section 8. Exposure Controls/Personal Protection

**8.1 Exposure Parameters:**

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

**8.2 Exposure Controls:**

- 8.2.1 Engineering Controls (Ventilation etc.):** Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
- 8.2.2 Personal protection equipment:**
- Eye Protection:** Safety glasses
- Protective Gloves:** Compatible chemical-resistant gloves
- Other Protective Clothing:** Lab coat
- Respiratory Equipment (Specify Type):** NIOSH approved respirator, as conditions warrant.
- Work/Hygienic/Maintenance Practices:** Do not take internally. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Wash thoroughly after handling.



**Section 13. Disposal Considerations**

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

**Section 14. Transport Information**

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

**DOT Proper Shipping Name:** Not dangerous goods.  
**DOT Hazard Class:**  
**UN/NA Number:**

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

**ADR/RID Shipping Name:** Not dangerous goods.  
**UN Number:**  
**Hazard Class:**

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

**ICAO/IATA Shipping Name:** Not dangerous goods.

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

**Section 15. Regulatory Information**

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

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

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

**European Community Hazard Symbol codes:**



**Xi**

**European Community Risk and Safety Phrases:**

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

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

**Section 16. Other Information**

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

**Additional Information About** No data available.

**This Product:**

**Company Policy or**

**Disclaimer:**

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

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

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

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

- 1.1 Product Code:** 400055  
**Product Name:** Non-fat Dry Milk Assay Reagent
- 1.2 Relevant identified uses of the substance or mixture and uses advised against:**  
**Relevant identified uses:** For research use only, not for human or veterinary use.
- 1.3 Details of the Supplier of the Safety Data Sheet:**  
**Company Name:** Cayman Chemical Company  
 1180 E. Ellsworth Rd.  
 Ann Arbor, MI 48108  
**Web site address:** www.caymanchem.com  
**Information:** Cayman Chemical Company +1 (734)971-3335
- 1.4 Emergency telephone number:**  
**Emergency Contact:** CHEMTREC Within USA and Canada: +1 (800)424-9300  
 CHEMTREC Outside USA and Canada: +1 (703)527-3887

### Section 2. Hazards Identification

- 2.1 Classification of the Substance or Mixture:**  
**2.1.1 Classification according to Regulation (EC) No 1272/2008 [CLP]:**  
**2.1.2 Classification according to Directive 1999/45/EC:**  
**Risk Phrases:**  
 For full text of R- phrases: see SECTION 15.
- 2.2 Label Elements:**  
**2.2.1 Labeling according to Regulation (EC) No 1272/2008 [CLP]:**  
**GHS Signal Word:**  
**GHS Hazard Phrases:**  
 Based on evaluation of currently available data this substance or mixture is not classifiable according to GHS.  
**GHS Precaution Phrases:**  
 No phrases apply.  
**GHS Response Phrases:**  
 No phrases apply.  
**GHS Storage and Disposal Phrases:**  
 Please refer to Section 7 for Storage and Section 13 for Disposal information.
- 2.2.2 Labeling according to Directive 1999/45/EC:**
- 2.3 Adverse Human Health** Material may be irritating to the mucous membranes and upper respiratory tract.  
**Effects and Symptoms:** May be harmful by inhalation, ingestion, or skin absorption.  
 May cause eye, skin, or respiratory system irritation.  
 To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

### Section 3. Composition/Information on Ingredients

CAS # / RTECS #	Hazardous Components (Chemical Name)/ REACH Registration No.	Concentration	EC No./ EC Index No.	Risk Phrases/ GHS Classification
NA	Non-fat Dry Milk	100.0 %	NA	No phrases apply.
NA			NA	No data available.

### Section 4. First Aid Measures

- 4.1 Description of First Aid** No data available.
- Measures:**
- In Case of Inhalation:** Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
- In Case of Skin Contact:** Immediately wash skin with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.
- In Case of Eye Contact:** Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined and tested by medical personnel.
- In Case of Ingestion:** Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.

### Section 5. Fire Fighting Measures

- 5.1 Suitable Extinguishing Media:** Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.  
Use water spray to cool fire-exposed containers.
- Unsuitable Extinguishing Media:** A solid water stream may be inefficient.
- 5.2 Flammable Properties and Hazards:** No data available.
- Flash Pt:** No data.
- Explosive Limits:** LEL: No data. UEL: No data.
- Autoignition Pt:** No data.
- 5.3 Fire Fighting Instructions:** As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.

### Section 6. Accidental Release Measures

- 6.1 Protective Precautions, Protective Equipment and Emergency Procedures:** Avoid raising and breathing dust, and provide adequate ventilation. As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).
- 6.2 Environmental Precautions:** Take steps to avoid release into the environment, if safe to do so.
- 6.3 Methods and Material For Containment and Cleaning Up:** Contain spill and collect, as appropriate. Transfer to a chemical waste container for disposal in accordance with local regulations.

### Section 7. Handling and Storage

- 7.1 Precautions To Be Taken in Handling:** Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid prolonged or repeated exposure.
- 7.2 Precautions To Be Taken in Storing:** Keep container tightly closed. Store in accordance with information listed on the product insert.

### Section 8. Exposure Controls/Personal Protection

**8.1 Exposure Parameters:**

CAS #	Partial Chemical Name	Britain EH40	France VL	Europe
NA	Non-fat Dry Milk	No data.	No data.	No data.



CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
NA	Non-fat Dry Milk	No data.	No data.	No data.

### 8.2 Exposure Controls:

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

**8.2.2 Personal protection equipment:**

**Eye Protection:** Safety glasses

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

**Other Protective Clothing:** Lab coat

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

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

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

Wash thoroughly after handling.

## Section 9. Physical and Chemical Properties

### 9.1 Information on Basic Physical and Chemical Properties

**Physical States:**  Gas  Liquid  Solid

**Appearance and Odor:** A powder

**Melting Point:** No data.

**Boiling Point:** No data.

**Flash Pt:** No data.

**Evaporation Rate:** No data.

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

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

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

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

**Solubility in Water:** No data.

**Autoignition Pt:** No data.

### 9.2 Other Information

**Percent Volatile:** No data.

## Section 10. Stability and Reactivity

**10.1 Reactivity:** No data available.

**10.2 Stability:** Unstable  Stable

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

**Polymerization:** Will occur  Will not occur

**10.4 Conditions To Avoid:** No data available.

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

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

### Section 11. Toxicological Information

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

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

### Section 12. Ecological Information

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

### Section 13. Disposal Considerations

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

### Section 14. Transport Information

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

**DOT Proper Shipping Name:** Not dangerous goods.

**DOT Hazard Class:**

**UN/NA Number:**

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

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

**UN Number:**

**Hazard Class:**

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

**ICAO/IATA Shipping Name:** Not dangerous goods.

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

### Section 15. Regulatory Information

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

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
NA	Non-fat Dry Milk	No	No	No

CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists
NA	Non-fat Dry Milk	CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No

**European Community Hazard Symbol codes:**

**European Community Risk and Safety Phrases:**

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

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

### Section 16. Other Information

**Revision Date:** 05/21/2014

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

**This Product:**

**Company Policy or Disclaimer:** DISCLAIMER: This information is believed to be accurate and represents the best

**Disclaimer:**

information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.

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

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

- 1.1 Product Code:** 400060  
**Product Name:** EIA Buffer Concentrate (10X)
- 1.2 Relevant identified uses of the substance or mixture and uses advised against:**  
**Relevant identified uses:** For research use only, not for human or veterinary use.
- 1.3 Details of the Supplier of the Safety Data Sheet:**  
**Company Name:** Cayman Chemical Company  
 1180 E. Ellsworth Rd.  
 Ann Arbor, MI 48108  
**Web site address:** www.caymanchem.com  
**Information:** Cayman Chemical Company +1 (734)971-3335
- 1.4 Emergency telephone number:**  
**Emergency Contact:** CHEMTREC Within USA and Canada: +1 (800)424-9300  
 CHEMTREC Outside USA and Canada: +1 (703)527-3887

### Section 2. Hazards Identification

- 2.1 Classification of the Substance or Mixture:**
- 2.1.1 Classification according to Regulation (EC) No 1272/2008 [CLP]:**  
**Acute Toxicity: Oral, Category 4**  
**Acute Toxicity: Skin, Category 5**  
**Skin Corrosion/Irritation, Category 3**  
**Serious Eye Damage/Eye Irritation, Category 1**
- 2.1.2 Classification according to Directive 1999/45/EC:**  
**Xn: Harmful**  
**Risk Phrases: R22, R36**  
**For full text of R- phrases: see SECTION 15.**
- 2.2 Label Elements:**
- 2.2.1 Labeling according to Regulation (EC) No 1272/2008 [CLP]:**



**GHS Signal Word:** **Danger**

**GHS Hazard Phrases:**

H302: Harmful if swallowed.  
 H313: May be harmful in contact with skin.  
 H316: Causes mild skin irritation.  
 H318: Causes serious eye damage.

**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.

**GHS Response Phrases:**

P301+312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.  
 P330: Rinse mouth.  
 P312: Call a POISON CENTER or doctor/physician if you feel unwell.  
 P332+313: If skin irritation occurs, get medical advice/attention.  
 P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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

**GHS Storage and Disposal Phrases:**

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

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



**Xn**

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

**Effects and Symptoms:** Causes serious eye damage.

Harmful if swallowed.

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

May be harmful by inhalation or skin absorption.

May cause respiratory system irritation.

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

### Section 3. Composition/Information on Ingredients

CAS # / RTECS #	Hazardous Components (Chemical Name)/ REACH Registration No.	Concentration	EC No./ EC Index No.	Risk Phrases/ GHS Classification
7758-11-4 TC5580000	Potassium phosphate, dibasic	13.3 %	231-834-5 NA	R41 No data available.
7778-77-0 TC6615500	Potassium phosphate, Monobasic	3.21 %	231-913-4 NA	No phrases apply. No data available.
26628-22-8 VY8050000	Sodium azide	0.1 %	247-852-1 011-004-00-7	T+;N; R28-32-50/53 Acute Tox.(O) 2: H300 Acute Tox.(D) 1: H310 TOST (RE) 2: H373 Aquatic (C) 1: H410
7647-14-5 VZ4725000	Sodium chloride	23.4 %	231-598-3 NA	Xi; R36 Eye Damage 2A: H319
194491-31-1 NA	EDTA, tetrasodium salt, hydrate	0.38 %	NA NA	Xn; R22-41 Acute Tox.(O) 4: H302 Eye Damage 1: H318
9048-46-8 MT6446000	Bovine Serum Albumin (BSA)	1.0 %	232-936-2 NA	Xn; R22 Acute Tox.(O) 4: H302
7732-18-5 ZC0110000	Water	58.61 %	231-791-2 NA	No phrases apply. No data available.

### Section 4. First Aid Measures

- 4.1 Description of First Aid** No data available.
- Measures:**
- In Case of Inhalation:** Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
- In Case of Skin Contact:** Immediately wash skin with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.
- In Case of Eye Contact:** Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined and tested by medical personnel.
- In Case of Ingestion:** Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.
- 4.2 Important Symptoms and Effects, Both Acute and Delayed:** Exposure may cause: abdominal pain, congestion in internal organs, dehydration, diarrhea, gastrointestinal disturbances, lowered blood pressure, nausea, and vomiting.

### Section 5. Fire Fighting Measures

- 5.1 Suitable Extinguishing Media:** Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.
- Unsuitable Extinguishing Media:** A solid water stream may be inefficient.
- 5.2 Flammable Properties and Hazards:** No data available.
- Flash Pt:** No data.
- Explosive Limits:** LEL: No data. UEL: No data.
- Autoignition Pt:** No data.
- 5.3 Fire Fighting Instructions:** As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.

### Section 6. Accidental Release Measures

- 6.1 Protective Precautions, Protective Equipment and Emergency Procedures:** Avoid breathing vapors and provide adequate ventilation. As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).
- 6.2 Environmental Precautions:** Take steps to avoid release into the environment, if safe to do so.
- 6.3 Methods and Material For Containment and Cleaning Up:** Contain spill and collect, as appropriate. Transfer to a chemical waste container for disposal in accordance with local regulations.

### Section 7. Handling and Storage

- 7.1 Precautions To Be Taken in Handling:** Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid prolonged or repeated exposure.
- 7.2 Precautions To Be Taken in Storing:** Keep container tightly closed. Store in accordance with information listed on the product insert.

**Section 8. Exposure Controls/Personal Protection**

**8.1 Exposure Parameters:**

CAS #	Partial Chemical Name	Britain EH40	France VL	Europe
7758-11-4	Potassium phosphate, dibasic	No data.	No data.	No data.
7778-77-0	Potassium phosphate, Monobasic	No data.	No data.	No data.
26628-22-8	Sodium azide	TWA: 0.1 mg/m3 ( STEL: 0.3 mg/m3 (	TWA: 0.1 mg/m3 STEL: 0.3 mg/m3	TWA: 0.1 mg/m3 STEL: 0.3 mg/m3
7647-14-5	Sodium chloride	No data.	No data.	No data.
194491-31-1	EDTA, tetrasodium salt, hydrate	No data.	No data.	No data.
9048-46-8	Bovine Serum Albumin (BSA)	No data.	No data.	No data.
7732-18-5	Water	No data.	No data.	No data.

CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
7758-11-4	Potassium phosphate, dibasic	No data.	No data.	No data.
7778-77-0	Potassium phosphate, Monobasic	No data.	No data.	No data.
26628-22-8	Sodium azide	No data.	CEIL: 0.29 mg/m3	No data.
7647-14-5	Sodium chloride	No data.	No data.	No data.
194491-31-1	EDTA, tetrasodium salt, hydrate	No data.	No data.	No data.
9048-46-8	Bovine Serum Albumin (BSA)	No data.	No data.	No data.
7732-18-5	Water	No data.	No data.	No data.

**8.2 Exposure Controls:**

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

**8.2.2 Personal protection equipment:**

**Eye Protection:** Safety glasses

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

**Other Protective Clothing:** Lab coat

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

**Work/Hygienic/Maintenance Practices:**

Do not take internally.

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

Wash thoroughly after handling.







# SAFETY DATA SHEET

## EIA Buffer Concentrate (10X)

### Section 12. Ecological Information

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

### Section 13. Disposal Considerations

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

### Section 14. Transport Information

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

**DOT Proper Shipping Name:** Not dangerous goods.

**DOT Hazard Class:**

**UN/NA Number:**

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

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

**UN Number:**

**Hazard Class:**

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

**ICAO/IATA Shipping Name:** Not dangerous goods.

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

### Section 15. Regulatory Information

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

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
7758-11-4	Potassium phosphate, dibasic	No	No	No
7778-77-0	Potassium phosphate, Monobasic	No	No	No
26628-22-8	Sodium azide	Yes 500 LB	Yes 1000 LB	Yes
7647-14-5	Sodium chloride	No	No	No
194491-31-1	EDTA, tetrasodium salt, hydrate	No	No	No
9048-46-8	Bovine Serum Albumin (BSA)	No	No	No
7732-18-5	Water	No	No	No

CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists
7758-11-4	Potassium phosphate, dibasic	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No
7778-77-0	Potassium phosphate, Monobasic	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No
26628-22-8	Sodium azide	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No
7647-14-5	Sodium chloride	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No
194491-31-1	EDTA, tetrasodium salt, hydrate	CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No
9048-46-8	Bovine Serum Albumin (BSA)	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No
7732-18-5	Water	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA

PROP.65: No

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

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

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

### Section 16. Other Information

**Revision Date:** 04/02/2014

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

**Company Policy or Disclaimer:**

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

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

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

- 1.1 Product Code:** 400062  
**Product Name:** Wash Buffer Concentrate (400X)
- 1.2 Relevant identified uses of the substance or mixture and uses advised against:**  
**Relevant identified uses:** For research use only, not for human or veterinary use.
- 1.3 Details of the Supplier of the Safety Data Sheet:**  
**Company Name:** Cayman Chemical Company  
1180 E. Ellsworth Rd.  
Ann Arbor, MI 48108  
**Web site address:** www.caymanchem.com  
**Information:** Cayman Chemical Company +1 (734)971-3335
- 1.4 Emergency telephone number:**  
**Emergency Contact:** CHEMTREC Within USA and Canada: +1 (800)424-9300  
CHEMTREC Outside USA and Canada: +1 (703)527-3887

### Section 2. Hazards Identification

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

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

H313: May be harmful in contact with skin.

H318: Causes serious eye damage.

**GHS Precaution Phrases:**

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

**GHS Response Phrases:**

P312: Call a POISON CENTER or doctor/physician if you feel unwell.

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

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

**GHS Storage and Disposal Phrases:**

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

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


**Xi**

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

**Effects and Symptoms:** Material may be irritating to the mucous membranes and upper respiratory tract.

May be harmful by inhalation, ingestion, or skin absorption.

May cause skin or respiratory system irritation.

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

### Section 3. Composition/Information on Ingredients

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

### Section 4. First Aid Measures

**4.1 Description of First Aid Measures:**

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

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

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

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

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

### Section 5. Fire Fighting Measures

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

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

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

**Flash Pt:** No data.

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

**Autoignition Pt:** No data.

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

### Section 6. Accidental Release Measures

- 6.1 Protective Precautions, Protective Equipment and Emergency Procedures:** Avoid breathing vapors and provide adequate ventilation. As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).
- 6.2 Environmental Precautions:** Take steps to avoid release into the environment, if safe to do so.
- 6.3 Methods and Material For Containment and Cleaning Up:** Contain spill and collect, as appropriate. Transfer to a chemical waste container for disposal in accordance with local regulations.

### Section 7. Handling and Storage

- 7.1 Precautions To Be Taken in Handling:** Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid prolonged or repeated exposure.
- 7.2 Precautions To Be Taken in Storing:** Keep container tightly closed. Store in accordance with information listed on the product insert.

### Section 8. Exposure Controls/Personal Protection

**8.1 Exposure Parameters:**

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

**8.2 Exposure Controls:**

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

**8.2.2 Personal protection equipment:**

**Eye Protection:** Safety glasses

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

**Other Protective Clothing:** Lab coat

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

**Work/Hygienic/Maintenance Practices:** Do not take internally. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Wash thoroughly after handling.

**Section 9. Physical and Chemical Properties****9.1 Information on Basic Physical and Chemical Properties**

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

**9.2 Other Information**

**Percent Volatile:** No data.

**Section 10. Stability and Reactivity**

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

**Section 11. Toxicological Information**

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

**Section 12. Ecological Information**

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

**Section 13. Disposal Considerations**

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

**Section 14. Transport Information**

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

**DOT Proper Shipping Name:** Not dangerous goods.  
**DOT Hazard Class:**  
**UN/NA Number:**

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

**ADR/RID Shipping Name:** Not dangerous goods.  
**UN Number:**  
**Hazard Class:**

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

**ICAO/IATA Shipping Name:** Not dangerous goods.

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

**Section 15. Regulatory Information**

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

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

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

**European Community Hazard Symbol codes:**



**Xi**

**European Community Risk and Safety Phrases:**

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

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

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

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

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



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

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

- 1.1 Product Code:** 400074  
**Product Name:** TMB Substrate Solution
- 1.2 Relevant identified uses of the substance or mixture and uses advised against:**  
**Relevant identified uses:** For research use only, not for human or veterinary use.
- 1.3 Details of the Supplier of the Safety Data Sheet:**  
**Company Name:** Cayman Chemical Company  
 1180 E. Ellsworth Rd.  
 Ann Arbor, MI 48108  
**Web site address:** www.caymanchem.com  
**Information:** Cayman Chemical Company +1 (734)971-3335
- 1.4 Emergency telephone number:**  
**Emergency Contact:** CHEMTREC Within USA and Canada: +1 (800)424-9300  
 CHEMTREC Outside USA and Canada: +1 (703)527-3887

### Section 2. Hazards Identification

- 2.1 Classification of the Substance or Mixture:**
- 2.1.1 Classification according to Regulation (EC) No 1272/2008 [CLP]:**
- 2.1.2 Classification according to Directive 1999/45/EC:**  
**Risk Phrases:**  
 For full text of R- phrases: see SECTION 15.
- 2.2 Label Elements:**
- 2.2.1 Labeling according to Regulation (EC) No 1272/2008 [CLP]:**  
**GHS Signal Word:**  
**GHS Hazard Phrases:**  
 Based on evaluation of currently available data this substance or mixture is not classifiable according to GHS.  
**GHS Precaution Phrases:**  
 No phrases apply.  
**GHS Response Phrases:**  
 No phrases apply.  
**GHS Storage and Disposal Phrases:**  
 Please refer to Section 7 for Storage and Section 13 for Disposal information.
- 2.2.2 Labeling according to Directive 1999/45/EC:**
- 2.3 Adverse Human Health** Material may be irritating to the mucous membranes and upper respiratory tract.  
**Effects and Symptoms:** May be harmful by inhalation, ingestion, or skin absorption.  
 May cause eye, skin, or respiratory system irritation.  
 Overexposure may cause reproductive disorders based on tests with laboratory animals.  
 To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

### Section 3. Composition/Information on Ingredients

CAS # / RTECS #	Hazardous Components (Chemical Name)/ REACH Registration No.	Concentration	EC No./ EC Index No.	Risk Phrases/ GHS Classification
NA NA	TMB Substrate Solution	100.0 %	NA NA	No phrases apply. No data available.





# SAFETY DATA SHEET

## TMB Substrate Solution

CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
NA	TMB Substrate Solution	No data.	No data.	No data.

### 8.2 Exposure Controls:

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

### 8.2.2 Personal protection equipment:

**Eye Protection:** Safety glasses

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

**Other Protective Clothing:** Lab coat

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

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

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

Wash thoroughly after handling.

## Section 9. Physical and Chemical Properties

### 9.1 Information on Basic Physical and Chemical Properties

**Physical States:**  Gas  Liquid  Solid

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

**pH:** 5.9

**Melting Point:** No data.

**Boiling Point:** No data.

**Flash Pt:** 170.00 F (76.7 C) Method Used: Closed Cup

**Evaporation Rate:** No data.

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

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

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

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

**Solubility in Water:** No data.

**Autoignition Pt:** No data.

### 9.2 Other Information

**Percent Volatile:** No data.

## Section 10. Stability and Reactivity

**10.1 Reactivity:** No data available.

**10.2 Stability:** Unstable  Stable

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

**Polymerization:** Will occur  Will not occur

**10.4 Conditions To Avoid:** No data available.

**10.5 Incompatibility - Materials To Avoid:** strong oxidizing agents

**10.6 Hazardous Decomposition Or Byproducts:** carbon dioxide  
carbon monoxide  
nitrogen oxides



# SAFETY DATA SHEET

## TMB Substrate Solution

### Section 11. Toxicological Information

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

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

### Section 12. Ecological Information

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

### Section 13. Disposal Considerations

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

### Section 14. Transport Information

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

**DOT Proper Shipping Name:** Not dangerous goods.  
**DOT Hazard Class:**  
**UN/NA Number:**

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

**ADR/RID Shipping Name:** Not dangerous goods.  
**UN Number:**  
**Hazard Class:**

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

**ICAO/IATA Shipping Name:** Not dangerous goods.

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

### Section 15. Regulatory Information

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

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
NA	TMB Substrate Solution	No	No	No

CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists
NA	TMB Substrate Solution	CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No

**European Community Hazard Symbol codes:**

**European Community Risk and Safety Phrases:**

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

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

### Section 16. Other Information

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

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

**Company Policy or**

**DISCLAIMER:** This information is believed to be accurate and represents the best

**Disclaimer:**

information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.

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

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

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

- 1.1 Product Code:** 400931  
**Product Name:** Goat Anti-Human Ig (H+L)/HRP Conjugate
- 1.2 Relevant identified uses of the substance or mixture and uses advised against:**  
**Relevant identified uses:** For research use only, not for human or veterinary use.
- 1.3 Details of the Supplier of the Safety Data Sheet:**  
**Company Name:** Cayman Chemical Company  
 1180 E. Ellsworth Rd.  
 Ann Arbor, MI 48108  
**Web site address:** www.caymanchem.com  
**Information:** Cayman Chemical Company +1 (734)971-3335
- 1.4 Emergency telephone number:**  
**Emergency Contact:** CHEMTREC Within USA and Canada: +1 (800)424-9300  
 CHEMTREC Outside USA and Canada: +1 (703)527-3887

### Section 2. Hazards Identification

- 2.1 Classification of the Substance or Mixture:**  
**2.1.1 Classification according to Regulation (EC) No 1272/2008 [CLP]:**  
**2.1.2 Classification according to Directive 1999/45/EC:**  
**Risk Phrases:**  
 For full text of R- phrases: see SECTION 15.
- 2.2 Label Elements:**  
**2.2.1 Labeling according to Regulation (EC) No 1272/2008 [CLP]:**  
**GHS Signal Word:**  
**GHS Hazard Phrases:**  
 No phrases apply.  
**GHS Precaution Phrases:**  
 Based on evaluation of currently available data this substance or mixture is not classifiable according to GHS.  
**GHS Response Phrases:**  
 No phrases apply.  
**GHS Storage and Disposal Phrases:**  
 Please refer to Section 7 for Storage and Section 13 for Disposal information.
- 2.2.2 Labeling according to Directive 1999/45/EC:**
- 2.3 Adverse Human Health Material may be irritating to the mucous membranes and upper respiratory tract.**  
**Effects and Symptoms:** May be harmful by inhalation, ingestion, or skin absorption.  
 May cause eye, skin, or respiratory system irritation.  
 To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

### Section 3. Composition/Information on Ingredients

CAS # / RTECS #	Hazardous Components (Chemical Name)/ REACH Registration No.	Concentration	EC No./ EC Index No.	Risk Phrases/ GHS Classification
NA NA	Goat Anti-Human Ig (H+L)/HRP Conjugate	>99.908 %	NA NA	No phrases apply. No data available.
56-81-5 MA8050000	Glycerol	0.05 %	200-289-5 NA	No phrases apply. No data available.
55965-84-9 NX8157050	Proclin 300	0.002 %	611-341-5 613-167-00-5	T; N; Xi; C; R23/24/25-34-43-50/53

				Acute Tox.(O) 3: H301 Acute Tox.(D) 3: H311 Skin Corr. 1B: H314 Skin Sens. 1: H317 Acute Tox.(I) 3: H331 Aquatic (A) 1: H400 Aquatic (C) 1: H410
2682-20-4 NX8157080	2-Methyl-4-isothiazolin-3-one	0.02 %	220-239-6 NA	R43 Acute Tox.(O) 3: H301 Acute Tox.(D) 3: H311 Skin Corr. 1B: H314 Skin Sens. 1: H317 Eye Damage 1: H318 TOST (SE) 3: H335 H336 Aquatic (A) 1: H400
30007-47-7 JG9650000	Bromonitrodioxane	0.02 %	250-001-7 NA	Xn;C; R22-43-34 Acute Tox.(O) 4: H302 Skin Corr. 1B: H314 Eye Damage 1: H318 Aquatic (C) 1: H410

### Section 4. First Aid Measures

- 4.1 Description of First Aid** No data available.
- Measures:**
- In Case of Inhalation:** Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
- In Case of Skin Contact:** Immediately wash skin with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.
- In Case of Eye Contact:** Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined and tested by medical personnel.
- In Case of Ingestion:** Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.

### Section 5. Fire Fighting Measures

- 5.1 Suitable Extinguishing Media:** Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.
- Media:** Use water spray to cool fire-exposed containers.
- Unsuitable Extinguishing Media:** A solid water stream may be inefficient.
- 5.2 Flammable Properties and Hazards:** No data available.
- Flash Pt:** No data.
- Explosive Limits:** LEL: No data. UEL: No data.
- Autoignition Pt:** No data.
- 5.3 Fire Fighting Instructions:** As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.



### Section 6. Accidental Release Measures

- 6.1 Protective Precautions, Protective Equipment and Emergency Procedures:** Avoid breathing vapors and provide adequate ventilation. As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).
- 6.2 Environmental Precautions:** Take steps to avoid release into the environment, if safe to do so.
- 6.3 Methods and Material For Containment and Cleaning Up:** Contain spill and collect, as appropriate. Transfer to a chemical waste container for disposal in accordance with local regulations.

### Section 7. Handling and Storage

- 7.1 Precautions To Be Taken in Handling:** Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid prolonged or repeated exposure.
- 7.2 Precautions To Be Taken in Storing:** Keep container tightly closed. Store in accordance with information listed on the product insert.

### Section 8. Exposure Controls/Personal Protection

#### 8.1 Exposure Parameters:

CAS #	Partial Chemical Name	Britain EH40	France VL	Europe
NA	Goat Anti-Human Ig (H+L)/HRP Conjugate	No data.	No data.	No data.
56-81-5	Glycerol	TWA: 10 mg/m3 () STEL: ()	TWA: 10 mg/m3	No data.
55965-84-9	Proclin 300	No data.	No data.	No data.
2682-20-4	2-Methyl-4-isothiazolin-3-one	No data.	No data.	No data.
30007-47-7	Bromonitrodioxane	No data.	No data.	No data.

CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
NA	Goat Anti-Human Ig (H+L)/HRP Conjugate	No data.	No data.	No data.
56-81-5	Glycerol	PEL: 15 (dust); 5 (resp.) mg/m3	TLV: 10 mg/m3	No data.
55965-84-9	Proclin 300	No data.	No data.	No data.
2682-20-4	2-Methyl-4-isothiazolin-3-one	No data.	No data.	No data.
30007-47-7	Bromonitrodioxane	No data.	No data.	No data.

#### 8.2 Exposure Controls:

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

#### 8.2.2 Personal protection equipment:

**Eye Protection:** Safety glasses

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

**Other Protective Clothing:** Lab coat

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

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

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





**Section 13. Disposal Considerations**

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

**Section 14. Transport Information**

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

**DOT Proper Shipping Name:** Not dangerous goods.  
**DOT Hazard Class:**  
**UN/NA Number:**

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

**ADR/RID Shipping Name:** Not dangerous goods.  
**UN Number:**  
**Hazard Class:**

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

**ICAO/IATA Shipping Name:** Not dangerous goods.

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

**Section 15. Regulatory Information**

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

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
NA	Goat Anti-Human Ig (H+L)/HRP Conjugate	No	No	No
56-81-5	Glycerol	No	No	No
55965-84-9	Proclin 300	No	No	No
2682-20-4	2-Methyl-4-isothiazolin-3-one	No	No	No
30007-47-7	Bromonitrodioxane	No	No	No

CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists
NA	Goat Anti-Human Ig (H+L)/HRP Conjugate	CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No
56-81-5	Glycerol	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No
55965-84-9	Proclin 300	CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No
2682-20-4	2-Methyl-4-isothiazolin-3-one	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory, 5A(2); CA PROP.65: No
30007-47-7	Bromonitrodioxane	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No

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

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

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

**Section 16. Other Information**

**Revision Date:**                      05/20/2014

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

**This Product:**

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

# Product Information



## Item No.

### COMMENTS:

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

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

### WARNING:

**Not for human or animal disease diagnostics or therapeutic drug use.**

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

Copyright Cayman Chemical Company

Revision Date:

Supersedes Revision:

### Cayman Chemical

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(734) 971-3640

#### E-Mail

custserv@caymanchem.com

#### Web

www.caymanchem.com

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

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

- 1.1 Product Code:** 400934  
**Product Name:** Anti-PAD4 (human) EIA Standard
- 1.2 Relevant identified uses of the substance or mixture and uses advised against:**  
**Relevant identified uses:** For research use only, not for human or veterinary use.
- 1.3 Details of the Supplier of the Safety Data Sheet:**  
**Company Name:** Cayman Chemical Company  
 1180 E. Ellsworth Rd.  
 Ann Arbor, MI 48108  
**Web site address:** www.caymanchem.com  
**Information:** Cayman Chemical Company +1 (734)971-3335
- 1.4 Emergency telephone number:**  
**Emergency Contact:** CHEMTREC Within USA and Canada: +1 (800)424-9300  
 CHEMTREC Outside USA and Canada: +1 (703)527-3887

### Section 2. Hazards Identification

- 2.1 Classification of the Substance or Mixture:**
- 2.1.1 Classification according to Regulation (EC) No 1272/2008 [CLP]:**  
**Skin Corrosion/Irritation, Category 2**  
**Serious Eye Damage/Eye Irritation, Category 1**
- 2.1.2 Classification according to Directive 1999/45/EC:**  
**Xn: Harmful**  
**C: Corrosive**  
**Biological Hazard: B**  
**Risk Phrases: R22, R34, R36, R41**  
**For full text of R- phrases: see SECTION 15.**
- 2.2 Label Elements:**
- 2.2.1 Labeling according to Regulation (EC) No 1272/2008 [CLP]:**



**GHS Signal Word:** **Danger**

**GHS Hazard Phrases:**

H315: Causes skin irritation.  
 H318: Causes serious eye damage.  
 EUH032: Contact with acids liberates very toxic gas.

**GHS Precaution Phrases:**

P264: Wash {hands} thoroughly after handling.  
 P280: Wear {protective gloves/protective clothing/eye protection/face protection}.  
 P362+364: Take off contaminated clothing and wash it before reuse.

**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.  
 P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P310: Immediately call a {POISON CENTER/doctor/...}.

**GHS Storage and Disposal Phrases:**

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

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

**Xn**

**C**

**B**

Biological Hazard: B

**2.3 Adverse Human Health** Biohazard - Handle as if capable of transmitting infectious agents.

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

Causes serious eye damage.

Contact with acids liberates very toxic gas.

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

May be harmful by inhalation, ingestion, or skin absorption.

May cause respiratory system irritation.

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

### Section 3. Composition/Information on Ingredients

CAS # / RTECS #	Hazardous Components (Chemical Name)/ REACH Registration No.	Concentration	EC No./ EC Index No.	Risk Phrases/ GHS Classification
NA NA	Affinity purified Anti-PAD4 Antibody (from human plasma)	1.074 %	NA NA	Bio:B No data available.
NA NA	Non-fat Dry Milk	53.712 %	NA NA	No phrases apply. No data available.
7758-11-4 TC5580000	Potassium phosphate, dibasic	14.287 %	231-834-5 NA	Xi; R41 Eye Damage 1: H318
7778-77-0 TC6615500	Potassium phosphate, Monobasic	3.448 %	231-913-4 NA	C; R34-41 Skin Corr. 1B: H314 Eye Damage 1: H318
7647-14-5 VZ4725000	Sodium chloride	25.889 %	231-598-3 NA	Xi; R36 Eye Damage 2A: H319
26628-22-8 VY8050000	Sodium azide	0.107 %	247-852-1 011-004-00-7	T+;N; R28-32-50/53 Acute Tox.(O) 2: H300 Acute Tox.(D) 1: H310 TOST (RE) 2: H373 Aquatic (C) 1: H410
194491-31-1 NA	EDTA, tetrasodium salt, hydrate	0.408 %	NA NA	Xn; R22-41 Acute Tox.(O) 4: H302 Eye Damage 1: H318
9048-46-8 MT6446000	Bovine Serum Albumin (BSA)	1.074 %	232-936-2 NA	Xn; R22 Acute Tox.(O) 4: H302

### Section 4. First Aid Measures

- 4.1 Description of First Aid** No data available.
- Measures:**
- In Case of Inhalation:** Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
- In Case of Skin Contact:** Immediately wash skin with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before use.
- In Case of Eye Contact:** Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined and tested by medical personnel.
- In Case of Ingestion:** Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.

### Section 5. Fire Fighting Measures

- 5.1 Suitable Extinguishing Media:** Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.  
**Unsuitable Extinguishing Media:** A solid water stream may be inefficient.
- 5.2 Flammable Properties and Hazards:** Emits toxic fumes under fire conditions.  
**Flash Pt:** No data.  
**Explosive Limits:** LEL: No data. UEL: No data.  
**Autoignition Pt:** No data.
- 5.3 Fire Fighting Instructions:** As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.

### Section 6. Accidental Release Measures

- 6.1 Protective Precautions, Protective Equipment and Emergency Procedures:** Avoid raising and breathing dust, and provide adequate ventilation. As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).
- 6.2 Environmental Precautions:** Take steps to avoid release into the environment, if safe to do so.
- 6.3 Methods and Material For Containment and Cleaning Up:** Contain spill and collect, as appropriate. Transfer to a chemical waste container for disposal in accordance with local regulations. After removal, flush contaminated area and all cleaning materials with a 10% bleach aqueous solution.

### Section 7. Handling and Storage

- 7.1 Precautions To Be Taken in Handling:** Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid prolonged or repeated exposure.
- 7.2 Precautions To Be Taken in Storing:** Keep container tightly closed. Store in accordance with information listed on the product insert.

### Section 8. Exposure Controls/Personal Protection

**8.1 Exposure Parameters:**

CAS #	Partial Chemical Name	Britain EH40	France VL	Europe
NA	Affinity purified Anti-PAD4 Antibody	No data.	No data.	No data.

	(from human plasma)			
NA	Non-fat Dry Milk	No data.	No data.	No data.
7758-11-4	Potassium phosphate, dibasic	No data.	No data.	No data.
7778-77-0	Potassium phosphate, Monobasic	No data.	No data.	No data.
7647-14-5	Sodium chloride	No data.	No data.	No data.
26628-22-8	Sodium azide	TWA: 0.1 mg/m3 () STEL: 0.3 mg/m3 ()	TWA: 0.1 mg/m3 STEL: 0.3 mg/m3	TWA: 0.1 mg/m3 STEL: 0.3 mg/m3
194491-31-1	EDTA, tetrasodium salt, hydrate	No data.	No data.	No data.
9048-46-8	Bovine Serum Albumin (BSA)	No data.	No data.	No data.
CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
NA	Affinity purified Anti-PAD4 Antibody (from human plasma)	No data.	No data.	No data.
NA	Non-fat Dry Milk	No data.	No data.	No data.
7758-11-4	Potassium phosphate, dibasic	No data.	No data.	No data.
7778-77-0	Potassium phosphate, Monobasic	No data.	No data.	No data.
7647-14-5	Sodium chloride	No data.	No data.	No data.
26628-22-8	Sodium azide	No data.	CEIL: 0.29 mg/m3	No data.
194491-31-1	EDTA, tetrasodium salt, hydrate	No data.	No data.	No data.
9048-46-8	Bovine Serum Albumin (BSA)	No data.	No data.	No data.

### 8.2 Exposure Controls:

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

### 8.2.2 Personal protection equipment:

**Eye Protection:** Safety glasses

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

**Other Protective Clothing:** Lab coat

#### Respiratory Equipment

NIOSH approved respirator, as conditions warrant.

#### (Specify Type):

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

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

Wash thoroughly after handling.





### Section 11. Toxicological Information

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

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

### Section 12. Ecological Information

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

### Section 13. Disposal Considerations

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

### Section 14. Transport Information

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

**DOT Proper Shipping Name:** Not dangerous goods.  
**DOT Hazard Class:**  
**UN/NA Number:**

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

**ADR/RID Shipping Name:** Not dangerous goods.  
**UN Number:**  
**Hazard Class:**

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

**ICAO/IATA Shipping Name:** Not dangerous goods.

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

### Section 15. Regulatory Information

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

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
NA	Affinity purified Anti-PAD4 Antibody (from human plasma)	No	No	No
NA	Non-fat Dry Milk	No	No	No
7758-11-4	Potassium phosphate, dibasic	No	No	No
7778-77-0	Potassium phosphate, Monobasic	No	No	No
7647-14-5	Sodium chloride	No	No	No
26628-22-8	Sodium azide	Yes 500 LB	Yes 1000 LB	Yes
194491-31-1	EDTA, tetrasodium salt, hydrate	No	No	No
9048-46-8	Bovine Serum Albumin (BSA)	No	No	No

CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists
NA	Affinity purified Anti-PAD4 Antibody (from human plasma)	CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No
NA	Non-fat Dry Milk	CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No
7758-11-4	Potassium phosphate, dibasic	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No

7778-77-0	Potassium phosphate, Monobasic	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No
7647-14-5	Sodium chloride	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No
26628-22-8	Sodium azide	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No
194491-31-1	EDTA, tetrasodium salt, hydrate	CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No
9048-46-8	Bovine Serum Albumin (BSA)	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No

**European Community Hazard Symbol codes:**

**Xn**

**C**

**B**

Biological Hazard: B

**European Community Risk and Safety Phrases:**

R22	Harmful if swallowed.
R34	Causes burns.
R36	Irritating to eyes.
R41	Risk of serious damage to the eyes.
S24/25	Avoid contact with skin and eyes.
S28	After contact with skin, wash immediately with plenty of soap-suds.
S36/37/39	Wear suitable protective clothing, gloves and eye/face protection.

**Regulatory Information Statement:**

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

### Section 16. Other Information

**Revision Date:** 05/21/2014

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

**Company Policy or Disclaimer:**

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

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

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

- 1.1 Product Code:** 10011355  
**Product Name:** HRP Stop Solution
- 1.2 Relevant identified uses of the substance or mixture and uses advised against:**  
**Relevant identified uses:** For research use only, not for human or veterinary use.
- 1.3 Details of the Supplier of the Safety Data Sheet:**  
**Company Name:** Cayman Chemical Company  
 1180 E. Ellsworth Rd.  
 Ann Arbor, MI 48108  
**Web site address:** www.caymanchem.com  
**Information:** Cayman Chemical Company +1 (734)971-3335
- 1.4 Emergency telephone number:**  
**Emergency Contact:** CHEMTREC Within USA and Canada: +1 (800)424-9300  
 CHEMTREC Outside USA and Canada: +1 (703)527-3887

### Section 2. Hazards Identification

- 2.1 Classification of the Substance or Mixture:**
- 2.1.1 Classification according to Regulation (EC) No 1272/2008 [CLP]:**  
**Skin Corrosion/Irritation, Category 1A**
- 2.1.2 Classification according to Directive 1999/45/EC:**  
**Xi: Irritant**  
**Risk Phrases: R36/38**  
**For full text of R- phrases: see SECTION 15.**
- 2.2 Label Elements:**
- 2.2.1 Labeling according to Regulation (EC) No 1272/2008 [CLP]:**



**GHS Signal Word:** Danger

**GHS Hazard Phrases:**

H314: Causes severe skin burns and eye damage.

**GHS Precaution Phrases:**

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

P264: Wash hands thoroughly after handling.

P280: Wear protective gloves/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.

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



**Xi**

**2.3 Adverse Human Health** Irritating to eyes, respiratory system, and skin.

**Effects and Symptoms:** Chronic exposure to mists containing sulfuric acid is a cancer hazard.  
Harmful if swallowed, inhaled, or absorbed through the skin.  
Inhalation may cause lung edema.  
Long-term exposure to mist or vapors may cause damage to teeth.  
Material is irritating to the mucous membranes and upper respiratory tract.  
To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

### Section 3. Composition/Information on Ingredients

CAS # / RTECS #	Hazardous Components (Chemical Name)/ REACH Registration No.	Concentration	EC No./ EC Index No.	Risk Phrases/ GHS Classification
7664-93-9 WS5600000	Sulfuric acid	4.904 %	231-639-5 016-020-00-8	C;Xi; R35 Skin Corr. 1A: H314
7732-18-5 ZC0110000	Water	95.096 %	231-791-2 NA	No phrases apply. No data available.

### Section 4. First Aid Measures

**4.1 Description of First Aid**

**Measures:**

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

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

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

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

**4.2 Important Symptoms and Effects, Both Acute and Delayed:** Circulatory collapse with clammy skin, weak and rapid pulse, shallow respirations, and scanty urine may follow ingestion or skin contact.

Ingestion may cause: Sore throat, vomiting, and diarrhea.  
Irritating to the skin, eyes, nose, throat, and respiratory tract.

### Section 5. Fire Fighting Measures

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

**Unsuitable Extinguishing Media:** DO NOT USE WATER.

**5.2 Flammable Properties and Hazards:** Concentrated solutions react violently with water, spattering and liberating heat. Emits toxic and corrosive fumes under fire conditions.

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

**Flash Pt:** No data.

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

<b>Autoignition Pt:</b>	No data.
<b>5.3 Fire Fighting Instructions:</b>	As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.

### Section 6. Accidental Release Measures

<b>6.1 Protective Precautions, Protective Equipment and Emergency Procedures:</b>	Avoid breathing vapors and provide adequate ventilation. As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).
<b>6.2 Environmental Precautions:</b>	Take steps to avoid release into the environment, if safe to do so.
<b>6.3 Methods and Material For Containment and Cleaning Up:</b>	Contain spill and collect, as appropriate. Transfer to a chemical waste container for disposal in accordance with local regulations.

### Section 7. Handling and Storage

<b>7.1 Precautions To Be Taken in Handling:</b>	Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid prolonged or repeated exposure.
<b>7.2 Precautions To Be Taken in Storing:</b>	Keep container tightly closed. Store in accordance with information listed on the product insert.

### Section 8. Exposure Controls/Personal Protection

**8.1 Exposure Parameters:**

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

**8.2 Exposure Controls:**

<b>8.2.1 Engineering Controls (Ventilation etc.):</b>	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
<b>8.2.2 Personal protection equipment:</b>	
<b>Eye Protection:</b>	Safety glasses
<b>Protective Gloves:</b>	Compatible chemical-resistant gloves
<b>Other Protective Clothing:</b>	Lab coat
<b>Respiratory Equipment (Specify Type):</b>	NIOSH approved respirator, as conditions warrant.
<b>Work/Hygienic/Maintenance Practices:</b>	Do not take internally. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Wash thoroughly after handling.



**Section 11. Toxicological Information**

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

Sulfuric acid - Toxicity Data: Oral LD50 (rat): 2,140 mg/kg; Inhalation TCLO (human): 0.63 mg/m<sup>3</sup>; Inhalation LC50 (mouse): 320 mg/m<sup>3</sup>; Inhalation LC50 (guinea pig): 18 mg/m<sup>3</sup> (8hr);

**Chronic Toxicological Effects:** Sulfuric acid - Irritation Data: Eyes (rabbit): 5 mg (30s) severe; 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:** NTP? No IARC Monographs? No OSHA Regulated? No

**Section 12. Ecological Information**

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

**Section 13. Disposal Considerations**

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

**Section 14. Transport Information**

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

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



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

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

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

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

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



**Section 15. Regulatory Information**

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

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

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

**European Community Hazard Symbol codes:**



**Xi**

**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.)

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

**Section 16. Other Information**

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

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

**This Product:**

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

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