

Product Information



Precoated EIA 96-Well Plate (solid or strip)

Item No. 400004, 400005, 400006, 400007, 400008, or 400009

COMMENTS:

Each plate is coated with antibody. This Material Safety Data Sheet (MSDS) is for the antibody 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: 08/27/2010

Cayman Chemical

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MATERIAL SAFETY DATA SHEET

Potassium Hydroxide

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

Printed: 04/13/2010
Revision: 04/07/2010
Supersedes Revision: 10/19/2004
Date Created: 04/28/2003

1. Product and Company Identification

Product Code: 400029
Product Name: Potassium Hydroxide
Manufacturer Information
Company Name: Cayman Chemical Company
Emergency Contact: Cayman Chemical Company (800)364-9897
Information: Cayman Chemical Company (734)971-3335

2. Hazards Identification

Emergency Overview: Corrosive.
Causes severe burns.
Target Organ(s): Eyes, respiratory system, and skin.

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

Health Hazards (Acute and Chronic): Causes severe digestive tract, eye, respiratory tract, and skin burns.
Harmful by inhalation, ingestion, or skin absorption.
Severely irritating to the upper respiratory tract.
The toxicological properties of this product have not been fully evaluated.

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

Signs and Symptoms Of Exposure: Causes severe digestive tract burns with abdominal pain and vomiting.
Contact may cause ulceration of the conjunctiva and cornea.
Eye damage may be delayed.
Inhalation may cause coughing, burning, and possible breathing difficulty.
Inhalation may result in pulmonary edema and chemical pneumonitis.
May cause deep, penetrating ulcers of the skin.
May cause irreversible eye damage.
May cause perforation of the digestive tract.
Prolonged or repeated skin contact may cause dermatitis.

3. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	EC#	RTECS #
1. Potassium hydroxide	1310-58-3	100.0 %	215-181-3	TT2100000

4. First Aid Measures

Emergency and First Aid Procedures: If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
If swallowed, 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.
In case of contact with eyes, 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 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.

5. Fire Fighting Measures

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

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Potassium Hydroxide

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Special Fire Fighting Procedures:	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.
Unusual Fire and Explosion Hazards:	No data available.
Hazardous Combustion Products:	No data available.
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.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled:	Avoid release into the environment. 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). Transfer to a proper chemical waste container for disposal.
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7. Handling and Storage

Hazard Label Information:	Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilation. Wash thoroughly after handling
Precautions To Be Taken in Handling:	Avoid breathing (dust, vapor, mist, gas). Avoid prolonged or repeated exposure.
Precautions To Be Taken in Storing:	Keep tightly closed. Store at correct temperature.

8. Exposure Controls/Personal Protection

Hazardous Components (Chemical Name)	CAS #	OSHA PEL	ACGIH TWA	Other Limits
1. Potassium hydroxide	1310-58-3	No data.	CEIL: 2 mg/m3	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
Respiratory Equipment (Specify Type):	NIOSH approved respirator, as conditions warrant.
Eye Protection:	Safety glasses
Protective Gloves:	Compatible chemical-resistant gloves
Other Protective Clothing:	Lab coat
Ventilation:	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
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

Physical States:	[] Gas [] Liquid [X] Solid
Melting Point:	360.00 C
Boiling Point:	1320.00 C
Autoignition Pt:	No data.
Flash Pt:	No data.
Explosive Limits:	LEL: No data. UEL: No data.
Specific Gravity (Water = 1):	2.04
Bulk density:	No data.
Vapor Pressure (vs. Air or mm Hg):	No data.
Vapor Density (vs. Air = 1):	No data.
Evaporation Rate (vs Butyl Acetate=1):	No data.
Solubility in Water:	No data.

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Potassium Hydroxide

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Percent Volatile: No data.
Heat Value: No data.
Particle Size: No data.
Corrosion Rate: No data.
Formula: KOH
Molecular Weight: 56.10
pH: No data.
Appearance and Odor: A crystalline solid

10. Stability and Reactivity

Stability: Unstable [] Stable [X]
Conditions To Avoid - Instability: No data available.
Incompatibility - Materials To Avoid: acids
metals
Hazardous Decomposition Or Byproducts: potassium oxides
Possibility of Hazardous Reactions: Will occur [] Will not occur [X]
Conditions To Avoid - Hazardous Reactions: No data available.

11. Toxicological Information

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

Chronic Toxicological Effects: Toxicity Data: Potassium Hydroxide - Oral LD50 (rat): 273 mg/kg;
Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here.
See actual entry in RTECS for complete information.
Potassium hydroxide RTECS Number: TT2100000

Carcinogenicity/Other Information: No data available.

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

12. 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: Potassium hydroxide, solid
DOT Hazard Class: 8
DOT Hazard Label: CORROSIVE
UN/NA Number: 1813
Packing Group: II

LAND TRANSPORT (European ADR/RID)

ADR/RID Proper Shipping Name: Potassium hydroxide, solid
UN Number: 1813
Packing Group: II

AIR TRANSPORT (ICAO/IATA)

ICAO/IATA Proper Shipping Name: Potassium hydroxide, solid
UN Number: 1813
Packing Group: II
IATA Classification: 8

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

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Potassium Hydroxide

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Supercedes Revision: 10/19/2004

15. Regulatory Information

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

R20/21/22 - Harmful by inhalation, in contact with skin and if swallowed.

R35 - Causes severe burns.

S24/25 - Avoid contact with skin and eyes.

S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

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. Potassium hydroxide	1310-58-3	No	Yes 1000 LB	No	No

US EPA CAA, CWA, TSCA

Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	HPV/LPV
1. Potassium hydroxide	1310-58-3	HAP, ODC ()	No	Inventory	

16. Other Information

Company Policy or Disclaimer

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

MATERIAL SAFETY DATA SHEET

Acetic Anhydride

Page: 1

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

Printed: 04/14/2010
Revision: 04/08/2010
Supersedes Revision: 02/03/2005
Date Created: 06/27/1996

1. Product and Company Identification

Product Code: 400031
Product Name: Acetic Anhydride
Manufacturer Information
Company Name: Cayman Chemical Company
Emergency Contact: Cayman Chemical Company (800)364-9897
Information: Cayman Chemical Company (734)971-3335

2. Hazards Identification

Emergency Overview: Combustible.
Corrosive.
Target Organ(s): Eyes, respiratory system, or skin.

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

Health Hazards (Acute and Chronic): Causes burns.
Harmful if swallowed or inhaled.
Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
May be harmful by skin absorption.
The toxicological properties of this product have not been fully evaluated.

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

Signs and Symptoms Of Exposure: No data available.

3. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	EC#	RTECS #
1. Acetic anhydride	108-24-7	100.0 %	203-564-8	AK1925000

4. First Aid Measures

Emergency and First Aid Procedures: If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
If swallowed, 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.
In case of contact with eyes, 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 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.

5. Fire Fighting Measures

Flash Pt: 49.00 C Method Used: Closed Cup

Explosive Limits: LEL: 2.7% at 25.0 C UEL: 10.3% at 25.0 C

Autoignition Pt: 332.00 C

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

Unusual Fire and Explosion Hazards: Can release vapors that form explosive mixtures at temperatures at or above the flashpoint.
Container explosion may occur under fire conditions.
Sensitive to static discharge.

Hazardous Combustion Products: No data available.

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.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled: Avoid release into the environment.
Avoid breathing vapors and provide adequate ventilation.
Remove all sources of ignition.
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).
Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container.

7. Handling and Storage

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

Precautions To Be Taken in Handling: Avoid breathing (dust, vapor, mist, gas).
Avoid prolonged or repeated exposure.
Keep away from sources of ignition.
Prevent the build up of electrostatic charge.

Precautions To Be Taken in Storing: Keep away from heat, sparks, and flame.
Keep tightly closed.
Store at correct temperature.

8. Exposure Controls/Personal Protection

Hazardous Components (Chemical Name)	CAS #	OSHA PEL	ACGIH TLV	Other Limits
1. Acetic anhydride	108-24-7	5 ppm	5 ppm	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

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

Eye Protection: Safety glasses

Protective Gloves: Compatible chemical-resistant gloves

Other Protective Clothing: Lab coat

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

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

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

Melting Point: -73.00 C

Boiling Point: 138.00 C - 140.00 C / 760 mm Hg.

Autoignition Pt: 332.00 C

Flash Pt: 49.00 C Method Used: Closed Cup

Explosive Limits: LEL: 2.7% at 25.0 C UEL: 10.3% at 25.0 C

Specific Gravity (Water = 1): 1.08

Bulk density: No data.

Vapor Pressure (vs. Air or mm Hg): 4 MM_HG at 20.0 C

Vapor Density (vs. Air = 1): 3.52

Evaporation Rate (vs Butyl Acetate=1): No data.

Acetic Anhydride

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Solubility in Water:	No data.
Percent Volatile:	No data.
Heat Value:	No data.
Particle Size:	No data.
Corrosion Rate:	No data.
Formula:	C ₄ H ₆ O ₃
Molecular Weight:	102.10
pH:	No data.
Appearance and Odor:	A clear, colorless solution

10. Stability and Reactivity

Stability:	Unstable [] Stable [X]
Conditions To Avoid - Instability:	heat, flames and sparks
Incompatibility - Materials To Avoid:	acids alcohols amines bases oxidizing agents metals reducing agents
Hazardous Decomposition Or Byproducts:	carbon dioxide carbon monoxide
Possibility of Hazardous Reactions:	Will occur [] Will not occur [X]
Conditions To Avoid - Hazardous Reactions:	No data available.

11. Toxicological Information

:	The toxicological effects of this product have not been thoroughly studied.
Chronic Toxicological Effects:	Acetic Anhydride - Toxicity Data: Oral LD50 (rat): 1,780 mg/kg; Inhalation LC50 (rat): 4,200 mg/m ³ (4h); Dermal LD50 (rabbit): 4.32 g/kg; Irritation Data: Eyes (rabbit): severe; Skin (rabbit): mild. Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here. See actual entry in RTECS for complete information. Acetic anhydride RTECS Number: AK1925000
Carcinogenicity/Other Information:	No data available.
Carcinogenicity:	NTP? No IARC Monographs? No OSHA Regulated? No

12. 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	Acetic anhydride
DOT Hazard Class:	8 (3)
DOT Hazard Label:	CORROSIVE, FLAMMABLE LIQUID
UN/NA Number:	1715
Packing Group:	II
LAND TRANSPORT (European ADR/RID)	
ADR/RID Proper Shipping Name	Acetic anhydride

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Acetic Anhydride

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UN Number: 1715
Packing Group: II
AIR TRANSPORT (ICAO/IATA)
ICAO/IATA Proper Shipping Name Acetic anhydride
UN Number: 1715
Packing Group: II
IATA Classification: 8 (3)
Additional Transport Information: Transport in accordance with local, state, and federal regulations.

15. Regulatory Information

European Community Hazard Symbol codes C: Corrosive

European Community Risk and Safety Phrases

- R10 - Flammable.
R20/22 - Harmful by inhalation and if swallowed.
R34 - Causes burns.
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. Acetic anhydride	108-24-7	No	Yes 5000 LB	No	No

US EPA CAA, CWA, TSCA

Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	HPV/LPV
1. Acetic anhydride	108-24-7	HAP, ODC ()	No	Inventory	

16. Other Information

Company Policy or Disclaimer

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

MATERIAL SAFETY DATA SHEET

Polysorbate 20

Page: 1

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

Printed: 01/13/2011
Revision: 01/13/2011
Supersedes Revision: 07/06/2010
Date Created: 06/27/1996

1. Product and Company Identification

Product Code: 400035
Product Name: Polysorbate 20
Manufacturer Information
Company Name: Cayman Chemical Company
Emergency Contact: Cayman Chemical Company (800)364-9897
Information: Cayman Chemical Company (734)971-3335
Synonyms: Tween 20™;

2. Hazards Identification

Emergency Overview: Avoid contact and inhalation.
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.
The toxicological properties of this product have not been fully evaluated.
LD 50 / LC 50: Please refer to Section 11.
Signs and Symptoms Of Exposure: No data available.
Medical Conditions Generally Aggravated By Exposure: No data available.

3. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	EC#	RTECS #
1. Polyoxyethylene (20) sorbitan monolaurate (Tween 20™)	9005-64-5	100.0 %	500-018-3	TR7400000

4. First Aid Measures

Emergency and First Aid Procedures: If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
If swallowed, 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.
In case of contact with eyes, 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 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.

5. Fire Fighting Measures

Flash Pt: No data.
Explosive Limits: LEL: No data. UEL: No data.
Autoignition Pt: No data available.
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.

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Polysorbate 20

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Flammable Properties and Hazards:	No data available.
Hazardous Combustion Products:	No data available.
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.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled:	Avoid release into the environment. 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). Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container.
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7. Handling and Storage

Hazard Label Information:	Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilation. Wash thoroughly after handling
Precautions To Be Taken in Handling:	Avoid breathing (dust, vapor, mist, gas). Avoid prolonged or repeated exposure.
Precautions To Be Taken in Storing:	Keep tightly closed. Store at correct temperature.

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.

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
Respiratory Equipment (Specify Type):	NIOSH approved respirator, as conditions warrant.
Eye Protection:	Safety glasses
Protective Gloves:	Compatible chemical-resistant gloves
Other Protective Clothing:	Lab coat
Engineering Controls (Ventilation etc.):	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
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

Physical States:	<input type="checkbox"/> Gas <input checked="" type="checkbox"/> Liquid <input type="checkbox"/> Solid
Melting Point:	No data.
Boiling 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.

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Revision: 01/13/2011

Supercedes Revision: 07/06/2010

Evaporation Rate (vs Butyl Acetate=1): No data.
Solubility in Water: No data.
Percent Volatile: N.A.
Appearance and Odor: A clear, yellow viscous liquid

10. Stability and Reactivity

Stability: Unstable [] Stable [X]
Conditions To Avoid - Instability: No data available.
Incompatibility - Materials To Avoid: strong oxidizing agents
Hazardous Decomposition Or Byproducts: carbon dioxide
carbon monoxide
Possibility of Hazardous Reactions: Will occur [] Will not occur [X]
Conditions To Avoid - Hazardous Reactions: No data available.

11. Toxicological Information

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

Polysorbate 20 - Toxicity Data: Oral LD50 (rat): 40,554 mg/kg; Irritation Data: Skin (human): 15 mg/3D mild;

Chronic Toxicological Effects: Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here. See actual entry in RTECS for complete information.
Polysorbate 20 RTECS Number: TR7400000

Carcinogenicity/Other Information: No data available.

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

12. 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.

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Polysorbate 20

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Supercedes Revision: 07/06/2010

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

US EPA CAA, CWA, TSCA

Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	HPV/LPV
1. Polyoxyethylene (20) sorbitan monolaurate (Tween 20™)	9005-64-5	HAP, ODC ()	No	Inventory	

16. Other Information

Company Policy or Disclaimer

For research use only, not for human or veterinary clinical 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

MATERIAL SAFETY DATA SHEET

EIA Tracer Dye

Page: 1

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

Printed: 07/06/2010
Revision: 07/06/2010
Supersedes Revision: 03/09/2010
Date Created: 04/04/2003

1. Product and Company Identification

Product Code: 400040
Product Name: EIA Tracer Dye
Manufacturer Information
Company Name: Cayman Chemical Company
Emergency Contact: Cayman Chemical Company (800)364-9897
Information: Cayman Chemical Company (734)971-3335

2. Hazards Identification

Emergency Overview: Avoid contact and inhalation.
Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection
Health Hazards (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 burns.
May cause eye, skin, or respiratory system irritation.
May temporarily stain skin.
The toxicological properties of this product have not been fully evaluated.
Signs and Symptoms Of Exposure: No data available.

3. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	EC#
1. EIA Tracer Dye	NA	100.0 %	NA

4. First Aid Measures

Emergency and First Aid Procedures: If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
If swallowed, 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.
In case of contact with eyes, 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 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.

5. Fire Fighting Measures

Flash Pt: No data.
Explosive Limits: LEL: No data. UEL: No data.
Special Fire Fighting Procedures: 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.
Unusual Fire and Explosion Hazards: No data available.
Hazardous Combustion Products: No data available.
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.

MATERIAL SAFETY DATA SHEET

EIA Tracer Dye

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 Printed: 07/06/2010
 Revision: 07/06/2010
 Supercedes Revision: 03/09/2010

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled: Avoid release into the environment.
 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).
 Absorb spill with inert material (e.g. dry sand or earth), then place in a proper chemical waste container.

7. Handling and Storage

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

Precautions To Be Taken in Handling: Avoid breathing (dust, vapor, mist, gas).
 Avoid prolonged or repeated exposure.

Precautions To Be Taken in Storing: Keep tightly closed.
 Store at correct temperature.

8. Exposure Controls/Personal Protection

Hazardous Components (Chemical Name)	CAS #	OSHA PEL	ACGIH TLV	Other Limits
1. EIA Tracer Dye	NA	No data.	No data.	No data.

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

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

Eye Protection: Safety glasses

Protective Gloves: Compatible chemical-resistant gloves

Other Protective Clothing: Lab coat

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

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

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

Melting Point: No data.

Boiling Point: No data.

Autoignition Pt: No data.

Flash Pt: No data.

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

Specific Gravity (Water = 1): No data.

Bulk density: No data.

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

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

Evaporation Rate (vs Butyl Acetate=1): No data.

Solubility in Water: No data.

Percent Volatile: No data.

Heat Value: No data.

Particle Size: No data.

Corrosion Rate: No data.

pH: No data.

Appearance and Odor: A red solution

MATERIAL SAFETY DATA SHEET

EIA Tracer Dye

Page: 3
 Printed: 07/06/2010
 Revision: 07/06/2010
 Supersedes Revision: 03/09/2010

10. Stability and Reactivity

Stability: Unstable [] Stable [X]

Conditions To Avoid - Instability: No data available.

Incompatibility - Materials To Avoid: acids

Hazardous Decomposition Or Byproducts: sodium oxides

Possibility of Hazardous Reactions: Will occur [] Will not occur [X]

Conditions To Avoid - Hazardous Reactions: No data available.

11. Toxicological Information

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

Carcinogenicity/Other Information: No data available.

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

12. 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

- S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S37/39 - Wear suitable 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. EIA Tracer Dye	NA	No	No	No	No

US EPA CAA, CWA, TSCA

Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	HPV/LPV
1. EIA Tracer Dye	NA	HAP, ODC ()	No	No	

16. Other Information

Company Policy or Disclaimer

For research use only, not for human or veterinary clinical 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

MATERIAL SAFETY DATA SHEET

EIA Antiserum Dye

Page: 1

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

Printed: 07/06/2010
Revision: 07/06/2010
Supersedes Revision: 03/02/2010
Date Created: 04/04/2003

1. Product and Company Identification

Product Code: 400042
Product Name: EIA Antiserum Dye
Manufacturer Information
Company Name: Cayman Chemical Company
Emergency Contact: Cayman Chemical Company (800)364-9897
Information: Cayman Chemical Company (734)971-3335

2. Hazards Identification

Emergency Overview: Harmful.
May cause cancer.

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

Health Hazards (Acute and Chronic): Material may be irritating to mucous membranes and upper respiratory tract.
May be harmful by inhalation, ingestion, or skin absorption.
May cause eye, skin, or respiratory system irritation.
The toxicological properties of this product have not been fully evaluated.

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

Signs and Symptoms Of Exposure: No data available.

3. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	EC#
1. EIA Antiserum Dye	NA	100.0 %	NA

4. First Aid Measures

Emergency and First Aid Procedures: If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
If swallowed, 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.
In case of contact with eyes, 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 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.

5. Fire Fighting Measures

Flash Pt: No data.

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

Special Fire Fighting Procedures: 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.

Unusual Fire and Explosion Hazards: Emits toxic fumes under fire conditions.

Hazardous Combustion Products: No data available.

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.

MATERIAL SAFETY DATA SHEET

EIA Antiserum Dye

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 Supersedes Revision: 03/02/2010

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled: Avoid release into the environment.
 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).
 Absorb spill with inert material (e.g. dry sand or earth), then place in a proper chemical waste container.

7. Handling and Storage

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

Precautions To Be Taken in Handling: Avoid breathing (dust, vapor, mist, gas).
 Avoid prolonged or repeated exposure.

Precautions To Be Taken in Storing: Keep tightly closed.
 Store at correct temperature.

8. Exposure Controls/Personal Protection

Hazardous Components (Chemical Name)	CAS #	OSHA PEL	ACGIH TLV	Other Limits
1. EIA Antiserum Dye	NA	No data.	No data.	No data.

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

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

Eye Protection: Safety glasses

Protective Gloves: Compatible chemical-resistant gloves

Other Protective Clothing: Lab coat

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

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

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

Melting Point: No data.

Boiling Point: No data.

Autoignition Pt: No data.

Flash Pt: No data.

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

Specific Gravity (Water = 1): No data.

Bulk density: No data.

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

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

Evaporation Rate (vs Butyl Acetate=1): No data.

Solubility in Water: No data.

Percent Volatile: No data.

Heat Value: No data.

Particle Size: No data.

Corrosion Rate: No data.

pH: No data.

Appearance and Odor: A blue solution

MATERIAL SAFETY DATA SHEET

EIA Antiserum Dye

Page: 3
 Printed: 07/06/2010
 Revision: 07/06/2010
 Supercedes Revision: 03/02/2010

10. Stability and Reactivity

Stability: Unstable [] Stable [X]
Conditions To Avoid - Instability: No data available.
Incompatibility - Materials To Avoid: No data available.
Hazardous Decomposition Or Byproducts: No data available.
Possibility of Hazardous Reactions: Will occur [] Will not occur [X]
Conditions To Avoid - Hazardous Reactions: No data available.

11. Toxicological Information

: The toxicological effects of this product have not been thoroughly studied.
Chronic Toxicological Effects: Contains a component that has been investigated as a carcinogen.
Carcinogenicity/Other Information: Contains a component that has been reported to be probably carcinogenic based on its IARC, OSHA, ACGIH, NTP, or EPA classification.
Carcinogenicity: NTP? No IARC Monographs? Yes OSHA Regulated? No

12. 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 Xn: Harmful; Carcinogenic Hazard: 2
European Community Risk and Safety Phrases
 R45 - May cause cancer.
 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. EIA Antiserum Dye	NA	No	No	No	No

US EPA CAA, CWA, TSCA

Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	HPV/LPV
1. EIA Antiserum Dye	NA	HAP, ODC ()	No	No	

16. Other Information

Company Policy or Disclaimer

For research use only, not for human or veterinary clinical 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

MATERIAL SAFETY DATA SHEET

Ellman's Reagent

Page: 1

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

Printed: 07/06/2010
Revision: 07/06/2010
Supersedes Revision: 03/02/2010
Date Created: 06/27/1996

1. Product and Company Identification

Product Code: 400050
Product Name: Ellman's Reagent
Manufacturer Information
Company Name: Cayman Chemical Company
Emergency Contact: Cayman Chemical Company (800)364-9897
Information: Cayman Chemical Company (734)971-3335

2. Hazards Identification

Emergency Overview: Irritant.
Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection
Health Hazards (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 be irritating to eyes, respiratory system and skin.
The toxicological properties of this compound have not been fully evaluated.
Signs and Symptoms Of Exposure: Ingestion of large amounts causes vomiting and diarrhea.

3. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	EC#
1. Ellman's Reagent	NA	100.0 %	NA

4. First Aid Measures

Emergency and First Aid Procedures: If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
If swallowed, 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.
In case of contact with eyes, 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 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.

5. Fire Fighting Measures

Flash Pt: No data.
Explosive Limits: LEL: No data. UEL: No data.
Special Fire Fighting Procedures: 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.
Unusual Fire and Explosion Hazards: Emits toxic fumes under fire conditions.
Hazardous Combustion Products: No data available.
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.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled: Avoid release into the environment.
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).
Transfer to a proper chemical waste container for disposal.

MATERIAL SAFETY DATA SHEET

Ellman's Reagent

Page: 2

Printed: 07/06/2010

Revision: 07/06/2010

Supercedes Revision: 03/02/2010

7. Handling and Storage

Hazard Label Information:	Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilation. Wash thoroughly after handling
Precautions To Be Taken in Handling:	Avoid breathing (dust, vapor, mist, gas). Avoid prolonged or repeated exposure.
Precautions To Be Taken in Storing:	Keep tightly closed. Store at correct temperature.
Other Precautions:	Protect from light.

8. Exposure Controls/Personal Protection

Hazardous Components (Chemical Name)	CAS #	OSHA PEL	ACGIH TLV	Other Limits
1. Ellman's Reagent	NA	No data.	No data.	No data.

Protective Equipment Summary - Hazard Label Information:	Compatible chemical-resistant gloves Eye wash station in work area Lab coat Safety glasses Safety shower in work area Vent Hood
Respiratory Equipment (Specify Type):	NIOSH approved respirator, as conditions warrant.
Eye Protection:	Safety glasses
Protective Gloves:	Compatible chemical-resistant gloves
Other Protective Clothing:	Lab coat
Ventilation:	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
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

Physical States:	[] Gas [] Liquid [X] Solid
Melting Point:	No data.
Boiling Point:	No data.
Autoignition Pt:	No data.
Flash Pt:	No data.
Explosive Limits:	LEL: No data. UEL: No data.
Specific Gravity (Water = 1):	No data.
Bulk density:	No data.
Vapor Pressure (vs. Air or mm Hg):	No data.
Vapor Density (vs. Air = 1):	No data.
Evaporation Rate (vs Butyl Acetate=1):	No data.
Solubility in Water:	No data.
Percent Volatile:	No data.
Heat Value:	No data.
Particle Size:	No data.
Corrosion Rate:	No data.
pH:	No data.
Appearance and Odor:	A lyophilized powder

10. Stability and Reactivity

Stability:	Unstable [] Stable [X]
Conditions To Avoid - Instability:	protect from light
Incompatibility - Materials To Avoid:	metals strong acids strong bases strong oxidizing agents

MATERIAL SAFETY DATA SHEET

Ellman's Reagent

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Printed: 07/06/2010

Revision: 07/06/2010

Supercedes Revision: 03/02/2010

Hazardous Decomposition Or Byproducts:	carbon dioxide carbon monoxide hydrogen chloride gas hydrogen iodide nitrogen oxides phosphorus oxides potassium oxides sodium oxides sulfur oxides
Possibility of Hazardous Reactions:	Will occur [] Will not occur [X]
Conditions To Avoid - Hazardous Reactions:	No data available.

11. Toxicological Information

:	The toxicological effects of this product have not been thoroughly studied.
Carcinogenicity/Other Information:	No data available.
Carcinogenicity:	NTP? No IARC Monographs? No OSHA Regulated? No

12. 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.
-------------------------------	---

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	Xi: Irritant
European Community Risk and Safety Phrases	
R21	- Harmful in contact with skin.
R36/37/38	- Irritating to eyes, respiratory system and skin.
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. Ellman's Reagent	NA	No	No	No	No

US EPA CAA, CWA, TSCA

Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	HPV/LPV
1. Ellman's Reagent	NA	HAP, ODC ()	No	No	

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

MATERIAL SAFETY DATA SHEET

EIA Buffer Concentrate (10X)

Page: 1

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

Printed: 07/06/2010
Revision: 07/06/2010
Supersedes Revision: 03/02/2010
Date Created: 06/27/1996

1. Product and Company Identification

Product Code: 400060
Product Name: EIA Buffer Concentrate (10X)
Manufacturer Information
Company Name: Cayman Chemical Company
Emergency Contact: Cayman Chemical Company (800)364-9897
Information: Cayman Chemical Company (734)971-3335

2. Hazards Identification

Emergency Overview: Irritant.
Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection
Health Hazards (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.
The toxicological properties of this product have not been fully evaluated.
Signs and Symptoms Of Exposure: No data available.

3. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	EC#	RTECS #
1. Potassium phosphate, dibasic	7758-11-4	13.3 %	231-834-5	NA
2. Potassium phosphate, Monobasic	7778-77-0	3.21 %	231-913-4	TC6615500
3. Sodium azide	26628-22-8	0.1 %	247-852-1	VY8050000
4. Sodium chloride	7647-14-5	23.4 %	231-598-3	VZ4725000
5. EDTA, tetrasodium salt, hydrate	194491-31-1	0.38 %	NA	NA
6. Bovine Serum Albumin (BSA)	9048-46-8	1.0 %	232-936-2	MT6446000
7. Water	7732-18-5	58.61 %	231-791-2	ZC0110000

4. First Aid Measures

Emergency and First Aid Procedures: If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
If swallowed, 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.
In case of contact with eyes, 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 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.

5. Fire Fighting Measures

Flash Pt: No data.
Explosive Limits: LEL: No data. UEL: No data.
Special Fire Fighting Procedures: 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.
Unusual Fire and Explosion Hazards: Emits toxic fumes under fire conditions.
Hazardous Combustion Products: No data available.
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.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled: Avoid release into the environment.
 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).
 Absorb spill with inert material (e.g. dry sand or earth), then place in a proper chemical waste container.

7. Handling and Storage

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

Precautions To Be Taken in Handling: Avoid breathing (dust, vapor, mist, gas).
 Avoid prolonged or repeated exposure.

Precautions To Be Taken in Storing: Keep tightly closed.
 Store at correct temperature.

8. Exposure Controls/Personal Protection

Hazardous Components (Chemical Name)	CAS #	OSHA PEL	ACGIH TWA	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. Sodium azide	26628-22-8	No data.	CEIL: 0.29 mg/m3	No data.
4. Sodium chloride	7647-14-5	No data.	No data.	No data.
5. EDTA, tetrasodium salt, hydrate	194491-31-1	No data.	No data.	No data.
6. Bovine Serum Albumin (BSA)	9048-46-8	No data.	No data.	No data.
7. Water	7732-18-5	No data.	No data.	No data.

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

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

Eye Protection: Safety glasses

Protective Gloves: Compatible chemical-resistant gloves

Other Protective Clothing: Lab coat

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

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

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

Melting Point: No data.

Boiling Point: No data.

Autoignition Pt: No data.

Flash Pt: No data.

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

Specific Gravity (Water = 1): No data.

Bulk density: No data.

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

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

Evaporation Rate (vs Butyl Acetate=1): No data.

EIA Buffer Concentrate (10X)

Solubility in Water:	No data.
Percent Volatile:	No data.
Heat Value:	No data.
Particle Size:	No data.
Corrosion Rate:	No data.
pH:	7.0
Appearance and Odor:	A clear, colorless solution

10. Stability and Reactivity

Stability:	Unstable [] Stable [X]
Conditions To Avoid - Instability:	No data available.
Incompatibility - Materials To Avoid:	heavy metals strong acids strong oxidizing agents
Hazardous Decomposition Or Byproducts:	carbon dioxide carbon monoxide explosive heavy metal azides hydrogen chloride gas metal oxide fumes phosphorus oxides potassium oxides sodium oxides
Possibility of Hazardous Reactions:	Will occur [] Will not occur [X]
Conditions To Avoid - Hazardous Reactions:	No data available.

11. Toxicological Information

:	The toxicological effects of this compound have not been thoroughly studied.
Carcinogenicity/Other Information:	No data available.
Carcinogenicity:	NTP? No IARC Monographs? No OSHA Regulated? No

12. 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	Xi: Irritant
European Community Risk and Safety Phrases	
R36/37/38	- Irritating to eyes, respiratory system and skin.
S28A	- After contact with skin, wash immediately with plenty of water.
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.)

MATERIAL SAFETY DATA SHEET
EIA Buffer Concentrate (10X)

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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. Sodium azide	26628-22-8	Yes 500 LB	Yes 1000 LB	Yes	No
4. Sodium chloride	7647-14-5	No	No	No	No
5. EDTA, tetrasodium salt, hydrate	194491-31-1	No	No	No	No
6. Bovine Serum Albumin (BSA)	9048-46-8	No	No	No	No
7. Water	7732-18-5	No	No	No	No

US EPA CAA, CWA, TSCA

Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	HPV/LPV
1. Potassium phosphate, dibasic	7758-11-4	HAP, ODC ()	No	Inventory	
2. Potassium phosphate, Monobasic	7778-77-0	HAP, ODC ()	No	Inventory	
3. Sodium azide	26628-22-8	HAP, ODC ()	No	Inventory	
4. Sodium chloride	7647-14-5	HAP, ODC ()	No	Inventory	
5. EDTA, tetrasodium salt, hydrate	194491-31-1	HAP, ODC ()	No	No	
6. Bovine Serum Albumin (BSA)	9048-46-8	HAP, ODC ()	No	Inventory	
7. Water	7732-18-5	HAP, ODC ()	No	Inventory	

16. Other Information

Company Policy or Disclaimer

For research use only, not for human or veterinary clinical 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

MATERIAL SAFETY DATA SHEET

Wash Buffer Concentrate (400X)

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

Printed: 07/06/2010
Revision: 07/06/2010
Supersedes Revision: 03/02/2010
Date Created: 06/27/1996

1. Product and Company Identification

Product Code: 400062
Product Name: Wash Buffer Concentrate (400X)
Manufacturer Information
Company Name: Cayman Chemical Company
Emergency Contact: Cayman Chemical Company (800)364-9897
Information: Cayman Chemical Company (734)971-3335

2. Hazards Identification

Emergency Overview: Irritant.
Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection
Health Hazards (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.
The toxicological properties of this product have not been fully evaluated.
Signs and Symptoms Of Exposure: No data available.

3. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	EC#	RTECS #
1. Potassium phosphate, dibasic	7758-11-4	53.0 %	231-834-5	NA
2. Potassium phosphate, Monobasic	7778-77-0	12.9 %	231-913-4	TC6615500
3. Water	7732-18-5	34.1 %	231-791-2	ZC0110000

4. First Aid Measures

Emergency and First Aid Procedures: If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
If swallowed, 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.
In case of contact with eyes, 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 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.

5. Fire Fighting Measures

Flash Pt: No data.
Explosive Limits: LEL: No data. UEL: No data.
Special Fire Fighting Procedures: 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.
Unusual Fire and Explosion Hazards: Emits toxic fumes under fire conditions.
Hazardous Combustion Products: No data available.
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.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled: Avoid release into the environment.
 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).
 Absorb spill with inert material (e.g. dry sand or earth), then place in a proper chemical waste container.

7. Handling and Storage

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

Precautions To Be Taken in Handling: Avoid breathing (dust, vapor, mist, gas).
 Avoid prolonged or repeated exposure.

Precautions To Be Taken in Storing: Keep tightly closed.
 Store at correct temperature.

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.

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

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

Eye Protection: Safety glasses

Protective Gloves: Compatible chemical-resistant gloves

Other Protective Clothing: Lab coat

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

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

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

Melting Point: No data.

Boiling Point: No data.

Autoignition Pt: No data.

Flash Pt: No data.

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

Specific Gravity (Water = 1): No data.

Bulk density: No data.

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

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

Evaporation Rate (vs Butyl Acetate=1): No data.

Solubility in Water: No data.

Percent Volatile: No data.

Heat Value: No data.

Particle Size: No data.

Corrosion Rate: No data.

Wash Buffer Concentrate (400X)

Printed: 07/06/2010

Revision: 07/06/2010

Supercedes Revision: 03/02/2010

pH:	7.4
Appearance and Odor:	A clear, colorless solution

10. Stability and Reactivity

Stability:	Unstable [] Stable [X]
Conditions To Avoid - Instability:	No data available.
Incompatibility - Materials To Avoid:	strong oxidizing agents
Hazardous Decomposition Or Byproducts:	carbon dioxide carbon monoxide phosphorus oxides potassium oxides
Possibility of Hazardous Reactions:	Will occur [] Will not occur [X]
Conditions To Avoid - Hazardous Reactions:	No data available.

11. Toxicological Information

:	The toxicological effects of this product have not been thoroughly studied.
Carcinogenicity/Other Information:	No data available.
Carcinogenicity:	NTP? No IARC Monographs? No OSHA Regulated? No

12. 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.
-------------------------------	---

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 Xi: Irritant

European Community Risk and Safety Phrases

R36/37/38 - Irritating to eyes, respiratory system and skin.

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. 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

US EPA CAA, CWA, TSCA

Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	HPV/LPV
1. Potassium phosphate, dibasic	7758-11-4	HAP, ODC ()	No	Inventory	
2. Potassium phosphate, Monobasic	7778-77-0	HAP, ODC ()	No	Inventory	
3. Water	7732-18-5	HAP, ODC ()	No	Inventory	

MATERIAL SAFETY DATA SHEET
Wash Buffer Concentrate (400X)

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Printed: 07/06/2010
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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



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

Revision: 11/02/2011
Supersedes Revision: 10/07/2010

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

Product Code: 481020
Product Name: Cyclic GMP AChE Tracer
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
Synonyms: cGMP AChE Tracer;

2. Hazards Identification

Emergency Overview: Avoid contact and inhalation.
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.
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. Cyclic GMP AChE Tracer	NA	99.99 %	NA	No data available.	NA
2. Sodium azide	26628-22-8	0.01 %	247-852-1	R28-32-50/53	VY8050000

4. First Aid Measures

Emergency and First Aid Procedures: If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
 If swallowed, 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.
 In case of contact with eyes, 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 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.

5. Fire Fighting Measures

Flash Pt: No data.
Explosive Limits: LEL: No data. UEL: No data.
Autoignition Pt: No data available.
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.

Flammable Properties and Hazards:	No data available.
Hazardous Combustion Products:	No data available.
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.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled:	Avoid release into the environment. 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). Transfer to a chemical waste container for disposal.
---	--

7. Handling and Storage

Hazard Label Information:	Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilation. Wash thoroughly after handling.
Precautions To Be Taken in Handling:	Avoid breathing (dust, vapor, mist, gas). Avoid prolonged or repeated exposure.
Precautions To Be Taken in Storing:	Keep tightly closed. Store at correct temperature.

8. Exposure Controls/Personal Protection

Hazardous Components (Chemical Name)	CAS #	OSHA PEL	ACGIH TWA	Other Limits
1. Cyclic GMP AChE Tracer	NA	No data.	No data.	No data.
2. Sodium azide	26628-22-8	No data.	CEIL: 0.29 mg/m3	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
Respiratory Equipment (Specify Type):	NIOSH approved respirator, as conditions warrant.
Eye Protection:	Safety glasses
Protective Gloves:	Compatible chemical-resistant gloves
Other Protective Clothing:	Lab coat
Engineering Controls (Ventilation etc.):	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
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

Physical States:	<input type="checkbox"/> Gas <input type="checkbox"/> Liquid <input checked="" type="checkbox"/> Solid
Melting Point:	No data.
Boiling 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.
Percent Volatile: No data.
Appearance and Odor: A lyophilized powder

10. Stability and Reactivity

Stability: Unstable [] Stable [X]
Conditions To Avoid - Instability: No data available.
Incompatibility - Materials To Avoid: No data available.
Hazardous Decomposition Or Byproducts: No data available.
Possibility of Hazardous Reactions: Will occur [] Will not occur [X]
Conditions To Avoid - Hazardous Reactions: No data available.

11. 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. Cyclic GMP AChE Tracer	NA	n.a.	n.a.	n.a.	n.a.
2. Sodium azide	26628-22-8	n.a.	n.a.	A4	n.a.

12. 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. Cyclic GMP AChE Tracer	NA	No	No	No	No
2. Sodium azide	26628-22-8	Yes 500 LB	Yes 1000 LB	Yes	No

Other US EPA or State Lists



MATERIAL SAFETY DATA SHEET

Cyclic GMP AChE Tracer

Hazardous Components (Chemical Name)	CAS #	CAA HAP,ODC	CWA NPDES	TSCA	CA PROP.65
1. Cyclic GMP AChE Tracer	NA	No	No	No	No
2. Sodium azide	26628-22-8	No	No	Inventory	No

Regulatory Information Statement:

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

16. Other Information

Company Policy or Disclaimer

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

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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

Revision: 11/02/2011
Supersedes Revision: 10/07/2010

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

Product Code: 481022

Product Name: Cyclic GMP EIA Antiserum

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

Synonyms: cGMP EIA Antiserum;

2. Hazards Identification

Emergency Overview: Avoid contact and inhalation.

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.

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. Cyclic GMP EIA Antiserum	NA	99.99 %	NA	No data available.	NA
2. Sodium azide	26628-22-8	0.01 %	247-852-1	R28-32-50/53	VY8050000

4. First Aid Measures

Emergency and First Aid Procedures:

If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.

If swallowed, 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.

In case of contact with eyes, 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 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.

5. Fire Fighting Measures

Flash Pt: No data.

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

Autoignition Pt: No data available.

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.

Flammable Properties and Hazards:	No data available.
Hazardous Combustion Products:	No data available.
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.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled:	Avoid release into the environment. 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). Transfer to a chemical waste container for disposal.
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7. Handling and Storage

Hazard Label Information:	Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilation. Wash thoroughly after handling.
Precautions To Be Taken in Handling:	Avoid breathing (dust, vapor, mist, gas). Avoid prolonged or repeated exposure.
Precautions To Be Taken in Storing:	Keep tightly closed. Store at correct temperature.

8. Exposure Controls/Personal Protection

Hazardous Components (Chemical Name)	CAS #	OSHA PEL	ACGIH TWA	Other Limits
1. Cyclic GMP EIA Antiserum	NA	No data.	No data.	No data.
2. Sodium azide	26628-22-8	No data.	CEIL: 0.29 mg/m3	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
Respiratory Equipment (Specify Type):	NIOSH approved respirator, as conditions warrant.
Eye Protection:	Safety glasses
Protective Gloves:	Compatible chemical-resistant gloves
Other Protective Clothing:	Lab coat
Engineering Controls (Ventilation etc.):	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
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

Physical States:	<input type="checkbox"/> Gas <input type="checkbox"/> Liquid <input checked="" type="checkbox"/> Solid
Melting Point:	No data.
Boiling 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.
Percent Volatile: No data.
Appearance and Odor: A lyophilized powder

10. Stability and Reactivity

Stability: Unstable [] Stable [X]
Conditions To Avoid - Instability: No data available.
Incompatibility - Materials To Avoid: No data available.
Hazardous Decomposition Or Byproducts: No data available.
Possibility of Hazardous Reactions: Will occur [] Will not occur [X]
Conditions To Avoid - Hazardous Reactions: No data available.

11. 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. Cyclic GMP EIA Antiserum	NA	n.a.	n.a.	n.a.	n.a.
2. Sodium azide	26628-22-8	n.a.	n.a.	A4	n.a.

12. 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. Cyclic GMP EIA Antiserum	NA	No	No	No	No
2. Sodium azide	26628-22-8	Yes 500 LB	Yes 1000 LB	Yes	No

Other US EPA or State Lists



MATERIAL SAFETY DATA SHEET

Cyclic GMP EIA Antiserum

Hazardous Components (Chemical Name)	CAS #	CAA HAP,ODC	CWA NPDES	TSCA	CA PROP.65
1. Cyclic GMP EIA Antiserum	NA	No	No	No	No
2. Sodium azide	26628-22-8	No	No	Inventory	No

Regulatory Information Statement:

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

16. Other Information

Company Policy or Disclaimer

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

Revision: 11/02/2011
Supersedes Revision: 10/07/2010

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

Product Code: 481024
Product Name: Cyclic GMP EIA Standard
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
Synonyms: cGMP EIA Standard;

2. Hazards Identification

Emergency Overview: Avoid contact and inhalation.
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.
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. Cyclic GMP EIA Standard	NA	99.99 %	NA	No data available.	NA
2. Sodium azide	26628-22-8	0.01 %	247-852-1	R28-32-50/53	VY8050000

4. First Aid Measures

Emergency and First Aid Procedures: If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
 If swallowed, 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.
 In case of contact with eyes, 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 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.

5. Fire Fighting Measures

Flash Pt: No data.
Explosive Limits: LEL: No data. UEL: No data.
Autoignition Pt: No data available.
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.

Flammable Properties and Hazards:	No data available.
Hazardous Combustion Products:	No data available.
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.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled:	Avoid release into the environment. 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). Transfer to a chemical waste container for disposal.
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7. Handling and Storage

Hazard Label Information:	Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilation. Wash thoroughly after handling.
Precautions To Be Taken in Handling:	Avoid breathing (dust, vapor, mist, gas). Avoid prolonged or repeated exposure.
Precautions To Be Taken in Storing:	Keep tightly closed. Store at correct temperature.

8. Exposure Controls/Personal Protection

Hazardous Components (Chemical Name)	CAS #	OSHA PEL	ACGIH TWA	Other Limits
1. Cyclic GMP EIA Standard	NA	No data.	No data.	No data.
2. Sodium azide	26628-22-8	No data.	CEIL: 0.29 mg/m3	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
Respiratory Equipment (Specify Type):	NIOSH approved respirator, as conditions warrant.
Eye Protection:	Safety glasses
Protective Gloves:	Compatible chemical-resistant gloves
Other Protective Clothing:	Lab coat
Engineering Controls (Ventilation etc.):	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
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

Physical States:	<input type="checkbox"/> Gas <input type="checkbox"/> Liquid <input checked="" type="checkbox"/> Solid
Melting Point:	No data.
Boiling 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.
Percent Volatile: No data.
Appearance and Odor: A lyophilized powder

10. Stability and Reactivity

Stability: Unstable [] Stable [X]
Conditions To Avoid - Instability: No data available.
Incompatibility - Materials To Avoid: No data available.
Hazardous Decomposition Or Byproducts: No data available.
Possibility of Hazardous Reactions: Will occur [] Will not occur [X]
Conditions To Avoid - Hazardous Reactions: No data available.

11. 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. Cyclic GMP EIA Standard	NA	n.a.	n.a.	n.a.	n.a.
2. Sodium azide	26628-22-8	n.a.	n.a.	A4	n.a.

12. 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. Cyclic GMP EIA Standard	NA	No	No	No	No
2. Sodium azide	26628-22-8	Yes 500 LB	Yes 1000 LB	Yes	No

Other US EPA or State Lists



MATERIAL SAFETY DATA SHEET

Cyclic GMP EIA Standard

Hazardous Components (Chemical Name)	CAS #	CAA HAP,ODC	CWA NPDES	TSCA	CA PROP.65
1. Cyclic GMP EIA Standard	NA	No	No	No	No
2. Sodium azide	26628-22-8	No	No	Inventory	No

Regulatory Information Statement:

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

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