

Product Information



Precoated (Mouse Anti-Rabbit IgG) EIA 96 Well Strip Plates

Catalog No. 400005

COMMENTS

Each plate is coated with the Mouse Monoclonal Anti-Rabbit IgG antibody. This Material Safety Data Sheet (MSDS) is for the antibody only. A 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: This material should be considered hazardous until information to the contrary becomes available. This product is not intended or approved for human or veterinary use. Use of this product for human or animal testing is extremely hazardous and may result in disease, severe injury, or death.

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

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Revision Date: 06/19/2003

Cayman Chemical

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MATERIAL SAFETY DATA SHEET

Potassium Phosphate (monobasic)

Page: 1

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

Printed: 11/23/2004
Revision: 11/22/2004
Supersedes Revision: 02/04/2004
Date Created: 06/27/1996

1. Product and Company Identification

Product Code: 400032
Product Name: Potassium Phosphate (monobasic)
Manufacturer Information
Company Name: Cayman Chemical Company
Emergency Contact: Cayman Chemical Company (800)364-9897
Information: Cayman Chemical Company (734)971-3335
Chemical Family: EIA Other
CAS Number: 7778-77-0
RTECS #: TC6615500
Synonyms: monopotassium phosphate

2. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Percentage	OSHA PEL	ACGIH TLV	Other Limits
1. Potassium phosphate	7778-77-0	100.0 %	No data.	No data.	No data.
Hazardous Components (Chemical Name)	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Potassium phosphate	TC6615500	No data.	No data.	No data.	No data.

3. Hazards Identification

Emergency Overview: No data available.
Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection
Potential Health Effects (Acute and Chronic): Material is 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 compound have not been fully evaluated.
LD 50/LC 50: Skin LD50 (RABBIT): >4640 mg/kg
Signs and Symptoms Of Exposure: Irritating to the skin, eyes, nose, throat, and respiratory tract.

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. After initial flushings, remove any contact lenses and continue flushing 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. 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.
Fire Fighting Instructions: As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.
Flammable Properties and Hazards: Emits toxic fumes under fire conditions.

Extinguishing Media: Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray when fighting fires involving this material.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled: Wear a NIOSH/MSHA approved self-contained breathing apparatus and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).
 Vacuum or sweep up material and place in disposal container.
 Avoid raising dust.
 After removal, ventilate contaminated area and flush thoroughly with water.

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 contact with eyes, skin, and clothing.
 Avoid prolonged or repeated exposure.
 Do not reuse this container.
 Hygroscopic.
 Use with adequate ventilation.
 Wash thoroughly after handling.

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

8. Exposure Controls/Personal Protection

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

Respiratory Equipment (Specify Type): No data available.

Eye Protection: Safety glasses

Protective Gloves: Latex disposable 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: [] Gas [] Liquid [X] Solid

Melting Point: No data.

Boiling Point: No data.

Specific Gravity (Water = 1): 2.338

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: N.A.

Formula: KH₂PO₄

Molecular Weight: 136.10

pH: No data.

Appearance and Odor: A crystalline solid

Potassium Phosphate (monobasic)

10. Stability and Reactivity

Stability: Unstable [] Stable [X]
Conditions To Avoid - Instability: protect from moisture
Incompatibility - Materials To Avoid: strong oxidizing agents
Hazardous Decomposition Or Byproducts: No data available.
Hazardous Polymerization: Will occur [] Will not occur [X]
Conditions To Avoid - Hazardous Polymerization: No data available.

11. Toxicological Information

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

Ecological Information: 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: No data available.
Additional Transport Information: Transport in accordance with local, state, and federal regulations.

15. Regulatory Information

US EPA SARA Title III

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Potassium phosphate	7778-77-0	No	No	No	No

US EPA CAA, CWA, TSCA

Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. Potassium phosphate	7778-77-0	No	No	No	No

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

Sec.302: EPA SARA Title III Section 302 Extremely Hazardous Chemical with TPQ. * indicates 10000 LB TPQ if not volatile.
Sec.304: EPA SARA Title III Section 304: CERCLA Reportable + Sec.302 with Reportable Quantity. ** indicates statutory RQ.
Sec.313: EPA SARA Title III Section 313 Toxic Release Inventory. Note: -Cat indicates a member of a chemical category.
Sec.110: EPA SARA 110 Superfund Site Priority Contaminant List

Other Important Lists:

CWA NPDES: EPA Clean Water Act NPDES Permit Chemical
CAA HAP: EPA Clean Air Act Hazardous Air Pollutant
CAA ODC: EPA Clean Air Act Ozone Depleting Chemical (1=CFC, 2=HCFC)
CA PROP 65: California Proposition 65

TSCA (Toxic Substances Control Act) Lists:

5A(2): Chemical Subject to Significant New Rules (SNURS)
6A: Commercial Chemical Control Rules
8A: Toxic Substances Subject To Information Rules on Production
8A CAIR: Comprehensive Assessment Information Rules - (CAIR)
8A PAIR: Preliminary Assessment Information Rules - (PAIR)
8C: Records of Allegations of Significant Adverse Reactions
8D: Health and Safety Data Reporting Rules
8D TERM: Health and Safety Data Reporting Rule Terminations

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.

Carbonate Buffer

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

Printed: 11/29/2004
Revision: 11/22/2004
Supersedes Revision: 02/04/2004
Date Created: 06/27/1996

1. Product and Company Identification

Product Code: 400027
Product Name: Carbonate Buffer
Manufacturer Information
Company Name: Cayman Chemical Company
Emergency Contact: Cayman Chemical Company (800)364-9897
Information: Cayman Chemical Company (734)971-3335
Chemical Family: EIA Other
CAS Number: 497-19-8
RTECS #: VZ4050000
Synonyms: Sodium Carbonate

2. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Percentage	OSHA PEL	ACGIH TLV	Other Limits
1. Sodium carbonate	497-19-8	100.0 %	No data.	No data.	No data.
Hazardous Components (Chemical Name)	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Sodium carbonate	VZ4050000	No data.	No data.	No data.	No data.

3. Hazards Identification

Emergency Overview: No data available.
Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection
Potential Health Effects (Acute and Chronic): Material is 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.
Risk of serious damage to eyes.
The toxicological properties of this compound have not been fully evaluated.
LD 50/LC 50: Please refer to Section 11
Signs and Symptoms Of Exposure: Irritating to the skin, eyes, nose, throat, and respiratory tract.
Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.

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. After initial flushings, remove any contact lenses and continue flushing 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. 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.

Carbonate Buffer

Fire Fighting Instructions:	As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.
Flammable Properties and Hazards:	Emits toxic fumes under fire conditions.
Extinguishing Media:	Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray when fighting fires involving this material.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled:	Wear a NIOSH/MSHA approved self-contained breathing apparatus and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves). Vacuum or sweep up material and place in disposal container. Avoid raising dust. After removal, ventilate contaminated area and flush thoroughly with water.
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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 contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure. Do not reuse this container. Hygroscopic. Use with adequate ventilation. Wash thoroughly after handling.
Precautions To Be Taken in Storing:	Keep tightly closed. Store at correct temperature.

8. Exposure Controls/Personal Protection

Protective Equipment Summary - Hazard Label Information:	Eye wash station in work area Lab coat Latex disposable gloves Safety glasses Safety shower in work area Vent Hood
Respiratory Equipment (Specify Type):	No data available.
Eye Protection:	Safety glasses
Protective Gloves:	Latex disposable 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.
Specific Gravity (Water = 1):	2.532
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:	N.A.
Formula:	Na2CO3
Molecular Weight:	106.00
pH:	No data.

Appearance and Odor: A crystalline solid

10. Stability and Reactivity

Stability: Unstable [] Stable [X]
Conditions To Avoid - Instability: protect from moisture
Incompatibility - Materials To Avoid: strong acids
Hazardous Decomposition Or Byproducts: carbon dioxide
carbon monoxide
sodium/sodium oxides
Hazardous Polymerization: Will occur [] Will not occur [X]
Conditions To Avoid - Hazardous Polymerization: No data available.

11. Toxicological Information

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

Toxicity Data:
Oral (rat) LD50: 4090 mg/kg
Inhalation (rat) LC50: 2,300 mg/m3
Oral (mouse) LD50: 6600 mg/kg
Inhalation (mouse) LC50: 1,200 mg/m3
Intraperitoneal (mouse) LD50: 117 mg/kg
Subcutaneous (mouse) LD50: 2210 mg/kg
Inhalation (guinea pig) LC50: 800 mg/m3

Irritation Data:
Skin (rabbit): 500 mg 24H mild effect
Eyes (rabbit): 100 mg 24H moderate effect
Eyes (rabbit): 50 mg severe effect

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

Carcinogenicity/Other Information: No data available.
Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

12. Ecological Information

Ecological Information: 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: No data available.
Additional Transport Information: Transport in accordance with local, state, and federal regulations.

15. Regulatory Information

US EPA SARA Title III

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Sodium carbonate	497-19-8	No	No	No	No

US EPA CAA, CWA, TSCA

Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. Sodium carbonate	497-19-8	No	No	No	No

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

Carbonate Buffer

Printed: 11/29/2004

Revision: 11/22/2004

Supersedes Revision: 02/04/2004

- Sec.302:** EPA SARA Title III Section 302 Extremely Hazardous Chemical with TPQ. * indicates 10000 LB TPQ if not volatile.
- Sec.304:** EPA SARA Title III Section 304: CERCLA Reportable + Sec.302 with Reportable Quantity. ** indicates statutory RQ.
- Sec.313:** EPA SARA Title III Section 313 Toxic Release Inventory. Note: -Cat indicates a member of a chemical category.
- Sec.110:** EPA SARA 110 Superfund Site Priority Contaminant List

Other Important Lists:

- CWA NPDES:** EPA Clean Water Act NPDES Permit Chemical
- CAA HAP:** EPA Clean Air Act Hazardous Air Pollutant
- CAA ODC:** EPA Clean Air Act Ozone Depleting Chemical (1=CFC, 2=HCFC)
- CA PROP 65:** California Proposition 65

TSCA (Toxic Substances Control Act) Lists:

- 5A(2):** Chemical Subject to Significant New Rules (SNURS)
- 6A:** Commercial Chemical Control Rules
- 8A:** Toxic Substances Subject To Information Rules on Production
- 8A CAIR:** Comprehensive Assessment Information Rules - (CAIR)
- 8A PAIR:** Preliminary Assessment Information Rules - (PAIR)
- 8C:** Records of Allegations of Significant Adverse Reactions
- 8D:** Health and Safety Data Reporting Rules
- 8D TERM:** Health and Safety Data Reporting Rule Terminations

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.

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

Printed: 11/29/2004
Revision: 11/29/2004
Supersedes Revision: 12/10/2003
Date Created: 06/27/1996

1. Product and Company Identification

Product Code: 400035
Product Name: Tween 20
Manufacturer Information
Company Name: Cayman Chemical Company
Emergency Contact: Cayman Chemical Company (800)364-9897
Information: Cayman Chemical Company (734)971-3335
Chemical Family: EIA
CAS Number: 9005-64-5
RTECS #: TR7400000
Synonyms: Polyoxyethylenesorbitan monolaurate;
 Armotan PML-20;
 Capmul

2. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Percentage	OSHA PEL	ACGIH TLV	Other Limits
1. Polyoxyethylene (20) sorbitan monolaurate (Tween 20)	9005-64-5	100.0 %	No data.	No data.	No data.
Hazardous Components (Chemical Name)	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Polyoxyethylene (20) sorbitan monolaurate (Tween 20)	TR7400000	No data.	No data.	No data.	No data.

3. Hazards Identification

Emergency Overview: No data available.
Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection
Potential Health Effects (Acute and Chronic): Contact may cause skin or eye irritation.
 May cause musculoskeletal system developmental abnormalities, and other developmental abnormalities.
 Irritation data (RTECS): skin (human) 15 mg/3D-I MLD.
 The toxicological properties of this compound have not been fully evaluated.
LD 50/LC 50: Intraperitoneal (rat) LD50: 3850 mg/kg
Signs and Symptoms Of Exposure: Irritating to the skin, eyes, nose, throat, and respiratory tract.

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. After initial flushings, remove any contact lenses and continue flushing 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. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

5. Fire Fighting Measures

Flash Pt:	230.00 F
Explosive Limits:	LEL: No data. UEL: No data.
Autoignition Pt:	No data.
Fire Fighting Instructions:	As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.
Flammable Properties and Hazards:	Emits toxic and corrosive fumes under fire conditions.
Hazardous Combustion Products:	carbon dioxide carbon monoxide
Extinguishing Media:	Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray when fighting fires involving this material.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled:	Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. After removal, ventilate contaminated area and flush thoroughly with water.
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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 contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure. Do not reuse this container. Keep away from sources of ignition. Use with adequate ventilation. Wash thoroughly after handling.
Precautions To Be Taken in Storing:	Store at correct temperature.

8. Exposure Controls/Personal Protection

Protective Equipment Summary - Hazard Label Information:	Eye wash station in work area Lab coat Latex disposable gloves Safety glasses Safety shower in work area Vent Hood
Respiratory Equipment (Specify Type):	No data available.
Eye Protection:	Safety glasses
Protective Gloves:	Latex disposable gloves
Other Protective Clothing:	Lab coat
Engineering Controls (Ventilation etc.):	Good general ventilation should be sufficient to control airborne levels.
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.
Specific Gravity (Water = 1):	1.095 at 25.0 C
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.
Formula:	C58H114O26

MATERIAL SAFETY DATA SHEET

Tween 20

Molecular Weight: 1227.50
pH: No data.
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
Hazardous Polymerization: Will occur [] Will not occur [X]
Conditions To Avoid - Hazardous Polymerization: No data available.

11. Toxicological Information

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

Ecological Information: 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: No data available.
Additional Transport Information: Transport in accordance with local, state, and federal regulations.

15. Regulatory Information

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	CA PROP 65
1. Polyoxyethylene (20) sorbitan monolaurate (Tween 20)	9005-64-5	No	No	No	No

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

- Sec.302:** EPA SARA Title III Section 302 Extremely Hazardous Chemical with TPQ. * indicates 10000 LB TPQ if not volatile.
- Sec.304:** EPA SARA Title III Section 304: CERCLA Reportable + Sec.302 with Reportable Quantity. ** indicates statutory RQ.
- Sec.313:** EPA SARA Title III Section 313 Toxic Release Inventory. Note: -Cat indicates a member of a chemical category.
- Sec.110:** EPA SARA 110 Superfund Site Priority Contaminant List

Other Important Lists:

- CWA NPDES:** EPA Clean Water Act NPDES Permit Chemical
- CAA HAP:** EPA Clean Air Act Hazardous Air Pollutant
- CAA ODC:** EPA Clean Air Act Ozone Depleting Chemical (1=CFC, 2=HCFC)
- CA PROP 65:** California Proposition 65

TSCA (Toxic Substances Control Act) Lists:

- 5A(2):** Chemical Subject to Significant New Rules (SNURS)

MATERIAL SAFETY DATA SHEET

Tween 20

Page: 4

Printed: 11/29/2004

Revision: 11/29/2004

Supercedes Revision: 12/10/2003

6A:	Commercial Chemical Control Rules
8A:	Toxic Substances Subject To Information Rules on Production
8A CAIR:	Comprehensive Assessment Information Rules - (CAIR)
8A PAIR:	Preliminary Assessment Information Rules - (PAIR)
8C:	Records of Allegations of Significant Adverse Reactions
8D:	Health and Safety Data Reporting Rules
8D TERM:	Health and Safety Data Reporting Rule Terminations

16. Other Information

Company Policy or Disclaimer

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MATERIAL SAFETY DATA SHEET

EIA Tracer Dye

Page: 1

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

Printed: 11/29/2004
Revision: 11/29/2004
Supersedes Revision: 12/10/2003
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
Chemical Family: Reagents

2. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Percentage	OSHA PEL	ACGIH TLV	Other Limits
1. EIA Tracer Dye	NA	0.0 -100.0 %	No data.	No data.	No data.
2. Sodium hydroxide	1310-73-2	0.0 -100.0 %	8H TWA:2 mg/m3	No data.	No data.
Hazardous Components (Chemical Name)	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. EIA Tracer Dye	NA	No data.	No data.	No data.	No data.
2. Sodium hydroxide	WB4900000	No data.	No data.	No data.	No data.

3. Hazards Identification

Emergency Overview: No data available.
Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection
Potential Health Effects (Acute and Chronic): Contact may cause skin or eye irritation.
Corrosive, causes severe burns.
Harmful if swallowed, inhaled, or absorbed through the skin.
Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema.
Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract, eyes, and skin.
Repeated exposure may cause skin dryness or cracking.
The toxicological properties of this compound have not been fully evaluated.
Signs and Symptoms Of Exposure: Irritating to the skin, eyes, nose, throat, and respiratory tract.
Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.

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. After initial flushings, remove any contact lenses and continue flushing 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. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

MATERIAL SAFETY DATA SHEET

EIA Tracer Dye

Page: 2

Printed: 11/29/2004

Revision: 11/29/2004

Supercedes Revision: 12/10/2003

5. Fire Fighting Measures

Flash Pt:	No data.
Explosive Limits:	LEL: No data. UEL: No data.
Autoignition Pt:	No data.
Fire Fighting Instructions:	As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes. Exothermic in contact with water.
Flammable Properties and Hazards:	Emits toxic and corrosive fumes under fire conditions. May react with aluminum, tin and zinc, releasing flammable hydrogen gas. Material reacts violently with water and can react with aluminum, tin, zinc, and their alloys to generate flammable and explosive hydrogen gas. Sodium hydroxide reacts with nitromethane to spontaneously form shock-sensitive salts.
Hazardous Combustion Products:	sodium sodium oxides
Extinguishing Media:	Use alcohol-resistant foam, carbon dioxide, or dry chemical spray when fighting fires involving this material. Use extinguishing media appropriate to surrounding fire conditions. DO NOT USE WATER.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled:	Wear a self-contained breathing apparatus 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. After removal, ventilate contaminated area and flush thoroughly with water.
---	---

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 contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure. Do not reuse this container. Use with adequate ventilation. Wash thoroughly after handling.
Precautions To Be Taken in Storing:	Store at correct temperature.

8. Exposure Controls/Personal Protection

Protective Equipment Summary - Hazard Label Information:	Eye wash station in work area Lab coat Latex disposable gloves Safety glasses Safety shower in work area Vent Hood
Respiratory Equipment (Specify Type):	No data available.
Eye Protection:	Safety glasses
Protective Gloves:	Latex disposable 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.

MATERIAL SAFETY DATA SHEET
EIA Tracer Dye

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 Printed: 11/29/2004
 Revision: 11/29/2004
 Supercedes Revision: 12/10/2003

9. Physical and Chemical Properties

Physical States: [] Gas [X] Liquid [] Solid
Melting Point: No data.
Boiling Point: 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 (vs Butyl Acetate=1): No data.
Solubility in Water: No data.
Percent Volatile: No data.
pH: No data.
Appearance and Odor: A clear, colorless solution.

10. Stability and Reactivity

Stability: Unstable [] Stable [X]
Conditions To Avoid - Instability: Absorbs carbon dioxide from air.
 Do not heat above melting point.
 Do not allow water to enter the container, heat of solution is very high, and with limited amounts of water, violent boiling may occur.
 Always add to water, never add water to material.
Incompatibility - Materials To Avoid: organic materials
 strong acids
 strong oxidizing agents
 water
Hazardous Decomposition Or Byproducts: sodium
 sodium oxides
Hazardous Polymerization: Will occur [] Will not occur [X]
Conditions To Avoid - Hazardous Polymerization: No data available.

11. Toxicological Information

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

Ecological Information: 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: Sodium hydroxide solution
DOT Hazard Class: 8
DOT Hazard Label: Corrosive
UN/NA Number: 1824
Additional Transport Information: Transport in accordance with local, state, and federal regulations.

15. Regulatory Information

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

MATERIAL SAFETY DATA SHEET

EIA Tracer Dye

Page: 4
 Printed: 11/29/2004
 Revision: 11/29/2004
 Supersedes Revision: 12/10/2003

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
2. Sodium hydroxide	1310-73-2	No	Yes 1000 LB	No	No

US EPA CAA, CWA, TSCA

Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. EIA Tracer Dye	NA	No	No	No	No
2. Sodium hydroxide	1310-73-2	No	No	No	No

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

- Sec.302:** EPA SARA Title III Section 302 Extremely Hazardous Chemical with TPQ. * indicates 10000 LB TPQ if not volatile.
- Sec.304:** EPA SARA Title III Section 304: CERCLA Reportable + Sec.302 with Reportable Quantity. ** indicates statutory RQ.
- Sec.313:** EPA SARA Title III Section 313 Toxic Release Inventory. Note: -Cat indicates a member of a chemical category.
- Sec.110:** EPA SARA 110 Superfund Site Priority Contaminant List

Other Important Lists:

- CWA NPDES:** EPA Clean Water Act NPDES Permit Chemical
- CAA HAP:** EPA Clean Air Act Hazardous Air Pollutant
- CAA ODC:** EPA Clean Air Act Ozone Depleting Chemical (1=CFC, 2=HCFC)
- CA PROP 65:** California Proposition 65

TSCA (Toxic Substances Control Act) Lists:

- 5A(2):** Chemical Subject to Significant New Rules (SNURS)
- 6A:** Commercial Chemical Control Rules
- 8A:** Toxic Substances Subject To Information Rules on Production
- 8A CAIR:** Comprehensive Assessment Information Rules - (CAIR)
- 8A PAIR:** Preliminary Assessment Information Rules - (PAIR)
- 8C:** Records of Allegations of Significant Adverse Reactions
- 8D:** Health and Safety Data Reporting Rules
- 8D TERM:** Health and Safety Data Reporting Rule Terminations

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

EIA Antiserum Dye

Page: 1

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

Printed: 11/29/2004
Revision: 11/29/2004
Supersedes Revision: 12/10/2003
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
Chemical Family: Reagents

2. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Percentage	OSHA PEL	ACGIH TLV	Other Limits
1. EIA Antiserum Dye	NA	0.0 -100.0 %	No data.	No data.	No data.
2. Sodium chloride	7647-14-5	0.0 -100.0 %	No data.	No data.	No data.
Hazardous Components (Chemical Name)	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. EIA Antiserum Dye	NA	No data.	No data.	No data.	No data.
2. Sodium chloride	VZ4725000	No data.	No data.	No data.	No data.

3. Hazards Identification

Emergency Overview: No data available.
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 mucous membranes and upper respiratory tract.
May cause eye, skin, or respiratory system irritation.
Repeated exposure may cause skin dryness or cracking.
The toxicological properties of this compound have not been fully evaluated.
Signs and Symptoms Of Exposure: Irritating to the skin, eyes, nose, throat, and respiratory tract.

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. After initial flushings, remove any contact lenses and continue flushing 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. 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.
Fire Fighting Instructions: As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.
Flammable Properties and Hazards: Emits toxic and corrosive fumes under fire conditions.
Hazardous Combustion Products: hydrogen chloride gas
sodium
sodium oxides

MATERIAL SAFETY DATA SHEET

EIA Antiserum Dye

Page: 2

Printed: 11/29/2004

Revision: 11/29/2004

Supersedes Revision: 12/10/2003

Extinguishing Media: Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray when fighting fires involving this material.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled: Wear a self-contained breathing apparatus 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.
After removal, ventilate contaminated area and flush thoroughly with water.

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 contact with eyes, skin, and clothing.
Avoid prolonged or repeated exposure.
Do not reuse this container.
Use with adequate ventilation.
Wash thoroughly after handling.

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

8. Exposure Controls/Personal Protection

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

Respiratory Equipment (Specify Type): No data available.

Eye Protection: Safety glasses

Protective Gloves: Latex disposable 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: [] Gas [X] Liquid [] Solid

Melting Point: No data.

Boiling Point: 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 (vs Butyl Acetate=1): No data.

Solubility in Water: No data.

Percent Volatile: No data.

pH: No data.

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: hydrogen chloride gas
sodium
sodium oxides

MATERIAL SAFETY DATA SHEET

EIA Antiserum Dye

Hazardous Polymerization: Will occur [] Will not occur [X]
Conditions To Avoid - Hazardous Polymerization: No data available.

11. Toxicological Information

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

Ecological Information: 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: No data available.
Additional Transport Information: Transport in accordance with local, state, and federal regulations.

15. Regulatory Information

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
2. Sodium chloride	7647-14-5	No	No	No	No

US EPA CAA, CWA, TSCA

Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. EIA Antiserum Dye	NA	No	No	No	No
2. Sodium chloride	7647-14-5	No	No	No	No

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

- Sec.302:** EPA SARA Title III Section 302 Extremely Hazardous Chemical with TPQ. * indicates 10000 LB TPQ if not volatile.
- Sec.304:** EPA SARA Title III Section 304: CERCLA Reportable + Sec.302 with Reportable Quantity. ** indicates statutory RQ.
- Sec.313:** EPA SARA Title III Section 313 Toxic Release Inventory. Note: -Cat indicates a member of a chemical category.
- Sec.110:** EPA SARA 110 Superfund Site Priority Contaminant List

Other Important Lists:

- CWA NPDES:** EPA Clean Water Act NPDES Permit Chemical
- CAA HAP:** EPA Clean Air Act Hazardous Air Pollutant
- CAA ODC:** EPA Clean Air Act Ozone Depleting Chemical (1=CFC, 2=HCFC)
- CA PROP 65:** California Proposition 65

TSCA (Toxic Substances Control Act) Lists:

- 5A(2):** Chemical Subject to Significant New Rules (SNURS)
- 6A:** Commercial Chemical Control Rules
- 8A:** Toxic Substances Subject To Information Rules on Production
- 8A CAIR:** Comprehensive Assessment Information Rules - (CAIR)
- 8A PAIR:** Preliminary Assessment Information Rules - (PAIR)
- 8C:** Records of Allegations of Significant Adverse Reactions
- 8D:** Health and Safety Data Reporting Rules
- 8D TERM:** Health and Safety Data Reporting Rule Terminations

16. Other Information

Company Policy or Disclaimer

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MATERIAL SAFETY DATA SHEET

Ellman's Reagent

Page: 1

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

Printed: 12/06/2004
Revision: 12/06/2004
Supersedes Revision: 12/10/2003
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. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Percentage	OSHA PEL	ACGIH TLV	Other Limits
1. Ellman's Reagent	NA	0.0 -100.0 %	No data.	No data.	No data.

3. Hazards Identification

Emergency Overview: No data available.
Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection
Potential Health Effects (Acute and Chronic): Material is 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 compound have not been fully evaluated.
Signs and Symptoms Of Exposure: Irritating to the skin, eyes, nose, throat, and respiratory tract.

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. After initial flushings, remove any contact lenses and continue flushing 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. 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.
Fire Fighting Instructions: As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.
Flammable Properties and Hazards: Emits toxic and corrosive fumes under fire conditions.
Extinguishing Media: Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray when fighting fires involving this material.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled: Wear a NIOSH/MSHA approved self-contained breathing apparatus and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).
Vacuum or sweep up material and place in disposal container.
Avoid raising dust.
After removal, ventilate contaminated area and flush thoroughly with water.

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 contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure. Do not reuse this container. Hygroscopic. Use with adequate ventilation. Wash thoroughly after handling.
Precautions To Be Taken in Storing:	Store at correct temperature.

8. Exposure Controls/Personal Protection

Protective Equipment Summary - Hazard Label Information:	Eye wash station in work area Lab coat Latex disposable gloves Safety glasses Safety shower in work area Vent Hood
Respiratory Equipment (Specify Type):	No data available.
Eye Protection:	Safety glasses
Protective Gloves:	Latex disposable 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.
Specific Gravity (Water = 1):	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.
pH:	No data.
Appearance and Odor:	A lyophilized powder

10. Stability and Reactivity

Stability:	Unstable <input type="checkbox"/> Stable <input checked="" type="checkbox"/>
Conditions To Avoid - Instability:	No data available.
Incompatibility - Materials To Avoid:	protect from moisture strong bases strong oxidizing agents
Hazardous Decomposition Or Byproducts:	carbon dioxide carbon monoxide hydrogen chloride gas hydrogen iodide nitrogen oxides phosphorus oxides potassium oxides sodium/sodium oxides sulfur oxides

MATERIAL SAFETY DATA SHEET

Ellman's Reagent

Hazardous Polymerization: Will occur [] Will not occur [X]
Conditions To Avoid - Hazardous Polymerization: No data available.

11. Toxicological Information

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

Ecological Information: 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: No data available.
Additional Transport Information: Transport in accordance with local, state, and federal regulations.

15. Regulatory Information

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	CA PROP 65
1. Ellman's Reagent	NA	No	No	No	No

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

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- Sec.304:** EPA SARA Title III Section 304: CERCLA Reportable + Sec.302 with Reportable Quantity. ** indicates statutory RQ.
- Sec.313:** EPA SARA Title III Section 313 Toxic Release Inventory. Note: -Cat indicates a member of a chemical category.
- Sec.110:** EPA SARA 110 Superfund Site Priority Contaminant List

Other Important Lists:

- CWA NPDES:** EPA Clean Water Act NPDES Permit Chemical
- CAA HAP:** EPA Clean Air Act Hazardous Air Pollutant
- CAA ODC:** EPA Clean Air Act Ozone Depleting Chemical (1=CFC, 2=HCFC)
- CA PROP 65:** California Proposition 65

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- 5A(2):** Chemical Subject to Significant New Rules (SNURS)
- 6A:** Commercial Chemical Control Rules
- 8A:** Toxic Substances Subject To Information Rules on Production
- 8A CAIR:** Comprehensive Assessment Information Rules - (CAIR)
- 8A PAIR:** Preliminary Assessment Information Rules - (PAIR)
- 8C:** Records of Allegations of Significant Adverse Reactions
- 8D:** Health and Safety Data Reporting Rules
- 8D TERM:** Health and Safety Data Reporting Rule Terminations

16. Other Information

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MATERIAL SAFETY DATA SHEET

EIA Buffer Concentrate (10X)

Page: 1

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

Printed: 11/29/2004
Revision: 11/29/2004
Supersedes Revision: 03/04/2004
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. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Percentage	OSHA PEL	ACGIH TLV	Other Limits
1. Potassium phosphate, dibasic	7758-11-4	13.3 %	No data.	No data.	No data.
2. Potassium phosphate	7778-77-0	3.21 %	No data.	No data.	No data.
3. Sodium azide	26628-22-8	0.1 %	No data.	No data.	No data.
4. Sodium chloride	7647-14-5	24.15 %	No data.	No data.	No data.
5. Ethylenediamine Tetraacetic Acid	60-00-4	0.37 %	No data.	No data.	No data.
6. Bis(trimethylsilyl)acetylene	14630-40-1	1.0 %	No data.	No data.	No data.
7. Water	7732-18-5	57.87 %	No data.	No data.	No data.
Hazardous Components (Chemical Name)	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Potassium phosphate, dibasic	NA	No data.	No data.	No data.	No data.
2. Potassium phosphate	TC6615500	No data.	No data.	No data.	No data.
3. Sodium azide	VY8050000	No data.	No data.	No data.	No data.
4. Sodium chloride	VZ4725000	No data.	No data.	No data.	No data.
5. Ethylenediamine Tetraacetic Acid	AH4025000	No data.	No data.	No data.	No data.
6. Bis(trimethylsilyl)acetylene	NA	No data.	No data.	No data.	No data.
7. Water	ZC0110000	No data.	No data.	No data.	No data.

3. Hazards Identification

Emergency Overview: No data available.
Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection
Potential Health Effects (Acute and Chronic): Material is 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 compound have not been fully evaluated.
Signs and Symptoms Of Exposure: Irritating to the skin, eyes, nose, throat, and respiratory tract.

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. After initial flushings, remove any contact lenses and continue flushing 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. 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.
Fire Fighting Instructions:	As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.
Flammable Properties and Hazards:	Emits toxic and corrosive fumes under fire conditions.
Hazardous Combustion Products:	carbon dioxide carbon monoxide hydrogen chloride gas nitrogen oxides phosphorus oxides potassium oxides silicon oxide sodium/sodium oxides
Extinguishing Media:	Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray when fighting fires involving this material.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled:	Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. After removal, ventilate contaminated area and flush thoroughly with water. Avoid release to the environment-very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
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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 contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure. Do not reuse this container. Use with adequate ventilation. Wash thoroughly after handling.
Precautions To Be Taken in Storing:	Store at correct temperature.

8. Exposure Controls/Personal Protection

Protective Equipment Summary - Hazard Label Information:	Eye wash station in work area Lab coat Latex disposable gloves Safety glasses Safety shower in work area Vent Hood
Respiratory Equipment (Specify Type):	No data available.
Eye Protection:	Safety glasses
Protective Gloves:	Latex disposable gloves
Other Protective Clothing:	Lab coat
Engineering Controls (Ventilation etc.):	Good general ventilation should be sufficient to control airborne levels.
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.

EIA Buffer Concentrate (10X)

Printed: 11/29/2004

Revision: 11/29/2004

Supercedes Revision: 03/04/2004

Specific Gravity (Water = 1): 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.
pH: No data.
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: acid chlorides
 halogenated solvents
 strong acids
 strong bases
 strong oxidizing agents
Hazardous Decomposition Or Byproducts: carbon dioxide
 carbon monoxide
 hydrogen chloride gas
 nitrogen oxides
 phosphorus oxides
 potassium oxides
 silicon oxide
 sodium/sodium oxides
Hazardous Polymerization: Will occur [] Will not occur [X]
Conditions To Avoid - Hazardous Polymerization: No data available.

11. Toxicological Information

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

Ecological Information: 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: No data available.
Additional Transport Information: Transport in accordance with local, state, and federal regulations.

15. Regulatory Information

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	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. Ethylenediamine Tetraacetic Acid	60-00-4	No	Yes 5000 LB	No	No

MATERIAL SAFETY DATA SHEET

EIA Buffer Concentrate (10X)

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
6. Bis(trimethylsilyl)acetylene	14630-40-1	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	CA PROP 65
1. Potassium phosphate, dibasic	7758-11-4	No	No	No	No
2. Potassium phosphate	7778-77-0	No	No	No	No
3. Sodium azide	26628-22-8	No	No	No	No
4. Sodium chloride	7647-14-5	No	No	No	No
5. Ethylenediamine Tetraacetic Acid	60-00-4	No	No	No	No
6. Bis(trimethylsilyl)acetylene	14630-40-1	No	No	No	No
7. Water	7732-18-5	No	No	No	No

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

- Sec.302:** EPA SARA Title III Section 302 Extremely Hazardous Chemical with TPQ. * indicates 10000 LB TPQ if not volatile.
- Sec.304:** EPA SARA Title III Section 304: CERCLA Reportable + Sec.302 with Reportable Quantity. ** indicates statutory RQ.
- Sec.313:** EPA SARA Title III Section 313 Toxic Release Inventory. Note: -Cat indicates a member of a chemical category.
- Sec.110:** EPA SARA 110 Superfund Site Priority Contaminant List

Other Important Lists:

- CWA NPDES:** EPA Clean Water Act NPDES Permit Chemical
- CAA HAP:** EPA Clean Air Act Hazardous Air Pollutant
- CAA ODC:** EPA Clean Air Act Ozone Depleting Chemical (1=CFC, 2=HCFC)
- CA PROP 65:** California Proposition 65

TSCA (Toxic Substances Control Act) Lists:

- 5A(2):** Chemical Subject to Significant New Rules (SNURS)
- 6A:** Commercial Chemical Control Rules
- 8A:** Toxic Substances Subject To Information Rules on Production
- 8A CAIR:** Comprehensive Assessment Information Rules - (CAIR)
- 8A PAIR:** Preliminary Assessment Information Rules - (PAIR)
- 8C:** Records of Allegations of Significant Adverse Reactions
- 8D:** Health and Safety Data Reporting Rules
- 8D TERM:** Health and Safety Data Reporting Rule Terminations

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

Wash Buffer Concentrate (400X)

Page: 1

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

Printed: 11/29/2004
Revision: 11/29/2004
Supersedes Revision: 12/10/2003
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. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Percentage	OSHA PEL	ACGIH TLV	Other Limits
1. Potassium phosphate, dibasic	7758-11-4	80.545 %	No data.	No data.	No data.
2. Potassium phosphate	7778-77-0	19.455 %	No data.	No data.	No data.
Hazardous Components (Chemical Name)	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Potassium phosphate, dibasic	NA	No data.	No data.	No data.	No data.
2. Potassium phosphate	TC6615500	No data.	No data.	No data.	No data.

3. Hazards Identification

Emergency Overview: No data available.
Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection
Potential Health Effects (Acute and Chronic): Material is 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 compound have not been fully evaluated.
Signs and Symptoms Of Exposure: Irritating to the skin, eyes, nose, throat, and respiratory tract.

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. After initial flushings, remove any contact lenses and continue flushing 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. 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.
Fire Fighting Instructions: As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.
Flammable Properties and Hazards: Emits toxic and corrosive fumes under fire conditions.
Hazardous Combustion Products: phosphorus oxides
potassium oxides
Extinguishing Media: Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray when fighting fires involving this material.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled: Wear a NIOSH/MSHA approved self-contained breathing apparatus 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.
After removal, ventilate contaminated area and flush thoroughly with water.

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 contact with eyes, skin, and clothing.
Avoid prolonged or repeated exposure.
Do not reuse this container.
Use with adequate ventilation.
Wash thoroughly after handling.

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

8. Exposure Controls/Personal Protection

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

Respiratory Equipment (Specify Type): No data available.

Eye Protection: Safety glasses

Protective Gloves: Latex disposable gloves

Other Protective Clothing: Lab coat

Engineering Controls (Ventilation etc.): Good general ventilation should be sufficient to control airborne levels.

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.

Specific Gravity (Water = 1): 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.

pH: No data.

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: protect from moisture
strong oxidizing agents

Hazardous Decomposition Or Byproducts: phosphorus oxides
potassium oxides

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

Conditions To Avoid - Hazardous Polymerization: No data available.

Wash Buffer Concentrate (400X)

11. Toxicological Information

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

Ecological Information: 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: No data available.
Additional Transport Information: Transport in accordance with local, state, and federal regulations.

15. Regulatory Information

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	7778-77-0	No	No	No	No

US EPA CAA, CWA, TSCA

Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. Potassium phosphate, dibasic	7758-11-4	No	No	No	No
2. Potassium phosphate	7778-77-0	No	No	No	No

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

- Sec.302:** EPA SARA Title III Section 302 Extremely Hazardous Chemical with TPQ. * indicates 10000 LB TPQ if not volatile.
- Sec.304:** EPA SARA Title III Section 304: CERCLA Reportable + Sec.302 with Reportable Quantity. ** indicates statutory RQ.
- Sec.313:** EPA SARA Title III Section 313 Toxic Release Inventory. Note: -Cat indicates a member of a chemical category.
- Sec.110:** EPA SARA 110 Superfund Site Priority Contaminant List

Other Important Lists:

- CWA NPDES:** EPA Clean Water Act NPDES Permit Chemical
- CAA HAP:** EPA Clean Air Act Hazardous Air Pollutant
- CAA ODC:** EPA Clean Air Act Ozone Depleting Chemical (1=CFC, 2=HCFC)
- CA PROP 65:** California Proposition 65

TSCA (Toxic Substances Control Act) Lists:

- 5A(2):** Chemical Subject to Significant New Rules (SNURS)
- 6A:** Commercial Chemical Control Rules
- 8A:** Toxic Substances Subject To Information Rules on Production
- 8A CAIR:** Comprehensive Assessment Information Rules - (CAIR)
- 8A PAIR:** Preliminary Assessment Information Rules - (PAIR)
- 8C:** Records of Allegations of Significant Adverse Reactions
- 8D:** Health and Safety Data Reporting Rules
- 8D TERM:** Health and Safety Data Reporting Rule Terminations

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

Prostaglandin E Metabolite AChE Tracer

Page: 1

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

Printed: 11/29/2004
Revision: 11/22/2004
Supersedes Revision: 06/04/2004
Date Created: 06/27/1996

1. Product and Company Identification

Product Code: 414530
Product Name: Prostaglandin E Metabolite AChE Tracer
Manufacturer Information
Company Name: Cayman Chemical Company
Emergency Contact: Cayman Chemical Company (800)364-9897
Information: Cayman Chemical Company (734)971-3335
Chemical Family: EIA Tracers

2. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Percentage	OSHA PEL	ACGIH TLV	Other Limits
1. Prostaglandin E Metabolite AChE Tracer	NA	100.0 %	No data.	No data.	No data.

3. Hazards Identification

Emergency Overview: No data available.
Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection
Potential Health Effects (Acute and Chronic): Material is 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 compound have not been fully evaluated.
Signs and Symptoms Of Exposure: Irritating to the skin, eyes, nose, throat, and respiratory tract.

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. After initial flushings, remove any contact lenses and continue flushing 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. 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.
Fire Fighting Instructions: As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.
Flammable Properties and Hazards: No data available.
Extinguishing Media: Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray when fighting fires involving this material.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled: Wear a NIOSH/MSHA approved self-contained breathing apparatus and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).
Vacuum or sweep up material and place in disposal container.
Avoid raising dust.
After removal, ventilate contaminated area and flush thoroughly with water.

MATERIAL SAFETY DATA SHEET

Prostaglandin E Metabolite AChE Tracer

Page: 2
Printed: 11/29/2004
Revision: 11/22/2004
Supercedes Revision: 06/04/2004

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 contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure. Do not reuse this container. Use with adequate ventilation. Wash thoroughly after handling.
Precautions To Be Taken in Storing:	Store at correct temperature.

8. Exposure Controls/Personal Protection

Protective Equipment Summary - Hazard Label Information:	Eye wash station in work area Lab coat Latex disposable gloves Safety glasses Safety shower in work area Vent Hood
Respiratory Equipment (Specify Type):	No data available.
Eye Protection:	Safety glasses
Protective Gloves:	Latex disposable 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.
Specific Gravity (Water = 1):	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.
pH:	No data.
Appearance and Odor:	A lyophilized powder

10. Stability and Reactivity

Stability:	Unstable <input type="checkbox"/> Stable <input checked="" type="checkbox"/>
Conditions To Avoid - Instability:	No data available.
Incompatibility - Materials To Avoid:	No data available.
Hazardous Decomposition Or Byproducts:	No data available.
Hazardous Polymerization:	Will occur <input type="checkbox"/> Will not occur <input checked="" type="checkbox"/>
Conditions To Avoid - Hazardous Polymerization:	No data available.

11. Toxicological Information

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

MATERIAL SAFETY DATA SHEET
Prostaglandin E Metabolite AChE Tracer

Page: 3
 Printed: 11/29/2004
 Revision: 11/22/2004
 Supercedes Revision: 06/04/2004

12. Ecological Information

Ecological Information: 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: No data available.

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

15. Regulatory Information

US EPA SARA Title III

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Prostaglandin E Metabolite AChE Tracer	NA	No	No	No	No

US EPA CAA, CWA, TSCA

Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. Prostaglandin E Metabolite AChE Tracer	NA	No	No	No	No

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

- Sec.302:** EPA SARA Title III Section 302 Extremely Hazardous Chemical with TPQ. * indicates 10000 LB TPQ if not volatile.
- Sec.304:** EPA SARA Title III Section 304: CERCLA Reportable + Sec.302 with Reportable Quantity. ** indicates statutory RQ.
- Sec.313:** EPA SARA Title III Section 313 Toxic Release Inventory. Note: -Cat indicates a member of a chemical category.
- Sec.110:** EPA SARA 110 Superfund Site Priority Contaminant List

Other Important Lists:

- CWA NPDES:** EPA Clean Water Act NPDES Permit Chemical
- CAA HAP:** EPA Clean Air Act Hazardous Air Pollutant
- CAA ODC:** EPA Clean Air Act Ozone Depleting Chemical (1=CFC, 2=HCFC)
- CA PROP 65:** California Proposition 65

TSCA (Toxic Substances Control Act) Lists:

- 5A(2):** Chemical Subject to Significant New Rules (SNURS)
- 6A:** Commercial Chemical Control Rules
- 8A:** Toxic Substances Subject To Information Rules on Production
- 8A CAIR:** Comprehensive Assessment Information Rules - (CAIR)
- 8A PAIR:** Preliminary Assessment Information Rules - (PAIR)
- 8C:** Records of Allegations of Significant Adverse Reactions
- 8D:** Health and Safety Data Reporting Rules
- 8D TERM:** Health and Safety Data Reporting Rule Terminations

16. Other Information

Company Policy or Disclaimer

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

Product Information



Prostaglandin E Metabolite EIA Antiserum Catalog No. 414532

COMMENTS

A Material Safety Data Sheet 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: This material should be considered hazardous until information to the contrary becomes available. This product is not intended or approved for human or veterinary use. Use of this product for human or animal testing is extremely hazardous and may result in disease, severe injury, or death.

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: 2/4/2004

Cayman Chemical

Mailing address

1180 E. Ellsworth Road
Ann Arbor, MI
48108 USA

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E-Mail

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caymanchem.com

WWW

www.caymanchem.com

MATERIAL SAFETY DATA SHEET

Prostaglandin E Metabolite EIA Standard

Page: 1

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

Printed: 11/23/2004
Revision: 11/22/2004
Supersedes Revision: 07/30/2004
Date Created: 06/27/1996

1. Product and Company Identification

Product Code: 414534
Product Name: Prostaglandin E Metabolite EIA Standard
Manufacturer Information
Company Name: Cayman Chemical Company
Emergency Contact: Cayman Chemical Company (800)364-9897
Information: Cayman Chemical Company (734)971-3335
Chemical Family: EIA Standards

2. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Percentage	OSHA PEL	ACGIH TLV	Other Limits
1. Prostaglandin E Metabolite EIA Standard	NA	0.0 -0.1 %	No data.	No data.	No data.
2. Ethyl alcohol	64-17-5	99.9 -100.0 %	8H TWA:1000ppm (1900 mg/m3)	No data.	No data.
Hazardous Components (Chemical Name)	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Prostaglandin E Metabolite EIA Standard	NA	No data.	No data.	No data.	No data.
2. Ethyl alcohol	KQ6300000	No data.	No data.	No data.	No data.

3. Hazards Identification

Emergency Overview: No data available.

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

Potential Health Effects (Acute and Chronic): The hazards identified with this product are those associated with the solvent(s).
Long term repeated oral exposure to ethanol may result in the development of progressive liver injury with fibrosis.
Material is 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.
Repeated exposure may cause skin dryness or cracking.
Repeated ingestion of ethanol by pregnant mothers has been shown to adversely affect the CNS system of the fetus, producing a collection of effects which together constitute fetal alcohol syndrome. These include mental and physical retardation, disturbances of learning, motor and language deficiencies, behavioral disorders and small size head.
The toxicological properties of this compound have not been fully evaluated.

Signs and Symptoms Of Exposure: Exposure may cause: Dizziness, drowsiness, headache, nausea, and vomiting.
Irritating to the skin, eyes, nose, throat, and respiratory tract.

Medical Conditions Generally Aggravated By Exposure: Repeated exposure to ethanol may aggravate liver injury produced from other causes.

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. After initial flushings, remove any contact lenses and continue flushing 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. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

MATERIAL SAFETY DATA SHEET
Prostaglandin E Metabolite EIA Standard

Page: 2
Printed: 11/23/2004
Revision: 11/22/2004
Supersedes Revision: 07/30/2004

5. Fire Fighting Measures

Flash Pt: 14.00 C Method Used: TCC

Explosive Limits: LEL: 3.3% at 25.0 C UEL: 19% at 25.0 C

Autoignition Pt: No data.

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

Flammable Properties and Hazards: Can release vapors that form explosive mixtures at temperatures at or above the flashpoint.
Container explosion may occur under fire conditions.
Emits toxic fumes under fire conditions.
Flammable liquid.
Vapors can travel to a source of ignition and flash back.

Hazardous Combustion Products: carbon dioxide
carbon monoxide

Extinguishing Media: Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray when fighting fires involving this material.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled: Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container.
After removal, ventilate contaminated area and flush thoroughly with water.

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 contact with eyes, skin, and clothing.
Avoid prolonged or repeated exposure.
Do not reuse this container.
Keep away from sources of ignition.
Use with adequate ventilation.
Wash thoroughly after handling.

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

8. Exposure Controls/Personal Protection

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

Respiratory Equipment (Specify Type): No data available.

Eye Protection: Safety glasses

Protective Gloves: Latex disposable gloves

Other Protective Clothing: Lab coat

Engineering Controls (Ventilation etc.): Good general ventilation should be sufficient to control airborne levels.

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.

Specific Gravity (Water = 1): No data.

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Vapor Pressure (vs. Air or mm Hg): 44.6 MM_HG at 20.0 C
Vapor Density (vs. Air = 1): No data.
Evaporation Rate (vs Butyl Acetate=1): No data.
Solubility in Water: No data.
Percent Volatile: No data.
pH: No data.
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 inorganic acids
 strong oxidizing agents
Hazardous Decomposition Or Byproducts: carbon dioxide
 carbon monoxide
Hazardous Polymerization: Will occur [] Will not occur [X]
Conditions To Avoid - Hazardous Polymerization: No data available.

11. Toxicological Information

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

Ecological Information: 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: Ethyl alcohol
DOT Hazard Class: 3
DOT Hazard Label: Flammable Liquid
UN/NA Number: 1170
Additional Transport Information: Transport in accordance with local, state, and federal regulations.

15. Regulatory Information

US EPA SARA Title III

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Prostaglandin E Metabolite EIA Standard	NA	No	No	No	No
2. Ethyl alcohol	64-17-5	No	No	No	No

US EPA CAA, CWA, TSCA

Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. Prostaglandin E Metabolite EIA Standard	NA	No	No	No	No
2. Ethyl alcohol	64-17-5	No	No	No	No

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

Sec.302: EPA SARA Title III Section 302 Extremely Hazardous Chemical with TPQ. * indicates 10000 LB TPQ if not volatile.
Sec.304: EPA SARA Title III Section 304: CERCLA Reportable + Sec.302 with Reportable Quantity. ** indicates statutory RQ.
Sec.313: EPA SARA Title III Section 313 Toxic Release Inventory. Note: -Cat indicates a member of a chemical category.
Sec.110: EPA SARA 110 Superfund Site Priority Contaminant List

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Other Important Lists:

CWA NPDES:	EPA Clean Water Act NPDES Permit Chemical
CAA HAP:	EPA Clean Air Act Hazardous Air Pollutant
CAA ODC:	EPA Clean Air Act Ozone Depleting Chemical (1=CFC, 2=HCFC)
CA PROP 65:	California Proposition 65

TSCA (Toxic Substances Control Act) Lists:

5A(2):	Chemical Subject to Significant New Rules (SNURS)
6A:	Commercial Chemical Control Rules
8A:	Toxic Substances Subject To Information Rules on Production
8A CAIR:	Comprehensive Assessment Information Rules - (CAIR)
8A PAIR:	Preliminary Assessment Information Rules - (PAIR)
8C:	Records of Allegations of Significant Adverse Reactions
8D:	Health and Safety Data Reporting Rules
8D TERM:	Health and Safety Data Reporting Rule Terminations

16. Other Information

Company Policy or Disclaimer

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

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