

Product Information



Precoated (Mouse Anti-Rabbit IgG) EIA 96-Well Plate (strip or solid)

Item No. 400005 or 400007

COMMENTS:

Each plate is coated with the Mouse Anti-Rabbit IgG 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: 08/11/2010

Supersedes Revision: 10/29/2009

Cayman Chemical

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MATERIAL SAFETY DATA SHEET

Carbonate Buffer

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

Printed: 08/05/2010
Revision: 08/03/2010
Supersedes Revision: 11/22/2004
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
Synonyms: Sodium Carbonate;

2. Hazards Identification

Emergency Overview: Irritant.
Avoid contact and inhalation.
Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection
Health Hazards (Acute and Chronic): Causes eye irritation.
Material may be irritating to the mucous membranes and upper respiratory tract.
May be harmful by inhalation, ingestion, or skin absorption.
May cause 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: Exposure may cause: burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.

3. Composition/Information on Ingredients

| Hazardous Components (Chemical Name) | CAS # | Concentration | EC# | RTECS # |
|--------------------------------------|----------|---------------|-----------|-----------|
| 1. Sodium carbonate | 497-19-8 | 100.0 % | 207-838-8 | VZ4050000 |

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.

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.

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: Hygroscopic.

8. Exposure Controls/Personal Protection

| Hazardous Components (Chemical Name) | CAS # | OSHA PEL | ACGIH TLV | Other Limits |
|--------------------------------------|----------|----------|-----------|--------------|
| 1. Sodium carbonate | 497-19-8 | 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 crystalline solid

10. Stability and Reactivity

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

11. Toxicological Information

Chronic Toxicological Effects: The toxicological effects of this product have not been thoroughly studied.
Sodium Carbonate - Toxicity Data: Oral LD50 (rat): 4,090 mg/kg; Inhalation LC50 (rat): 5,750 mg/l (2h); Irritation Data: Eyes (rabbit): 100 mg (24h) moderate; Skin (rabbit) 500mg (24h) mild; Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here. See actual entry in RTECS for complete information.
Sodium Carbonate RTECS Number: VZ4050000
Carcinogenicity/Other Information: No data available.
Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

12. Ecological Information

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 Xi: Irritant
European Community Risk and Safety Phrases
R36 - Irritating to eyes.
S22 - Do not breathe dust.
S24/25 - Avoid contact with skin and eyes.
S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
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. 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 | HPV/LPV |
|--------------------------------------|----------|--------------|---------------|-----------|---------|
| 1. Sodium carbonate | 497-19-8 | 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

Phosphate Buffer

Page: 1

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

Printed: 08/05/2010
Revision: 08/03/2010
Supersedes Revision: 11/22/2004
Date Created: 06/27/1996

1. Product and Company Identification

Product Code: 400032
Product Name: Phosphate Buffer
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 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, Monobasic | 7778-77-0 | 100.0 % | 231-913-4 | TC6615500 |

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.

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

Phosphate Buffer

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Printed: 08/05/2010

Revision: 08/03/2010

Supercedes Revision: 11/22/2004

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 prolonged or repeated exposure. |
| Precautions To Be Taken in Storing: | Keep tightly closed. Store at correct temperature. |
| Other Precautions: | Hygroscopic. |

8. Exposure Controls/Personal Protection

| Hazardous Components (Chemical Name) | CAS # | OSHA PEL | ACGIH TLV | Other Limits |
|--------------------------------------|-----------|----------|-----------|--------------|
| 1. Potassium phosphate, Monobasic | 7778-77-0 | 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 crystalline solid |

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: | phosphorus oxides potassium oxides |

MATERIAL SAFETY DATA SHEET

Phosphate Buffer

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

S24/25 - Avoid contact with skin and eyes.

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

US EPA SARA Title III

| Hazardous Components (Chemical Name) | CAS # | Sec.302 (EHS) | Sec.304 RQ | Sec.313 (TRI) | Sec.110 |
|--------------------------------------|-----------|---------------|------------|---------------|---------|
| 1. Potassium phosphate, Monobasic | 7778-77-0 | 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, Monobasic | 7778-77-0 | 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

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: 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

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 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# | 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: 232.00 C
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

Tween 20

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 Printed: 07/06/2010
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 Supersedes 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. 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

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: 232.00 C

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

Specific Gravity (Water = 1): 1.095 at 25.0 C

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: N.A.

Heat Value: No data.

Particle Size: No data.

Corrosion Rate: No data.

pH: No data.

MATERIAL SAFETY DATA SHEET

Tween 20

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 Supercedes Revision: 03/09/2010

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

Chronic Toxicological Effects: The toxicological effects of this product have not been thoroughly studied.
 Tween - Toxicity Data: Oral LD50 (rat): 36,700 mg/kg; Irritation Data: Skin (human): 15 mg/3D mild;
 Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here. See actual entry in RTECS for complete information.
 Tween RTECS Number: TR7400000
Carcinogenicity/Other Information: No data available.
Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

12. Ecological Information

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. 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

Page: 2
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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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 Printed: 07/06/2010
 Revision: 07/06/2010
 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
 Supersedes 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

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Printed: 07/06/2010

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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 glasses Safety shower in work area Vent Hood | Eye wash station in work area Lab coat Safety |
| 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: | <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. | |
| 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 <input type="checkbox"/> Stable <input checked="" type="checkbox"/> |
| 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

Page: 3
 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.

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

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 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. |
|---|--|

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. |
| 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)

Page: 4
 Printed: 07/06/2010
 Revision: 07/06/2010
 Supercedes Revision: 03/02/2010

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)

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: 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.

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)

Page: 4
Printed: 07/06/2010
Revision: 07/06/2010
Supercedes Revision: 03/02/2010

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.

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

MATERIAL SAFETY DATA SHEET
Prostaglandin E Metabolite AChE Tracer

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

Printed: 08/05/2010
Revision: 08/03/2010
Supersedes Revision: 11/22/2004
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

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 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# |
|---|-------|---------------|-----|
| 1. Prostaglandin E Metabolite AChE Tracer | 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.

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

Prostaglandin E Metabolite AChE Tracer

Page: 2
 Printed: 08/05/2010
 Revision: 08/03/2010
 Supercedes Revision: 11/22/2004

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 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. Prostaglandin E Metabolite AChE Tracer | 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: 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]

MATERIAL SAFETY DATA SHEET

Prostaglandin E Metabolite AChE Tracer

Page: 3
 Printed: 08/05/2010
 Revision: 08/03/2010
 Supercedes Revision: 11/22/2004

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
 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. 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 | HPV/LPV |
|---|-------|-------------|---------------|----------|---------|
| 1. Prostaglandin E Metabolite AChE Tracer | NA | HAP, ODC () | No | No | |

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.

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

MATERIAL SAFETY DATA SHEET
Prostaglandin E Metabolite EIA Antiserum

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

Printed: 08/05/2010
Revision: 08/03/2010
Supersedes Revision: 02/04/2004
Date Created: 02/04/2004

1. Product and Company Identification

Product Code: 414532
Product Name: Prostaglandin E Metabolite EIA Antiserum
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 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# |
|---|-------|---------------|-----|
| 1. Prostaglandin E Metabolite EIA Antiserum | 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.

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

Prostaglandin E Metabolite EIA Antiserum

Page: 2
Printed: 08/05/2010
Revision: 08/03/2010
Supercedes Revision: 02/04/2004

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 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. Prostaglandin E Metabolite EIA Antiserum | 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: 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]

MATERIAL SAFETY DATA SHEET
Prostaglandin E Metabolite EIA Antiserum

Page: 3
 Printed: 08/05/2010
 Revision: 08/03/2010
 Supercedes Revision: 02/04/2004

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
 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. Prostaglandin E Metabolite EIA Antiserum | 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. Prostaglandin E Metabolite EIA Antiserum | NA | HAP, ODC () | No | No | |

16. Other Information

Company Policy or Disclaimer

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MATERIAL SAFETY DATA SHEET

Prostaglandin E Metabolite EIA Standard

Page: 1

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

Printed: 08/10/2010
Revision: 08/03/2010
Supersedes Revision: 11/22/2004
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

2. Hazards Identification

Emergency Overview: Highly Flammable.
Toxic.
Avoid contact and inhalation.
Target Organ(s): blood, central nervous system, digestive system, endocrine system, eyes, liver, reproductive system, respiratory system, skin.

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.
May cause adverse reproductive effects in males and/or females.
May cause gastrointestinal disturbances.
May stimulate contraction of intestinal and reproductive smooth muscle.
This chemical has the potential to induce premature labor or abortion.
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: Exposure can cause: Nausea, diarrhea, headache, vomiting, flushing, shivering, hypotension, and dizziness.
Irritating to eyes, skin, nose; may cause headache, drowsiness, lassitude (weakness, exhaustion), narcosis; cough; liver damage; anemia; reproductive, teratogenic effects.

3. Composition/Information on Ingredients

| Hazardous Components (Chemical Name) | CAS # | Concentration | EC# | RTECS # |
|---|----------|---------------|-----------|-----------|
| 1. 13,14-dihydro-15-keto Prostaglandin E2 | 363-23-5 | < 0.01 % | NA | NA |
| 2. Ethyl alcohol | 64-17-5 | >99.99 % | 200-578-6 | KQ6300000 |

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.

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5. Fire Fighting Measures

Flash Pt: 14.00 C Method Used: Closed Cup

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

Autoignition Pt: 363.00 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: Flammable as diluted in ethanol.

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.
 Emits toxic fumes under fire conditions.
 Sensitive to static discharge.
 Vapors can travel to a source of ignition and flash back.

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.

Other Precautions: Hygroscopic.
 Light sensitive.

8. Exposure Controls/Personal Protection

| Hazardous Components (Chemical Name) | CAS # | OSHA PEL | ACGIH TLV | Other Limits |
|---|----------|----------|-----------|--------------|
| 1. 13,14-dihydro-15-keto Prostaglandin E2 | 363-23-5 | No data. | No data. | No data. |
| 2. Ethyl alcohol | 64-17-5 | 1000 ppm | 1000 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.

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9. Physical and Chemical Properties

| | |
|---|--|
| Physical States: | [] Gas [X] Liquid [] Solid |
| Melting Point: | No data. |
| Boiling Point: | No data. |
| Autoignition Pt: | 363.00 C |
| Flash Pt: | 14.00 C Method Used: Closed Cup |
| Explosive Limits: | LEL: 3.3% at 25.0 C UEL: 19% at 25.0 C |
| Specific Gravity (Water = 1): | No data. |
| Bulk density: | No data. |
| Vapor Pressure (vs. Air or mm Hg): | 43 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. |
| Heat Value: | No data. |
| Particle Size: | No data. |
| Corrosion Rate: | No data. |
| pH: | No data. |
| Appearance and Odor: | No data available. |

10. Stability and Reactivity

| | |
|---|--|
| Stability: | Unstable [] Stable [X] |
| Conditions To Avoid - Instability: | heat, flames and sparks |
| Incompatibility - Materials To Avoid: | acids alkali metals ammonia bases peroxides strong oxidizing agents |
| Hazardous Decomposition Or Byproducts: | carbon dioxide carbon monoxide nitrogen 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: | Ethanol - Toxicity Data: Oral LD50 (rat): 7,060 mg/kg; Inhalation LC50 (rat): 20,000 ppm (10h); Irritation Data: Eyes (rabbit): 500 mg (24h) mild; Skin (rabbit) 20mg (24h) moderate; Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here. See actual entry in RTECS for complete information. Ethanol RTECS Number: KQ6300000 |
| 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: Ethyl Alcohol Solution
DOT Hazard Class: 3
DOT Hazard Label: FLAMMABLE LIQUID
UN/NA Number: 1170
Packing Group: II

LAND TRANSPORT (European ADR/RID)

ADR/RID Shipping Name: Ethyl Alcohol Solution
UN Number: 1170
Packing Group: II

AIR TRANSPORT (ICAO/IATA)

ICAO/IATA Shipping Name: Ethyl Alcohol Solution
UN Number: 1170
Packing Group: II
IATA Classification: 3

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

15. Regulatory Information

European Community Hazard Symbol codes: F: Highly Flammable; T: Toxic; Xn: Harmful

European Community Risk and Safety Phrases

- R11 - Highly flammable.
- R20/21/22 - Harmful by inhalation, in contact with skin and if swallowed.
- R60 - May impair fertility.
- R61 - May cause harm to the unborn child.
- S7 - Keep container tightly closed.
- S16 - Keep away from sources of ignition.
- S24/25 - Avoid contact with skin and eyes.
- S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.
- S53 - Avoid exposure - obtain special instructions before use.

US EPA SARA Title III

| Hazardous Components (Chemical Name) | CAS # | Sec.302 (EHS) | Sec.304 RQ | Sec.313 (TRI) | Sec.110 |
|---|----------|---------------|------------|---------------|---------|
| 1. 13,14-dihydro-15-keto Prostaglandin E2 | 363-23-5 | 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 | HPV/LPV |
|---|----------|-------------|---------------|-----------|---------|
| 1. 13,14-dihydro-15-keto Prostaglandin E2 | 363-23-5 | HAP, ODC () | No | No | |
| 2. Ethyl alcohol | 64-17-5 | 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