

**MATERIAL SAFETY DATA SHEET**  
**Prostaglandin E1 Analytical Reference Standard**

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

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Date Created: 06/27/1996

### 1. Product and Company Identification

**Product Code:** 13010.1  
**Product Name:** Prostaglandin E1 Analytical Reference Standard  
**Manufacturer Information**  
**Company Name:** Cayman Chemical Company  
**Emergency Contact:** Cayman Chemical Company (800)364-9897  
**Information:** Cayman Chemical Company (734)971-3335  
**Chemical Family:** Prostaglandins & Thromboxanes  
**CAS Number:** 745-65-3  
**Synonyms:** 9-oxo-11.alpha.,15S-dihydroxy-prost-13E-en-1-oic acid;  
Alprostadil

### 2. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	OSHA PEL	ACGIH TLV	Other Limits
1. Prostaglandin E1	745-65-3	100.0 %	No data.	No data.	No data.
Hazardous Components (Chemical Name)	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Prostaglandin E1	GY4569800	No data.	No data.	No data.	No data.

### 3. Hazards Identification

**Emergency Overview:** No data available.  
**Route(s) of Entry:** Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection  
**Potential Health Effects (Acute and Chronic):** Females of childbearing potential should avoid this chemical; contact may induce uterine contractions.  
Material is irritating to the mucous membranes and upper respiratory tract.  
May be harmful by inhalation, ingestion, or skin absorption.  
May cause adverse reproductive effects in males and/or females.  
May cause eye, skin, or respiratory system irritation.  
May cause gastrointestinal disturbances.  
May impair fertility.  
Stimulates smooth muscle contractions.  
The toxicological properties of this compound have not been fully evaluated.  
This chemical has the potential to induce premature labor or abortion.  
Toxic.  
**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.  
May cause skin to flush in affected areas.

### 4. First Aid Measures

**Emergency and First Aid Procedures:** If inhaled remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.  
If swallowed, wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.  
In case of contact with eyes, hold eyelids apart and flush eyes with plenty of water. After initial flushings, remove any contact lenses and continue flushing for at least 20 minutes. Have eyes examined and tested by medical personnel.  
In case of skin contact, immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

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### 5. Fire Fighting Measures

<b>Flash Pt:</b>	No data.
<b>Explosive Limits:</b>	LEL: No data. UEL: No data.
<b>Fire Fighting Instructions:</b>	As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.
<b>Flammable Properties and Hazards:</b>	Emits toxic fumes under fire conditions. May form explosive mixtures with air.
<b>Extinguishing Media:</b>	Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray when fighting fires involving this material.
<b>Unsuitable Extinguishing Media:</b>	No data available.

### 6. Accidental Release Measures

<b>Steps To Be Taken In Case Material Is Released Or Spilled:</b>	Vacuum or sweep up material and place in disposal container. Avoid raising dust. After removal, ventilate contaminated area and flush thoroughly with water.
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### 7. Handling and Storage

<b>Hazard Label Information:</b>	Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilation. Wash thoroughly after handling.
<b>Precautions To Be Taken in Handling:</b>	Avoid breathing (dust, vapor, mist, gas). Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure. Do not reuse this container. Pregnant females should avoid exposure to this compound. Use with adequate ventilation. Wash thoroughly after handling.
<b>Precautions To Be Taken in Storing:</b>	Store at correct temperature.

### 8. Exposure Controls/Personal Protection

<b>Protective Equipment Summary - Hazard Label Information:</b>	Eye wash station in work area Lab coat Latex disposable gloves Safety glasses Safety shower in work area Vent Hood
<b>Respiratory Equipment (Specify Type):</b>	No data available.
<b>Eye Protection:</b>	Safety glasses
<b>Protective Gloves:</b>	Latex disposable gloves
<b>Other Protective Clothing:</b>	Lab coat
<b>Engineering Controls (Ventilation etc.):</b>	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
<b>Work/Hygienic/Maintenance Practices:</b>	Do not take internally. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Wash thoroughly after handling.

### 9. Physical and Chemical Properties

<b>Physical States:</b>	<input type="checkbox"/> Gas <input type="checkbox"/> Liquid <input checked="" type="checkbox"/> Solid
<b>Melting Point:</b>	119.00 C - 120.00 C
<b>Boiling Point:</b>	No data.
<b>Autoignition Pt:</b>	No data.
<b>Flash Pt:</b>	No data. Method:
<b>Explosive Limits:</b>	LEL: No data. UEL: No data.
<b>Specific Gravity (Water = 1):</b>	No data.
<b>Vapor Pressure (vs. Air or mm Hg):</b>	No data.
<b>Vapor Density (vs. Air = 1):</b>	No data.

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<b>Evaporation Rate (vs Butyl Acetate=1):</b>	No data.
<b>Solubility in Water:</b>	> 1.6 mg/ml* at 25.0 C
<b>Other Solubility Notes:</b>	*PBS pH 7.2, also sol. in EtOH & DMSO, see product insert.
<b>Percent Volatile:</b>	No data.
<b>Corrosion Rate:</b>	No data.
<b>Formula:</b>	C <sub>20</sub> H <sub>34</sub> O <sub>5</sub>
<b>Molecular Weight:</b>	354.50
<b>pH:</b>	No data.
<b>Appearance and Odor:</b>	Light yellow to white needles

### 10. Stability and Reactivity

<b>Stability:</b>	Unstable [ ] Stable [ X ]
<b>Conditions To Avoid - Instability:</b>	protect from heat protect from light protect from moisture
<b>Incompatibility - Materials To Avoid:</b>	strong oxidizing agents
<b>Hazardous Decomposition Or Byproducts:</b>	carbon dioxide carbon monoxide
<b>Hazardous Polymerization:</b>	Will occur [ ] Will not occur [ X ]
<b>Conditions To Avoid - Hazardous Polymerization:</b>	No data available.

### 11. Toxicological Information

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

#### Toxicity Data:

Oral (rat) LD50:228 mg/kg NIIRDN 6,47,1982  
Intraperitoneal (rat) LD50:24900 ug/kg NIIRDN 6,47,1982  
Subcutaneous (rat) LD50:18600 ug/kg NIIRDN 6,47,1982  
Intravenous (rat) LD50:19200 ug/kg NIIRDN 6,47,1982  
Oral (mouse) LD50:186 mg/kg NIIRDN 6,47,1982  
Intraperitoneal (mouse) LD50:19800 ug/kg NIIRDN 6,47,1982  
Subcutaneous (mouse) LD50:26400 ug/kg NIIRDN 6,47,1982  
Intravenous (mouse) LD50:21 mg/kg NIIRDN 6,47,1982

#### Target Organ Data:

Behavioral (altered sleep time)  
Lungs, thorax, or respiration (Dyspnae)  
Gastrointestinal (hypermotility, diarrhea)  
Paternal effects (spermatogenesis)  
Paternal effects (testes, epidymis, sperm duct)  
Paternal effects (prostate, seminal vesicle, Cowper's, accessory glands)  
Maternal effects (ovaries, fallopian tubes)  
Maternal effects (uterus, cervix, vagina)  
Maternal effects (parturition)  
Maternal effects (postpartum)  
Effects on fertility (pre-implantation mortality)  
Effects on fertility (post-implantation mortality)  
Effects on fertility (litter size)  
Effects on fertility (abortion)  
Effects on fertility (other measures of fertility)  
Effects on embryo of fetus (fetotoxicity)  
Effects on embryo of fetus (fetal death)  
Specific developmental abnormalities (central nervous system)  
Specific developmental abnormalities (eye, ear)  
Specific developmental abnormalities (musculoskeletal system)

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Specific developmental abnormalities (homeostasis)  
Effects on newborn (biochemical and metabolic)  
Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here.  
See actual entry in RTECS for complete information.

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

### 12. Ecological Information

**Ecological Information:** Runoff from fire control or dilution water may cause pollution.

### 13. Disposal Considerations

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

### 14. Transport Information

#### LAND TRANSPORT (US DOT)

**DOT Proper Shipping Name:** No data available.  
**Additional Transport Information:** This substance is considered to be non-hazardous for transport.

### 15. Regulatory Information

#### US EPA SARA Title III

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Prostaglandin E1	745-65-3	No	No	No	No

#### US EPA CAA, CWA, TSCA

Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. Prostaglandin E1	745-65-3	No	No	No	No

### 16. Other Information

#### Company Policy or Disclaimer

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

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