

## Material Safety Data Sheet

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Version 1.3  
According to 91/155/EEC

Classified as Hazardous according to the criteria of EU Annex 1 and NOHSC.

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#### 1 - Product and Company Information

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Product Name	PROSTAGLANDIN E(1)
Product Number	82474
Company	Sigma-Aldrich Pty, Ltd Unit 2, 14 Anella Avenue Castle Hill NSW 1765 Australia
Technical Phone #	+61 2 9841 0555
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#### 2 - Composition/Information on Ingredients

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Product Name	CAS #	EC no	Annex I Index Number
ALPROSTADIL	745-65-3	212-017-2	None
Formula	C20H34O5		
Molecular Weight	354.49 AMU		
Synonyms	Alprostadiol * 3-Hydroxy-2-(3-hydroxy-1-octenyl)-5-oxocyclopenta neheptanoic acid * 1-3-Hydroxy-2-(3-hydroxy-1-octenyl)-5-oxocyclopentaneheptanoic acid * PGE-1 * 1-PGE1 * Prostaglandin E1 * (-)-Prostaglandin E1 * 1-Prostaglandin E1 * Prost-13-en-1-oic acid, 11,15-dihydroxy-9-oxo-, (11-alpha,13E,15S)- (9CI) * 3-Hydroxy-2-(3-hydroxy-1-octenyl)-5-oxocyclopenta neheptanoic acid * Prostaglandin E1, (-)-Prostaglandin E1, Alprostadiol, 1-PGE1, 1-Prostaglandin E1, PGE-1 * 1-3-Hydroxy-2-(3-hydroxy-1-octenyl)-5-oxocyclopentaneheptanoic acid * Prost-13-en-1-oic acid, 11,15-dihydroxy-9-oxo-, (11-alpha,13E,15S)- (9CI)		

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#### 3 - Hazards Identification

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SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT  
Harmful if swallowed.

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#### 4 - First Aid Measures

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##### AFTER INHALATION

If inhaled, remove to fresh air. If not breathing give  
artificial respiration. If breathing is difficult, give oxygen.

#### AFTER SKIN CONTACT

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

#### AFTER EYE CONTACT

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

#### AFTER INGESTION

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

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### 5 - Fire Fighting Measures

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#### EXTINGUISHING MEDIA

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

#### SPECIAL RISKS

Specific Hazard(s): Emits toxic fumes under fire conditions.  
Explosion Hazards: May form explosive mixtures with air

#### SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

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### 6 - Accidental Release Measures

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#### PERSONAL PRECAUTION PROCEDURES TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area.

#### PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

#### METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

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### 7 - Handling and Storage

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#### HANDLING

Directions for Safe Handling: Do not breathe dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

#### STORAGE

Conditions of Storage: Keep tightly closed.  
Store at -20°C

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### 8 - Exposure Controls / Personal Protection

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#### ENGINEERING CONTROLS

Safety shower and eye bath. Use only in a chemical fume hood.

#### GENERAL HYGIENE MEASURES

Wash thoroughly after handling.

#### PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Government approved respirator.  
Hand Protection: Compatible chemical-resistant gloves.  
Eye Protection: Chemical safety goggles.

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## 9 - Physical and Chemical Properties

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pH	N/A
BP/BP Range	N/A
MP/MP Range	113 - 116 °C
Flash Point	N/A
Flammability	N/A
Autoignition Temp	N/A
Oxidizing Properties	N/A
Explosive Properties	N/A
Explosion Limits	N/A
Vapor Pressure	N/A
SG/Density	N/A
Partition Coefficient	N/A
Viscosity	N/A
Vapor Density	N/A
Saturated Vapor Conc.	N/A
Evaporation Rate	N/A
Bulk Density	N/A
Decomposition Temp.	N/A
Solvent Content	N/A
Water Content	N/A
Surface Tension	N/A
Conductivity	N/A
Miscellaneous Data	N/A
Solubility	Solvent: 10 mg/ml acetone clear, colorless

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## 10 - Stability and Reactivity

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### STABILITY

Stable: Stable.

Conditions to Avoid: Light. Heat. Moisture.

Materials to Avoid: Strong oxidizing agents.

### HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

### HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

## 11 - Toxicological Information

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RTECS NUMBER: GY4569800

### ACUTE TOXICITY

LD50  
Oral  
Rat  
228 mg/kg

LD50  
Intraperitoneal  
Rat  
24900 UG/KG

LD50  
Subcutaneous

Rat  
18600 UG/KG

LD50  
Intravenous  
Rat  
19200 UG/KG

LD50  
Intraarterial  
Rat  
21 MG/KG

Remarks: Behavioral:Altered sleep time (including change in righting reflex). Lungs, Thorax, or Respiration:Dyspnea. Gastrointestinal:Hypermotility, diarrhea.

LD50  
Oral  
Mouse  
186 mg/kg

LD50  
Intraperitoneal  
Mouse  
19800 UG/KG

LD50  
Subcutaneous  
Mouse  
26400 UG/KG

LD50  
Intravenous  
Mouse  
21 MG/KG

#### SIGNS AND SYMPTOMS OF EXPOSURE

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

#### ROUTE OF EXPOSURE

Skin Contact: May cause skin irritation.  
Skin Absorption: May be harmful if absorbed through the skin.  
Eye Contact: May cause eye irritation.  
Inhalation: May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.  
Ingestion: Harmful if swallowed.

#### TARGET ORGAN INFORMATION

Smooth muscle. Heart.

#### CHRONIC EXPOSURE - MUTAGEN

Rat  
200 UG/KG  
Subcutaneous  
Other mutation test systems

Mouse  
1 UMOL/L  
Cell Type: Other cell types  
DNA inhibition

Mouse  
100 NMOL/L  
Cell Type: Other cell types  
Other mutation test systems

Mouse  
19 MG/L  
Cell Type: Other cell types  
Cytogenetic analysis

#### CHRONIC EXPOSURE - TERATOGEN

Species: Rat  
Dose: 20 MG/KG  
Route of Application: Subcutaneous  
Exposure Time: (6-15D PREG)  
Result: Specific Developmental Abnormalities: Central nervous system. Specific Developmental Abnormalities: Eye, ear. Specific Developmental Abnormalities: Homeostasis

Species: Mouse  
Dose: 5 MG/KG  
Route of Application: Subcutaneous  
Exposure Time: (16D PREG)  
Result: Effects on Embryo or Fetus: Fetal death.

#### CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

Species: Woman  
Dose: 64 UG/KG  
Route of Application: Intravenous  
Exposure Time: (20W PREG)  
Result: Effects on Fertility: Abortion.

Species: Woman  
Dose: 360 NG/KG  
Route of Application: Intravenous  
Exposure Time: (20W PREG)  
Result: Maternal Effects: Uterus, cervix, vagina.

Species: Rat  
Dose: 500 UG/KG  
Route of Application: Intraperitoneal  
Exposure Time: (7D POST)  
Result: Maternal Effects: Postpartum.

Species: Rat  
Dose: 2 MG/KG  
Route of Application: Intraperitoneal  
Exposure Time: (2D PREG)  
Result: Effects on Fertility: Pre-implantation mortality (e.g., reduction in number of implants per female; total number of implants per corpora lutea).

Species: Rat  
Dose: 10 MG/KG  
Route of Application: Subcutaneous  
Exposure Time: (6-15D PREG)  
Result: Effects on Fertility: Litter size (e.g.; # fetuses per litter; measured before birth). Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific

## Developmental Abnormalities: Musculoskeletal system.

Species: Rat

Dose: 5 MG/KG

Route of Application: Subcutaneous

Exposure Time: (13D PREG)

Result: Maternal Effects: Ovaries, fallopian tubes. Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants). Effects on

Fertility: Other measures of fertility

Species: Rat

Dose: 15 MG/KG

Route of Application: Subcutaneous

Exposure Time: (30D MALE)

Result: Paternal Effects: Spermatogenesis (including genetic material, sperm morphology, motility, and count). Paternal Effects: Testes, epididymis, sperm duct. Paternal Effects:

Prostate, seminal vesicle, Cowper's gland, accessory glands.

Species: Rat

Dose: 15 MG/KG

Route of Application: Subcutaneous

Exposure Time: (21D PREG)

Result: Effects on Newborn: Biochemical and metabolic.

Species: Rat

Dose: 9 MG/KG

Route of Application: Intravenous

Exposure Time: (90D MALE)

Result: Paternal Effects: Testes, epididymis, sperm duct.

Paternal Effects: Prostate, seminal vesicle, Cowper's gland, accessory glands.

Species: Mouse

Dose: 1 MG/KG

Route of Application: Intraperitoneal

Exposure Time: (19D PREG)

Result: Maternal Effects: Parturition.

Species: Mouse

Dose: 45 MG/KG

Route of Application: Subcutaneous

Exposure Time: (15D MALE)

Result: Paternal Effects: Spermatogenesis (including genetic material, sperm morphology, motility, and count).

Species: Mouse

Dose: 30 MG/KG

Route of Application: Subcutaneous

Exposure Time: (15D MALE)

Result: Paternal Effects: Spermatogenesis (including genetic material, sperm morphology, motility, and count). Paternal Effects: Testes, epididymis, sperm duct. Paternal Effects:

Prostate, seminal vesicle, Cowper's gland, accessory glands.

Species: Mouse

Dose: 10 MG/KG

Route of Application: Subcutaneous

Exposure Time: (16D PREG)

Result: Effects on Fertility: Abortion.

Species: Rabbit  
Dose: 2500 UG/KG  
Route of Application: Subcutaneous  
Exposure Time: (1D PRE)  
Result: Effects on Fertility: Other measures of fertility

Species: Rabbit  
Dose: 2 MG/KG  
Route of Application: Subcutaneous  
Exposure Time: (2D PREG)  
Result: Effects on Fertility: Other measures of fertility

Species: Guinea pig  
Dose: 1200 UG/KG  
Route of Application: Subcutaneous  
Exposure Time: (23-24D PREG)  
Result: Effects on Fertility: Abortion.

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## 12 - Ecological Information

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No data available.

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## 13 - Disposal Considerations

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### SUBSTANCE DISPOSAL

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

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## 14 - Transport Information

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### RID/ADR

Non-hazardous for road transport.

### IMDG

Non-hazardous for sea transport.

### IATA

Non-hazardous for air transport.

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## 15 - Regulatory Information

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### CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

INDICATION OF DANGER: Xn

Harmful.

R-PHRASES: 22

Harmful if swallowed.

S-PHRASES: 36

Wear suitable protective clothing.

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## 16 - Other Information

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### WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or

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