

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



Section 1. Identification of the Substance/Mixture and of the

1.1 Product Code: 16681

Product Name: Unoprostone isopropyl ester

Synonyms: 9.alpha.,11.alpha.-dihydroxy-13,14-dihydro-15-oxo-20a,20b-dihomoprost-5Z-en-1-oic acid, isopropyl ester; 13,14-dihydro-15-keto-20-ethyl Prostaglandin F2.alpha. isopropyl ester; Rescula;

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses: For research use only, not for human or veterinary use.

1.3 Details of the Supplier of the Safety Data Sheet

Company Name: Cayman Chemical Company

Emergency Contact: CHEMTREC Within USA and Canada: +1 (800)424-9300

Alternate Emergency Contact: CHEMTREC Outside USA and Canada: +1 (703)527-3887

Information: Cayman Chemical Company +1 (734)971-3335

Web site address: www.caymanchem.com

Section 2. Hazards Identification

GHS Classification	Placard	Key word	GHS hazard phrase
Flammable Liquids, Category 2	Flame	Danger	Highly flammable liquid and vapor
Acute Toxicity: Oral, Category 4	Exclamation point	Warning	Harmful if swallowed
Serious Eye Damage/Eye Irritation, Category 2A	Exclamation point	Warning	Causes serious eye irritation
Toxic To Reproduction, Category 1B	Health hazard	Danger	May damage fertility or the unborn child
Target Organ Systemic Toxicity (single exposure), Category 3	Exclamation point	Warning	May cause respiratory irritation, or may cause drowsiness and dizziness

GHS Hazard Phrases:

H225: Highly flammable liquid and vapor.
 H302: Harmful if swallowed.
 H316: Causes mild skin irritation.
 H319: Causes serious eye irritation.
 H360: May damage fertility or the unborn child.
 H336: May cause drowsiness or dizziness.
 EUH066: Repeated exposure may cause skin dryness or cracking.

GHS Precaution Phrases:

P210: Keep away from {heat/sparks/open flames/hot surfaces}. - No smoking.
 P280: Wear {protective gloves/protective clothing/eye protection/face protection}.
 P264: Wash {hands} thoroughly after handling.
 P201: Obtain special instructions before use.
 P202: Do not handle until all safety precautions have been read and understood.
 P281: Use personal protective equipment as required.
 P261: Avoid breathing {dust/fume/gas/mist/vapours/spray}.

GHS Response Phrases:

P303+361+353: IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
 P301+312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
 P330: Rinse mouth.
 P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P337+313: If eye irritation persists, get medical advice/attention.
 P308+313: IF exposed or concerned: Get medical attention/advice.
 P309+311: Call a POISON CENTER or doctor/physician if exposed or you feel unwell.

P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

GHS Storage and Disposal Phrases:

Please refer to Section 7 for Storage and Section 13 for Disposal information.

2.3 Adverse Human Health Effects and Symptoms:

Causes mild skin irritation.
 Causes serious eye irritation.
 Harmful if swallowed.
 Material may be irritating to the mucous membranes and upper respiratory tract.
 May be harmful by inhalation or skin absorption.
 May cause adverse reproductive effects in males and/or females.
 May cause gastrointestinal disturbances.
 May cause respiratory system irritation.
 May damage fertility or the unborn child.
 May stimulate contraction of intestinal and reproductive smooth muscle.
 Repeated exposure may cause skin dryness or cracking.
 This chemical has the potential to induce premature labor or abortion.
 Vapors may cause drowsiness and dizziness.
 The H and P phrases and warnings for this compound are based on similar materials in the same chemical class.
 To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

Target Organs:

Central nervous system, Eyes, Reproductive system, Gastrointestinal System, Kidneys, Smooth muscles, Respiratory system, Endocrine system, Skin.

LD 50 / LC 50:

Please refer to Section 11.

Medical Conditions Generally Aggravated By Exposure:

No data available.

Section 3. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	EC#	Risk Phrases	RTECS #
1. Unoprostone isopropyl ester	120373-24-2	1.0 %	NA	R22-60-61	MJ9670937
2. Methyl acetate	79-20-9	99.0 %	201-185-2	R11-36-66-67	AI9100000

Section 4. First Aid Measures

4.1 Description of First Aid Measures:
4.1.1 In Case of Inhalation:

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

4.1.2 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.

4.1.3 In Case of Eye Contact:

Hold eyelids apart and flush eyes with plenty of water for at least 20 minutes. Have eyes examined and tested by medical personnel.

4.1.4 In Case of Ingestion:

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.

4.2 Important Symptoms and Effects, Both Acute and Delayed:

Exposure may cause: coughing, dizziness, drowsiness, headache, narcosis, optic nerve atrophy, chest tightness.

4.3 Indication of any immediate medical attention and special treatment needed:

No data available.

Section 5. Fire Fighting Measures

5.1 Suitable Extinguishing Media:

Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.
 Use of water spray when fire fighting may be inefficient.

Unsuitable Extinguishing Media:	A solid water stream may be inefficient.
5.2 Flammable Properties and Hazards:	Can release vapors that form explosive mixtures at temperatures at or above the flash point. Container explosion may occur under fire conditions. Emits toxic fumes under fire conditions. Flammable liquid. Vapors can travel to a source of ignition and flash back.
Flash Pt:	-10.00 C Method Used: Closed Cup
Autoignition Pt:	455.00 C
Explosive Limits:	LEL: 3.1% at 25.0 C UEL: 16.0% at 25.0 C
Hazardous Combustion Products:	No data available.
5.3 Fire Fighting Instructions:	As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes. Note: Flammable as diluted in methyl acetate.

Section 6. Accidental Release Measures

6.1 Protective Precautions, Protective Equipment and Emergency Procedures:	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).
6.2 Environmental Precautions:	Take steps to avoid release into the environment, if safe to do so.
6.3 Methods and Material For Containment and Cleaning Up:	Contain spill and collect, as appropriate. Transfer to a chemical waste container for disposal in accordance with local regulations.

Section 7. Handling and Storage

7.1 Precautions To Be Taken in Handling:	Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid prolonged or repeated exposure. Keep away from sources of ignition. Take precautionary measures against static discharge.
7.2 Precautions To Be Taken in Storing:	Keep away from heat, sparks, and flame. Keep container tightly closed. Store in accordance with information listed on the product insert.
Other Precautions:	Protect from moisture.
Hazard Label Information:	Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilation. Wash thoroughly after handling.

Section 8. Exposure Controls/Personal Protection

Hazardous Components (Chemical Name)	CAS #	OSHA PEL	ACGIH TWA	Other Limits
1. Unoprostone isopropyl ester	120373-24-2	No data.	No data.	No data.
2. Methyl acetate	79-20-9	PEL: 8H TWA:200 ppm (610 mg/m3)	TLV: 200 ppm STEL: 250 ppm	No data.
Hazardous Components (Chemical Name)	CAS #	Britain EH40	France VL	Europe
1. Unoprostone isopropyl ester	120373-24-2	No data.	No data.	No data.
2. Methyl acetate	79-20-9	TWA: 616 mg/m3 (200 ppm) STEL: 770 mg/m3 (250 ppm)	TWA: 610 mg/m3 (200 ppm) STEL: 760 mg/m3 (250 ppm)	No data.

Protective Equipment Summary - Hazard Label Information:	Eye wash station in work area Lab coat Compatible chemical-resistant gloves Safety glasses Safety shower in work area Vent Hood
8.2.1 Engineering Controls (Ventilation etc.):	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
8.2.2.1 Eye Protection:	Safety glasses
8.2.2.2 Protective Gloves:	Compatible chemical-resistant gloves

Other Protective Clothing:	Lab coat
8.2.2.3 Respiratory Equipment (Specify Type):	NIOSH approved respirator, as conditions warrant.
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.
8.2.3 Environmental Exposure Controls:	No data available.

Section 9. Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Physical States:	<input type="checkbox"/> Gas <input checked="" type="checkbox"/> Liquid <input type="checkbox"/> Solid
Appearance and Odor:	No data available.
Melting Point:	No data.
Boiling Point:	No data.
Flash Pt:	-10.00 C Method Used: Closed Cup
Evaporation Rate:	No data.
Explosive Limits:	LEL: 3.1% at 25.0 C UEL: 16.0% at 25.0 C
Vapor Pressure (vs. Air or mm Hg):	173 MM_HG at 20.0 C
Vapor Density (vs. Air = 1):	No data.
Specific Gravity (Water = 1):	No data.
Solubility in Water:	No data.
Autoignition Pt:	455.00 C
Explosive Properties:	No data available.
Oxidizing Properties:	No data available.

9.2 Other Information

Percent Volatile:	No data.
Formula:	C25H44O5
Molecular Weight:	424.60

Section 10. Stability and Reactivity

10.1 Reactivity:	No data available.
10.2 Stability:	Unstable <input type="checkbox"/> Stable <input checked="" type="checkbox"/>
10.3 Stability Note(s):	Stable if stored in accordance with information listed on the product insert.
10.4 Conditions To Avoid:	heat, flames and sparks
10.3 Polymerization:	Will occur <input type="checkbox"/> Will not occur <input checked="" type="checkbox"/>
10.5 Incompatibility - Materials To Avoid:	acids alkalis nitrates strong oxidizing agents
10.6 Hazardous Decomposition Or Byproducts:	carbon dioxide carbon monoxide nitrogen oxides

Section 11. Toxicological Information

11.1 Information on Toxicological Effects: The toxicological effects of this product have not been thoroughly studied.

Methyl Acetate - Toxicity Data: Oral LD50 (rat): >5,000 mg/kg; Oral LD50 (rabbit): 3,705 mg/kg; Skin LD50 (rabbit): >5,000 mg/kg; Inhalation TCLO (human): 15,000 mg/m³;
 Methyl Acetate - Irritation Data: Skin (rabbit): 500 mg (24h) mild; Eyes (rabbit): 100 mg (24h) moderate;
 Unoprostone isopropyl ester - Toxicity Data: Subcutaneous LD50 (rat): 1 g/kg; Intravenous LD50 (rat): 93,500 µg/kg;

Chronic Toxicological Effects:

Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here. See actual entry in RTECS for complete information.
 Methyl Acetate RTECS Number: AI9100000
 Unoprostone isopropyl ester RTECS Number: MJ9670937

Hazardous Components (Chemical Name)	CAS #	NTP	IARC	ACGIH	OSHA
1. Unoprostone isopropyl ester	120373-24-2	n.a.	n.a.	n.a.	n.a.
2. Methyl acetate	79-20-9	n.a.	n.a.	n.a.	n.a.

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

Section 12. Ecological Information

12.1 Toxicity: Avoid release into the environment.
 Runoff from fire control or dilution water may cause pollution.

Section 13. Disposal Considerations

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

Section 14. Transport Information

14.1 LAND TRANSPORT (US DOT)

DOT Proper Shipping Name: Methyl acetate
DOT Hazard Class: 3
DOT Hazard Label: FLAMMABLE LIQUID
UN/NA Number: 1231
Packing Group: II

14.1 LAND TRANSPORT (European ADR/RID)

ADR/RID Shipping Name: Methyl acetate
UN Number: 1231
Hazard Class: 3 - FLAMMABLE LIQUID
Packing Group: II

14.3 AIR TRANSPORT (ICAO/IATA)

ICAO/IATA Shipping Name: Methyl acetate
UN Number: 1231
Hazard Class: 3 - FLAMMABLE LIQUID
Packing Group: II
IATA Classification: 3

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

Section 15. Regulatory Information

European Community Hazard Symbol codes F: Highly Flammable; T: Toxic; Xi: Irritant; Reproductive Hazard: 2

European Community Risk and Safety Phrases

- R11 - Highly flammable.
- R22 - Harmful if swallowed.
- R36 - Irritating to eyes.
- R60 - May impair fertility.
- R61 - May cause harm to the unborn child.
- R66 - Repeated exposure may cause skin dryness or cracking
- R67 - Vapours may cause drowsiness and dizziness
- S7 - Keep container tightly closed.
- S16 - Keep away from sources of ignition.
- 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.
- S29 - Do not empty into drains.
- S33 - Take precautionary measures against static discharges.
- 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.)
- 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. Unoprostone isopropyl ester	120373-24-2	No	No	No	No
2. Methyl acetate	79-20-9	No	No	No	No

Other US EPA or State Lists

Hazardous Components (Chemical Name)	CAS #	CAA HAP,ODC	CWA NPDES	TSCA	CA PROP.65
1. Unoprostone isopropyl ester	120373-24-2	No	No	No	No
2. Methyl acetate	79-20-9	No	No	Inventory, 4 Test, 8A PAIR	No

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

Section 16. Other Information

Revision Date: 06/12/2013

Company Policy or Disclaimer

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