

according to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

### Section 1. Identification of the Substance/Mixture and of the Company/Undertaking

- 1.1 Product Code:** 16230  
**Product Name:** iPF2.alpha.-IV  
**Synonyms:** 5(S),9.alpha.,11.alpha.-trihydroxy-1.alpha.,1.beta.,1.gamma.-trihomo-18,19,20-trinor-8.beta.-prosta-2Z,6E-dien-1-oic acid;
- 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  
1180 E. Ellsworth Rd.  
Ann Arbor, MI 48108
- Web site address:** www.caymanchem.com
- Information:** Cayman Chemical Company +1 (734)971-3335
- 1.4 Emergency telephone number:**
- Emergency Contact:** CHEMTREC Within USA and Canada: +1 (800)424-9300  
CHEMTREC Outside USA and Canada: +1 (703)527-3887

### Section 2. Hazards Identification

- 2.1 Classification of the Substance or Mixture:**
- 2.1.1 Classification according to Regulation (EC) No 1272/2008 [CLP]:**  
**Flammable Liquids, Category 2**  
**Acute Toxicity: Inhalation, Category 4**  
**Acute Toxicity: Oral, Category 4**  
**Acute Toxicity: Skin, Category 4**  
**Serious Eye Damage/Eye Irritation, Category 2**  
**Toxic To Reproduction, Category 1B**
- 2.2 Label Elements:**
- 2.2.1 Labeling according to Regulation (EC) No 1272/2008 [CLP]:**



**GHS Signal Word:** **Danger**

**GHS Hazard Phrases:**

H225: Highly flammable liquid and vapor.  
H332: Harmful if inhaled.  
H302: Harmful if swallowed.  
H312: Harmful in contact with skin.  
H319: Causes serious eye irritation.  
H360: May damage fertility or the unborn child.

**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}.  
P261: Avoid breathing {dust/fume/gas/mist/vapours/spray}.  
P264: Wash {hands} thoroughly after handling.  
P362+364: Take off contaminated clothing and wash it before reuse.  
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.

**GHS Response Phrases:**

P303+361+353: IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.  
P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P312: Call a {POISON CENTER/doctor/...} if you feel unwell.  
P301+312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.  
P330: Rinse mouth.  
P302+352: IF ON SKIN: Wash with plenty of soap and water.  
P321: Specific treatment {see ... on this label}.  
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.

**GHS Storage and Disposal Phrases:**

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

**2.3 Adverse Human Health**

Can cause fatal cyanide poisoning.

**Effects and Symptoms:**

Causes serious eye irritation.  
Harmful if swallowed, inhaled, or absorbed through the skin.  
Material may be irritating to the mucous membranes and upper respiratory tract.  
May be fatal if swallowed, inhaled, or absorbed through the skin.  
May cause adverse reproductive effects in males and/or females.  
May cause gastrointestinal disturbances.  
May cause skin or respiratory system irritation.  
May damage fertility or the unborn child.  
May stimulate contraction of intestinal and reproductive smooth muscle.  
Several hours may elapse from exposure to onset of symptoms.  
This chemical has the potential to induce premature labor or abortion.  
To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

### Section 3. Composition/Information on Ingredients

CAS # / RTECS #	Hazardous Components (Chemical Name)/ REACH Registration No.	Concentration	EC No./ EC Index No.	GHS Classification
331962-00-6 NA	iPF2.alpha.-IV	0.1 %	NA NA	Acute Tox.(O) 4: H302 Toxic Repro. 1B: H360
75-05-8 AL7700000	Acetonitrile	99.9 %	200-835-2 608-001-00-3	Flam. Liq. 2: H225 Acute Tox.(O) 4: H302 Acute Tox.(D) 4: H312 Eye Damage 2: H319 Acute Tox.(I) 4: H332

### Section 4. First Aid Measures

- 4.1 Description of First Aid Measures:** No data available.
- In Case of Inhalation:** Exposure may cause: asphyxia, cyanosis, depression, diarrhea, dizziness, drowsiness, excitement, headache, impaired judgement, lack of coordination, nausea, rash, vomiting, stupor, death. Treat as cyanide poisoning. Always have on hand a cyanide first-aid kit, together with proper instructions. The onset of symptoms is generally delayed pending conversion to cyanide.
- In Case of Skin Contact:** Immediately wash skin with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.
- In Case of Eye Contact:** Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined and tested by medical personnel..
- In Case of Ingestion:** Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined and tested by medical personnel.
- 4.2 Important Symptoms and Effects, Both Acute and Delayed:** Exposure may cause: asphyxia, cyanosis, depression, diarrhea, dizziness, drowsiness, excitement, headache, impaired judgement, lack of coordination, nausea, rash, vomiting, stupor, death. Treat as cyanide poisoning. Always have on hand a cyanide first-aid kit, together with proper instructions. The onset of symptoms is generally delayed pending conversion to cyanide. Exposure can cause: diarrhea, dizziness, fever, flushing, headache, hypotension, nausea, shivering, vomiting.
- Note for the Doctor:** Acetonitrile is metabolized to cyanide. Patients with significant exposures must be observed for signs of cyanide poisoning and treated accordingly.

### Section 5. Fire Fighting Measures

- 5.1 Suitable Extinguishing Media:** Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.
- 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 flashpoint.
- Hazards:** 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.
- Flash Pt:** 2.00 C Method Used: Closed Cup
- Explosive Limits:** LEL: 3.0% at 25.0 C UEL: 16.0% at 25.0 C
- Autoignition Pt:** 524.00 C
- 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 acetonitrile

### Section 6. Accidental Release Measures

- 6.1 Protective Precautions,** Avoid breathing vapors and provide adequate ventilation.  
**Protective Equipment and** As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator,  
**Emergency Procedures:** and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).
- 6.2 Environmental** Take steps to avoid release into the environment, if safe to do so.  
**Precautions:**
- 6.3 Methods and Material For** Contain spill and collect, as appropriate.  
**Containment and Cleaning** Transfer to a chemical waste container for disposal in accordance with local regulations.  
**Up:**

### Section 7. Handling and Storage

- 7.1 Precautions To Be Taken** Avoid breathing dust/fume/gas/mist/vapours/spray.  
**in Handling:** Avoid prolonged or repeated exposure.  
Keep away from sources of ignition.  
Take precautionary measures against static discharge.
- 7.2 Precautions To Be Taken** Keep away from heat, sparks and flame.  
**in Storing:** Keep container tightly closed.  
Store in accordance with information listed on the product insert.

### Section 8. Exposure Controls/Personal Protection

#### 8.1 Exposure Parameters:

CAS #	Partial Chemical Name	Britain EH40	France VL	Europe
331962-00-6	iPF2.alpha.-IV	No data.	No data.	No data.
75-05-8	Acetonitrile	TWA: 68 mg/m3 (40 ppm) STEL: 102 mg/m3 (60 ppm)	TWA: 70 mg/m3 (40 ppm) STEL: ()	TWA: 70 mg/m3
CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
331962-00-6	iPF2.alpha.-IV	No data.	No data.	No data.
75-05-8	Acetonitrile	PEL: 40 ppm	TLV: 20 ppm	No data.

#### 8.2 Exposure Controls:

- 8.2.1 Engineering Controls** Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne  
**(Ventilation etc.):** levels below recommended exposure limits.
- 8.2.2 Personal protection equipment:**
- Eye Protection:** Safety glasses
- Protective Gloves:** Compatible chemical-resistant gloves
- Other Protective Clothing:** Lab coat
- Respiratory Equipment** NIOSH approved respirator, as conditions warrant.  
**(Specify Type):**
- Work/Hygienic/Maintenan** Do not take internally.  
**ce Practices:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.  
Wash thoroughly after handling.  
No data available.

## Section 9. Physical and Chemical Properties

## 9.1 Information on Basic Physical and Chemical Properties

Physical States:	[ ] Gas	[ X ] Liquid	[ ] Solid
Appearance and Odor:	Solution		
Melting Point:	No data.		
Boiling Point:	No data.		
Flash Pt:	2.00 C	Method Used:	Closed Cup
Evaporation Rate:	No data.		
Explosive Limits:	LEL: 3.0%	at 25.0 C	UEL: 16.0% at 25.0 C
Vapor Pressure (vs. Air or mm Hg):	73 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:	524.00 C		

## 9.2 Other Information

<b>Percent Volatile:</b>	No data.	
<b>Molecular Formula &amp; Weight:</b>	C20H34O5	354.5

## Section 10. Stability and Reactivity

10.1	<b>Reactivity:</b>	No data available.
10.2	<b>Stability:</b>	Unstable [ ]      Stable [ X ]
10.3	<b>Stability Note(s):</b>	Stable if stored in accordance with information listed on the product insert.
	<b>Polymerization:</b>	Will occur [ ]      Will not occur [ X ]
10.4	<b>Conditions To Avoid:</b>	heat, flames and sparks
10.5	<b>Incompatibility - Materials To Avoid:</b>	acids alkalai metals bases oxidizing agents reducing agents
10.6	<b>Hazardous Decomposition Or Byproducts:</b>	carbon dioxide carbon monoxide hydrogen cyanide nitrogen oxides

### Section 11. Toxicological Information

<b>11.1 Information on Toxicological Effects:</b>	The toxicological effects of this product have not been thoroughly studied. Acetonitrile - Toxicity Data: Oral LD50 (rat): 2,460 mg/kg; Oral LD50 (mouse): 269 mg/kg; Oral LD50 (rabbit): 50 mg/kg; Oral TDLO (man): 64 mg/kg; Skin LD50 (rabbit): 980 mg/kg; Inhalation TCLO (human): 160 ppm (4h); Inhalation LC50 (rat): 7,551 ppm (8h); Acetonitrile - Irritation Data: Skin (rabbit) 500 mg mild; Eye (rabbit): 100 $\mu$ l (24 hr) moderate;
<b>Chronic Toxicological Effects:</b>	Acetonitrile - Investigated as a mutagen, reproductive effector, and tumorigen. Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here. See actual entry in RTECS for complete information. Acetonitrile RTECS Number: AL7700000
<b>Carcinogenicity:</b>	NTP? No      IARC Monographs? No      OSHA Regulated? No

CAS #	Hazardous Components (Chemical Name)	NTP	IARC	ACGIH	OSHA
331962-00-6	iPF2.alpha.-IV	n.a.	n.a.	n.a.	n.a.
75-05-8	Acetonitrile	n.a.	n.a.	A4	n.a.

### Section 12. Ecological Information

<b>12.1 Toxicity:</b>	Avoid release into the environment. Runoff from fire control or dilution water may cause pollution.
<b>12.2 Persistence and Degradability:</b>	No data available.
<b>12.3 Bioaccumulative Potential:</b>	No data available.
<b>12.4 Mobility in Soil:</b>	No data available.
<b>12.5 Results of PBT and vPvB assessment:</b>	No data available.

### Section 13. Disposal Considerations

<b>13.1 Waste Disposal Method:</b>	Dispose in accordance with local, state, and federal regulations.
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### Section 14. Transport Information

#### 14.1 LAND TRANSPORT (US DOT):

<b>DOT Proper Shipping Name:</b>	Acetonitrile Solution		
<b>DOT Hazard Class:</b>	3	FLAMMABLE LIQUID	
<b>UN/NA Number:</b>	1648	<b>Packing Group:</b>	II



#### 14.1 LAND TRANSPORT (European ADR/RID):

<b>ADR/RID Shipping Name:</b>	Acetonitrile Solution		
<b>UN Number:</b>	1648	<b>Packing Group:</b>	II
<b>Hazard Class:</b>	3 - FLAMMABLE LIQUID		



# SAFETY DATA SHEET

## iPF2.alpha.-IV

Revision: 01/26/2015  
Supersedes Revision: 09/09/2010**14.3 AIR TRANSPORT (ICAO/IATA):****ICAO/IATA Shipping Name:** Acetonitrile Solution**UN Number:** 1648**Packing Group:** II**Hazard Class:** 3 - FLAMMABLE LIQUID**IATA Classification:** 3**Additional Transport Information:** Transport in accordance with local, state, and federal regulations.

When sold in quantities of less than or equal to 1 mL, or 1 g, with an Excepted Quantity Code of E1, E2, E4, or E5, this item meets the De Minimis Quantities exemption, per IATA 2.6.10.

Therefore packaging does not have to be labeled as Dangerous Goods/Excepted Quantity.

### Section 15. Regulatory Information

**EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists**

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
331962-00-6	iPF2.alpha.-IV	No	No	No
75-05-8	Acetonitrile	No	Yes 5000 LB	Yes

CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists
331962-00-6	iPF2.alpha.-IV	CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No
75-05-8	Acetonitrile	CAA HAP,ODC: HAP; CWA NPDES: No; TSCA: Yes - Inventory, 4 Test, 8A PAIR; CA PROP.65: No

### Section 16. Other Information

**Revision Date:** 01/26/2015**Additional Information About This Product:** No data available.**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.