1 Product and Company Identification

1.1 Product Name: Prostaglandin E2
1.2 Product Identifier: dinoprostone
1.3 Catalog Number: 72192, 72194
1.4 Synonyms: Dinoprostone; PGE2; 9-oxo-11α,15S-dihydroxy-prosta-5Z,13E-dien-1-oic acid
1.5 Product Use: Prostanoid pathway activator; activates prostaglandin receptors EP1, EP2, EP3 and EP4
1.6 Manufacturer/Supplier: STEMCELL Technologies SARL
40 rue des Berges, Miniparc Polytec, Bât. Sirocco, 38000 Grenoble, France
1.7 In Case of Emergency Call: +33.(0).4.76.04.75.30

2 Hazards Identification

2.1 Classification of the substance or mixture
Acute Toxicity: Oral, Category 4
Toxic To Reproduction, Category 1B

2.2 Label elements

Pictogram

<table>
<thead>
<tr>
<th>Signal word</th>
<th>Hazard statement(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>H302 Harmful if swallowed.</td>
</tr>
<tr>
<td></td>
<td>H360 May damage fertility or the unborn child.</td>
</tr>
</tbody>
</table>

Precautionary statement(s)

<table>
<thead>
<tr>
<th>Precautionary statement(s)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>P264 Wash hands thoroughly after handling.</td>
<td></td>
</tr>
<tr>
<td>P201 Obtain special instructions before use.</td>
<td></td>
</tr>
<tr>
<td>P202 Do not handle until all safety precautions have been read and understood.</td>
<td></td>
</tr>
<tr>
<td>P281 Use personal protective equipment as required.</td>
<td></td>
</tr>
<tr>
<td>P301+312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.</td>
<td></td>
</tr>
<tr>
<td>P330 Rinse mouth.</td>
<td></td>
</tr>
<tr>
<td>P308+313 IF exposed or concerned: Get medical attention/advice.</td>
<td></td>
</tr>
</tbody>
</table>

2.3 Other hazards
No data available

3 Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>Hazardous Components (Chemical Name)</th>
<th>CAS #</th>
<th>Concentration</th>
<th>EC #</th>
</tr>
</thead>
</table>
4 First Aid Measures

4.1 Description of first aid measures

4.1.1 If inhaled
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 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.

4.2 Most important symptoms and effects, both acute and delayed
Exposure can cause: diarrhea, dizziness, fever, flushing, headache, hypotension, nausea, shivering, vomiting.

The toxicological properties of this product have not been fully evaluated.

4.3 Indication of any immediate medical attention and special treatment needed
No data available

5 Fire Fighting Measures

5.1 Extinguishing Media

5.1.1 Suitable Extinguishing Media
Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.
Use water spray to cool fire-exposed containers.

5.1.2 Unsuitable Extinguishing Media
A solid water stream may be inefficient.

5.2 Special hazards arising from the substance or mixture

5.2.1 Flammable Properties and Hazards
Emits toxic fumes under fire conditions.

5.2.2 Flash Pt
No data available

5.2.3 Autoignition Pt
No data available

5.2.4 Explosive Limits
LEL: No data available  UEL: No data available

5.2.5 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.

6 Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid raising and breathing dust, and provide adequate ventilation.

As conditions warrant, wear a NIOSH approved (or equivalent) 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 materials for containment and cleaning up

Contain spill and collect, as appropriate.

Transfer to a chemical waste container for disposal in accordance with local regulations.

7 Handling and Storage

7.1 Precautions for safe handling

Avoid breathing dust/fume/gas/mist/vapours/spray.

Avoid exposure.

7.2 Conditions for safe storage

Keep container tightly closed.

Store in accordance with information listed on the product insert.

8 Exposure Controls/Personal Protection

8.1 Exposure limits

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS #</th>
<th>Value</th>
<th>Control parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prostaglandin E2</td>
<td>363-24-6</td>
<td>No data available</td>
<td>No data available</td>
</tr>
</tbody>
</table>

8.2 Engineering controls

Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

8.3 Personal protective equipment

8.3.1 Eye/face protection

Safety glasses

8.3.2 Skin protection

Compatible chemical-resistant gloves

Lab coat

8.3.3 Respiratory protection

NIOSH (US) or CEN (EU) approved respirator, as conditions warrant.

8.3.4 General hygiene considerations
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.

8.3.5 Environmental exposure controls
No data available

9 Physical and Chemical Properties
9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>A crystalline solid</td>
</tr>
<tr>
<td>Odour</td>
<td>No data available</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point/boiling range</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility in water</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility in other liquids</td>
<td>~5 mg/mL in PBS (pH 7.2); ~100 mg/mL in EtOH, DMF, &amp; DMSO</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour density</td>
<td>No data available</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
</tbody>
</table>

9.2 Other information

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molecular formula</td>
<td>C_{20}H_{32}O_{5}</td>
</tr>
<tr>
<td>Molecular weight</td>
<td>352.50</td>
</tr>
</tbody>
</table>

10 Stability and Reactivity

10.1 Reactivity                                | No data available                          |
10.2 Chemical stability                        | Stable                                     |
10.3 Possibility of hazardous reactions        | No data available                          |
10.4 Conditions to avoid                       | No data available                          |
10.5 Incompatible materials                    | Acids                                      |
|                                               | Bases                                      |
10.6 Hazardous decomposition products          | Carbon dioxide                            |
|                                               | Carbon monoxide                            |
11 Toxicological Information

11.1 Acute toxicity
Oral LD50 (rat): 500 mg/kg; Oral LD50 (mouse): 750 mg/kg; Subcutaneous LD50 (rat): 31.6 mg/kg; Intravenous LD50 (rat): 59.5 mg/kg; Subcutaneous TDLO (mouse): 20 ìg/kg (16D Preg); Intravenous TDLO (woman): 16,800 ìg/kg (10W Preg)

11.2 Skin corrosion/irritation
No data available

11.3 Serious eye damage/eye irritation
No data available

11.4 Aspiration hazard
No data available

11.5 Specific target organ toxicity - single exposure
No data available

11.6 Specific target organ toxicity - repeated exposure
No data available

11.7 Respiratory and/or skin sensitization
No data available

11.8 Carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

11.9 Reproductive toxicity
No data available

11.10 Germ cell mutagenicity
No data available

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

11.12 RTECS # UK8000000

12 Ecological Information

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

12.2 Persistence and degradability
No data available

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 Other adverse effects
No data available
13 Disposal Considerations

13.1 Waste disposal method

Dispose in accordance with local, provincial/state, and federal regulations.

14 Transport Information

14.1 UN number

No data available

14.2 UN proper shipping name

DOT  Not dangerous goods
ADR/RID  Not dangerous goods
IMDG  Not dangerous goods
IATA  Not dangerous goods

14.3 Transport hazard class(es)

No data available

14.4 Packing group

No data available

14.5 Environmental hazards

No data available

14.6 Special precautions

No data available

15 Regulatory Information

15.1 US EPA SARA Title III

<table>
<thead>
<tr>
<th>Hazardous Components (Chemical Name)</th>
<th>CAS #</th>
<th>Sec.302 (EHS)</th>
<th>Sec.304 RQ</th>
<th>Sec.313 (TRI)</th>
<th>Sec.110</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prostaglandin E2</td>
<td>363-24-6</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

15.2 Other US EPA or State Lists

<table>
<thead>
<tr>
<th>Hazardous Components (Chemical Name)</th>
<th>CAS #</th>
<th>CAA HAP, ODC</th>
<th>CWA NPDES</th>
<th>TSCA</th>
<th>CA PROP.65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prostaglandin E2</td>
<td>363-24-6</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

15.3 Regulatory information statement

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

16 Other Information

16.1 Prepared by: Quality Control, STEMCELL Technologies Inc.

16.2 Revision: N/A

16.3 Notice: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. STEMCELL Technologies Inc. shall not be held liable for any damage resulting from handling or from contact with the product. The information contained in this Safety Data Sheet (SDS) is current as of the Effective Date shown in this document and may be subject to amendment by STEMCELL Technologies Inc.

16.4 Disclaimer: THIS PRODUCT IS FOR RESEARCH USE ONLY. NOT INTENDED FOR HUMAN OR ANIMAL DIAGNOSTIC OR THERAPEUTIC USES.