Section 1. Identification of the Substance/Mixture and of the Supplier of the Safety Data Sheet

1.1 Product Code: 20210
Product Name: Leukotriene C4
Synonyms: 5S-hydroxy-6R-(S-glutathionyl)-7E,9E,11Z,14Z-eicosatetraenoic acid; LTC4;

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

<table>
<thead>
<tr>
<th>GHS Classification</th>
<th>Placard</th>
<th>Key word</th>
<th>GHS hazard phrase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable Liquids, Category 2</td>
<td>Flame</td>
<td>Danger</td>
<td>Highly flammable liquid and vapor</td>
</tr>
<tr>
<td>Skin Corrosion/Irritation, Category 2</td>
<td>Exclamation point</td>
<td>Warning</td>
<td>Causes skin irritation</td>
</tr>
<tr>
<td>Serious Eye Damage/Eye Irritation, Category 2A</td>
<td>Exclamation point</td>
<td>Warning</td>
<td>Causes serious eye irritation</td>
</tr>
<tr>
<td>Toxic To Reproduction, Category 2</td>
<td>Health hazard</td>
<td>Warning</td>
<td>Suspected of damaging fertility or the unborn child</td>
</tr>
<tr>
<td>Target Organ Systemic Toxicity (single exposure), Category 3</td>
<td>Exclamation point</td>
<td>Warning</td>
<td>May cause respiratory irritation, or may cause drowsiness and dizziness</td>
</tr>
<tr>
<td>Target Organ Systemic Toxicity (repeated exposure), Category 1</td>
<td>Health hazard</td>
<td>Danger</td>
<td>Causes damage to &lt;target organs&gt; through prolonged or repeated exposure</td>
</tr>
</tbody>
</table>

GHS Hazard Phrases:
H225: Highly flammable liquid and vapor.
H315: Causes skin irritation.
H319: Causes serious eye irritation.
H361: Suspected of damaging fertility or the unborn child.
H335: May cause respiratory irritation.
H372: Causes damage to {liver} through prolonged or repeated exposure.

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.
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.
P261: Avoid breathing {dust/fume/gas/mist/vapours/spray}.
P260: Do not breathe {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.
P302+352: IF ON SKIN: Wash with plenty of soap and water.
P332+313: If skin irritation occurs, get medical advice/attention.
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.
SAFETY DATA SHEET
Leukotriene C4

GHS Storage and Disposal Phrases:

1. Leukotriene C4 72025-60-6 0.01 % NA R45 MB9143500
2. Ethyl alcohol 64-17-5 94.99 % 200-578-6 R11-36/37/38-62-63 KQ6300000
3. Water 7732-18-5 5.0 % 231-791-2 No phrases apply. ZC0110000

Section 3. Composition/Information on Ingredients

Hazardous Components (Chemical Name) | CAS #  | Concentration | EC#  | Risk Phrases | RTECS #
----------------------------------------|--------|---------------|------|--------------|---------
1. Leukotriene C4                        | 72025-60-6 | 0.01 % | NA  | R45         | MB9143500 |
2. Ethyl alcohol                         | 64-17-5  | 94.99 % | 200-578-6 | R11-36/37/38-62-63 | KQ6300000 |
3. Water                                 | 7732-18-5 | 5.0 %   | 231-791-2 | No phrases apply. | ZC0110000 |

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: Headache, dizziness, nausea, flushing, decreased blood pressure, and changes in heart rate.
Irritating to eyes, skin, nose; may cause anemia, cough, CNS depression, drowsiness, headache, heart damage, lassitude (weakness, exhaustion), liver damage, narcosis, reproductive effects, teratogenic effects.

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 water spray to cool fire-exposed containers.

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. 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: 14.00 °C Method Used: Closed Cup
Autoignition Pt: 363.00 °C
Explosive Limits: LEL: 3.3% at 25.0 °C UEL: 19.0% 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 ethanol.

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: Hygroscopic.

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

<table>
<thead>
<tr>
<th>Hazardous Components (Chemical Name)</th>
<th>CAS #</th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
<th>Other Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Leukotriene C4</td>
<td>72025-60-6</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
<tr>
<td>2. Ethyl alcohol</td>
<td>64-17-5</td>
<td>1000 ppm</td>
<td>1000 ppm</td>
<td>No data.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hazardous Components (Chemical Name)</th>
<th>CAS #</th>
<th>Britain EH40</th>
<th>France VL</th>
<th>Europe</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Leukotriene C4</td>
<td>72025-60-6</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
<tr>
<td>2. Ethyl alcohol</td>
<td>64-17-5</td>
<td>TWA: 1920 mg/m3 (1000 ppm) STEL: ()</td>
<td>TWA: 1900 mg/m3 (1000 ppm) STEL: 9500 mg/m3 (5000 ppm)</td>
<td>No data.</td>
</tr>
</tbody>
</table>
Protective Equipment Summary - Hazard Label Information:  
Compatible chemical-resistant gloves  Eye wash station in work area  Lab coat  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  

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 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:  
[ ] Gas  [ X ] Liquid  [ ] Solid  
Appearance and Odor:  
Solution  
Melting Point:  
No data.  
Boiling Point:  
No data.  
Flash Pt:  
14.00 C  Method Used: Closed Cup  
Evaporation Rate:  
No data.  
Explosive Limits:  
LEL: 3.3% at 25.0 C  UEL: 19.0% at 25.0 C  
Vapor Pressure (vs. Air or mm Hg):  
43 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:  
363.00 C  
Explosive Properties:  
No data available.  
Oxidizing Properties:  
No data available.  

9.2 Other Information  
Percent Volatile:  
No data.  
Formula:  
C30H47N3O9S  
Molecular Weight:  
625.80  

Section 10. Stability and Reactivity  

10.1 Reactivity:  
No data available.  

10.2 Stability:  
Unstable [ ]  Stable [ X ]  

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 [ ]  Will not occur [ X ]  

10.5 Incompatibility - Materials To Avoid:  
alkali metals  
ammonia  
peroxides  
strong oxidizing agents  

Multi-region format
Section 11. Toxicological Information

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

Ethanol - Toxicity Data: Oral TDLO (man): 1.14 ml/kg; Oral TDLO (man): 650 mg/kg; Oral LD50 (rat): 7,060 mg/kg; Oral LD50 (mouse): 3,450 mg/kg; Oral LD50 (mouse): 10.5 ml/kg; Oral LD50 (rabbit): 6,300 mg/kg; Inhalation LC50 (rat): 20,000 ppm (10h); Inhalation TCLO (human): 1,800 ppm (30m); Inhalation TCLO (human): 2,500 mg/m3 (20m); Inhalation LC50 (rat): 5,900 mg/m3 (6h); Inhalation LCLO (mouse): 29,300 ppm (7h); Inhalation - Irritation Data: Eyes (rabbit): 500 mg (24h) mild; Skin (rabbit): 20 mg (24h) moderate;

Leukotriene C4 - Toxicity Data: Intraperitoneal TDLo (guinea pig): 0.002 mg/kg; Intravenous TDLo (guinea pig): 0.001 mg/kg;

Chronic Toxicological Effects:

Ethanol - Investigated as a mutagen, reproductive effector, and tumorigen.
Leukotriene C4 - Investigated as a mutagen.

Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here. See actual entry in RTECS for complete information.

Ethanol RTECS Number: KQ6300000
Leukotriene C4 RTECES Number: MB9143500

<table>
<thead>
<tr>
<th>Hazardous Components (Chemical Name)</th>
<th>CAS #</th>
<th>NTP</th>
<th>IARC</th>
<th>ACGIH</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Leukotriene C4</td>
<td>72025-60-6</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>2. Ethyl alcohol</td>
<td>64-17-5</td>
<td>n.a.</td>
<td>1</td>
<td>A4</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

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: Ethyl Alcohol Solution
DOT Hazard Class: 3
DOT Hazard Label: FLAMMABLE LIQUID
UN/NA Number: 1170
Packing Group: II

14.1 LAND TRANSPORT (European ADR/RID)

ADR/RID Shipping Name: Ethyl Alcohol Solution
UN Number: 1170
Hazard Class: 3 - FLAMMABLE LIQUID
Packing Group: II

14.3 AIR TRANSPORT (ICAO/IATA)

ICAO/IATA Shipping Name: Ethyl Alcohol Solution
UN Number: 1170

Multi-region format
Section 15. Regulatory Information

European Community Hazard Symbol codes
F: Highly Flammable; Xn: Harmful; Reproductive Hazard: 3

European Community Risk and Safety Phrases
R11 - Highly flammable.
R36/37/38 - Irritating to eyes, respiratory system and skin.
R48 - Danger of serious damage to health by prolonged exposure.
R62 - Risk of impaired fertility.
R63 - Possible risk of harm to the unborn child.
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.
S33 - Take precautionary measures against static discharges.
S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.
S53 - Avoid exposure - obtain special instructions before use.

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>1. Leukotriene C4</td>
<td>72025-60-6</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>2. Ethyl alcohol</td>
<td>64-17-5</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>3. Water</td>
<td>7732-18-5</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

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>1. Leukotriene C4</td>
<td>72025-60-6</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>2. Ethyl alcohol</td>
<td>64-17-5</td>
<td>No</td>
<td>No</td>
<td>Inventory</td>
<td>No</td>
</tr>
<tr>
<td>3. Water</td>
<td>7732-18-5</td>
<td>No</td>
<td>No</td>
<td>Inventory</td>
<td>No</td>
</tr>
</tbody>
</table>

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: 06/14/2013

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