

**Certificate of Analysis**  
**Gracefruit Ltd**  
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**Longcroft, Stirlingshire,**  
**FK4 1QL**  
**www.gracefruit.com**  
**VAT Number: 935 8115 14**  
**EORI Number: GB9358 1151 4000**  
**Company Number: SC374368**

<b>Raw Material Code:</b>	<b>R00114</b>	<b>Product Description:</b>	<b>Castor Oil, CP, Organic</b>
<b>INCI Name:</b>	<b>Ricinus Communis Seed Oil</b>		
<b>EINECS Number:</b>	<b>232-293-8</b>	<b>CAS Number:</b>	<b>8001-79-4</b>
<b>Date of Production:</b>	<b>October-2015</b>	<b>Best Before:</b>	<b>July-2017</b>
<b>Lot Number:</b>	<b>L000149569</b>	<b>Retest Date:</b>	<b>-</b>

Analytical Details	Result
Appearance	Clear to pale yellow viscous liquid
Odour	Very slight, Characteristic
Specific Gravity @ 20°C	0.96
Refractive Index @ 20°C	1.479
FFA (% as Oleic)	0.22
Moisture (%)	0.21
Peroxide Value	0.79
Saponification Value	180.3
Unsaponifiable Matter (%)	0.34
Iodine Value (Calc.)	85.37
Acid Value (mg KOH/g)	0.44
Optical Rotation	+3.6
Hydroxyl Value	163.79
Light Absorbance @ 269nm	0.131

Palmitic Acid	C16:0	1.47
Stearic Acid	C18:0	1.52
Oleic Acid	C18:1	3.92
Ricinoleic Acid	C18:1 (OH)	87.18
Linoleic Acid	C18:2	5.12
Alpha Linolenic Acid	C18:3	0.43
Eicosenoic Acid	C20:1	Not Detected
Others	-	0.36