

Certificate of Analysis
Gracefruit Ltd
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Company Number: SC374368

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|---------------------|---------------------------|----------------------|----------------|
| Raw Material Code: | R00113 | Product Description: | Castor Oil, BP |
| INCI Name: | Ricinus Communis Seed Oil | | |
| EINECS Number: | 232-293-8 | CAS Number: | 8001-79-4 |
| Date of Production: | October-2015 | Best Before: | October-2017 |
| Lot Number: | L000149570 | Retest Date: | - |

| Analytical Details | Result |
|--------------------------|--|
| Appearance | A clear almost colourless or slightly yellow viscous, hygroscopic liquid |
| Odour | Very slight and characteristic |
| Specific Gravity @ 20°C | 0.96 |
| Refractive Index @ 20°C | 1.479 |
| FFA (% as Oleic) | 0.36 |
| Moisture (%) | 0.15 |
| Peroxide Value | 0.77 |
| Saponification Value | 180.52 |
| Unsaponifiable Matter | 0.35 |
| Iodine Value | 85.57 |
| Colour (Gardner) | 1 |
| Acid Value | 0.72 |
| Optical Rotation | +3.6 |
| Hydroxyl Value | 163.72 |
| Light Absorbance @ 268nm | 0.138 |
| Light Absorbance @ 269nm | 0.14 |
| Light Absorbance @ 270nm | 0.139 |

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|----------------------|------------|--------------|
| Palmitic Acid | C16:0 | 1.42 |
| Stearic Acid | C18:0 | 1.46 |
| Oleic Acid | C18:1 | 3.15 |
| Ricinoleic Acid | C18:1 (OH) | 87.67 |
| Linoleic Acid | C18:2 | 5.22 |
| Alpha Linolenic Acid | C18:3 | 0.41 |
| Eicosenoic Acid | C20:1 | Not Detected |
| Others | - | 0.67 |