

**QUALITY CERTIFICATE**

Product name: CASTOR OIL, VIRGIN  
Quality: Ph.Eur.11.0.  
Package: 450g  
Lot No.: GS1163675  
Manufacturing date: 07.2024.  
Expiry date: 26.08.2027. (DMY)  
Anal. No.: 19675H63675

|  | <b>REQUIRED</b>   | <b>MEASURED</b>   |
|--|---|---|
| Appearance:                              | clear (at 40 oC), slightly yellow, viscous, hygroscopic liquid  | clear (at 40 oC), slightly yellow, viscous, hygroscopic liquid  |
| Identification test 'A'                  | identical   | identical   |
| Identification test 'C'                  | identical   | identical   |
| Solubility                               | slightly soluble in light petroleum, miscible with ethanol (96 per cent) and with glacial acetic acid | slightly soluble in light petroleum, miscible with ethanol (96 per cent) and with glacial acetic acid |
| Refractive index ( $n_D^{20}$ )          | kb.1,479  | 1,478   |
| Density ( $d_4^{20}$ )                   | kb.0,958  | 0,9533  |
| $[\alpha]_D^{20}$                        | (+3,5)-(+6,0) °   | +4,62 °   |
| Absorption (270 nm)                      | max.0,7   | 0,4437  |
| Acid value                               | max.1,5   | 0,24  |
| Hydroxyl value                           | min.160   | 202,99  |
| Peroxide value                           | max.10,0  | 0,99  |
| Unsaponifiable materials                 | max.0,8 %   | 0,5 %   |
| Composition of fatty acids(GC full test) | passes test   | passes test   |
| Palmitic acid                            | max.2,0 %   | 1,1 %   |
| Stearic acid                             | max.2,5 %   | 1,3 %   |
| Oleic acid content                       | 2,5-6,0 %   | 3,3 %   |
| Linoleic acid                            | 2,5-7,0 %   | 3,9 %   |
| Linolenic acid                           | max.1,0 %   | 0,4 %   |
| Eicosenoic acid                          | max.1,0 %   | 0,3 %   |
| Ricinoleic acid                          | 85,0-92,0 %   | 89,9 %  |
| Any other fatty acid                     | max.1,0 %   | <0,1 %  |
| Water                                    | max.0,3 %   | 0,042 %   |

**The Product complies with the requirements of Ph.Eur.11.0.**

Kiállítva: Halásztelek, 2024.09.24.

  
Nagy Balázs

minőségbiztosítási vezető

**Molar Chemicals Kft.**  
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