



NHR ORGANIC OILS
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Certificate of Analysis Sheet

Organic Grapeseed Oil - Virgin, Unrefined (*Vitis vinifera*)

| Product description | |
|--------------------------|------------------------------|
| Latin Name | Vitis Vinifera L., Vitaceae. |
| Batch number: | 201025-2 |
| INCI (EU) | VITIS VINIFERA SEED OIL |
| CAS Registry Number (EU) | 84929-27-1 / 8024-22-4 |
| EC (EINECS/ ELINCS) | 284-511-6 / - |
| Customs tariff number | 1515 90 59 |

| | | Physicochemical characteristics |
|------------------------|---|---|
| Parameter | Method | Value & Unit |
| Density | 20 °C, DGF C-IV 2d, densimetry | 0,924 g/ml |
| Refractive index | 20 °C, DIN EN ISO 6320, refractometry | 1,4747 |
| Acid value | DGF C-V 2, titration | ≤ 10,0 ¹ mg KOH/g (KOH = NaOH) |
| Free fatty acids (FFA) | Calculated in oleic acid (DGF C-V 2) | ≤ 5,03 ¹ % |
| Saponification value | EN ISO 3657, calculation | 191 mg KOH/g (KOH = NaOH) |
| Iodine value | DIN EN ISO 3961, calculation | 134 g I ₂ /100g Semi-drying |
| Peroxide value | § 64 LFGB L 13:00-40, potentiometry | ≤ 10,0 ¹ meq O ₂ /kg oil |
| Solvent | - | None, free of alcohol (mechanical pressing) |

The acid value, peroxide value and free fatty acids increase steadily during storage. However, the product will have under suitable storage conditions at the end of the best before date an acid value ≤ 10.0 mg KOH / g, a peroxide value ≤ 10.0 meq O₂ / kg oil and free fatty acids ≤ 5.03 %.

| Composition of the main fatty acids | | | | |
|--|---------------------------|---------------------|-----------------|------|
| According to DGF C-VI 10a | | | | |
| Name | Family | Symbol ¹ | Interval values | %* |
| Palmitic acid | Saturated | 16:0 | 5 – 11 | 7,1 |
| Stearic acid | Saturated | 18:0 | 3 – 7 | 4,3 |
| Oleic acid | Omega-9, mono unsaturated | 18:1 | 13 – 28 | 16,3 |
| Linoleic acid (9-cis, 12-cis-octadecadienoic acid) | Omega-6, poly unsaturated | 18:2 | 58 – 76 | 70,2 |

| Further ingredients ¹ | mg/kg (ppm)* |
|---|--------------|
| Lecithin | |
| Procyanidin = Oligomere Proanthocyanidine (OPC) | |
| Resveratrol (plant polyphenol) | |
| Sterols | 259 – 418 |
| Tocopherols | 16 – 204 |
| Tocotrienols | 133 – 313 |
| Vitamin E, active | 340 |
| Vitamin K | |

¹ The oil is free of additives. The above Ingredients are naturally present in the oil.

| Tocopherols | mg/kg |
|------------------|---------|
| Alpha-Tocopherol | 16 – 38 |
| Beta-Tocopherol | 0 – 89 |
| Gamma-Tocopherol | 0 – 73 |
| Delta-Tocopherol | 0 – 4 |

| Vitamin E, active | mg/kg (ppm) * |
|--------------------------------|---------------|
| Vitamin E, active ¹ | 16 – 100,8 |

¹ Calculated from the tocopherols.

| Tocotrienols | mg/kg (ppm) * |
|-------------------|---------------|
| Alfa-Tocotrienol | 18 – 107 |
| Beta-Tocotrienol | - |
| Gamma-Tocotrienol | 115 – 205 |
| Delta-Tocotrienol | 0 - 3 |

| Sterols | % |
|--------------------------|---------|
| Beta-sitosterol | 66 – 73 |
| Campesterol | 11 – 15 |
| Cholesterol ¹ | < 0,5 |
| Delta-5-avenasterol | 2 – 4 |
| Delta-7-avenasterol | 1 – 3 |
| Delta-7stigmasterol | < 3 |
| Ergosterol | < 2 |
| Fucoesterol | < 2 |
| Stigmaterol | 8 - 12 |

¹ According to EU Health Claims Regulation No. 1024/2006 it is principally not permitted to use the term “Free of Cholesterol” on any product packaging, even in case that the oil not contain more than 5 mg Cholesterol per 100 g.

The given values are to be considered as approximate average values, which are based on scientific references and/or analysis.