



Certificate of Analysis

Seabuckthorn Seed CO₂-to extract (organic), type no. 041.008

Batch #GE-58934

| | |
|------------------------------------|--|
| lab no.: | 27183 |
| production: May 2019 | retest: May 2021 |
| raw material: | <i>Hippophae rhamnoides</i> - Seeds, dried, from organic farming |
| country of origin of raw material: | Germany |
| country of origin of product: | Germany |
| D/E - ratio: | 13 - 20 kg raw material yield 1 kg product. |
| Product contains: | 0,1 % Rosemary Antioxidant Extract (organic) |

Sensory Check

| feature | reference | result |
|-------------|--------------------------|--------|
| Appearance: | Orange-yellow, clear oil | meets |

Analytical Check

| feature | method | limits | value unit |
|--|-------------------------|-----------|----------------------------|
| Fatty acid composition: | | | |
| Palmitic Acid C16:0 | 21.156.03, GCFID | 6 - 12 | 6,9 % |
| Palmitoleic Acid C16:1 w7 | 21.156.03, GCFID | < 5 | 0,52 % |
| Stearic Acid C18:0 | 21.156.03, GCFID | 2 - 6 | 2,8 % |
| Oleic Acid C18:1 w9 | 21.156.03, GCFID | 14 - 21 | 16,0 % |
| Vaccenic Acid C18:1 w7 | 21.156.03, GCFID | < 5 | 1,9 % |
| Linoleic Acid C18:2 w6 | 21.156.03, GCFID | 34 - 41 | 36,9 % |
| alpha Linolenic acid C18:3 w3 | 21.156.03, GCFID | 24 - 35 | 34,5 % |
| Arachidic Acid C20:0 | 21.156.03, GCFID | n.s. | 0,46 % |
| Total fat | | | |
| Total fat | DGF method, C-VI 10b | n.s. | 100,0 % |
| Saturated fatty acids | | | |
| Saturated fatty acids | DGF method, C-VI 10b | n.s. | 10,2 % |
| Monounsaturated fatty acids | | | |
| Monounsaturated fatty acids | DGF method, C-VI 10b | n.s. | 18,5 % |
| Polyunsaturated fatty acids | | | |
| Polyunsaturated fatty acids | DGF method, C-VI 10b | n.s. | 71,4 % |
| Fat numbers: | | | |
| Unsaponifiables | 21.020.03, DGF | 1 - 6 | 3,3 % |
| Peroxide Value | 21.015.03, DGF, Wheeler | < 15 | 3,2 meq O ₂ /kg |
| Acid value | 21.016.03, DGF | < 18 | 2,4 mg KOH/g |
| Saponification value | 21.017.02, DGF | 150 - 210 | 190 mg KOH/g |
| Ester value | = SV - AV | 140 - 200 | 188 mg KOH/g |
| Sum of Carotenoids (calc. as β-Carotene) | 21.008.05, Spectrometer | < 0,06 | 0,015 % |

n.s. = not specified

n.d. = not detected



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|---|--------------------------------|---------------|--------------------------|
| Sum of Sterols (calc. as Sitosterol) | 21.132.03, GCFID | > 1,0 | 1,2 % |
| Sum of Tocopherols (calc. as alpha Tocopherol) | 21.113.03, HPLC | n.s. | 0,22 % |
| Content of water | 21.220.01, Karl Fischer method | n.s. | 0,16 % |
| aw-value | LabSwift aw-value Measurement | < 0,7 | 0,58 (23,7 °C) |
| Refractive index (20°C) | 21.080.03, Abbe-Refractometer | 1,470 - 1,490 | 1,4818 |
| Density (20°C) | 21.024.03, Pycnometer | 0,910 - 0,930 | 0,9243 g/cm ³ |
| Benzo(a)pyrene | 21.177.02, GCMS | < 0,002 | meets ppm |
| Sum of benzo(a)pyrene, benz(a)anthracene, benzo(b)fluoranthene and chrysene | 21.177.02, GCMS | < 0,010 | meets ppm |

n.s. = not specified

n.d. = not detected

Storage conditions: Store in a cool, dry place and under inert gas!

Digitally signed by Anja Cawelius
Reason: Quality Control
Date: 2019.05.20 11:44:52 +02'00'

The product meets specifications no. 16.170.07/66.199.05; date of analysis: 2019.05.20

This computerized CoA has digital signature validated by Nature's Gift Aromatherapy.

The data in this report of analysis have been determined carefully and to the best of our knowledge. Depending on transport and storage conditions the indicated data can be subject to certain changes which are outside of our influence. Hence the report has not the meaning of a guaranty in the legal sense and does not dispense the customer from making his own quality control before using the product.