



Healing Body, Mind, and Spirit
with Pure Essential Oils Since 1995

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Certificate of Analysis: Sea Buckthorn Seed CO₂, *Hippophae rhamnoides*, organically grown, Germany.

Batch No: GE-861301

Lab No: 21560

Type No: 041.008 / DE-ÖKO-013

Raw material: *Hippophae rhamnoides* dried seeds from organic farming in Italy, Germany, and Romania.

Country of origin of product: Germany

D/E - ratio: 13–20 kg raw material which yields 1 kg product

Product contains: 0,1% Organic Rosemary Antioxidant Extract

Production: September 2016

Retest: September 2018

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

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	21.156.02, GCFID	6 - 12	7,0 %
Palmitoleic Acid C16:1 w7	21.156.02, GCFID	< 5	0,72 %
Stearic Acid C18:0	21.156.02, GCFID	2 - 6	3,3 %
Oleic Acid C18:1 w9	21.156.02, GCFID	14 - 21	16,9 %
Vaccenic Acid C18:1 w7	21.156.02, GCFID	< 5	1,7 %
Linoleic Acid C18:2 w6	21.156.02, GCFID	34 - 41	37,0 %
alpha Linolenic acid C18:3 w3	21.156.02, GCFID	24 - 35	32,9 %
Arachidic Acid C20:0	21.156.02, GCFID	n.s.	0,46 %
Fat numbers:			
Unsaponifiables	21.020.02, DGF	1 - 6	4,9%
Peroxide Value	21.015.02, DGF, Wheeler	< 15	2,4 meq O ₂ /kg
Acid value	21.016.02, DGF	< 18	2,8 mg KOH/g
Saponification value	21.017.01, DGF	150 - 210	194 mg KOH/g
Ester value	= SV - AV	140 - 200	191 mg KOH/g
Sum of Carotenoids (calc. as β-Carotene)	21.008.05, Spectrometer	< 0,06	0,005 %
Sum of Sterols (calc. as Sitosterol)	21.132.02, GCFID	> 1,0	1,2 %
Sum of Tocopherols (calc. as alpha Tocopherol)	21.113.02, HPLC	n.s.	0,20 %
Content of water	Karl Fischer method	n.s.	0,15 %
Refractive index (20°C)	Abbe-Refractometer	1,470 - 1,490	1,4803
Density (20°C)	21.024.02, Pycnometer	0,910 - 0,930	0,9252 g/cm ³
Benzo(a)pyrene	GCMS	< 0,002	0,0004 ppm
Sum of benzo(a)pyrene, benz(a)anthracene, benzo(b)fluoranthene and chrysene	GCMS	< 0,010	0,004 ppm
Pesticides		EC 396/2005	meets

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n.s. = not specified
n.d. = not detected

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.

The product meets specifications no. 16.170.06/66.199.04; date of analysis: 2016.10.05

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