



Certificate of Analysis

Seabuckthorn Pulp CO2

Batch # GE-071302

production: October 2017 retest: October 2022
 raw material: *Hippophae rhamnoides* - Fruit Pulp, dried, from organic farming
 country of origin of raw material: Germany
 country of origin of product: Germany
 D/E - ratio: 8,0 - 14,0 kg raw material yield 1 kg product.
 Product contains: 0,08 % Rosemary Antioxidant Extract (organic)

Sensory Check

feature	reference	result
Appearance:	orange-red oil, at room temperature turbidness by some precipitates possible	meets
Odour:	seabuckthorn typical smell	meets

Analytical Check

feature	method	limits	value unit
Fatty acid composition:			
Palmitic Acid C16:0	21.156.03, GCFID	30 - 40	33,7 %
Palmitoleic Acid C16:1 w7	21.156.03, GCFID	22 - 33	31,3 %
Stearic Acid C18:0	21.156.03, GCFID	< 3	0,81 %
Oleic Acid C18:1 w9	21.156.03, GCFID	10 - 28	21,4 %
Vaccenic Acid C18:1 w7	21.156.03, GCFID	4 - 9	7,2 %
Linoleic Acid C18:2 w6	21.156.03, GCFID	1 - 9	4,2 %
alpha Linolenic acid C18:3 w3	21.156.03, GCFID	< 5	1,3 %
Arachidic Acid C20:0	21.156.03, GCFID	n.s.	0,20 %
Fat numbers:			
Unsaponifiables	21.020.03, DGF	1 - 7	4,7 %
Peroxide Value	21.015.03, DGF, Wheeler	< 11	3,3 meq O2/kg
Acid value	21.016.03, DGF	4 - 18	9,6 mg KOH/g
Saponification value	21.017.02, DGF	170 - 210	186 mg KOH/g
Ester value	= SV - AV	160 - 210	176 mg KOH/g
Sum of Carotenoids (calc. as β-Carotene)	21.008.05, Spectrometer	0,14 - 0,27	0,17 %
Sum of Sterols (calc. as Sitosterol)	21.132.03, GCFID	> 1	1,7 %
Sum of Tocopherols (calc. as alpha Tocopherol)	21.113.03, HPLC	> 0,1	0,11 %

n.s. = not specified

n.d. = not detected



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feature	method	limits	value unit
Content of water	21.220.01, Karl Fischer method	< 1	0,16 %
Refractive index (20°C)	21.080.03, Abbe-Refractometer	1,460- 1,480	1,4711
Density (20°C)	21.024.03, Pycnometer	0,900 - 0,925	0,9093 g/cm ³
Benzo(a)pyrene	GCMS	< 0,002	meets ppm
Sum of benzo(a)pyrene, benz(a)anthracene, benzo(b)fluoranthene and chrysene	GCMS	< 0,010	meets ppm

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

Storage conditions: Store in a cool, dry place!

The product meets specifications no. 16.164.06/66.180.03; date of analysis: 2017.10.20

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.