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Certificate of Analysis: Amaranth Seed, *Amaranthus caudatus*, organically produced seeds CO₂ extracted, Germany.

Batch No: GE-341413

Amaranth Seed CO₂-to extract (organic),

Type No: 168.002; DE-ÖKO-013

Lab No: 17602

Production: October 2014

Retest: October 2016

Raw material: *Amaranthus caudatus* seeds, dried, from organic farming in India.

D/E - ratio: 19 - 20 kg raw material yield 1 kg product.

Certification:



SENSORY CHECK

Feature	Reference	Result
Appearance:	yellow oil	meets

ANALYTICAL CHECK

Feature	Method	Limits	Value	Unit
Fatty acid composition:				
Palmitic Acid C16:0	21.156.02, GCFID	n.s.	19,2	%
Palmitoleic Acid C16:1 w7	21.156.02, GCFID	n.s.	0,14	%
Stearic Acid C18:0	21.156.02, GCFID	n.s.	3,7	%
Oleic Acid C18:1 w9	21.156.02, GCFID	20 - 35	24,3	%
Vaccenic Acid C18:1 w7	21.156.02, GCFID	n.s.	0,80	%
Linoleic Acid C18:2 w6	21.156.02, GCFID	40 - 55	50,7	%
alpha Linolenic acid C18:3 w3	21.156.02, GCFID	n.s.	0,96	%
Arachidic Acid C20:0	21.156.02, GCFID	n.s.	0,32	%
Fat numbers:				
Unsaponifiables	21.020.02, DGF	n.s. 1	6,0	%
Peroxide Value	21.015.02, DGF, Wheeler	< 10	5,6	meq O ₂ /kg
Acid value	21.016.02, DGF	< 25	21,8	mg KOH/g
Saponification value	21.017.01, DGF	n.s.	178	mg KOH/g
Ester value	= SV - AV	n.s.	156	mg KOH/g
Squalene	21.157.01, GCFID	> 5	5,1	%
Sitosterol	21.132.02, GCFID	n.s.	1,0	%
other Sterols	21.132.02, GCFID	n.s.	1,5	%
Sum of Sterols (calc. as Sitosterol)	21.132.02, GCFID	n.s.	2,5	%
gamma Tocopherol	21.113.02, HPLC	n.s.	0,05	%
alpha / delta Tocopherol	21.113.02, HPLC	n.s.	0,03 / 0,02	%
Sum of Tocopherols (calc. as alpha Tocopherol)	21.113.02, HPLC	n.s.	0,10	%

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

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