



DOCUMENT NAME:

Test Report

■ **PURPOSE OF THE DOCUMENT:**

determination of quality indicators
Cold pressed hemp oil Leodar

■ **REGISTRATION NUMBER:**

22-12035

■ **DATE OF ENTRY INTO FORCE OF THE DOCUMENT:**

13.09.2022

■ **VALIDITY PERIOD OF THE DOCUMENT:**

■ **NAME OF THE CERTIFYING AUTHORITY:**

UFAG LABORATORIEN, Switzerland

■ **KEYWORDS IN THE DOCUMENT:**

acid, acid value, omega, elements, calcium,
magnesium, zinc, iron, heavy metals, mercury

Industrial Innovation Group L.L.C

Cust. no.: 72856

Taryam bld. - Industrial Area 18 - Maleha Street
AE-Shariah

Copy to: Industrial Innovation Group L.L.C
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Analytical Report Report-No: 22-12035

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Received: 27.06.22 Completed: 13.09.22

Summary

Pos.	Sample no.	Sample name, Description	Your sample ref.
1	22-12035-001	Hemp Seed Oil, cold pressed	

Sursee, 13.09.2022

Your personal contact:
Dr. Sascha Theobald
Head of Order Management Food & Feed

Digitally signed by UFAG Laboratorien AG
Date: 2022.09.13 15:35:56 GMT+02:00
Reason: Released by Simon Zimmermann
Location: CH-6210 Sursee

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This analysis report relates exclusively to the sample investigated. Further characteristic data regarding the methods of investigation used (incl. uncertainty of measurements) are available to the customer on request. Methods marked with [*] are not within the area of validity of the accreditation. Methods marked with [**] were analyzed by a subcontractor. Extracts from the analysis report may be prepared only with the written permission of UFAG LABORATORIEN AG. Our general business terms are applicable.



Analytical Report

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Received: 27.06.22 Completed: 13.09.22

Customer: Industrial Innovation Group L.L.C, Cust. no. 72856

Position: AE-Sharjah
1
Sample no.: 22-12035-001
Sample name: Hemp Seed Oil
Description: cold pressed
Package: 4 Originalflaschen
Weight: 4 x 250 ml

Code - Method, measuring technique

Parameter	Result Unit	Specification Ref./Tol.value	Max.resid. level	LOQ / LOD (LOQ / LOD)
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Nutrients

LFGNTIT019 - ISO 760, titrimetric (K. Fischer), [°]

Water content	0.056 g/100ml			
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SLMNGRA014 - SLMB, gravimetric

Minerals	ndt g/100ml			0.1
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Composition of fatty acids

SLMNGCH003 - SLMB, GC-FID

Caproic acid	C6:0	ndt %		0.02
Caprylic acid	C8:0	ndt %		0.02
Capric acid	C10:0	ndt %		0.02
Lauric acid	C12:0	ndt %		0.02
Myristic acid	C14:0	0.05 %		
Palmitic acid	C16:0	6.37 %		
Palmitoleic acid	C16:1	0.11 %		
Margaric acid	C17	0.05 %		
Stearic acid	C18:0	3.04 %		
Oleic acid	C18:1	16.9 %		
Linoleic acid	C18:2	53.3 %		
alpha-Linolenic acid	C18:3	15.0 %		
gamma-Linolenic acid	C18:3	2.10 %		
Arachidic acid	C20	1.00 %		
Eicosenoic acid	C20:1	0.47 %		
Eicosadienoic acid	C20:2	0.06 %		
Eicosatrienoic acid	C20:3	0.03 %		
Arachidonic acid	C20:4	ndt %		0.02
Eicosapentaenoic acid	C20:5	ndt %		0.02
Behenic acid	C22:0	0.44 %		
Erucic acid	C22:1	ndt %		0.02
Docosadienoic acid	C22:2	ndt %		0.02
Docosatetraenoic acid	C22:4	ndt %		0.02
Docosapentaenoic acid	C22:5	ndt %		0.02
Docosahexaenoic acid	C22:6	ndt %		0.02
Lignoceric acid	C24:0	0.20 %		
Nervonic acid	C24:1	0.02 %		

Abbreviations: nd = not detectable (less than LOD)
ndt = not quantifiable (less than LOQ)

LOD = Limit of detection
LOQ = Limit of determination

CFU = Colony Forms Unit
DM = Dry matter



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Total fatty acids in fat content

SLMNGCH003 - SLMB, GC-FID

Saturated fatty acids	11.2 %
Mono unsaturated fatty acids	17.5 %
Poly unsaturated fatty acids	71.1 %
Omega-3 fatty acids	15.7 %
Omega-6 fatty acids	55.4 %

Fatty indices

LFGNCON002 - LFGB, ASU L13.00-38 mod.,
conductometrisch bei 120°C, [°°]

Oxidative stability	1.75 h
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SLMNTIT008 - SLMB, titrimetric

Peroxide value	POZ	10.8 meq O2/kg
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SLMNTIT007 - SLMB, titrimetric

Acid value	1.2 mg KOH/g
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Phytosterols

LFGNGCH005 - LFGB, GC-FID, [°°]

Cholesterol	< 1 mg/100ml
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Elements

INTNICP001 - VM1460, ICP-OES

Calcium	Ca	1 mg/100g
Iron	Fe	0.3 mg/100g
Magnesium	Mg	0.4 mg/100g
Sodium	Na	0.1 mg/100g
Zinc	Zn	0.1 mg/100g



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Additives

INTNBER020 - UFAG, calculated from sodium

Sodium chloride NaCl 0.0002 g/100g

Pesticides

INTTLCM003 - GC-MS/MS, LC-MS/MS, [*]

Pesticides in oil/fat detectable

Heavy metals

ISONICP008 - ISO 15763 mod., ICP-MS

Arsenic	As	ndt mg/kg		0.01
Lead	Pb	0.003 mg/kg	max. 0.100	
Cadmium	Cd	ndt mg/kg		0.002
Mercury	Hg	0.008 mg/kg		

Mycotoxins

INTNLCM071 - UFAG, LC-MS/MS

Aflatoxin B1	< 0.5 µg/kg	max. 2.0
Aflatoxin B2	< 0.5 µg/kg	
Aflatoxin G1	< 0.5 µg/kg	
Aflatoxin G2	< 0.5 µg/kg	
Total aflatoxins (B1+B2+G1+G2)	< 0.5 µg/kg	max. 4.0

INTNLCM072 - UFAG, LC-MS/MS

Ochratoxin A < 1.0 µg/kg

Divers

SLMNPY004 - SLMB, bending vibration PAAR 20 °C

Density (20 °C) 0.9229 g/ml



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Comments

Judgement:

The analysed sample meets the requirements of the swiss regulation on maximum levels for contaminants of december 16th, 2016 in the current version.

Pesticides in oil

lambda-Cyhalothrin	0.058 mg/kg
Pirimiphos-methyl	0.013 mg/kg
Difenoconazol	0.034 mg/kg
Imidacloprid	0.035 mg/kg
Malathion	0.040 mg/kg
Thiamethoxam	0.031 mg/kg

For hemp seeds, the following maximum levels apply in accordance with the requirements of the "Verordnung des EDI über die Höchstgehalte für Pestizidrückstände in oder auf Erzeugnissen pflanzlicher und tierischer Herkunft (VPRH)" from 16 December 2016 (in the current version), the following maximum levels:

lambda-Cyhalothrin	0.2 mg/kg
Pirimiphos-methyl	0.5 mg/kg
Difenoconazol	0.05 mg/kg
Imidacloprid	0.05 mg/kg
Malathion	0.02 mg/kg
Thiamethoxam	0.02 mg/kg

These maximum values apply to hemp seed; for hemp oil, processing factors would still have to be taken into account.

Fatty acids:

Stearidonic acid content (C18:4): 0.65%.



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