

Analytical report AR-18-HD-020452-02


Testing laboratory:

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Customer:

Heaven Labs s.r.o.
Přátelství 172/42
104 00 Praha 10
CZECH REPUBLIC

Sample reception date: 19.09.2018

Date of Testing: 19.09.2018 - 02.10.2018

Issue date 10.10.2018

Sample code 540-2018-00034034

Sample information:

Sample name, extended:	Algae oil
Sample description:	výrobce: Heaven Labs s.r.o.
Lot/Los-Nr.:	02209

Physical and chemical tests

Parameter	Unit	Result	Uncertainty*	Method	Method principle	TZ
Anisidine number		8.450	4%	SOP 8.72. (ČSN EN ISO 6885)	Spectrophotometry	SA
Arsenic (As)	mg/kg	<0.030		LS-PP-CH-85	ICP-MS	SA
Potassium (K)	mg/kg	<10.0		LS-PP-CH-2/19	F-AAS	SA
Total phosphorus	mg/kg	<6.0		LS-PP-CH-2/28	ICP-OES	SA
Aluminium (Al)	mg/kg	<0.50		LS-PP-CH-2/27	ICP-OES	SN
Magnesium (Mg)	mg/kg	12.1	15%	LS-PP-CH-2/23	ICP-OES	SA
Chromium (Cr)	mg/kg	<0.050		LS-PP-CH-85	ICP-MS	SA
Manganese (Mn)	mg/kg	<0.50		LS-PP-CH-2/21	ICP-OES	SA
Copper (Cu)	mg/kg	0.25	25%	LS-PP-CH-85	ICP-MS	SA
Lead (Pb)	mg/kg	<0.050		LS-PP-CH-85	ICP-MS	SA
Omega-3 fatty acids	g/100 g fat	65.22	8%	ŠPP ORG.M.047	Calculation	SA
Omega-6 fatty acids	g/100 g fat	0.66	8%	ŠPP ORG.M.047	Calculation	SA
Peroxide value	meqO ₂ /kg	2.14	8%	ŠPP ORG.M.023	Titrimetry (potentiometric)	SA
C10:0 Capric acid (Methyl decanoate)	g/100 g fat	<0.5		ŠPP ORG.M.047	GC-FID	SA
C11:0 Undecanoic acid (Methyl undecanoate)	g/100 g fat	<0.5		ŠPP ORG.M.047	GC-FID	SA
C12:0 Lauric acid (Methyl dodecanoate)	g/100 g fat	0.54	8%	ŠPP ORG.M.047	GC-FID	SA
C13:0 Tridecanoic acid (Methyl tridecanoate)	g/100 g fat	<0.5		ŠPP ORG.M.047	GC-FID	SA
C14:0 Myristic acid (Methyl myristate)	g/100 g fat	7.01	8%	ŠPP ORG.M.047	GC-FID	SA
C14:1 Myristoleic acid (Methyl myristoleate)	g/100 g fat	<0.5		ŠPP ORG.M.047	GC-FID	SA
C15:0 Pentadecanoic acid (Methyl pentadecanoate)	g/100 g fat	<0.5		ŠPP ORG.M.047	GC-FID	SA
C15:1 Pentadecenoic acid (cis-10)	g/100 g fat	<0.5		ŠPP ORG.M.047	GC-FID	SA
C16:0 Palmitic acid (Methyl palmitate)	g/100 g fat	14.6	8%	ŠPP ORG.M.047	GC-FID	SA
C16:1 Palmitoleic acid (Methyl palmitoleate)	g/100 g fat	4.92	8%	ŠPP ORG.M.047	GC-FID	SA
C17:0 Heptadecanoic acid (Methyl heptadecanoate)	g/100 g fat	<0.5		ŠPP ORG.M.047	GC-FID	SA
C17:1 Heptadecenoic acid (cis-10-heptadecenoate)	g/100 g fat	<0.5		ŠPP ORG.M.047	GC-FID	SA

Physical and chemical tests

Parameter	Unit	Result	Uncertainty*	Method	Method principle	TZ
C18:0 Stearic acid (Methyl stearate)	g/100 g fat	0.52	8%	ŠPP ORG.M.047	GC-FID	SA
C18:1n11c cis-Vaccen acid (cis-Methyl vaccenate)	g/100 g fat	5.52	8%	ŠPP ORG.M.047	GC-FID	SA
C18:1n11t Vaccen acid (trans-Methyl vaccenate)	g/100 g fat	<0.5		ŠPP ORG.M.047	GC-FID	SA
C18:1n6 Petroselin acid (Methyl petroselaidate)	g/100 g fat	<0.5		ŠPP ORG.M.047	GC-FID	SA
C18:1n9 Oleic acid (Methyl oleate)	g/100 g fat	0.59	8%	ŠPP ORG.M.047	GC-FID	SA
C18:1n9t Elaidic acid (Methyl elaidate)	g/100 g fat	<0.5		ŠPP ORG.M.047	GC-FID	SA
C18:2n6 Linoleic acid (Methyl linoleate)	g/100 g fat	<0.5		ŠPP ORG.M.047	GC-FID	SA
C18:2n6t Linoleaidic acid (Methyl linolelaidate)	g/100 g fat	<0.5		ŠPP ORG.M.047	GC-FID	SA
C18:3n3 Apha-Linolenic acid (Methyl linolenate)	g/100 g fat	<0.5		ŠPP ORG.M.047	GC-FID	SA
C18:3n6 γ -linolenic acid (Methyl γ -linolenate)	g/100 g fat	<0.5		ŠPP ORG.M.047	GC-FID	SA
C20:0 Arachidic acid (Methyl arachidate)	g/100 g fat	<0.5		ŠPP ORG.M.047	GC-FID	SA
C20:1 Eicosenoic acid (Methyl cis-11-eicosenoate)	g/100 g fat	<0.5		ŠPP ORG.M.047	GC-FID	SA
C20:2n6 Eicosadienoic acid (cis-11,14)	g/100 g fat	<0.5		ŠPP ORG.M.047	GC-FID	SA
C20:3n3 Eicosatrienoic acid (cis-11,14,17)	g/100 g fat	<0.5		ŠPP ORG.M.047	GC-FID	SA
C20:3n6 Dihomo- γ -linolenic acid (cis-8,11,14)	g/100 g fat	<0.5		ŠPP ORG.M.047	GC-FID	SA
C20:4n6 Arachidonic acid (Methyl arachidonate)	g/100 g fat	<0.5		ŠPP ORG.M.047	GC-FID	SA
C20:5n3 Eicosapentaenoic acid (cis-5,8,11,14,17)	g/100 g fat	2.98	8%	ŠPP ORG.M.047	GC-FID	SA
C21:0 Heneicosanoic acid (Methyl heneicosanoate)	g/100 g fat	<0.5		ŠPP ORG.M.047	GC-FID	SA
C22:0 Behenic acid (Methyl behenate)	g/100 g fat	<0.5		ŠPP ORG.M.047	GC-FID	SA
C22:1n9 Erucic acid (Methyl cis-13-docosenoate)	g/100 g fat	<0.5		ŠPP ORG.M.047	GC-FID	SA
C22:2 Docosadienoic acid (cis-13,16)	g/100 g fat	<0.5		ŠPP ORG.M.047	GC-FID	SA
C22:5 Docosapentaenic acid	g/100 g fat	<0.5		ŠPP ORG.M.047	GC-FID	SA
C22:6n-3 Docosahexaenoic (DHA)	g/100 g fat	61.9	8%	ŠPP ORG.M.047	GC-FID	SA
C23:0 Tricosanoic acid (Methyl tricosanoate)	g/100 g fat	<0.5		ŠPP ORG.M.047	GC-FID	SA
C24:0 Lignoceric acid (Methyl tetracosanoate)	g/100 g fat	<0.5		ŠPP ORG.M.047	GC-FID	SA
C24:1n9 Nervonic acid (cis-15-tetracosenoate)	g/100 g fat	<0.5		ŠPP ORG.M.047	GC-FID	SA
C4:0 Butyric acid (Methyl butyrate)	g/100 g fat	<0.5		ŠPP ORG.M.047	GC-FID	SA
C6:0 Caproic acid (Methyl hexanoate)	g/100 g fat	<0.5		ŠPP ORG.M.047	GC-FID	SA
C8:0 Caprylic acid (Methyl octanoate)	g/100 g fat	<0.5		ŠPP ORG.M.047	GC-FID	SA
mono-unsaturated fatty acids total/sample	g/100 g fat	11.03	8%	ŠPP ORG.M.047	GC-FID	SA
poly-unsaturated fatty acids total/sample	g/100 g fat	65.87	8%	ŠPP ORG.M.047	GC-FID	SA
saturated fatty acids total/sample	g/100 g fat	23.10	8%	ŠPP ORG.M.047	GC-FID	SA
Trans fatty acids total/sample	g/100 g fat	<0.50		ŠPP ORG.M.047	GC-FID	SA
Mercury (Hg)	mg/kg	<0.02		LS-PP-CH-30	Spectrophotometry	SA
Selenium (Se)	mg/kg	<0.030		LS-PP-CH-85	ICP-MS	SA
Sodium (Na)	mg/kg	<10.0		LS-PP-CH-2/18	F-AAS	SA

Physical and chemical tests

Parameter	Unit	Result	Uncertainty*	Method	Method principle	TZ
Calcium (Ca)	mg/kg	11.1	20%	LS-PP-CH-2/22	ICP-OES	SA
Zinc (Zn)	mg/kg	<0.50		LS-PP-CH-85	ICP-MS	SA
Iron (Fe)	mg/kg	<0.50		LS-PP-CH-2/20	ICP-OES	SA
Retinol (vitamin A)	µg/100 g	<21 (LOQ)		EN 12823-1 2014	LC-DAD	SA
Ergocalciferol (vitamin D2)	µg/100 g	32.1	26%	EN 12821: 2009-08	LC-DAD	SA
alpha-Tocopherol (vitamin E)	mg/100 g	21.2	15,2%	EN 12822:2014, 807	LC-FLD	SA
Phylloquinone (vitamin K1)	mg/kg	0.146	20%	EN 14148:2003 mod.	LC-FLD	SA
Vitamin B12 (cyanocobalamin)	µg/100 g	<0,25 (LOQ)		J. AOAC 2008, vol 91 No 4	LC-UV/DAD	SA
Iodine (I)	µg/100 g	<10		DIN EN 15111:2007-06, mod. [DE Food], N06_12ME_v03	ICP-MS	SA
Chlorides	mg/kg	1170		ŠPP INO.M.011/B	Titrimetry (potentiometric)	SN

Notes: SOP, ŠPP - Standard operation procedure
 ND - not detected by given method
 CFU - Colony forming unit
 NM - necessary quantity
 m - the highest allowed value at the case of one sample
 M, c - "M" highest allowed value for the number "c" at the case of 5 sample's evaluation
 * - extent uncertainty determined by extension coefficient k=2 (with probability of 95 %) does not include the uncertainty of sampling.
 Traces - Detected < LOQ See additional information

TT - type of test
 A - accredited test executed at the own test laboratory
 N - non accredited test executed at the own test laboratory
 SA - accredited test executed under the subcontract
 SN - unaccredited test executed under the subcontract

Gauges and measuring equipment used for testing were calibrated or attested in accordance with the valid metrological instructions. The above mentioned test results refer to the tested sample only! The result given in this Test Certificate and marked as non accredited test shall not be a subject of accreditation. The result given in this Test Certificate and marked as sub- delivery is the result of a Subcontractor's gauging made under the terms and conditions of a contract concluded with him. The Certificate can be issued only in full form and with the approval of testing laboratory EUROFINS CZ in writing!

Worked out by: Kristína Vicenová
 No. of document: 20181010154451938



Test Certificate approved by:

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