

HENRY LAMOTTE OILS GMBH, POSTFACH / P.O. BOX 10 38 49, D-28038 BREMEN

Metapharmaceutical Ind., S.L.

production date: 01/2015

expiry date: 01/2017

Josep Plà, 163, 2º 5ª

08020 Barcelona

Spain

Certificate of Analysis – KEY BRAND

Bremen, 09.06.2015

MEDICINAL COD LIVER OIL, PH.EUR., IDENTITY PRESERVED

lot: 5878701

Ph.Eur.8, 2014, Typ A, USP 37 , BP 2015 Type A

Appearance	complies
Specific gravity (20 degree C)	0,922
Specific gravity (25 degree C)	0,920
Refractive index (20 degree C)	1,479
Acid value	0,04
Anisidine value	13,0
Peroxide value	complies
Iodine value	152
Saponification value	184
Water	< 0,01 %
Unsaponifiable Matter	0,8 %
Cold test 3h at 0°C	clear
Colour gardner	2,4
Colour lovibond 5 1/4" yellow	17,0
Colour lovibond 5 1/4" red	0,9

Fatty acid composition

Saturated fatty acids:

Lauric acid	(C 12:0)	< 0,05 %
Myristic acid	(C 14:0)	3,83 %
Pentadecane acid	(C 15:0)	0,33 %
Palmitic acid	(C 16:0)	10,67 %
Margaric acid	(C 17:0)	0,48 %
Stearic acid	(C 18:0)	2,32 %
Arachidic acid	(C 20:0)	0,07 %
Behenic acid	(C 22:0)	0,10 %
Lignoceric acid	(C 24:0)	0,38 %

Unsaturated fatty acids:

Myristoleic acid	(C 14:1)	0,22 %
Palmitoleic acid	(C 16:1)	6,89 %
cis-Vaccenic acid	(C 18:1 (n-7))	4,37 %
Oleic acid	(C 18:1 (n-9))	14,66 %
Gadoleic acid	(C 20:1 (n-11))	2,01 %
Gondoic acid	(C 20:1 (n-9))	9,40 %
Erucic acid	(C 22:1 (n-9))	0,93 %
Cetoleic acid	(C 22:1 (n-11))	8,43 %

Polyunsaturated fatty acids:

Linoleic acid	(C 18:2)	1,39 %
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MEDICINAL COD LIVER OIL, PH.EUR., IDENTITY PRESERVED**Ph.Eur.8, 2014, Typ A, USP 37 , BP 2015 Type A****lot: 5878701**

Linolenic acid	(C 18:3 (n-3))	0,80 %
Moroctic acid	(C 18:4 (n-3))	2,07 %
Eicosanedienoic acid	(C 20:2)	0,37 %
Eicosanetrienoic acid	(C 20:3 (n-3))	< 0,05 %
Eicosanetrienoic acid	(C 20:3 (n-6))	0,08 %
Eicosanetetraenoic acid	(C 20:4 (n-3))	< 0,05 %
Arachidonic acid	(C 20:4 (n-6))	0,77 %
Eicosapentaenoic acid	(C 20:5 (n-3), EPA)	8,08 %
Docosatetraenoic acid	(C 22:4)	0,53 %
Docosapentaenoic acid	(C 22:5 (n-3), DPA)	1,21 %
Docosahexaenoic acid	(C 22:6 (n-3), DHA)	10,21 %

Vitamin A	1460 i.U./g
Vitamin D3	133 i.U./g

Pesticides	
Organochloropesticides	complies to RHmV
Organophosphoruspesticides	complies to RHmV
Toxaphen	complies to RHmV

Polychlorinated biphenyls	
28	< 0,02 mg/kg
52	< 0,02 mg/kg
101	< 0,02 mg/kg
138	< 0,02 mg/kg
153	< 0,02 mg/kg
180	< 0,02 mg/kg

Dioxin	
WHO-PCDD/F-TEQ (Total Dioxins)	0,253 pg/g
WHO-PCDD/F-PCB-TEQ (Dioxins + dioxin-like PCBs)	0,616 pg/g

Identity	complies
Purity	complies

Solvent residues: The pharmaceutical auxiliary material fulfills the requirements made of solvent residues in the European Pharmacopoeia (CPMP/ICH/283/95) and the USP (467 Residual solvents). Notwithstanding, the food law requirements are fulfilled.

This product in question is not affected by the GMO problem. Therefore this product does not need to be labelled regarding any genetic modification as per the new GMO regulations 1829/2003 and 1830/2003.

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Computer edited certificate - valid without signature