

	Approval date: February 2022	Version Nº: 04	Page: 1 of 4
Prepared by: Head of Quality Omega Business Unit 	TECHNICAL DATA SHEET REFINED 1812 TG FISH OIL	Code: OMG04-S22	
Approved by: Commercial Manager Omega Business Unit 			

Product code: TO109648

DESCRIPTION	The oil is a light yellow, viscous liquid with a characteristic smell of the raw material processed. The oil is produced by refining the crude fish oil.																																																																		
RAW MATERIAL	Composition: Oil from the body of one or more of the following species: <i>Engraulis spp.</i> , <i>Engraulis ringens</i> (Peruvian anchovy), <i>Sardinops spp.</i> , <i>Sardina plincharodus</i> , and/or other pelagic approved species.																																																																		
PHYSICOCHEMICAL STRUCTURE ¹	<table><tr><th>Parameters</th><th>Specifications</th><th>Analytical Method</th></tr><tr><td>Appearance</td><td>Clear Oil</td><td>Organoleptic</td></tr><tr><td>Identification</td><td>Sample peaks retention time meets standard</td><td>Ph. Eur. Method 2.4.29</td></tr><tr><td>Color</td><td>Max. 6 Gardner</td><td>AOCS Td 1a-64</td></tr><tr><td>Free Fatty Acids</td><td>Max. 0,25 %</td><td>AOCS Ca 5a-40</td></tr><tr><td>Acid Value</td><td>Max. 0,5 mg KOH/g</td><td>AOCS Ca 5a-40</td></tr><tr><td>Unsaponifiable Matter</td><td>Max. 1,5 %</td><td>ISO 3596</td></tr><tr><td>p-Anisidine Value (A)</td><td>Max. 10,0</td><td>Ph. Eur. Method 2.5.36</td></tr><tr><td>Peroxide Value (P)</td><td>Max. 3,0 mEq/kg</td><td>Ph. Eur. Method 2.5.5 B</td></tr><tr><td>TOTOX</td><td>Max. 14</td><td>Calculated (2P+A)</td></tr><tr><td>Moisture</td><td>Max. 0,1 %</td><td>Karl Fischer</td></tr><tr><td>Cold Test / Stearin</td><td>10 mL remains clear after cooling at 0 °C for 3 h</td><td>Ph. Eur.</td></tr><tr><td>EPA</td><td>Min. 18,0 %</td><td>AOCS Ce 1b-89</td></tr><tr><td>DHA</td><td>Min. 12,0 %</td><td>AOCS Ce 1b-89</td></tr><tr><td>EPA + DHA</td><td>Min. 30,0 %</td><td>Calculated</td></tr><tr><td>Total Omega 3</td><td>Min. 35,0 %</td><td>AOCS Ce 1b-89</td></tr><tr><td>EPA (as TG)</td><td>Min. 160 mg/g</td><td>Ph. Eur. Method 2.4.29</td></tr><tr><td>DHA (as TG)</td><td>Min. 100 mg/g</td><td>Ph. Eur. Method 2.4.29</td></tr><tr><td>Total Omega 3 (as TG)</td><td>Min. 300 mg/g</td><td>Ph. Eur. Method 2.4.29</td></tr><tr><td>EPA (as FFA)</td><td>Min. 150 mg/g</td><td>Ph. Eur. Method 2.4.29</td></tr><tr><td>DHA (as FFA)</td><td>Min. 100 mg/g</td><td>Ph. Eur. Method 2.4.29</td></tr><tr><td>Total Omega 3 (as FFA)</td><td>Min. 290 mg/g</td><td>Ph. Eur. Method 2.4.29</td></tr></table>	Parameters	Specifications	Analytical Method	Appearance	Clear Oil	Organoleptic	Identification	Sample peaks retention time meets standard	Ph. Eur. Method 2.4.29	Color	Max. 6 Gardner	AOCS Td 1a-64	Free Fatty Acids	Max. 0,25 %	AOCS Ca 5a-40	Acid Value	Max. 0,5 mg KOH/g	AOCS Ca 5a-40	Unsaponifiable Matter	Max. 1,5 %	ISO 3596	p-Anisidine Value (A)	Max. 10,0	Ph. Eur. Method 2.5.36	Peroxide Value (P)	Max. 3,0 mEq/kg	Ph. Eur. Method 2.5.5 B	TOTOX	Max. 14	Calculated (2P+A)	Moisture	Max. 0,1 %	Karl Fischer	Cold Test / Stearin	10 mL remains clear after cooling at 0 °C for 3 h	Ph. Eur.	EPA	Min. 18,0 %	AOCS Ce 1b-89	DHA	Min. 12,0 %	AOCS Ce 1b-89	EPA + DHA	Min. 30,0 %	Calculated	Total Omega 3	Min. 35,0 %	AOCS Ce 1b-89	EPA (as TG)	Min. 160 mg/g	Ph. Eur. Method 2.4.29	DHA (as TG)	Min. 100 mg/g	Ph. Eur. Method 2.4.29	Total Omega 3 (as TG)	Min. 300 mg/g	Ph. Eur. Method 2.4.29	EPA (as FFA)	Min. 150 mg/g	Ph. Eur. Method 2.4.29	DHA (as FFA)	Min. 100 mg/g	Ph. Eur. Method 2.4.29	Total Omega 3 (as FFA)	Min. 290 mg/g	Ph. Eur. Method 2.4.29
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**CHEMICAL
CHARACTERISTICS
AND POLLUTANTS**

Analytical Results for Quality Parameters listed below will be expressed as compliant based on rotational testing performed in-house or external laboratory.

Parameters	Specifications	Analytical Method
Saponification Value ²	Min. 180 mg KOH/g	AOAC 920.160
Specific Gravity ²	Min. 0,920 - Max. 0,935	ISO 6883
Absorbance ²	Max. 0,70 AU	Ph. Eur. 2.2.25
Oligomers ²	Max. 1,5 %	Ph. Eur.

Parameters	Specifications	Analytical Method
PCBs, Dioxins, Furans, and Dioxin-like PCBs²		
Dioxins & Furans: PCDDs & PCDFs	Max. 1,0 pg WHO-PCDD/F-TEQ/g	GC-MS/MS
Total Dioxins, Furans & Dioxin-like PCBs	Max. 2,0 pg WHO-PCDD/F+PCB TEQ/g	GC-MS/MS
Dioxin-like PCBs	Max. 2,0 pg WHO-Dioxin Like PCBs-TEQ/g	GC-MS/MS
PCBs (209 congeners)	Max. 0,01 mg/kg (ppm)	GC-HRMS
Heavy Metals²		
Lead (Pb)	Max. 0,05 mg/kg (ppm)	ICP-MS/MS
Arsenic (As)	Max. 0,1 mg/kg (ppm)	ICP-MS/MS
Mercury (Hg)	Max. 0,005 mg/kg (ppm)	ICP-MS/MS
Cadmium (Cd)	Max. 0,1 mg/kg (ppm)	ICP-MS/MS
Copper (Cu)	Max. 0,1 mg/kg (ppm)	ICP-MS/MS
Poly-Aromatic Hydrocarbons (PAHs)²		
Benzo(a)pyrene	Max. 2 ppb	GC-MS
Sum PAH's of Benzo(a)pyrene, Benz(a)anthracene, Benzo(b)fluoranthene and Chrysene	Max. 10 ppb	GC-MS

**MICROBIOLOGICAL
CHARACTERISTICS³**

Parameters	Specifications	Analytical Method
Total aerobic microbiological count	Max. 1000 cfu/g	ISO 4833-1
Total combined yeast & mould count	Max. 100 cfu/g	ISO 21527-2
Coliforms	Max. 10 cfu/g	ISO 4832
<i>Escherichia coli</i>	Absent per g	ISO 16649-2
<i>Staphylococcus aureus</i>	Absent per g	ISO 6888-3
<i>Pseudomonas aeruginosa</i>	Absent per g	ISO 13720
<i>Salmonella sp.</i>	Absent per g	ISO 6579

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		Code: OMG04-S22	

PRESERVATION METHOD	Stored under inert nitrogen gas in original package.
ANTIOXIDANT	Mixed Natural Tocopherols 1,0 mg/g - 2,0 mg/g.
STORAGE CONDITIONS	The product should be stored in the tightly closed original packaging in a dry place at Room Temperature (15 °C to 40 °C). Cover with nitrogen after opening. Protect from heat, light and oxygen.
SHIPPING METHODS	80 x 190 kg Food Grade Steel Drums in 20'FCL. 20 x 920 kg Food Grade IBCs in 20'FCL.
SHELF LIFE	Two Years from date of manufacture if product is stored in unopened original sealed container provided specified storage conditions are maintained.
LABELING	As per customer requirements.
CLIENT USE AND PREPARATION	It's used as a natural ingredient for dietary supplements and food applications.
GMO	All ingredients are GMO free.
IRRADIATED	No irradiation in any step of the process.
STANDARD REFERENCES	- The product complies with GOED voluntary monograph (5), Eur Ph 9.0 Fish Oil Rich in Omega-3 acids and USP 38 Fish Oil containing Omega-3 acids. - Halal certified. Produced under GMP standard. - Friends of the Sea certified.

Rotational testing: ¹ Test every batch, ² Twice a year.

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Processed Oil Certificate of Analysis

Report Date 2/13/25

Report# 2212

Raw Material Name Fish Oil 18/12 TG

Production Date Dec 2024

Fish Oil Lot # PC00006379

Crude Lot # n/a

Best By Date Dec 2026

SSI Item # 22090

SSI Lot #

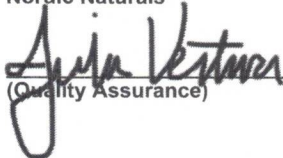
RMD Version RMD-I120-00

MRF # MR-2025-56

Description Clear Oily Liquid, NMT 6 Gardner units

Quality Attribute	Spec	Result	Method	P/F
Acid Value	<0.5 KOH/g	0.1	AOCS Ca 5a-40	Pass
Peroxide Value	<1.5 meq/kg	0	AOCS Cd 8-53	Pass
Anisidine Value	<14	9	AOCS Cd 18-90	Pass
TOTOX	<17 meq/kg	9	Calculation	Pass
Dioxins & Furans	Upper Bound	<0.5	USEPA 1613 B	Pass
Dioxin-like PCBs	Upper Bound	<1	USEPA 1668 A/C	Pass
Total PCBs	Lower Bound	<0.02	USEPA 1668 A/C	Fail See OOS
Arsenic, Inorganic	<0.05 ppm	<0.1	ICP-MS	Fail Result for Arsenic
Cadmium	<0.05 ppm	<0.01	ICP-MS	Pass
Lead	<0.05 ppm	<0.05	ICP-MS	Pass
Mercury	<0.05 ppm	<0.005	ICP-MS	Pass
Crude Fat	97.41-101.38 %	Not Tested	AOAC 954.02	Pass
Moisture	<0.1 %	0.0	AOCS Ca 2c-25	Pass
Total Omega-3 (ph Eur)	345-517.5 mg/g	350	PH Eur 2.4.29	Pass
Eicosapentaenoic Acid (EPA) (ph Eur)	165-247.5 mg/g	173	PH Eur 2.4.29	Pass

Nordic Naturals



(Quality Assurance)

6/20/25
(Date)



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Report Date 2/13/25

Report# 2212

Raw Material Name Fish Oil 18/12 TG

Production Date Dec 2024

Fish Oil Lot # PC00006379

Crude Lot # n/a

Best By Date Dec 2026

SSI Item # 22090

SSI Lot #

RMD Version RMD-I120-00

MRF # MR-2025-56

Description Clear Oily Liquid, NMT 6 Gardner units

Quality Attribute	Spec	Result	Method	P/F	
Docosahexaenoic Acid (DHA) (ph Eur)	110-165 mg/g	108	PH Eur 2.4.29	Fail	See OOS