

*Certificate of Analysis*

PRODUCT: Krill Omega 50+ --60 ct  
 PRODUCT DESCRIPTION: Krill and BioMarine® Omega-3 Concentrate w/ Natural Lemon/Lime Flavor and Vitamin D  
 PRODUCT NO.: MNSG-400  
 BATCH NO.: 1702013 (61601906,NKO-1610181)  
 PACKAGED LOT NO: 20131 03/2020  
 DATE OF MANUFACTURE: March, 2017  
 BEST BEFORE/RETEST BY: March, 2020

General	Manufacturing Specification	Results	Method
Pharmaceutical Form	Reddish brown capsule containing a reddish oil	Conforms	Observation
Softgel size and shape <sup>5</sup>	12 Oval	Conforms	Observation
Average Fill Weight	540 mg +/- 5%	540 mg	USP<2091>
Disintegration/Rupture time	Max. 15 minutes	Passed	USP<2040>
Acid Value <sup>1</sup>	Max. 3 mg KOH/g	0.2 mg KOH/g	Ph.Eur. 2.5.1
Peroxide Value Finished Softgels (on delivery)	Max. 10 meq/kg	0 meq/kg	AOCS Cd 8-53
Anisidine Value <sup>1</sup>	Max. 20	2.4	Ph.Eur. 2.5.36
Lead <sup>1</sup>	Less than 0.1 mg/kg	Conforms	AAS/ICP-OES/MS
Cadmium <sup>1</sup>	Less than 0.1 mg/kg	Conforms	AAS/ICP-OES/MS
Arsenic (inorganic) <sup>1</sup>	Less than 0.1 mg/kg	Conforms	AAS/ICP-OES/MS
Mercury <sup>1</sup>	Less than 0.1 mg/kg	Conforms	AAS/ICP-OES/MS
PCBs (209 Congeners) <sup>1</sup>	Max. 0.09 mg/kg	Conforms	HRGC-HRMS (EN 1948 mod)
Sum of Dioxins & Furans (17) <sup>1</sup> -TEQ <sup>2</sup>	Max. 1.75 pg/g	Conforms	HRGC-HRMS (EN 1948 mod)
Sum of Dioxins & Furans and Dioxin like PCBs <sup>1</sup> – TEQ <sup>2</sup>	Max. 3 pg/g	Conforms	HRGC-HRMS (EN 1948 mod)

Microbiological Standard	Manufacturing Specification	Result	Method
Total Plate Count	Max. 3,000 CFU/g	<3,000 CFU/g	USP<2021> or equivalent
Total Mold & Yeast Count	Max. 300 CFU/g	<300 CFU/g	USP<2021> or equivalent
<i>Salmonella</i>	Negative/10g	Negative/10g	USP<2022> or equivalent
<i>E. coli</i>	Negative/10g	Negative/10g	USP<2022> or equivalent
<i>Staphylococcus aureus</i>	Negative/10g	Negative/10g	USP<2022> or equivalent

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Ingredients	Manufacturing Specification (per 1 soft gel)	Results	Method
Enriched Krill and Fish Oil Omega-3 Blend w/ Natural Lemon/Lime Flavor and Proprietary Antioxidant Blend	540 mg +/- 5%	540 mg	Formulation and In-process controls
Krill Oil	250 mg	Conforms	Formulation and In-Process controls
Total Phospholipids <sup>6</sup>	100 mg	110 mg	P-NMR
EPA (as EE) <sup>3</sup>	105 mg	123 mg	GOED
DHA (as EE) <sup>3</sup>	65 mg	80 mg	GOED
Other Omega-3 (as EE) <sup>3</sup>	Report	43 mg	GOED
Additional Omega-3 <sup>4</sup> (as EE) <sup>3</sup>	40 mg	76 mg	GOED
Total Omega-3 Fatty Acids (as EE) <sup>3</sup>	210 mg	246 mg	GOED
Natural Astaxanthin (from krill oil and <i>Haematococcus pluvias</i> extract)	250 mcg	459 mcg	HPLC
Vitamin D (D <sub>3</sub> cholecalciferol)	250 IU	355 IU	LC MS/MS
Flavor coating	LemonLock™	Conforms	Input

<sup>1</sup>Analysis performed on input fish oil before encapsulation and addition of other ingredients.

<sup>2</sup>Toxicity Equivalents according to WHO

<sup>3</sup> Measured as Ethyl Ester. Marine will accept analytical results from the Eurofins lab in Des Moines, IA using the GOED method. Analytical results using other methods or analytical results from other test laboratories will not be recognized in a possible conflict of results.

<sup>4</sup>Additional Omega-3s include EPA and DHA above minimum specification as well as Other Omega-3s from line above.

<sup>5</sup> Size: 12 oval tooling to be used. This size encompasses range of 10 to 12 minims fill volume and dimensions.

<sup>6</sup>Phospholipid release limit is 95% of specification claim.

**Ingredients:** Omega-3 Marine Oil Blend (krill, anchovy, sardine, mackerel), Natural Lemon/Lime Flavor, Proprietary Antioxidant Blend (natural mixed tocopherols (soy), rosemary extract, and ascorbyl palmitate), Astaxanthin Extract, Cholecalciferol. Shell ingredients: gelatin, glycerin, purified water, annatto extract, and carob.

Allergens: Contains highly refined fish oil, crustaceans and soybean oil.



Caroline Lease, Quality  
Aug. 4, 2017