TECHNICAL SPECIFICATIONS OF **CARBON OPTIMUM BIOMASS**

GENERAL CHARACTERISTICS

Description: Nutritional biomass from autotrophic marine phytoplankton. A rich source of proteins, carbohydrates and lipids (omega 3,antioxidants and pigments)

Appearance: Green Biomass Powder from marine phytoplankton.

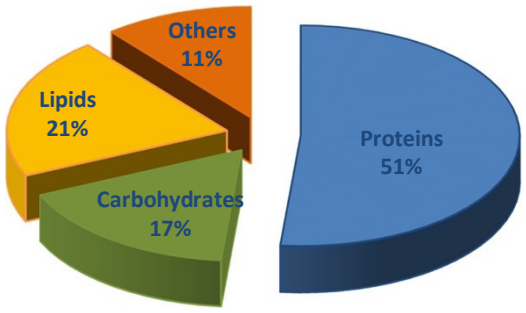
Odor: Characteristic.

SPECIFICATIONS PRODUCT

Lot No:	**DB-1402010001**
Intern code:	**Cx140201-B**
Country of Origin:	**TBD**
Manufacturing location:	**TBD**
Date of Manufacture:	**February 2018**

CHEMICAL COMPOSITION

COC BIOMASS COMPOSITION



Nutrition Analysis	Result	Unit *
Energy	550	Kcal/100g
Protein	50,9	g/100g
Carbohydrate	17,9	g/100g
Lipid	20,5	g/100g
Others	10,7	g/100g

*All results are expressed as dry biomass

Heavy metals	
Arsenic (as)	<1 ppm
Lead (Pb)	<1 ppm
Cadmium	<1 ppm
Mercury	n.d

Profile Fatty acids	% (w/w)*
C14:0	0,9
C16:0	2,1
C16:1	2,5
C18:0	0,2
C18:1	0,6
C18:2	0,4
C18:3 ω-3 ALA	0,1
C20:0	0,1
C20:4 ω-6 ARA	0,2
C20:5 ω-3 EPA	4,8

*Expressed as dry biomass

The lipid fraction has a high EPA, eicosapentaenoic acid compound, conjugated with polar lipids (phospholipids and glycolipids) providing EPA health benefits with easy digestibility.

STORAGE

The product is presented in powder form and after rehydration, its nutritive value and organoleptic qualities are the same as those of a fresh product.

Keep in a dry place at room temperature.

Carbon Optimum certifies this product is a vegetable biomass from marine phytoplankton, containing eicosapentaenoic acid (EPA), and meets the product specifications as outlined above.

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MICROBIOLOGICAL INFORMATION

Microbiology (L)	Result	Unit
Total aerobic mesophilic plate count	40	cfu/g
Mould	n.d.	cfu/g
Yeast	n.d.	cfu/g
E.coli	n.d.	cfu/g
Listeria	n.d.	cfu/g
Salmonella	n.d.	cfu/g
Enterobacteriaceae (L)	n.d.	cfu/g
Pseudomonas aeruginosa (L)	n.d.	cfu/g

Algae Toxins	Result	Unit
Algae toxin ASP	n.d.	µg/kg
Algae toxin DSP	n.d.	µg/kg
Algae toxin PSP	n.d.	µg/kg

OTHER COMPOUNDS

AMINO ACIDS	g/100 g*
Alanine	3,4
Arginine	3,2
Aspartique	5,1
Cystine	0,8
Glutamique	6,2
Glycine	2,4
Histidine	0,8
Isoleucine	3,12
Leucine	5,02
Lysine	2,73
Methionine	1,1
Phenylalanine	3,2
Proline	1,4
Serine	2,2
Threonine	2,58
Triptophane	1,05
Tyrosine	2,4
Valine	3,5

*All results are expressed as dry weight

PIGMENTS	g/100 g*
Anteraxanthin	0,1
β-carotene	0,3
Chlorophyll a	3,1
Lutein	0,2
Violaxanthin	0,5
Zeaxanthin	0,1
β-carotene	0,3

*All results are expressed as dry weight

VITAMINS

Most abundant
- Vitamin E (α-tocopherol)
- Vitamin C
- Vitamin B3
- Vitamin B5
- Folic acid

Others
- Vitamin B1, B2, B6, B12, H (Biotina), K1

Phytosterols as β-sitosterol Maintenance of normal blood cholesterol concentrations (*The EFSA Journal 2008, 781)*

COENZIME Q9 .....250 mg/kg

CONEZYME Q10 (Ubiquinona)..... 100 mg/kg

Biophenols as hidroxitirosol Protective effect against oxidative dadada-tive damage of LDL cholesterol. *(EFSA Journal 2011;9(4):2033*

COC LIPID FRACTION

Lot No: 1315

Intern code: Cx131102 O

Country of Origin: N/A

Manufacturing location: N/A

Manufacturing Date: 11- 2018

General Characteristics

Description: Oil derived from the autotrophic green marine phytoplankton, rich in eicosapentaenoic acid omega 3 (EPA).

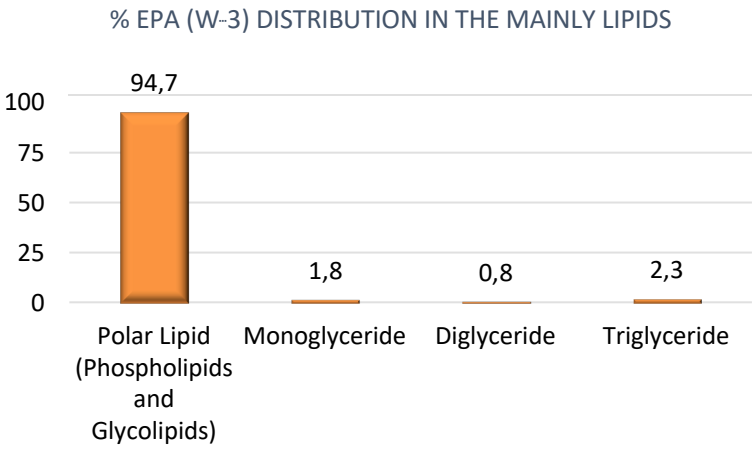
Appearance: Dark green viscous oil.

Odor: Characteristic.

Chemical Characteristics

Profile Fatty acids	% (w/w)*
C14:0	6,0
C16:0	21,6
C16:1	20,6
C18:1	2,9
C18:2	2,0
C18:3	0,4
C20:0	0,3
C20:4 ω-3 (ARA)	3,9
C20:5 ω-3 (EPA)	39,5

*Regarding total fatty acids



- ✓ The lipid fraction is mainly composed by polar lipid (phospholipids and glycolipids).
- ✓ The majority of the EPA (w-3) is bound with this polar lipid.

Other compounds (regarding the lipid fraction)

Phytosterols > 830 mg/100 g

β-Sitosterol, Estigmnasterol, Campesterol, …

Biophenols >190 mg/100 g

Hidroxitirosol, hidroxitirosol acetate, ….

Tocopherol (vitamin E) >150 mg/100 g

Product Storage and Stability

Frozen storage is recommended for ensuring quality product. Temperatures higher than 40 ºC should be avoided during the thawing process for ensuring quality product.

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