



***NutraPlus* - *Dunaliella salina* paste**

***Algro Natural*[™] - spray dry Algal Meal**

NutraPlus is a concentrated liquid paste of *Dunaliella salina*. *Algro Natural*[™] is the concentrated powder produced from the alga. Both forms, paste and dry powder contains algal carotenoids, especially beta-carotene, which has been shown to provide the colour precursor and supplementary nutrients necessary in aquaculture conditions.

Dunaliella salina is a microscopic alga found in the ocean and other aquatic environments. *NutraPlus* is pure *Dunaliella salina* grown in one of the most pristine environments in the world – Western Australia. The algae is grown in hyper saline lagoon in its natural environment with almost no artificial aid except of the sun and water. The alga is harvested without any solvents or chemicals. *NutraPlus* contains no pathogens and has very low bacteria content due to natural the natural antibacterial qualities of the paste.

Features

- Source of carotenoids
- Contains lipids and amino acids
- Antioxidant

Application

NutraPlus

NutraPlus is liquid paste of algae. The paste may have several different application depending on the organism and the rearing method.

- **Marine fish larvae culture.** *NutraPlus* may use as substitute to a traditional algae as *Nannochloropsis* in ‘green water’ technique. The paste can be mix with water and add at required concentration to the larvae rearing tanks. Concentration and amount of paste in the tank is species specific and depends on the hatchery rearing methods (sechi disk depth). The paste can be mix with water and add to the larvae rearing tank manually or automatically using pump or any other delivery system.



- **Filter feeders (corals, sponges etc.).** *NutraPlus* is ideal feed for marine ornamental filter feeders. It should be mix with water and add directly to the tank / aquarium manually or automatically using dosing system. Amount of algae depend on the bio-mass, number of organisms as well as rearing system (static, flow-through or recirculating).
- **Brine shrimp.** *NutraPlus* can use as sole feed for *Artemia* (in nature – this is the prime food for the *Artemia*). Amount depends on number of *Artemia* and life stage (nauplii, adult etc.). Specific details can be obtained from Nutra-Kol (email for information).

Algro Natural™

Algro Natural™ is an easy to use orange colour powder suited to high volume feed production. It is typically added to shrimp and marine ornamental fish feeds at 0.125% to 1% addition rate. Higher addition rates give deep red colour to shrimp. It is recommended to blend *Algro Natural™* with other feed ingredients just prior to extrusion into pellets.

Packaging

NutraPlus is supplied in 1 litre bottles, 10 or 20 litres containers, 200 litre drums or 1000 litre plastic bulk bin.

Algro Natural™ is supplied in a heat sealed 12 Kg metallised nylon laminated bag with triple ply paper outer. 504Kgs (42 x 12 Kg Bags) / Pallet.

Handling and Shelf life

It is preferable to store both products in a cool dry place, fridge or freezer (for longer shelf life). In the unopened pack under these conditions, the recommended storage time is twelve months.

Note. *Algro Natural* is sensitive to oxidation. Once opened it is recommended that the whole bag be used. If this is not possible, store the remainder, with exclusion of as much air as possible in the freezer.

Specification

NutraPlus - liquid paste, *Algro Natural™* – powder. Both orange colour.



Beta-carotene and mixed carotenoids 2.0% Minimum (dry weight)

Particle Size >90% through 40 Mesh

Typical Nutrient Profile of Algro Natural™ and NutraPlus (as dry weight)

Analysis	Values (g / 100 g)
Moisture (<i>Algro Natural</i>)	9.1
Ash	61.9
Protein (N x 6.25)	10.4
Fat	9.1
Carbohydrate	9.4
Sodium	19.6
Potassium	6600mg/Kg
Magnesium	1.9
Calcium	1800mg/kg
Phosphate (P)	2000mg/kg
Chloride	32.9
Sulphate (SO4)	1.5

Amino Acid Profile of Algro Natural™ / NutraPlus (as dry weight)

Amino acid	Values (g / 100 g)
Aspartic Acid	0.83
Threonine	0.44
Serine	0.42
Glutamic acid	0.99
Proline	0.43
Glycine	0.46
Alanine	0.55
Valine	0.52
Methionine	0.15
Isoleucine	0.40
Leucine	0.74
Tyrosine	0.34
Phenylalanine	0.44
Lysine	0.44
Histidine	0.15
Ammonia	0.17
Arginine	0.49
Cystine / Cysteine	0.10
Tryptophan	0.10
TOTAL PROTEIN*	7.98
Protein Recovery %	85.45

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Fatty Acid Profile of Algro Natural™ NutraPlus (as dry weight)

Fatty acid	Name	% of Total Fatty Acids
14:0	Myristate	0.8
16:0	Palmitic acid	25.9
16:1	Palmitoleate	1.5
16:3	tentative omega -3	6.2
18:0	Stearic acid	2.4
18:1n-9 and n-7		15.9
18:2n-6	Linoleic acid	20.5
18:3n-3	a- linolenic acid	19.6
20:0		0.3
20:1		0.2
22:0		0.4
22:1		0.5

Carotenoids Profile of Algro Natural™ NutraPlus (as dry weight)

Carotenoids	% of total carotenoids
beta-carotene	94.5
alpha-carotene	3.5
cryptoxanthin	1
lutein	0.5
zeaxanthin	0.5