

# Spirulina Extract

## Nano Concentrate Liquid

### Wholesome Superfood Nutrition

Small size of nanoparticles enables them to pass through natural biological barriers, such as the intestinal epithelia, facilitating better entry into the body and target sites.

Spirulina is the dried biomass of blue-green algae, that grows in fresh and salt water. It is indeed celebrated as a "superfood" due to its rich and diverse nutrient profile that packed with vitamins, minerals, antioxidants, and protein. Spirulina has been promoted as "the food of the future" due to its remarkable components polysaccharides and essential fat (GLA) are absorbed easily by human cells and help in energy release. Whether you're an athlete, a health enthusiast or just looking for a natural nutrient enhancement, Spirulina offers a powerful solution grounded in science and exploration.



### AMAZING FACTS OF SPIRULINA

Spirulina contains all nine essential amino acids, making it an excellent choice for vegetarians and vegans.

Spirulina as a potential space food for astronauts due to its high nutrient density and minimal growing space requirements.

Spirulina binds with heavy metals like arsenic and mercury and helps eliminate them from the body

Due to its high content of complete protein and minerals such as iron and calcium, it is an excellent addition to diets, especially those of vegans and vegetarians



### HEALTH BENEFITS - "One solution for all"

#### Boosts Immunity:

Phycocyanin can help fight oxidative stress by blocking the molecules that promote inflammation and providing impressive antioxidant and anti-inflammatory effects.

#### Aids Heart Health:

Spirulina might assist in reducing blood pressure by boosting nitric oxide production, which relaxes blood vessels, and can also enhance cholesterol and triglyceride levels.

#### Manages Blood Sugar:

Spirulina may help lower blood sugar levels, which is beneficial for managing diabetes.

#### Fights Allergies:

It can reduce symptoms associated with allergic responses by lowering inflammation.

#### Fights Anemia:

Its high iron content, easily absorbed by the body, helps reduce anemia

#### Enhances Stamina and Muscle Power:

It can lead to better athletic performance and endurance

#### Losing weight:

It could also help improve the fat content in the blood, Spirulina obstruct the small intestine's capability to absorb fat efficiently.

#### Protects Visual Function:

Spirulina appears to hold potential as a nutritional supplement to prevent vision impairment caused by oxidative damage in the future

#### Nutritional Powerhouse:

Spirulina offers astronauts vital nutrients, assisting them in preserving physical health, muscle mass, and energy during space missions.

#### Neurodegenerative Diseases:

Its anti-inflammatory and antioxidant actions may help prevent or slow the progression of conditions like Parkinson's, Alzheimer's disease, and Multiple Sclerosis.



### WHO SHOULD CONSUME SPIRULINA EXTRACT

**Vegetarians and vegans** due to its high protein and vitamin content.

**People with high cholesterol or blood pressure**, along with diabetes, may gain benefits.

**Individuals with Iron Deficiency / Anemia.**

**Those who regularly engage in energetic physical activity.**

Its rich nutrient profile, including protein and iron, can be beneficial during pregnancy

**Healthy Individuals** due to its plentiful of vitamins, minerals, and antioxidants to improve general well-being and boost the immune system.



### PACKAGING/STORAGE/SHELF LIFE

**Packaging:**  
5kg/25kg Aluminium can/ Packed under Sterilized condition

**Storage Condition:**  
Store in cool and dry place in original packing. Avoid exposure to extreme conditions

**Shelf Life:**  
18 months if stored in specified storage conditions.

### APPLICATION DETAILS

S.No.	Various Applications	Main Claims Markers for Recommended Applications	Recommended Dosage / Bulk Batch* (For the Manufacturer of a Consumer brand)	Effective Dosage / Serving (For the Ultimate Consumer)	Recommended Dosage / Day		
					For Adults	For Teenagers	For Kids (5-10 yrs)
1.	Milk Fortification*	Protein, Minerals (Calcium, Phosphorus and Iron), Vitamins (Pro-vitamin A, B12)	30 L of Nano-Concentrate Spirulina Liquid(1000L Batch)	Adults : 25mL x Two Serving	50 mL	50 mL	15-20 mL
2.	Fruit Juice Fortification						
3.	Complete Plant Based Protein Drinks	Protein, Minerals (Calcium, Phosphorus and Iron), Vitamins (Pro-vitamin A, B12), Bioactive (Phycocyanin & Polysaccharide), PUFA and MUFA (Linolenic Acid)	50 L of Nano-Concentrate Spirulina Liquid (1000L Batch)	Adults : 15 - 17 mL x Three Servings	50 mL	50 mL	15-20 mL
4.	Fortification of Protein Drinks with Plant based Nutrition						
5.	Fortification of Child Focused Drinks to counter Child Malnutrition			Childs: 15 - 17 mL x Three Servings		50 mL	

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**Wholesome Superfood Nutrition**

### NUTRITIONAL VALUE

#### Sensory Data

Appearance	Liquid
Colour	Rich Blue
Flavor and Odour	Characteristic
Taste	Earthy and Grassy

#### Functional Bioactive

Phycocyanin	0.4-0.6%
Total carotenoids	300-320mg/10gm

#### Mineral

Potassium	277.60 mg/kg
Calcium	38.70 mg/100g
Phosphorus	16.42 mg/100g
Manganese	4.46 mg/kg
Zinc	7.98 mg/kg
Magnesium	54.91 mg/100g
Sodium	44.39 mg/100g
Iron	4.58 mg/100g

**This is a Nutritional Supplement and not a replacement for medical treatment.**

#### Nutritional Data

Calorific Value	210 kcal/100g
Protein	50.24 g/100g
Soluble Fiber	6.48 g/100g

#### Vitamins

Beta- Carotene (pro-vitamin A)	50-60mg/100g
Biotin	370-380 mcg/100g
Tocopherol (vit E)	20-25 mg/100g
Thiamine (vit B1)	20-25 mg/100g
Riboflavin (vit B2)	90-92 mg/100g
Niacin (vit B3)	206-210 mg/100g
Cyanocobalamin (vit B12)	2-3mcg/100g
Pantothenic acid	8-9 mg/100g
Flavonoid	0.012-0.015%

#### Heavy Metals

Lead (Pb)	<0.05mg/kg
Cadmium (Cd)	<0.05mg/kg
Arsenic (As)	<0.05mg/kg
Mercury (Hg)	<0.05mg/kg

### SCIENTIFIC STUDY REFERENCES

Clinical comparison of the efficacy of spirulina-platensis and cetirizine for treatment of allergic rhinitis., Nourollahian M, Rasouljan B, Gafari A, Anoushiravani M, Jabari F, Bakshshae M., Acta Otorinolaryngol Ital. 2020 Jun;40(3):224-229. doi: 10.14639/0392-100X-N0139. PMID: 32773785; PMCID: PMC7416373.

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