

TITLE: PRODUCT SPECIFICATION

Doc. No. : PNO/QAU/OSP/SPE/001

Version No. 02

Page No. 1 of 2

Product Name	Organic Spirulina (<i>Arthrospira platensis</i>) Powder
Product Code	OSP

PARAMETERS	SPECIFICATION	SOP NUMBER	TEST METHOD / REFERENCE
DESCRIPTION			
MACROSCOPIC CHARACTERISTIC	Fine, Uniform Powder, Blue green to green colour with mild smell and taste	-	Visual
MICROSCOPIC CHARACTERISTIC	6-10 micron in dia 20-60 micron in length	-	Microscopic
PHYSICAL AND CHEMICAL ANALYSIS			
PROTEIN (%)*	56 – 69	QA-118	Nitrogen Determination USP <461>
LOSS ON DRYING (%)	2.5 – 7.0	QA-115	Loss on drying USP <731>
TOTAL ASH (%)	5.0 – 9.0	QA-116	Total Ash USP <561>
BULK DENSITY(g/ml)	0.62-0.85	QA-117	Tapped density & Bulk density USP <616> - Method -II
LIGHT FILTH(50g)	NMT 50	QA-031	Richard Gorham. J. (1977). Training manual for Analytical Entomology in the food industry. FDA Tech. Bulletin No : 2
LIMIT OF MICROCYSTIN (µg/g)	NMT 0.5	QA-122	USP Monograph dated 01/11/2011
PIGMENT ANALYSIS			
TOTAL CAROTENOIDS (%)*	0.40 – 0.65	QA-123	BY HPLC, USP Monograph dated 01/11/2011 & system suitability <621>
BETA CAROTENE (%)*	0.15 – 0.25		
CHLOROPHYLL “A”	Identification		
PURE PHYCOCYANIN (%)*	NLT 6.0	QA-119	USP Monograph dated 01/11/2011
TOTAL PHEOPHORBIDES (%)*	NMT 0.12	QA-121	a) A. Test method for Spirulina by JHFA, Environmental Food Number 99 (1981) b) Seward R. Brown. Absorption Coefficients of Chlorophyll Derivatives. J.Fish. Res. BdCanada 25 (3) 523 – 540, 1968
EXISTING PHEOPHORBIDES (%)*	NMT 0.08		
FATTY ACID PROFILE			
FATTY ACIDS	Identification	QA-120	By GC, USP Monograph dated 01/11/2011 & system suitability <621>
1. PALMITIC ACID (%)	35 – 60		
2. PALMITOLEIC ACID (%)	2 - 8		
3. STEARIC ACID (%)	1 – 5		
4. OLEIC ACID (%)	1 – 7		
5. LINOLEIC ACID (%)	13 – 25		
6. GAMMA LINOLENIC ACID (%)	13 – 27		
7. ALPHA LINOLENIC ACID (%)	NMT 0.5		

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Page No. 2 of 2

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MICROBIAL ANALYSIS			
STANDARD PLATE COUNT (cfu/g)	NMT 50000	QA -114	1. Microbial Enumeration tests USP <2021> 2. Absence of Specified Microorganisms USP <2022>
YEAST AND MOLD (cfu/ g)	NMT 100		
BILE TOLERANT GRAM -NEGATIVE BACTERIA (cfu/g)	NMT 100		
E.COLI (/ 10 g)	NEGATIVE		
SALMONELLA (/ 10g)	NEGATIVE		
STAPHYLOCOCCUS (/ 10g)	NEGATIVE		
ELEMENTAL CONTAMINANTS & PESTICIDES ANALYSIS**			
LEAD (µg/g)	NMT 0.20	External lab Analysis	By ICP -MS. Official methods of analysis of AOAC INTERNATIONAL, 18 th Edition
ARSENIC (µg/g)	NMT 0.50		
CADMIUM (µg/g)	NMT 0.20		
MERCURY (µg/g)	NMT 0.025		
PESTICIDES	As per USP Specs	External lab Analysis	By GC -MS. Official methods of analysis of AOAC INTERNATIONAL, 18 th Edition

* Results on dry basis

** Not analyzed for every batch. Results are based on the periodical analysis as per our quality plan.

<ul style="list-style-type: none"> ❖ USP IVP verified ❖ GRAS Affirmed ❖ Free from PESTICIDES, HERBICIDES, GMO OR ADDITIVES ❖ Certified Organic as per USDA NOP and Ecocert Standards 	<p>Shelf life: With in 36 months from the month of manufacture under proper storage condition</p> <p>Storage: 1. Store in a cool and dry place 2. Do not leave the bags in an open condition to avoid external contaminations 3. Once opened flush the bags with nitrogen and reseal for Preventing Nutrient deterioration and for further storage</p>
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Next Review:	12 months or based on any revision of specification as per USP monograph	