Australian Government
Department of Health and Ageing
Therapeutic Goods Administration

Compositional Guideline for *Arthrospira maxima*

Name of the ingredient

Arthrospira maxima Setchell & Gardner (AHN)

Synonym

Spirulina maxima (Setchell & Gardner) Geitler

Definition of the ingredient

Arthrospira maxima is a photosynthetic, filamentous, spiral-shaped, multicellular cyanobacterium. The ingredient is a powder consisting of whole dried cells of *A. maxima*.

Table 1. Ingredient specific requirements

Test	Method reference	Acceptance criteria
Description		
Appearance	Visual	A fine uniform powder, dark blue-green colour
Odour/Taste	Organoleptic	Mild seaweed taste, with no decayed or bitter taste or smell
Characteristics		
Ash	BP	≤ 12% w/w
Loss on drying	BP	< 8.0%
Identification		
Microscopic	Literature method[1]	Complies with authenticated reference specimen
Fatty acid composition	GC[2]	Major fatty acids are γ-linolenic acid (GLA), linoleic acid, palmitic acid and in some cases, oleic acid α-linolenic acid (ALA) is ≤ 0.1%

Test	Method reference	Acceptance criteria
Assay		
Protein	BP	55.0 – 70.0%
Iron	BP - AAS	550 – 1800 mg/kg
β-carotene	HPLC	700 – 2000 mg/kg
Chlorophyll	UV	9 – 15 g/kg

Notes

1. Tomaselli L, in Vonshak A (1997) *Spirulina platensis* (Arthrospira) Physiology, Cell Biology and Biotechnology, *Spirulina platensis* (Arthrospira) Taylor & Francis
2. Otles S & Ruhsen (2001) Fatty acid composition of Chlorella and Spirulina Microalgae species, J AOAC International Vol 84, No 6, pp 1708-1713

Table 2. Incidental constituents

Test	Method reference	Acceptance criteria
Incidental metals and non-metals		
Total heavy metals	BP	≤ 10 ppm
Lead	BP	≤ 2.5 ppm
Arsenic	BP	≤ 1.0 ppm
Cadmium	BP	≤ 0.5 ppm
Mercury	BP	≤ 0.05 ppm
Foreign matter	Ph Eur method 2.8.2	≤ 2%

Microbiology	While substance manufacturers are encouraged to include limits for objectionable microorganisms, it is the product into which the substance is formulated that is subject to a legally binding set of criteria. The *Therapeutic Goods Order No. 77* '*Microbiological Standards for Medicines*' mandates that any finished product which contains the ingredient, alone or in combination, must comply with the microbial acceptance criteria set by Clause 9 of the Order.

Key to abbreviations: -

AAS = Atomic absorption spectroscopy

AOAC = Association of Official Analytical Chemists

BP = British Pharmacopoeia

GC = Gas chromatography

HPLC = High-pressure liquid chromatography

Ph Eur = European Pharmacopoeia

UV = Ultra violet