

ALGAL BIOTECHNOLOGY • NUTRACEUTICAL & PIGMENT SKILL DEVELOPMENT



NTHRYS
OPC PVT LTD



Algal Nutraceuticals & Pigments Industrial Manufacturing Training Programs

A complete industrial catalogue of hands-on algal-extract training modules — from astaxanthin & phycocyanin to omega-3 oils & seaweed hydrocolloids.

55

PROGRAMS

10

CATEGORIES

2026

EDITION

CATALOGUE OVERVIEW

Program Categories at a Glance

This catalogue lists every algal nutraceutical and pigment our training programs are equipped to manufacture and teach, organised into 10 technology streams. Each program carries a unique product code for easy reference, enrolment and certification.

STREAM	CATEGORY FOCUS	DESCRIPTION	COUNT
NAN-CA	Algal Carotenoid Pigments	Astaxanthin, beta-carotene & fucoxanthin production	6
NAN-PB	Phycobiliprotein & Chlorophyll Pigments	Phycocyanin, phycoerythrin & chlorophyll production	5
NAN-OM	Algal Omega-3 Oils	Vegan DHA & EPA algal oil production	6
NAN-PR	Algal Proteins & Peptides	Protein isolate, hydrolysate & bioactive peptides	5
NAN-PS	Algal Polysaccharides & Fibres	Beta-glucan, sulfated polysaccharide & fibre	5
NAN-VB	Algal Vitamins, Sterols & Specialty Bioactives	B12, sterols, MAAs & antioxidant bioactives	5
NAN-SW	Seaweed-Derived Hydrocolloids & Bioactives	Agar, carrageenan, alginate & fucoidan production	6
NAN-EX	Extraction & Downstream Technology	Disruption, supercritical & aqueous extraction	6
NAN-FT	Formulation, Encapsulation & Delivery	Encapsulation, softgel & functional-blend formats	5
NAN-QC	Standardisation, Quality & Compliance	Carotenoid assay, omega-3 profile & stability QC	6
Total training programs			55

HOW TO READ A CODE

NAN – CA – 01

NAN Nthrys Algal-Nutraceutical Program CA Category stream 01 Program number

01

CATEGORY • NAN-CA

Algal Carotenoid Pigments

Astaxanthin, beta-carotene & fucoxanthin production

6

PROGRAMS

CODE	TRAINING PROGRAM	DESCRIPTION
NAN-CA-01	Natural Astaxanthin (Haematococcus)	Algal astaxanthin oleoresin.
NAN-CA-02	Beta-Carotene (Dunaliella)	Natural mixed-carotene.
NAN-CA-03	Fucoxanthin	Diatom / brown-algae xanthophyll.
NAN-CA-04	Lutein / Zeaxanthin (Algal)	Eye-health carotenoids.
NAN-CA-05	Astaxanthin Beadlet / Oil	Stabilised astaxanthin format.
NAN-CA-06	Mixed Carotenoid Extract	Multi-carotenoid blend.

02

CATEGORY • NAN-PB

Phycobiliprotein & Chlorophyll Pigments

Phycocyanin, phycoerythrin & chlorophyll production

5

PROGRAMS

CODE	TRAINING PROGRAM	DESCRIPTION
NAN-PB-01	C-Phycocyanin (Spirulina)	Blue food colorant.
NAN-PB-02	Allophycocyanin	Blue fluorescent pigment.
NAN-PB-03	Phycoerythrin	Red / pink pigment.
NAN-PB-04	Algal Chlorophyll / Chlorophyllin	Green pigment & derivative.
NAN-PB-05	Phycocyanin Powder (Graded)	Standardised blue powder.

03

CATEGORY • NAN-OM

Algal Omega-3 Oils

Vegan DHA & EPA algal oil production

6

PROGRAMS

CODE	TRAINING PROGRAM	DESCRIPTION
NAN-OM-01	Algal DHA Oil (Schizochytrium)	Vegan DHA oil.
NAN-OM-02	Algal EPA Oil	Vegan EPA oil.
NAN-OM-03	DHA + EPA Combination Oil	Balanced omega-3 oil.
NAN-OM-04	Algal Oil Powder (Encapsulated)	Powdered omega-3.
NAN-OM-05	Infant-Formula DHA Oil	High-purity DHA grade.
NAN-OM-06	Refined / Deodorised Algal Oil	Refined omega-3 oil.

04

CATEGORY • NAN-PR

Algal Proteins & Peptides

Protein isolate, hydrolysate & bioactive peptides

5

PROGRAMS

CODE	TRAINING PROGRAM	DESCRIPTION
NAN-PR-01	Algal Protein Isolate	High-purity protein isolate.
NAN-PR-02	Algal Protein Concentrate	Concentrated protein product.
NAN-PR-03	Bioactive Algal Peptides	ACE-inhibitory / functional peptides.
NAN-PR-04	Spirulina Protein Hydrolysate	Enzymatic hydrolysate.
NAN-PR-05	Textured Algal Protein	Food-application protein.

05

CATEGORY • NAN-PS

Algal Polysaccharides & Fibres

Beta-glucan, sulfated polysaccharide & fibre

5

PROGRAMS

CODE	TRAINING PROGRAM	DESCRIPTION
NAN-PS-01	Algal Beta-Glucan	Immune-active glucan.
NAN-PS-02	Sulfated Polysaccharide	Antiviral / antioxidant polysaccharide.
NAN-PS-03	Exopolysaccharide (EPS)	Secreted algal polysaccharide.
NAN-PS-04	Algal Dietary Fibre	Functional-fibre ingredient.
NAN-PS-05	Cell-Wall Polysaccharide Fraction	Spirulina / chlorella cell-wall fraction.

06

CATEGORY • NAN-VB

Algal Vitamins, Sterols & Specialty Bioactives

B12, sterols, MAAs & antioxidant bioactives

5

PROGRAMS

CODE	TRAINING PROGRAM	DESCRIPTION
NAN-VB-01	Algal Vitamin B12	Natural cobalamin source.
NAN-VB-02	Algal Sterols / Phytosterols	Sterol nutraceutical.
NAN-VB-03	Mycosporine-Like Amino Acids	UV-protective bioactive.
NAN-VB-04	Algal Antioxidant Extract	SOD / antioxidant complex.
NAN-VB-05	Algal Tocopherol / Vitamin E	Natural vitamin E.

07

CATEGORY • NAN-SW

Seaweed-Derived Hydrocolloids & Bioactives

Agar, carrageenan, alginate & fucoidan production

6

PROGRAMS

CODE	TRAINING PROGRAM	DESCRIPTION
NAN-SW-01	Agar / Agarose	Red-seaweed gelling agent.
NAN-SW-02	Carrageenan	Red-seaweed thickener.
NAN-SW-03	Alginate	Brown-seaweed hydrocolloid.
NAN-SW-04	Fucoidan	Sulfated brown-algae bioactive.
NAN-SW-05	Ulvan / Laminarin	Green / brown-algae polysaccharide.
NAN-SW-06	Seaweed Mineral / Iodine Extract	Mineral nutraceutical.

08

CATEGORY • NAN-EX

Extraction & Downstream Technology

Disruption, supercritical & aqueous extraction

6

PROGRAMS

CODE	TRAINING PROGRAM	DESCRIPTION
NAN-EX-01	Cell Disruption & Lysis	Biomass cell breakage.
NAN-EX-02	Solvent / Oil Extraction	Lipophilic-compound extraction.
NAN-EX-03	Supercritical CO2 Extraction	Solvent-free extraction.
NAN-EX-04	Aqueous / Protein Extraction	Phycobiliprotein & protein extraction.
NAN-EX-05	Membrane / Chromatographic Purification	High-purity polishing.
NAN-EX-06	Concentration & Drying	Extract finishing.

09

CATEGORY • NAN-FT

Formulation, Encapsulation & Delivery

Encapsulation, softgel & functional-blend formats

5

PROGRAMS

CODE	TRAINING PROGRAM	DESCRIPTION
NAN-FT-01	Microencapsulation	Oxidation-protected encapsulation.
NAN-FT-02	Capsule / Softgel Formulation	Oil & extract softgels.
NAN-FT-03	Powder / Beadlet Formulation	Water-dispersible formats.
NAN-FT-04	Functional-Food / Beverage Blend	Food & drink fortification.
NAN-FT-05	Cosmetic / Topical Formulation	Skin-care algal product.

CODE	TRAINING PROGRAM	DESCRIPTION
NAN-QC-01	Pigment / Carotenoid Assay	Active-content quantification.
NAN-QC-02	Omega-3 Fatty-Acid Profile	DHA / EPA quantification.
NAN-QC-03	Oxidation & Stability Testing	Peroxide / stability QC.
NAN-QC-04	Microbial & Toxin Safety	Microcystin / safety testing.
NAN-QC-05	Heavy-Metal Screening	Contaminant testing.
NAN-QC-06	Nutraceutical Regulatory Compliance	Labelling & claim compliance.

ENROL • EXTRACT • REFINE

Build a Career in Algal Nutraceuticals

Every program in this catalogue is delivered as hands-on training on working extraction and formulation equipment — covering biomass sourcing, cell disruption & extraction, supercritical & aqueous extraction, purification & concentration, encapsulation & formulation, pigment & omega-3 standardisation, assay & QC and regulatory compliance. Mix and match programs to design a track that fits your goals.

55 training programs

10 technology streams

Unique **product code** for every module

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