CERTIFICATE OF ANALYSIS

Manufactured for	**MACKISEN**				
Name of product:	**Astaxanthin**				
Packaging Lot # :	**M2500686/1**	**Master Packaging Record #**		**Expiry Date :**	**10/2028**
		MPR	**MA-N585-60-V0**		
Manufacturing Lot # :	**M2500686**	**Master Manufacturing Record #:**		**MFG Date:**	**11/2025**
		MMR	**MA-N585-V0**		
Storage Conditions:	Store at room temperature (R.T), in closed dry containers and Keep away from high temperature & moisture.				
Physical Description:	Reddish Colour Powder In Empty Clear Vegetable Capsule Size"1"	60 count in Bottle-150 cc-38/400 White HDPE Round with Cap-38-400 white HIS P/P,ribbed,plain liner.			

Physical Tests:

TESTES	Results	Specifications Low	Target	High	Strength	Method
Average Wt. of Capsules	363 mg	342	380	416	mg	USP <2091>
Wt. variation of Capsules	Conforms	Conforms as per USP weight variation +/- 10 %				USP <2091>
Odour & Taste	Conforms	Characteristic, Conforms to Standard				Visual, Olfactory
Disintegration	07 mins	NMT 30			min	USP <2040>
IDENTITY	Conforms	Conforms to standard				FTIR
By Qualitative Analysis	**Results**	**Low**	**Target**	**High**	**Strength**	**Method**
Astaxanthin (Haemotococcus pluvialis) Whole	6.12 mg	4.80	6.00	7.20	mg	JPL-121.01 (HPLC)
NON-MEDICINAL INGREDIENTS	Microcrystalline Cellulose, Empty Clear Vegetable Capsule					

Purity:

MICRO:	Results	Limits	Method
Total Plate Count	300 c.f.u / g	< 1,00,000 c.f.u / g	USP <2021/2022>
Total Yeast	<10 c.f.u / g	< 10,000 c.f.u / g	USP <2021/2022>
Total Mold	10 c.f.u / g	< 10,000 c.f.u / g	USP <2021/2022>
E.Coli	Not Detected	Not Detected	USP <2021/2022>
Salmonella Spp	Not Detected	Not Detected	USP <2021/2022>
Staphylococcus Aureus	Not Detected	Not Detected	USP <2021/2022>
HEAVY METALS:	**Results**	**Limits - 1 capsules / day**	**Method**
Arsenic	0.0003 mcg /kg.b.w/day	< 0.14 mcg / kg b.w./day	ICP-MS
Cadmium	<0.0001 mcg /kg.b.w/day	< 0.09 mcg / kg b.w./day	ICP-MS
Lead	0.0002 mcg /kg.b.w/day	< 0.14 mcg / kg b.w./day	ICP-MS
Total Mercury	<0.0001 mcg /kg.b.w/day	< 0.29 mcg / kg b.w./day	ICP-MS
Solvent Residue	Complies	Meets USP Requirements	USP/GC
Pesticide Residue	Complies	Meets USP Requirements	USP/GC

Prepared by: Dec/31/2025

Approved by: Bhargav.R Dec/31/2025

Quality Assurance

This report is submitted for the exclusive use of the person(s), partnership(s), or corporation(s) to whom it is addressed. Neither the report, name NutraNorth Inc., nor its staff may be used in conjunction with the advertising, or sale of any product or process without written consent. This information is the exclusive property of NutraNorth Inc. and may not be reproduced in whole or part without exclusive written authorization.

NutraNorth
1330 Fewster Dr, Mississauga
ON,L4W 1A4, Canada
Phone: 905-264-3660
Email: info@nutranorth.com

Email: info@nutranorth.com, Website: www.nutranorth.com

NutraNorth

CERTIFICATE OF ANALYSIS

Manufactured for	**MACKISEN**				
Name of product:	**Astaxanthin**				
Packaging Lot # :	**M2500686/2**	**Master Packaging Record #**		**Expiry Date :**	**10/2028**
		MPR	**MA-N585-120-V0**		
Manufacturing Lot # :	**M2500686**	**Master Manufacturing Record #:**		**MFG Date:**	**11/2025**
		MMR	**MA-N585-V0**		
Storage Conditions:	Store at room temperature (R.T), in closed dry containers and Keep away from high temperature & moisture.				
Physical Description:	Reddish Colour Powder In Empty Clear Vegetable Capsule Size"1"	120 count in Bottle-250 cc-45/400 White HDPE Round with Cap-45-400 white HIS P/P,ribbed,plain liner.			

Physical Tests:

TESTES	Results	Specifications Low	Target	High	Strength	Method
Average Wt. of Capsules	363 mg	342	380	416	mg	USP <2091>
Wt. variation of Capsules	Conforms	Conforms as per USP weight variation +/- 10 %				USP <2091>
Odour & Taste	Conforms	Characteristic, Conforms to Standard				Visual, Olfactory
Disintegration	07 mins	NMT 30			min	USP <2040>
IDENTITY	Conforms	Conforms to standard				FTIR
By Qualitative Analysis	**Results**	**Low**	**Target**	**High**	**Strength**	**Method**
Astaxanthin (Haemotococcus pluvialis) Whole	6.12 mg	4.80	6.00	7.20	mg	JPL-121.01 (HPLC)
NON-MEDICINAL INGREDIENTS	Microcrystalline Cellulose, Empty Clear Vegetable Capsule					

Purity:

MICRO:	Results	Limits	Method
Total Plate Count	300 c.f.u / g	< 1,00,000 c.f.u / g	USP <2021/2022>
Total Yeast	<10 c.f.u / g	< 10,000 c.f.u / g	USP <2021/2022>
Total Mold	10 c.f.u / g	< 10,000 c.f.u / g	USP <2021/2022>
E.Coli	Not Detected	Not Detected	USP <2021/2022>
Salmonella Spp	Not Detected	Not Detected	USP <2021/2022>
Staphylococcus Aureus	Not Detected	Not Detected	USP <2021/2022>
HEAVY METALS:	**Results**	**Limits - 1 capsules / day**	**Method**
Arsenic	0.0003 mcg /kg.b.w/day	< 0.14 mcg / kg b.w./day	ICP-MS
Cadmium	<0.0001 mcg /kg.b.w/day	< 0.09 mcg / kg b.w./day	ICP-MS
Lead	0.0002 mcg /kg.b.w/day	< 0.14 mcg / kg b.w./day	ICP-MS
Total Mercury	<0.0001 mcg /kg.b.w/day	< 0.29 mcg / kg b.w./day	ICP-MS
Solvent Residue	Complies	Meets USP Requirements	USP/GC
Pesticide Residue	Complies	Meets USP Requirements	USP/GC

Prepared by: Dec/31/2025

Approved by: Dec/31/2025

Quality Assurance

This report is submitted for the exclusive use of the person(s), partnership(s), or corporation(s) to whom it is addressed. Neither the report, name NutraNorth Inc., nor its staff may be used in conjunction with the advertising, or sale of any product or process without written consent. This information is the exclusive property of NutraNorth Inc. and may not be reproduced in whole or part without exclusive written authorization.

F.75-R1-P1 -07/2016

NutraNorth
1330 Fewster Dr, Mississauga
ON,L4W 1A4, Canada
Phone: 905-264-3660
Email: info@nutranorth.com