

TECHNICAL DATA SHEET

DHA Algal Oil (≥80%)

Algae-derived | Fermentation | Food Grade

This Technical Data Sheet is issued by KEEP INGREDIENTS CO. LTD for the evaluation of the product described herein. The supplier and the customer undertake to maintain the CONFIDENTIAL information contained or enclosed in this document.

1. TECHNICAL DATA SHEET

Product Description

DHA oil is a vegan oil sourced from marine algae (Schizochytrium sp.). It is produced by fermentation, filtration, drying, extraction and refining. The product is a clear light yellow to yellow oily liquid with the peculiar odor of the product and no abnormal odor.

Product Information

Item	Information
Product name	DHA Algal Oil (≥80%)
Product source	Marine algae (Schizochytrium sp.)
Production method	Fermentation, filtration, drying, extraction and refining
Ingredients	DHA oil (≥99%); L-ascorbyl palmitate (Vc, ≤0.02%); natural vitamin E (≤0.42%)
Reference standard	Q/WQYX001S-2023 (Algal DHA Oil Enterprise Standard)
Grade	Food grade
Countries of origin	China
Packing	25 kg or 190 kg drum
Shelf life	24 months
Storage	Store away from direct sunlight; do not put together with toxic or hazardous materials
Transport	Keep dry; avoid direct sunlight

2. PRODUCT SPECIFICATION

The specifications below are compiled from the supplied product specification sheet, referenced to the enterprise standard Q/WQYX001S-2023.

2.1 Physical Characteristics

Item	Specification	Method
Color	Clear light yellow to yellow	Visual
Odor	With the peculiar odor of this product, no abnormal odor	Sensory
Appearance	Oily liquid	Visual

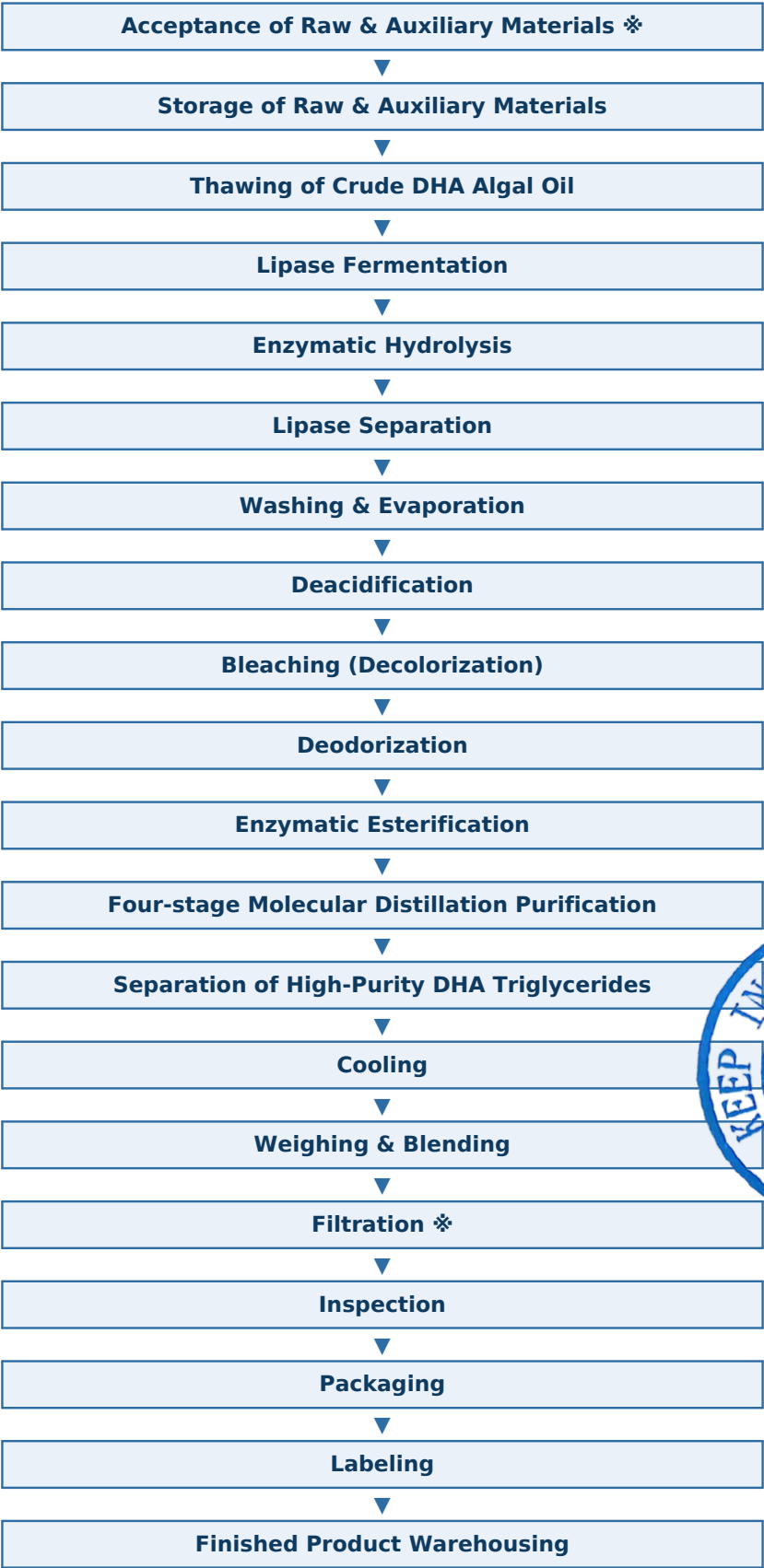
2.2 Quality Standard

Item	Standard	Method
Docosahexaenoic acid (DHA, as TG)	≥ 80 g/100 g	GB 5009.168
Eicosapentaenoic acid (EPA, as TG)	≤ 3.0 g/100 g	GB 5009.168
Acid value	≤ 1.0 mg/g	GB 5009.229
Peroxide value	≤ 2.5 mmol/kg	GB 5009.227
Moisture and volatile matter	≤ 0.05 g/100 g	GB 5009.236
Anisidine value	< 15	GB/T 24304
Unsaponifiable matter	≤ 4.0 %	GB/T 5535.1
Insoluble impurities	≤ 0.1 g/100 g	GB/T 15688
Trans fatty acid	≤ 1.0 %	GB 5009.257
Aflatoxin B1	≤ 5.0 µg/kg	GB 5009.22
Total arsenic (As)	≤ 0.1 mg/kg	GB 5009.11
Lead (Pb)	≤ 0.08 mg/kg	GB 5009.12
Benzo[a]pyrene	≤ 8.0 µg/kg	GB 5009.27
Solvent residue	Not detected	GB 5009.262



3. PROCESS CHART

DHA Algal Oil is produced by fermentation of the marine micro-alga Schizochytrium sp., followed by hydrolysis, refining, esterification, molecular distillation and purification. The process is shown below as supplied by the manufacturer. ※ indicates a critical control point (CCP).



4. CERTIFICATE OF ANALYSIS

Item	Data
Product name	DHA Algal Oil
Specification	≥ 80%
Batch No.	KYDHA2026081001
Batch weight	379.3 kg
Production date	2026.08.10
Inspection basis	Q/WQYX0001S-2023 (Enterprise standard for food safety - DHA Algal Oil)
Packing	25 kg or 190 kg drum
Shelf life	24 months



4.1 Physical Characteristics

Item	Standard	Result	Method
Color	Clear light yellow to yellow	Conforms	Visual
Odor	With the peculiar odor of this product, no abnormal odor	Conforms	Sensory
Appearance	Oily liquid	Conforms	Visual

4.2 Physicochemical Index

Item	Standard	Result	Method
Docosahexaenoic acid (DHA, as TG)	≥ 80 g/100 g	81.3	GB 5009.168
Eicosapentaenoic acid (EPA, as TG)	≤ 3.0 g/100 g	0.53	GB 5009.168
Acid value	≤ 1.0 mg/g	0.33	GB 5009.229
Peroxide value	≤ 2.5 mmol/kg	0.1	GB 5009.227
Moisture and volatile matter	≤ 0.05 g/100 g	< 0.02	GB 5009.236
Anisidine value	< 15	3.6	GB/T 24304
Unsaponifiable matter	≤ 4.0 %	0.84	GB/T 5535.1
Insoluble impurities	≤ 0.1 g/100 g	0.01	GB/T 15688
Trans fatty acid	≤ 1.0 %	ND	GB 5009.257
Aflatoxin B1	≤ 5.0 µg/kg	ND	GB 5009.22
Total arsenic (As)	≤ 0.1 mg/kg	ND	GB 5009.11
Lead (Pb)	≤ 0.08 mg/kg	ND	GB 5009.12
Benzo[a]pyrene	≤ 8.0 µg/kg	0.5	GB 5009.27
Solvent residue	ND	ND	GB 5009.262

4.3 Microbiological Index

Item	Standard	Result
Aerobic plate count	≤ 1,000 CFU/g	< 10
Coliforms	≤ 40 MPN/100 g	< 10
Mould & yeast	≤ 25 CFU/g	< 10
Salmonella	Negative / 25 g	ND
Staphylococcus aureus	Negative / 25 g	ND

Conclusion: Conforms to Q/WQYX0001S-2023.

5. THIRD-PARTY LABORATORY TEST DATA

The following data were obtained from independent third-party laboratory testing of the product. Results are reproduced from the supplied test reports.

5.1 Sensory

Item	Result	Limit	Evaluation
Color	Light yellow	Light yellow to orange	Conforms
Impurities	No foreign impurities visible to the naked eye	No foreign impurities visible to the naked eye	Conforms
Odor & taste	With the odor and taste proper to the product; no burnt, rancid or other off-odor	With the odor and taste proper to the product; no burnt, rancid or other off-odor	Conforms
Organization form	Oily liquid	Oily liquid	Conforms

5.2 Microbiological

Item	Result	Limit	Evaluation
Aerobic plate count	< 10 CFU/g	≤ 1,000 CFU/g	Conforms
Coliforms	< 30 MPN/100 g	≤ 40 MPN/100 g	Conforms
Mould	< 10 CFU/g	≤ 25 CFU/g	Conforms
Staphylococcus aureus	ND / 25 g	Not detected	Conforms
Shigella	ND / 25 g	Not detected	Conforms
β-hemolytic streptococcus	ND / 25 g	Not detected	Conforms
Salmonella	ND / 25 g	Not detected	Conforms

5.3 Physicochemical & Heavy Metals

Item	Result	Limit	Evaluation
Docosahexaenoic acid (DHA, as TG)	80.3 g/100 g	≥ 70.0 g/100 g	Conforms
Eicosapentaenoic acid (EPA, as TG)	0.349 g/100 g	≤ 3.0 g/100 g	Conforms
Anisidine value	4.0	≤ 15	Conforms
Moisture and volatile matter	0.02 %	< 0.05 %	Conforms
Acid value	0.23 mg/g	≤ 1.0 mg/g	Conforms
Peroxide value	0.63 mmol/kg	≤ 2.5 mmol/kg	Conforms
Unsaponifiable matter	0.63 %	≤ 4.0 %	Conforms
Solvent residue	ND	Not detected	Conforms
Total trans fatty acids	ND	< 1.0 %	Conforms
Insoluble impurities	< 0.01 %	≤ 0.1 %	Conforms
Total arsenic (As)	ND mg/kg	≤ 0.1 mg/kg	Conforms
Lead (Pb)	ND mg/kg	≤ 0.08 mg/kg	Conforms
Benzo[a]pyrene	ND µg/kg	≤ 8.0 µg/kg	Conforms
Aflatoxin B1	ND µg/kg	≤ 5.0 µg/kg	Conforms

5.4 Plasticizers

Item	Result	Limit of quantification
Dibutyl phthalate (DBP)	ND mg/kg	0.3 (LOQ)
Di(2-ethylhexyl) phthalate (DEHP)	ND mg/kg	0.5 (LOQ)
Diisononyl phthalate (DINP)	ND mg/kg	9.0 (LOQ)

5.5 Dioxins & Dioxin-like PCBs (WHO-TEQ 2005)

Determined by isotope-dilution HRGC/HRMS (GB 5009.205-2024). WHO-TEF (2005) applied; WHO-TEQ lower bound / upper bound values reported:

Item	WHO-TEQ (2005)	Note
Sum of PCDD/Fs	0.158 pg/g (mid) / 0.317 pg/g (upper)	—
Sum of DL-PCBs	0.0215 pg/g (mid) / 0.0425 pg/g (upper)	—
Total PCDD/Fs + DL-PCBs	0.180 pg/g (mid) / 0.359 pg/g (upper)	—

The total WHO-TEQ (2005) of dioxins and dioxin-like PCBs is far below the EU maximum level for vegetable oils (Regulation (EU) 2023/915).

5.6 Non-Dioxin-like (Indicator) PCBs

Determined by GB 5009.190-2014:

Indicator PCB	Result
PCB 28	0.0124 ng/g
PCB 52	0.00980 ng/g
PCB 101	0.00365 ng/g
PCB 118	0.00228 ng/g
PCB 138	0.000743 ng/g
PCB 153	0.000866 ng/g
PCB 180	< 0.000405 ng/g
Sum of indicator PCBs	0.0302 ng/g

5.7 3-MCPD & Glycidyl Esters

Determined by GB 5009.191-2024:

Item	Result	Limit of quantification
3-MCPD (3-chloro-1,2-propanediol)	ND mg/kg	0.005 (LOQ)
3-MCPD fatty acid esters (as 3-MCPD)	187 µg/kg	100 (LOQ)
Glycidyl fatty acid esters (as glycidol)	ND µg/kg	100 (LOQ)
Sum of 3-MCPD and 3-MCPD esters (as 3-MCPD)	187 µg/kg	—

6. PRODUCT STATEMENTS

6.1 Non-Irradiation / Non-Ionized Statement

NON-IRRADIATION / NON-IONIZED STATEMENT

We hereby certify that the product has not been sterilized by ionizing radiation at any point during the entire manufacturing process and therefore is in full compliance with the relevant legislated regulations, Directives 1999/2/EC & 1999/3/EC, concerning foods and food ingredients treated with ionizing radiation.

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6.2 BSE/TSE Statement

BSE/TSE STATEMENT

DHA Algal Oil is a vegetable oil derived solely from the marine micro-alga *Schizochytrium* sp. by fermentation. It contains no ingredients of animal or ruminant origin and no materials derived from, or exposed to, ruminants affected by or under quarantine for transmissible spongiform encephalopathy (TSE) / bovine spongiform encephalopathy (BSE). No animal material is used during the whole production process.

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6.3 Vegan / No Animal Origin Statement

VEGAN / NO ANIMAL ORIGIN STATEMENT

The product is a vegetable oil sourced from marine algae (*Schizochytrium* sp.) and produced by a fermentation process. It does not contain any animal or animal by-products and is a vegan product. The antioxidants used (L-ascorbyl palmitate and natural vitamin E) are also of non-animal origin.

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6.4 Heavy Metals Statement

HEAVY METALS STATEMENT

According to the Certificate of Analysis and third-party laboratory testing, total arsenic (As) and lead (Pb) in this product are not detected, meeting the limits of the enterprise standard (total As $\leq$ 0.1 mg/kg; Pb $\leq$ 0.08 mg/kg).

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6.5 Contaminant Statement

CONTAMINANT STATEMENT

This is to certify that the product meets the limits for contaminants as set out in the enterprise standard Q/WQYX001S-2023 and verified by Certificate of Analysis and third-party laboratory testing: Aflatoxin B1 not detected; Benzo[a]pyrene not detected; solvent residue not detected; dioxins and dioxin-like PCBs total WHO-TEQ (2005) 0.18 pg/g (far below EU limit); indicator PCBs sum 0.03 ng/g; plasticizers (DBP, DEHP, DINP) not detected; 3-MCPD esters 187 µg/kg and glycidyl esters not detected.

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6.6 Expected Usage

EXPECTED USAGE

The expected usage of this product is its incorporation as an ingredient in the food industry (e.g. dietary supplements and functional foods).

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7. AVAILABLE EPA/DHA SPECIFICATIONS

In addition to the present $\geq 80\%$ DHA type ($\text{EPA} \leq 3.0$ / $\text{DHA} \geq 80$), DHA Algal Oil can be supplied in the following EPA/DHA ratios (expressed as g per 100 g of oil):

No.	EPA : DHA
1	0 : 80
2	0 : 70
3	0 : 75
4	0 : 60
5	10 : 40
6	15 : 30
7	15 : 35
8	20 : 40
9	25 : 40
10	40 : 20
11	50 : 25

The specification type is identified by the EPA/DHA content, e.g. Type 1535 = $\text{EPA} \geq 15$ / $\text{DHA} \geq 35$ g/100 g.

8. HANDLING, STORAGE & TRANSPORT

Item	Information
Storage	Store at room temperature, away from direct sunlight; do not put together with toxic or hazardous materials.
Handling	Follow safe industrial hygiene practices; avoid prolonged exposure of the oil to light and air.
Transport	Keep dry; avoid direct sunlight.
Shelf life	24 months at room temperature

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Authorized signature & company stamp



This Technical Data Sheet is issued by KEEP INGREDIENTS CO. LTD and is valid together with the supplied Certificate of Analysis. The information given is based on our knowledge of the product at the time of publication and is given in good faith; it does not exempt the user from applying the regulations governing the use, storage and labelling of the product in their own country.