

ANALYSIS REPORT Tender Bellakt -DRAFT-

Maris DHA OIL ED0222N

26.05.2019

Batch No.:

5370 (191026CU)

Quantity:

approx. 1800 kg

Our / Your Order No.:

SC180312-5

Date of Manufacturing:

26.10.2019

Repacking date:

May 2020

Date of Expiry:

May 2021

**Description:** 

Low-oxidized DHA tuna oil.

**Additives:** 

Tocopherol/Ascorbyl Palmitate Mix (0,5%)

### **Sensory Properties**

| Parameter  | Unit    | Specification              | Result  |
|------------|---------|----------------------------|---------|
| Appearance |         | yellowish liquid           | Conform |
| Color      | Gardner | ≤ 3                        | 2       |
| Odor       |         | Bland, not rancid and no   | Conform |
| Guoi       |         | extraneous notes and smell |         |
| Taste      |         | Bland, not rancid and no   | Conform |
| 1430       |         | extraneous notes and taste |         |

### **Chemical Profile**

| Parameter                      | Unit     | Specification | Result  |
|--------------------------------|----------|---------------|---------|
| Acid value                     | mg KOH/g | ≤ 0.6         | 0,02    |
| Peroxide value                 | meq/kg   | ≤ 6           | 0.0     |
| Total content of omega-3 fatty | %        | ≥ 30          | Conform |
| acids                          |          |               |         |
| Eicosapentaenoic Acid (EPA)    | %        |               | 4.56    |
| Docosahexaenoic Acid (DHA)     | %        | 23 – 30       | 25.85   |
| Ratio of DHA (22:6) to EPA     | %        | ≥ 4.5         | Conform |
| (20:5)                         |          |               |         |
| Anisidine                      |          |               | 2.7     |



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#### **Contaminants**

| Parameter   | Unit     | Specification | Result  |
|---|----------|---------------|---------|
| Sum dioxins WHO PCDD/PCDF   | pg TEQ/g | ≤ 0.75        | Conform |
| Sum of dioxins and dioxin-like PCB                                | pg TEQ/g | ≤ 1.50        | Conform |
| Sum of PCB28, PCB52, PCB101,<br>PCB138, PCB153, PCB180 (ICES – 6) | ng/g     | ≤ 7.5         | Conform |
| Benzo-a-pyrene  | μg/kg    | < 1           | Conform |
| Sum PAH-4   | μg/kg    | < 1           | Conform |
| Arsenic   | mg/kg    | < 0.1         | Conform |
| Cadmium   | mg/kg    | < 0.01        | Conform |
| Mercury   | mg/kg    | < 0.01        | Conform |
| Lead  | mg/kg    | < 0.01        | Conform |
| Aflatoxin B1  | mg/kg    | < 0.005       | Conform |
| Trans fatty acids   | %        | < 2.0         | Conform |

### Microbial

| Parameter                        | Unit   | Specification       |
|----------------------------------|--------|---------------------|
| Total plate count 30°C, aerobic  | cfu/g  | ≤ 1000              |
| Enterobacteriaceae               | 10x10g | absent              |
| Yeasts and Moulds                | cfu/g  | ≤ 10                |
| Salmonella                       | 25g    | absent              |
| Bacillus cereus                  | cfu/g  | absent              |
| Pseudomonas Aeruginosa           | 10g    | absent              |
| E. Coli                          | cfu/g  | absent              |
| Mesophilic aerobic & facultative | cfu/g  | 5 x 10 <sup>2</sup> |
| anaerobic micro organisms        |        |                     |

# **Fatty Acid Composition**

# **Saturated Fatty Acids**

|      | Parameter          | Typical Value in % |
|------|--------------------|--------------------|
| 14:0 | Myristic acid      | 3.5                |
| 15:0 | Pentadecanoid acid | 1.2                |
| 16:0 | Palmitic acid      | 20.9               |
| 17:0 | Heptadecanoic acid | 1.7                |
| 18:0 | Stearic acid       | 5.8                |



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| 20:0 | Arachidic acid | 0.4 |
|------|----------------|-----|
| 22:0 | Behenic acid   | 0.3 |

## **Mono-Unsaturated Fatty Acids**

|          | Parameter          | Typical Value in % |
|----------|--------------------|--------------------|
| 14:1     | Myristoleic acid   | 0.4                |
| 16:1 n-7 | Palmitoleic acid   | 5.2                |
| 17:1     | Heptadecenoic acid | 0.9                |
| 18:1 n-9 | Oleic acid         | 14.4               |
| 20:1 n-9 | Gondoic acid       | 0.8                |
| 22:1 n-9 | Erucic acid        | 0.2                |
| 24:1     | Nervonic acid      | 0.6                |

## **Poly-Unsaturated Fatty Acids**

|          | Parameter             | Typical Value in % |
|----------|-----------------------|--------------------|
| 18:2 n-6 | Linoleic acid         | 1.2                |
| 18:3 n-3 | Alpha-Linolenic acid  | 0.5                |
| 18:3 n-6 | Gamma-Linolenic acid  | 0.0                |
| 18:4 n-3 | Stearidonic acid      | 0.8                |
| 20:2     | Eicosadienoic acid    | 0.2                |
| 20:4 n-3 | Eicosatetraenoic acid | 0.4                |
| 20:4 n-6 | Arachidonic acid      | 1.7                |
| 20:5 n-3 | Eicosapentaenoic acid | 4.6                |
| 22:5 n-3 | Docosapentaenoic acid | 1.0                |
| 22:6 n-3 | Docosahexaenoic acid  | 26.2               |
|          | Other fatty acids     | 7.1                |

Signature: Quality Assurance Manager Date

Above results based on manufacturer's test on finished product after production or on our own analysis upon receiving goods in our warehouses. We accept no liability on eventual product alteration over time which may occur with some natural products.