



## JOINT FAO/WHO FOOD STANDARDS PROGRAMME

### CODEX COMMITTEE ON FATS AND OILS

Twenty-Eighth Session

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### PROPOSED DRAFT AMENDMENT/REVISION OF THE *STANDARD FOR FISH OILS (CXS 329-2017)*: INCLUSION OF CALANUS OIL

(Prepared by Norway, Chair of the Electronic Working Group on Calanus oil, based on comments received in response to CL2023/62/OCS-FO)

#### APPENDIX I

**Proposed Revisions to CX/FO 24/28/9 are in red**

## 2. DESCRIPTION

**2.1 Named fish oils** are derived from specific raw materials which are characteristic of the major fish or shellfish taxon from which the oil is extracted.

**2.1.6 Calanus oil is derived from the species *Calanus finmarchicus*. Calanus oil consists mainly of wax esters.**

## 3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

### 3.1 GLC ranges of fatty acid composition (expressed as percentages of total fatty acids)

Sample of fish oils described in sections 2.1 and 2.3 shall fall within the appropriate ranges specified in Table 1. Supplementary criteria, for example national geographical and/or climatic variations may be considered, as necessary, to confirm that a sample is in compliance with the Standard.

**The proposed GLC ranges of the fatty acid composition for calanus oil are to be included Table 1.**

Table 1. Supplementary criteria

Fatty acids	<u>Calanus oil (Section 2.1.6)</u>
C14:0 Myristic acid	<u>12.7-17.1</u>
C15:0 Pentadecanoic acid	<u>0.1-0.9</u>
C16:0 Palmitic acid	<u>7.9-12.9</u>
C16:1 (n-7) Palmitoleic acid	<u>3.2-8.1</u>
C17:0 Heptadecanoic acid	<u>0.3-1.2</u>
C18:0 Stearic acid	<u>0.4-1.5</u>
C18:1 (n-7) Vaccenic acid	<u>0.3-0.8</u>
C18:1 (n-9) Oleic acid	<u>2.3-4.2</u>
C18:2 (n-6) Linoleic acid	<u>0.7-1.5</u>
C18:3 (n-3) Linolenic acid	<u>1.1-3.5</u>
C18:3 (n-6) γ-Linolenic acid	<u>ND-0.9</u>

<b>Fatty acids</b>	<b><u>Calanus oil (Section 2.1.6)</u></b>
C18:4 (n-3) Stearidonic acid	<b><u>8.7-19.9</u></b>
C20:0 Arachidic acid	<b><u>0.1-1.2</u></b>
C20:1 (n-9) Eicosenoic acid	<b><u>2.1-5.6</u></b>
C20:1 (n:11) Eicosenoic acid	<b><u>0.2-0.8</u></b>
C20:4 (n-6) Arachidonic acid	<b><u>ND-0.7</u></b>
C20:4 (n-3) Eicosatetraenoic acid	<b><u>0.9-2.0</u></b>
C20:5 (n-3) Eicosapentaenic acid	<b><u>10.8-16.8</u></b>
C21:5 (n-3) Heneicosapentaenoic acid	<b><u>0.5-0.7</u></b>
C22:1 (n-9) Erucic acid	<b><u>ND-0.8</u></b>
C22:1(n-11) Cetoleid acid	<b><u>3.1-8.3</u></b>
C22:5 (n-3) Docosapentaenoic acid	<b><u>0.5-0.8</u></b>
C22:6 (n-3) Docosahexaenoic acid	<b><u>7.2-12.3</u></b>

ND = non-detected, defined as  $\leq 0.05\%$

NA = not applicable or available

### 3.2 Other essential compositional criteria

**For calanus oil (2.1.6) the content of wax esters shall be at least 80 w/w %.**

**3.3.2** *Fish oils with a high phospholipid concentration of 30% or more such as krill oil (Section 2.1.3) **and fish oils with a high wax ester concentration of 80% or more such as calanus oil (Section 2.1.6)** shall comply with the following:*

Acid value  $\leq 45$  mg KOH/g

Peroxide value  $\leq 5$  milliequivalent of active oxygen/kg oil

## 8. METHODS OF ANALYSIS AND SAMPLING

Commodity	Provision	Method	Principle	Type
Fish oil	<b><u>Wax content</u></b>	<b><u>AOCS Ch 8-02</u></b>	<b><u>Gas Chromatograph</u></b>	<b><u>IV</u></b>