APPENDIX X

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

(For Adoption at Step 5/8)

2. DESCRIPTION

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)

Table 1: Fatty acid composition of named fish oil and fish liver categories as determined by gas liquid chromatography from authentic samples (expressed as percentage of total fatty acids) (see Section 3.1 of the standard)

Fatty acids	Calanus oil (Section 2.1.6)
C14:0 Myristic acid	12.7-17.1
C15:0 Pentadecanoic acid	0.1-0.9
C16:0 Palmitic acid	7.9-12.9
C16:1 (n-7) Palmitoleic acid	3.2-8.1
C17:0 Heptadecanoic acid	0.3-1.2
C18:0 Stearic acid	0.4-1.5
C18:1 (n-7) Vaccenic acid	0.3-0.8
C18:1 (n-9) Oleic acid	2.3-4.2
C18:2 (n-6) Linoleic acid	0.7-1.5
C18:3 (n-3) Linolenic acid	1.1-3.5
C18:3 (n-6) γ-Linolenic acid	ND-0.9
C18:4 (n-3) Stearidonic acid	8.7-19.9
C20:0 Arachidic acid	0.1-1.2
C20:1 (n-9) Eicosenoic acid	2.1-5.6
C20:1 (n:11) Eicosenoic acid	0.2-0.8
C20:4 (n-6) Arachidonic acid	ND-0.7
C20:4 (n-3) Eicosatetraenoic acid	0.9-2.0
C20:5 (n-3) Eicosapentaenoic acid	10.8-16.8
C21:5 (n-3) Heneicosapentaenoic acid	0.5-0.7
C22:1 (n-9) Erucic acid	ND-0.8
C22:1(n-11) Cetoleic acid	3.1-8.3
C22:5 (n-3) Docosapentaenoic acid	0.5-0.8
C22:6 (n-3) Docosahexaenoic acid	7.2-12.3

ND = non-detected, defined as ≤0.05%

NA = not applicable or available

3.2 Other essential compositional criteria

For calanus oil (Section 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	≤ 45 mg KOH/g
Peroxide value	≤ 5 milliequivalent of active oxygen/kg oil

3.5 Other compounds

Maximum levels of astaxanthin in calanus oil (Section 2.1.6) shall comply with regulations of the country of retail sale.

7.3 Other labelling requirements

For calanus oil (Section 2.1.6), the maximum intake level of astaxanthin shall be declared if required by the country of retail sale in accordance with the acceptable daily intake established for different age groups by competent authorities.

8. METHODS OF ANALYSIS AND SAMPLING

Commodity	Provision	Method	Principle	Type
Fish oil	Wax content	AOCS Ch 8-02	Gas Chromatography	IV