



# APCC QUALITY STANDARD VIRGIN COCONUT OIL

(Amended August 2009)

## 1. Scope

This Standard applies for Virgin Coconut Oil (VCO).

## 2. References

SNI (Indonesia National Standard) 7381:2008  
PNS (Philippine National Standard)/BAFPS 22:2007: ICS 67.200.10  
MS (Malaysian Standard) 2043:2007  
TCS (Thailand Coconut Community Standard) 670-2004  
APCC Standard for Virgin Coconut Oil



## 3. Definition

Virgin coconut oil (VCO) is obtained from fresh and mature kernel (12 months old from pollination) of the coconut (*Cocos nucifera L.*) by mechanical or natural means with or without the application of heat, which does not lead to alteration of the nature of the oil. VCO has not undergone chemical refining, bleaching or deodorizing. It can be consumed in its natural state without the need for further processing. Virgin coconut oil consists mainly of medium chain tryglycerides, which are resistant to peroxidation. The fatty acids in virgin coconut oil are distinct from animal fats which contain mainly of long chain saturated fatty acids. Virgin coconut oil is colorless, free of sediment with natural fresh coconut scent. It is free from rancid odor or taste.

## 4. Essential Composition and Quality Factors of Virgin Coconut Oil

Parameter	Specification
Moisture (%)	Max 0.1
Volatile Matters at 120°C (%)	Max 0.2
Free Fatty Acid (%)	Max 0.2
Peroxide Value meq/kg	Max 3
Relative density	0.915 – 0.920
Refractive index at 40°C	1.4480 – 1.4492
Insoluble impurities per cent by mass	Max 0.05
Saponification Value (Mg KOH/g oil)	250 – 260 min
Iodine Value (Wijs)	4.1 -11
Unsaponifiable matter % by mass, max	0.2 - 0.5
Specific gravity at 30 deg./30°C	0.915 – 0.920
Polenske Value, min	13
Total Plate Count	< 0.5
Color	Water Clear
Odor and Taste	Natural fresh coconut scent, free of sediment, free from rancid odor and taste

**5. Food Additives**

None permitted

**6. Contaminants**

Parameter	Mg/kg
Iron (Fe)	Max 5
Copper (Cu)	Max 0.4
Lead (Pb)	Max 0.1
Arsenic (As)	Max 0.1

**7. Gas Liquid Chromatography (GLC) ranges of Fatty Acid Component**

Common name	Composition	(%)
Caproic acid	C 6:0	0.10 – 0.95
Caprylic acid	C 8:0	4 – 10
Capric acid	C 10:0	4 – 8
Lauric acid	C 12:0	45 – 56
Myristic acid	C 14:0	16 – 21
Palmitic acid	C 16:0	7.5 – 10.2
Stearic acid	C 18:0	2 – 4
Oleic acid	C 18:1	4.5 - 10
Linoleic acid	C 18:2	0.7 – 2.5

**8. Hygiene**

It is recommended that the product covered by the provisions of this standard shall be in accordance with the appropriate sections of the General Principles of Food Hygiene recommended by the CODEX Alimentarius Commission (CAC/RCP 1-1969, Rev. 4-2003).

**9. Labelling and Packaging**

The name of the food on the label shall be “Virgin Coconut Oil”. The provisions of the General Standard for the labelling of Pre-packaged Foods (CODEX STAN 1 – 1985, Rev. 6 - 2008) shall apply.

**10. Methods of Analysis and Sampling**

Based on Codex Alimentarius (Volume 13).