

VCO Processing Technologies

Fresh-Dry Process

- A general term when VCO is obtained directly from fresh coconut meat.
- Drying of fresh comminuted kernels (ground, grated, milled) is required before extracting the VCO.

Fresh-Wet Process

- A general term when VCO is obtained from extracted coconut milk.
- Coconut milk is extracted either mechanically or manually, with or without addition of water, and allowed to ferment naturally to produce VCO or by centrifugation.

Emerging Uses of VCO

- Body oil or a substitute for moisturizing lotion
- Hair conditioner
- Carrier oil for aromatherapy and massage oil
- Nutraceutical and functional food



Philippine National Standard for VCO

Property Requirements

Properties	Maximum Level
% Moisture content (w/w)	≤ 0.10
% Matter volatile at 120°C (w/w)	0.12-0.20
% Free fatty acids (expressed as lauric acid)	0.20
Peroxide value, meq/kg oil	3.00
Food additive	Not permitted

Fatty Acid Composition

Composition	Range (%)
C6:0 Caproic acid	0.1-0.7
C8:0 Caprylic acid	4.0-10.0
C10:0 Capric acid	4.08-8.0
C12:0 Lauric acid	45.1-56.0
C14:0 Myristic acid	16.0-21.0
C16:0 Palmitic acid	7.5-10.2
C18:0 Stearic acid	2.0-5.0
C18:1 Oleic acid	5.0-10.0
C18:2 Linoleic acid	1.0-2.5

Allowable levels of contaminants

Heavy metal	Maximum Level, mg/kg
Iron (Fe)	5.0
Copper (Cu)	0.4
Lead (Pb)	0.1
Arsenic (As)	0.1

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**PHILIPPINE
COCONUT
AUTHORITY**

**ALBAY RESEARCH
CENTER**



**COCONUT PROCESSING
TECHNOLOGIES**

**VIRGIN
COCONUT OIL
PROCESSING**

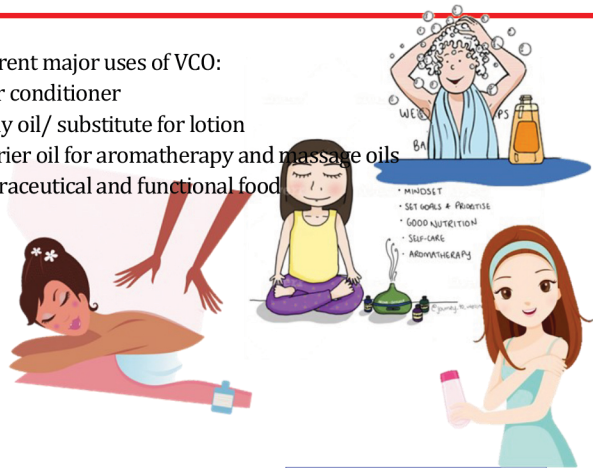


Product Description

Virgin coconut oil (VCO) is the purest form of coconut oil, water white in color and has not undergone oxidation. It is the oil obtained from the fresh and mature kernel of coconut by mechanical or natural means, with or without the use of heat, without undergoing chemical refining, bleaching or deodorizing, and which does not lead to the alteration of the nature of the oil (PNS BAFS 22-2007).

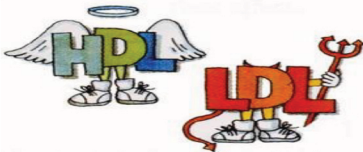


Current major uses of VCO:
Hair conditioner
Body oil/ substitute for lotion
Carrier oil for aromatherapy and massage oils
Nutraceutical and functional food



Effect of VCO on Cholesterol

A PCA-funded study on the effects of VCO on cholesterol, conducted by UST-RCNAS in 2011, showed that High Density Lipoproteins (good cholesterol) increased in individuals taking VCO, making them less prone to having a heart



VCO

chain triglycerides (MCTs). MCTs, unlike long chain triglycerides, are easily converted into energy by the liver and have been proven to increase the metabolic rate of an individual.

Fatty acid composition of VCO is predominantly lauric acid (48%). Monolaurin, derived from the lauric acid, has been known to have antibacterial, antiviral and antifungal effects in the body.



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