

TOMOFAT[®] EGGS

Functional Oil

Micro-emulsion for Layer Chicken

For Functional Uses:

- Delivers immediate fuels (energy) during critical situations, such as heat stress.
- Contains necessary fatty acids for building cell membranes,
- Contains fatty acids that diversifies protein functionality,
- Contains fatty acids for making hormones & messengers.



TOMOFAT[®] naturally extracted without chemicals from Red Palm Fruits ensuring the Functional Bioactive Substances are preserved. These bioactives substances include Carotenoids (mainly α - and β -Carotene), Tocochromanols (Toco-pherols and Toco-trienols), Phytosterols (mainly β -sitosterol), Phosphatides, and Squalene.

- **Fatty acid** is an important fuel of the body but due to its size is unable to enter the cells directly, hence need to be processed in the liver through Ketogenesis that form ketone bodies: mainly β -OH-Butyrate Acid (BHB), Acetoacetic Acid (AcAc) and Acetone. BHB is directly absorbed into cell and used in mitochondria as fuel. BHB is capable of inhibiting NLRP3-Inflammasome that release Pro-inflammatory Cytokenes IL-1 β and IL-18.
- Contains stable natural **Carotenoids** and are mostly α - and β -Carotein which account for 90% of total Carotenoids (Precursors of Vitamin A). Besides being a strong antioxidant and increase immune response, the natural Carotenoids deepen egg-yolk and poultry skin & tissues pigmentation. Overall, Carotenoids improve growth performance and quality of meat products.
- Contains stable natural **Vitamin E** with major isomers comprise of α -Tocopherol, α -Tocotrienol, γ -Tocotrienol and δ -Tocotrienol. Due to antioxidant effects and hence their free radical scavenging properties, both natural Carotenoids & Vit E are contributing to the stability and nutritional effects of TOMOFAT in livestock production.



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- Plant Sterols** found highest amount in palm oils is another functional substance retained in TOMOFAT. Scientific evidence demonstrate that Phytosterols increase breast milk production, as anti-inflammatory, and immunomodulatory. Plant Sterol Esters may reduce the risk of CHD by lowering the cholesterol levels. Other Bioactive roles of Phytosterols for human include as anti-inflammatory, antibacterial, antifungal, antioxidant and anti-tumor activities.
- Squalene**, a natural antioxidant is a Triterpene that could carry oxygen directly to various cell membranes at area where oxygen supply is low. Besides, squalene has detoxification functions, protective effects against radiation and, found squalene prevented UV-related oxidation of lipids in the skins.
- Phospholipids** are retained for its superior oxidative stability in TOMOFAT. It shows high synergistic activity with Vitamin E and Carotenes. Besides, phospholipids are major components of cell membranes and are arranged into an important bi-layer functional structure. Phospholipid also acts as a lipotropic factor in the liver and contributed to the prevention of fatty liver disorder.
- Contains **Medium Chain Triglycerides (MCTs)** such as Caprylic acid (C8:0), Capric acid (C10:0), Lauric acid (C12:0), and Myristic acids (C14:0), which can directly adsorbed into blood vessel in intestinal villus, bypassed the lymphatic system, quickly delivered to liver, and immediately convert as energy at cellular level.
- Contains **naturally balanced SFA, MUFA and PUFA** compositions with optimized Linolenic Acid (C18:3), an essential fatty acid (one of the Omega-3 fatty acids group).
- Is **emulsified and micronized** for better digestion and absorption from the gastrointestinal tract.



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Product Specification

Parameter	Specification
Appearance	Liquid, brown
Total Fat Content (%)	≥ 98
Free Fatty Acids % (as Palmitic)	≤ 10
Moisture Content (%)	≤ 1
Iodine Value (Wij's)	≤ 56
Fatty Acid Composition (%)	
C8 (Caprylic acid)	0 - 6
C10 (Capric acid)	0 - 6
C12 (Lauric acid)	1 - 5
C14 (Myristic acid)	1 - 3
C16:0 (Palmitic acid)	32 - 39
C18:0 (Stearic acid)	3 - 5
C18:1 (Oleic acid)	32 - 39
C18:2 (Linoleic acid)	10 - 12
C18:3n-3 (Linolenic acid)	3 - 5

Product specification is only for reference purpose, may vary according to raw materials.

Compositions

Red Palm Fruits Extract, MCT, emulsifier. Total Fat Content..... Min. 98%

Inclusion rate 2 – 5% per tonne of feed.

Packaging 18kg

