PROTOCOL FOR LIFE BALANCE®

Dietary Supplement Information
for Physicians with Naturokinetics®
PRODUCT CODE: P3347
CATEGORY: FATTY ACIDS

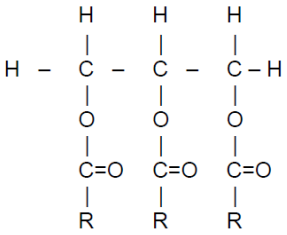
CAPRYLIC ACID – 600 mg

TECHNICAL SUMMARY

Caprylic acid is a naturally derived nutrient also known as octanoic acid. Caprylic acid is a medium-chain fatty acid (MCT) that is naturally found in coconut and palm kernel oil.*

Structure Formula: As part of the MCT family of lipids this product is made of three fatty acids that are bound to a glycerol backbone.

Fatty acids found in this product are at least 60% caprylic acid. Other fatty acids found in this product are capric acid (C10) 23-33%, and no more than 2%, 3%, 1% of caproic acid (C6:0), lauric acid (C12:0), and myristic acid (C14:0) respectively.



Chemical Name: Caprylic Acid, Octanoic Acid (C8:0)

Allergen and Additive Disclosure: Not manufactured with yeast, wheat, gluten, soy, corn, milk, egg, fish, or shellfish ingredients. Produced in a GMP facility that processes other ingredients containing these allergens. MCT Oil from coconut/palm kernel oil.

Delivery Form: Softgel capsules

ROLE AS NUTRIENT/FUNCTION

MCTs including caprylic acid can be seen as functional fats, which refers to the unique way they are absorbed and metabolized in the body, endowing them with distinctive functional properties that can influence the body's energy balance.*

Furthermore, in laboratory settings, caprylic acid is known to create an environment unfavorable for the replication of certain micro-organisms.*

NATUROKINETICS®

Liberation: Caprylic acid softgels are tested to disintegrate within 60 minutes using a USP water disintegration test.

Absorption: After oral administration caprylic acid is absorbed quickly with plasma levels detectable as early as 5 minutes after administration. Maximum concentration (T_{max}) is reached approximately 70 minutes after administration.

Distribution: Laboratory experiments show that after injection of radiolabeled MCTs, low levels of radioactivity can be found throughout the body including the brain, indicating a widespread distribution of medium-chain fatty acids (MCFAs). In the same experiments, it was shown that higher amounts of MCTs reach the brain when compared to long-chain triglycerides (LCTs). The difference could be explained by the higher water solubility of MCFAs and the existence of free unbound MCFAs in the blood, which can penetrate the blood-brain barrier easily. Another difference when comparing to LCTs is that all traces of radiolabeled MCTs disappeared from all organs within 24 hours of injection, which was not the case for LCTs. These results suggest that MCTs do not accumulate in the body.

Metabolism: Once transported to the liver, most MCFAs are catabolized oxidation processes. Notably, MCFAs are subject to mitochondrial β-oxidation, which results in the formation of acetyl-CoA that can be used in a number of different biochemical pathways including the formation of ketone bodies.*

MCFAs are also subjected to peroxisomal oxidation and microsomal omega-oxidation in the liver.

Supplement Facts

Serving Size 1 Softgel

	Amount Per Serving	% Daily Value
Calories	10	
Total Fat	1 g	1%**
Saturated Fat	1 g	5%**
Caprylic Acid [from 1 g of MCT Oil (Medium-Chain Triglycerides)]	600 mg	†

** Percent Daily Values are based on a 2,000 calorie diet.
† Daily Value not established.

Other ingredients: Softgel Capsule [bovine gelatin (BSE-free), glycerin, water].

- **Medium-Chain Triglycerides**

SUGGESTED USAGE: Take 1 softgel twice daily with food, or as directed by your healthcare practitioner.

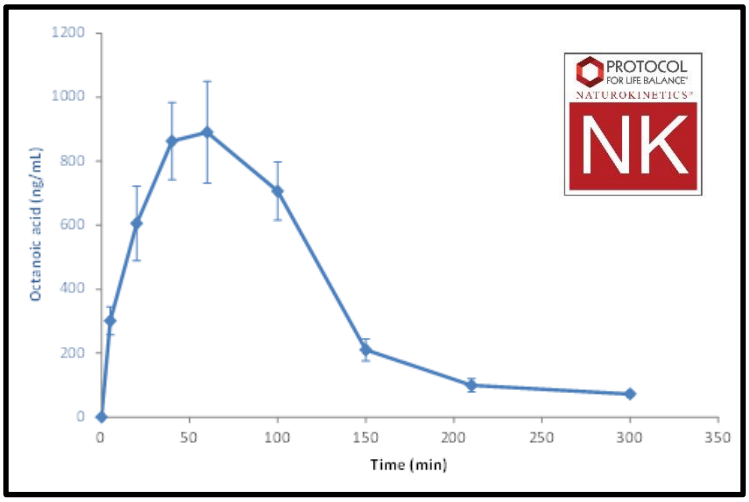


Figure 1: Concentration time profile for caprylic acid following a 4 mg/kg oral dose. Data are mean +/- SE for all subjects (n = 18).

*These statements have not been evaluated by the FDA. This product is not intended to diagnose, treat, cure, or prevent any disease.

Laboratory experiments demonstrate that MCTs are oxidized more rapidly and completely than LCTs after injection of radiolabeled lipid emulsions.

Elimination: After oral administration of caprylic acid, the average elimination half-life ($t_{1/2}$) is 83 minutes.

MCTs are mainly eliminated as CO_2 as a result of their oxidation by the liver. Laboratory experiments show that after injection of radiolabeled MCTs, 80 to 90% of the dose is recovered as exhaled CO_2 within 24 hours of the injection. Minute amounts are eliminated through urine and feces.

SAFETY INFORMATION

Tolerability: In a clinical study evaluating the tolerability of caprylic acid, at doses up to 128 mg/kg (equivalent to 9,000 mg for a 155 lbs. individual), the most frequent adverse events were mild abdominal discomfort.

Contraindications: None known.

INTERACTIONS

Drug Interactions: None known.

Supplement Interactions: None known.

Interaction with Lab Tests: None known.

STORAGE

Store in cool, dry, and dark place in a sealed container. Store at temperature not exceeding 90°F (32°C). Avoid overheating and exposure to direct sunlight.