

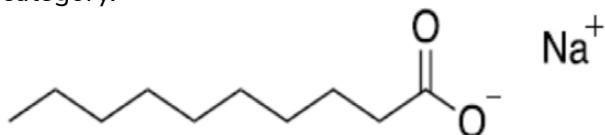
# CapraMax<sup>™</sup> Sodium Caprate

CYCLODEXTRIN INCLUSION – PHARMA GRADE

## Temporary Permeability Enhancer

**Sodium caprate is the sodium salt of capric acid, a medium-chain fatty acid** that is naturally present in coconut oil and milk fat. This fascinating ingredient functions as an intestinal permeability enhancer because it non-permanently and reversibly opens the tight junctions between epithelial cells. This unique property of sodium caprate enables harder-to-absorb molecules — because of their size or molecular properties —

to pass through the digestive tract more effectively. This makes sodium caprate a valuable tool that can be used to increase the bioavailability of nutrients in nutritional supplements and APIs in the pharma category.



### KEY FEATURES

- **Enhanced Absorption:** Sodium caprate facilitates the transport of nutrients and macromolecules at therapeutic concentrations, that are otherwise difficult to absorb, across the intestinal lining more efficiently.
- **Rapid, Short-Lived Action:** Sodium caprate provides rapid and controlled enhancement of absorption.
- **Broad Application:** Sodium caprate has been studied in conjunction with bisphosphonates, antisense oligonucleotides, and peptide-based therapeutics to improve systemic availability.
- **Established Safety:** Sodium caprate is approved as a food additive and has a proven safety record in humans.
- **Emerging Benefits:** Preclinical studies suggest sodium caprate might have potential protective effects in cancer research.
- **Gentle and Reversible Mechanism:** Sodium caprate temporarily opens epithelial tight junctions without causing adverse effects on the digestive tract.

### Cyclodextrin Inclusion Technology

Tesseract CapraMax is particle-engineered with cyclodextrin inclusion technology by creating an exothermic reaction inside a cyclodextrin oligosaccharide matrix. This microencapsulation of each sodium caprate molecule, provides:

**Effective Flavor Masking:** Due to cyclodextrin inclusion, CapraMax Sodium Caprate is virtually flavorless, thus widening its applications.

**Improved Absorption:** The cyclodextrin inclusion of each sodium caprate molecule provides state-of-the art protection.

**Consumer Appeal:** Addresses growing consumer demand for higher absorption and bioavailability.

**Scalability:** Available in a wide range of quantities to meet your specific production needs.

**3-Year Shelf Life:** Due to the added protection of enhanced cyclodextrin inclusion that minimizes water activity and controls ingredient volatility.

**Quality Assurance:** Made from high-quality natural ingredients with no artificial additives or fillers, which ensures its purity and safety. Manufactured in a pharma-certified manufacturing facility.

**Competitive Advantage:** Stand out in the market with an easy-to-work-with, innovative ingredient that meets the growing global consumer demand for optimized bioavailability.

### BENEFITS

- **Improves Nutrient Bioavailability:**

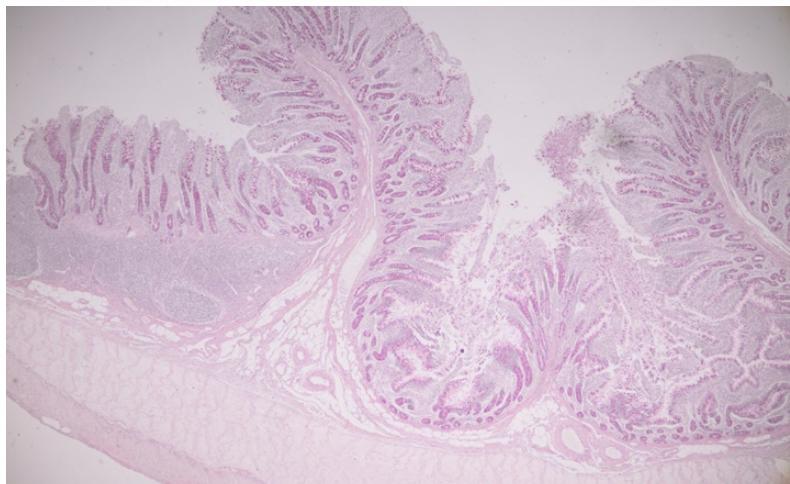
Sodium caprate increases paracellular permeability, thus enabling effective delivery of hydrophilic nutrient compounds with otherwise poor absorption profiles.<sup>1</sup>

- **Safe and Reversible Action:**

Studies demonstrate that sodium caprate's absorption-enhancing activity is transient and reversible, without long-term intestinal effects when used at controlled concentrations.<sup>2</sup>

- **Potential Anti-Cancer Properties:**

Preclinical studies suggest that sodium caprate might induce apoptosis (cell death) and reduce tumor growth in gastric cancer xenografts, suggesting a possible future therapeutic role, although this finding remains experimental.<sup>3</sup>



# CapraMax™ Sodium Caprate CYCLODEXTRIN INCLUSION – PHARMA GRADE

## ADVANTAGES

In contrast to versions currently available on the market, Tesseract CapraMax — advanced sodium caprate (or sodium decanoate) — offers the following advantages:

1. Supply chain and manufacturing superiority — there are no special temperature or handling requirements.
2. Dry and free-flowing powder — excellent alternative for blending and formulating with other ingredients.
3. Rapid and complete solubility in water.
4. Completely stable throughout the range of all normal production temperatures.
5. Cyclodextrin inclusion maintains the chemical integrity of sodium caprate, preventing its premature conversion to inactive capric acid — shielding it until it reaches the more alkaline pH of the small intestine.
6. Cyclodextrin inclusion enhances sodium caprate's permeability-enhancing activity where it is most effective — in the small intestine.<sup>4-6</sup>
7. Tesseract's product line also include both a food version and a nutraceutical version — available to the nutritional supplement industry.
8. Competitive price points for both pharma and non-pharma versions.

## OVERVIEW

### Ingredient

- Permeability enhancer— improves API or nutrient bioavailability.
- Safe and reversible action.

### Cyclodextrin Inclusion Technology

- Creates a protective layer around the molecule.
- Results in unparalleled masking of both odor and flavor.

### REFERENCES

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CapraMax™ Sodium Caprate.

Contact Tesseract Life Sciences today to learn how we can support your formulation needs and help you stay ahead of the competition.