What Is Carnipure™?

Carnipure™ is high quality L-carnitine manufactured by Lonza. The Carnipure™ brand and quality seal stand for more than 25 years of expertise and high reputation in the production of quality products.

About Lonza
- Swiss life science company founded in 1897
- One of the world’s leading suppliers to the pharmaceutical, healthcare and life science industries
- The global leader in the production and support of active pharmaceutical ingredients (APIs) based on both chemical as well as biotechnological platforms
- The world’s biggest supplier of vitamin B3 (Niacin and Niacinamide) and L-carnitine

Carnipure™ Quality

The proprietary and fully backward integrated Carnipure™ production process was invented by Lonza scientists in Switzerland. It directly produces the L-isomer of carnitine, the form found in nature.

Under the Carnipure™ brand, Lonza offers the following products:
- Carnipure™ crystalline
- Carnipure™ tartrate

Carnipure™ crystalline is pure L-carnitine, whereas Carnipure™ tartrate is a salt of 68% L-carnitine and 32% L-tartaric acid, which is the highest L-carnitine concentration of any currently commercially available non-hygroscopic salt form.

Carnipure™ products are all bright white as well as heat and pH stable. They can be used in dietary supplements in the form of tablets, capsules, and powders as well as in beverages, bars, dairy and other food products.

Carnipure™ Safety

Carnipure™ products are regarded as safe. Both Carnipure™ crystalline and Carnipure™ tartrate are self-affirmed GRAS (Generally Recognized As Safe). Carnipure™ tartrate is considered safe for daily consumption by the EFSA (European Food Safety Authority) and approved by the Japanese MHLW (Ministry of Health, Labor and Welfare).

Thanks to its excellent safety profile, Carnipure™ has been used in infant nutrition for more than 25 years. Babies are dependent on exogenous sources as their L-carnitine biosynthesis is not yet fully developed. Therefore it is important that infant formulas contain L-carnitine. Many countries have set minimum, but no maximum requirement levels for L-carnitine used in infant nutrition. Carnipure™ also finds its way into clinical nutrition products in various health areas. Considering that 1 kg of Carnipure™ will end up in more than 900,000 standard servings (100 ml) of infant formula, Lonza’s high quality standards are especially important in those sensitive markets.
Lonza has conducted several human studies in collaboration with universities and research centers around the world to study the benefits of Carnipure™ in human nutrition. Since L-carnitine has a central role in metabolism, Carnipure™ has been shown to be beneficial for many areas of health.

Weight Management
Carnipure™ supplementation was found to increase the oxidation of fatty acids in healthy human subjects1-4. In two different studies, the subjects received labeled fatty acids with a meal, prior to and after ten days of supplementation with Carnipure™. As a breakdown product of labeled fatty acids, labeled CO₂ was then measured in the exhaled air. In the group that received Carnipure™, a significant increase in exhalation of labeled CO₂ was observed, indicating a significant increase in fatty acid oxidation (Fig. 1). This leads to the conclusion that this nutrient can be beneficial to people who care about their weight or participate in any weight management programs.

Recovery after Exercise
Studies show that Carnipure™ tartrate supplementation may support recovery after exercise. Researchers observed a decrease in the production of free radicals, less tissue damage and reduced muscle soreness after exercise in recreationally trained athletes following 3 weeks of Carnipure™ tartrate supplementation. These effects were found to be dose-dependent, present both in young and old, male and female subjects. Supplementation with Carnipure™ tartrate was found to induce an increase in muscle oxygen consumption, providing a potential mechanism for reduced hypoxic stress following resistance exercise 5-9.

References of Carnipure™ Studies
1 Müller DM et al. (2002). Metabolism 51(11):1389
2 Watanabe KI et al. (2004). Metabolism 53(6):1002
4 Volek JS et al. (2002). Am J Physiol Endocrinol Metab 282:E47
6 Ho JY et al. (2010). Metabolism 59:1190
7 Muller DM et al. (2002). Metabolism 51(11):1389
8 Volek JS et al. (2002). Am J Physiol Endocrinol Metab 282:E47

Additional Health Benefits
Due to its fundamental role in energy metabolism, L-carnitine is typically used by the body to support functions that have a high energy demand. In this sense, L-carnitine supplementation plays a role in heart health, male fertility, healthy aging, as well as for infants, pregnant women and vegetarians.

Please ask for our Scientific Focus series to get more details about the areas mentioned above, or contact our scientific experts who work with a scientific database of scientific publications on L-carnitine on a daily basis.
Additionally, You as a Carnipure™ Customer Can Expect ...

Marketing Support
As a raw ingredient manufacturer, we not only actively promote our ingredients on a business-to-business level, but we also support our customers in their marketing efforts towards the end consumer.

Regulatory Support
Our regulatory experts collaborate with authorities and organizations globally to work towards a regulatory situation that is in favor of Carnipure™ products. We have years of experience with regulatory dossier and a track record of successful regulatory initiatives.

Formulation Support
Both Carnipure™ crystalline and Carnipure™ tartrate are manufacturer-friendly: they are bright white, pH and heat stable, highly water soluble and form colorless solutions. Our team has vast formulation knowledge on beverages, dairy, bakery and confectionery and is happy to share this with our customers.

Figure 3

Scientific Support
For many years now, Lonza has been working in collaboration with universities and research centers around the world to strengthen the scientific backing of Carnipure™. We maintain a database with more than 20,000 entries of published literature which is used by our technical experts to provide tailor-made, well-researched answers on technical questions.

Carnipure™ Offers:

- Solid scientific background
- Excellent safety profile / full traceability
- Easy integration into formulations
- Easy to understand health effects

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