Ascorbyl Palmitate

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Ascorbyl palmitate, molecular formula $C_{22}H_{38}O_7$, is an ester formed from ascorbic acid and palmitic acid creating a fat-soluble form of vitamin C. In addition to its use as a source of vitamin C, it is also used as an antioxidant food additive, with E number E304. It is approved for use as a food additive in the U.S., the EU, Canada, Australia, and New Zealand.

Ascorbyl palmitate is produced as a solid powder with a citrus-like odor and white to, yellowish color. It is a highly bioavailable, fat-soluble form of ascorbic acid (vitamin C) and is also marketed as vitamin C ester. It is a potent antioxidant in protecting lipids from peroxidation, a free radical scavenger, and an effective antioxidant for oil storage.

Ascorbyl palmitate is chosen over ascorbic acid as an ingredient in many foods due to its lipophilic (i.e., fat-soluble) property.

HISTORY

Ascorbyl palmitate has a long history of use in foods, especially edible fats and oils.

PRODUCTION

It is an antioxidant used in fat-based systems like frosting and fillings.

APPLICATIONS

In a variety of applications, ascorbyl palmitate can be used:

- as a general purpose, label-friendly antioxidant
- in many different types of oils and shortening
- in omega-3 oils, in combination with tocopherols and rosemary extract

Ascorbyl palmitate can be combined with:

- tocopherols
- rosemary extract

Format

- liquid, oil-soluble

Sources:
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