



# Encapsulation & Improving Flavor

For certain applications, encapsulation technologies can make a big difference in the impact, stability and release of flavor delivery — resulting in a more flavorful end product. Whether it is spray drying, glass encapsulation or another encapsulation approach, here's what to expect when choosing flavor encapsulation.

## 1 Stability

The encapsulation process prevents flavor actives from interacting with other product compounds. This provides encapsulated flavors with increased stability and a longer shelf-life.

## 2 Protection

Encapsulation allows for the protection of the active flavor from external factors that can alter the taste profile of the flavor. The shell protects the encapsulated flavor from:

- Processing heat, moisture, and light
- Degradation
- Oxidation & interactive chemistry

## 3 Controlled Flavor Release

The release of flavor can be controlled using encapsulation techniques. The flavor can be developed based on the encapsulation method and desired product application to provide a targeted, triggered, sustained, delayed, or temperature-controlled release. Encapsulation also prevents premature flavor release and pre-reactions which could change the flavor's taste profile.

## 4 Particle Size

Encapsulated flavors can come in a wide range of particle sizes. The ability to create both large and small particles permits encapsulated flavors to be utilized in various flavor applications. The uniformity of encapsulated flavors enables them to be released consistently throughout different model systems.

## What is Microencapsulation?

Microencapsulation within the flavor industry is the process of enclosing flavor particles within a shell or coating by chemical or physical processes. The coating protects the flavor compounds from environmental factors, including oxidation and harsh processing conditions. Encapsulation provides a uniform taste, controlled flavor release, and increased shelf-life of a flavor.

## 5 Customization

Encapsulated flavors can come in a wide range. Flavor actives can be coated with diverse shell materials, customizing the product to meet customer needs and various finished product application requirements. Encapsulation can also deliver a variety of colors that contribute to a unique flavor experience.

## 6 Improved Flavor Profile

When a liquid flavor is incorporated into food material during processing, part of the flavor is driven off, creating an altered taste inconsistent with the original formulation. Using an encapsulated flavor rather than a liquid form prevents this loss and results in a flavor that stays truer to the initially designed profile.