How Food Grade Liquid Nitrogen Makes Food Fantastic!



Liquid Nitrogen

You probably know about liquid nitrogen from your favorite science show, in which the gas gushes out of a test tube and cascades down onto a table. The overflowing fumes are the evaporation of nitrogen. When the nitrogen molecules are compressed and cooled by condensation, the nitrogen turns into a liquid state. The temperature of liquid nitrogen is - 320°F, which is why it instantly freezes anything you combine it with.

Food-grade liquid nitrogen is commonly used to quickly freeze foods to maximize freshness when storing or shipping produce to your local grocery store. While it is used as a preserving ingredient, it is also used to create creative foods and dishes.

Ice cream

When you want to freeze ice cream quickly, many people choose to make it with liquid nitrogen. Not surprisingly, with the popularity of this concept, many local ice cream stores are using liquid nitrogen exclusively to make ice cream. In the traditional ice cream making process, ice crystals form and expand in order to freeze the mixture, which can result in ice cream that has a grainy texture. When it comes to using liquid nitrogen, the process produces smaller microcrystals. As a result of rapid freezing, there is less oxygen (air) in the ice cream mixture, which leads to a smoother and creamier consistency.

Frozen ingredients

In recent years, many chefs have taken their craft to the next level by experimenting with molecular gastronomy. Molecular gastronomy is a method of transforming food into different shapes, textures and flavors by mixing science with food ingredients for a unique dining experience.

Making ice cream with liquid nitrogen has been a growing trend, but the new culinary focus is on freezing ingredients and crushing them to create new consistencies that would be impossible to accomplish under normal circumstances. For example, raspberries are frozen in liquid nitrogen to create raspberry drops. If you freeze raspberries in the freezer and then try to crush them, they will essentially become raspberry pulp because only the outer layer is frozen. With a quick liquid nitrogen freeze, the whole thing is frozen and you can break apart the individual pieces. The same goes for any other ingredients that you flash freeze (bananas, cheese, honey, etc.) and you can turn them into powders for toppings or as seasonings for dishes.

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