

Yogurt Powder Ingredients

Yogurt powders are becoming increasingly popular ingredients for a variety of applications. They add a unique dairy flavor and impart a “nutritious” connotation to a wide variety of food applications.

Although there is a standard of identity for yogurt, currently there is no standard of identity for yogurt powder in the U.S. Traditionally, yogurt powder has been manufactured by adding cultures to nonfat milk, allowing the product to reach a specified pH, and then drying the product.

There are also a number of blended dairy ingredients that provide similar flavor and functionality to traditional yogurt powder. These blended yogurt powders may contain some combination of the following ingredients: cultured nonfat milk, cultured whey, cultured whey protein concentrate, cultured dairy solids, nonfat dry milk, whey powder, lactic acid, and natural and artificial flavors. Silicon dioxide may be added as an anti-caking agent. There will be minor variations in flavor and functionality between traditional yogurt powders, depending on the cultures used and pH achieved before drying. Blended cultured dairy solids may exhibit even greater variability, so food and beverage manufacturers are encouraged to test individual yogurt powders to select the optimal ingredient for their specific application.

Typical Composition of Yogurt Powders (%)

Ingredient	Moisture	Fat	Protein	Lactose	Ash
Yogurt Powder	3.0 – 5.0	1.25 – 2.0	33.0 – 36.0	50.0 – 51.5	7.0 – 8.0
Cultured Dairy Solids	3.0 – 5.0	Trace – 2.0	22.0 – 33.0	52.0 – 66.7	7.0 – 8.0

Applications and Beneficial Features

Yogurt powders add a unique dairy flavor to food applications, including beverages, confections and dips. They can be used in place of fresh yogurt for beverages and dips. They are frequently used in the manufacture of a confectionery coating for pretzels, dried fruit, cereal and other snack items. They also can be applied topically as a coating for cereals and snacks.

Physical Properties

pH: The pH of rehydrated yogurt powders is typically in the range of 4.7 to 5.1.

Titrateable Acidity: The titrateable acidity of yogurt powders is typically in the range of 5.8 percent to 7.4 percent. Titrateable acidity measures the lactic acid developed as a result of the metabolic breakdown of lactose.

Color: Yogurt powder ranges in color from off-white to pale yellow color. Rehydrated yogurt powders range in color from a milky white to a pale opaque yellow.



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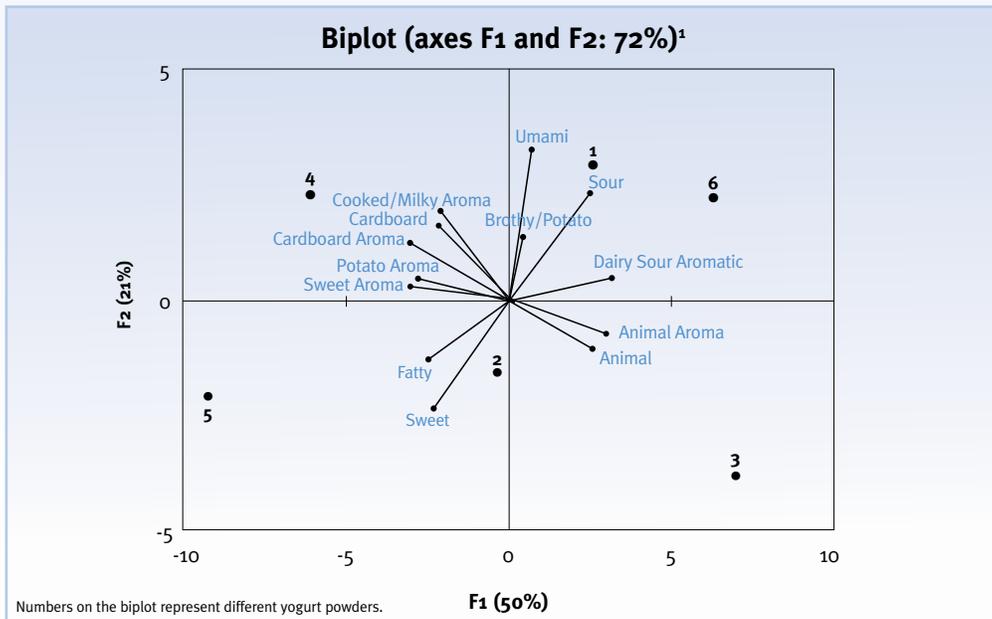
Functionality

Foaming/Whipping: Yogurt powders can produce significant overrun when whipped, but do not produce stable foams. The amount of overrun will vary significantly from product to product, with a range of 0 percent to 300 percent, depending on the product. Foaming may be a desirable or undesirable attribute, depending on the application, and select yogurt powders exhibit little or no foaming capacity.

Solubility: Yogurt powders generally exhibit good solubility. As with most dairy powders, a period of rehydration is suggested for heated beverage applications. Yogurt powders may provide improved solubility in high acid beverages as compared with nonfat dry milk.

Flavoring: Yogurt powders add unique dairy flavors to a variety of food applications. A flavor lexicon was developed to describe these flavors.

PCA Biplot of Yogurt Powder Flavor Descriptive Analysis



To learn more about yogurt powders or for help in formulations using yogurt powders or other dairy ingredients, visit www.innovatewithdairy.com or send an e-mail to techsupport@innovatewithdairy.com.

¹Jessica Childs and MaryAnne Drake. "Sensory Properties of Yogurt Powders," Poster presentation, IFT Annual Meeting, June 2008. Abstract 048-09.



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