

Fluid Milk Products

Milk is approximately 87% water and 13% solids. Straight from the cow, the solids portion of milk contains approximately 3.7% fat and 9% non-fat solids, which varies somewhat between breeds of cows. The non-fat solids portion consists of protein (primarily caseins and whey proteins), carbohydrates (primarily lactose), and minerals (including calcium, potassium and phosphorus). Milk also contains significant amounts of riboflavin and other water soluble vitamins. Milkfat carries the fat soluble vitamins A, D, E, and K. Federal definitions and standards of identity specify the minimum levels of milkfat and solids-not-fat for the various milks.

- **Milk:** Whole fluid milk is 97% fat free and contains not less than 3.25% milkfat and 8.25% solids-not-fat. Adding vitamins A and D is optional, but if added, vitamin A must be present at a level of at least 2,000 IU per quart; vitamin D, if added, must be present at a level of 400 IU/quart.
- **Fat Free Milk:** Fluid milk that has had the milkfat removed or skimmed. All the water-soluble nutrients are still contained within the fat free milk. Typically, water soluble forms of vitamins A and D are added for retail sale.
- **Nonfat Dry Milk:** is made by removing water from pasteurized skim (nonfat or fat free) milk. Contains not more than 5% by weight of moisture, and not more than 1.5% by weight of milkfat unless otherwise indicated.
- **Half and Half:** A mixture of milk and cream containing between 10.5% and 18% milkfat.
- **Light Cream:** contains between 18% and 30% milkfat. Light cream may also be called 'coffee cream' or 'table cream.'
- **Light Whipping Cream:** contains not less than 30% milkfat, but less than 36% milkfat. Light whipping cream may also be called 'whipping cream.'
- **Heavy Cream:** contains not less than 36% milkfat. Heavy cream may also be called 'heavy whipping cream.'
- **Evaporated Milk:** is made by removing about 60% of milk's water. Contains not less than 6.5% milkfat, not less than 16.5% milk solids-not-fat, and not less than 23% by weight of total milk solids. Evaporated milk is a heat-sterilized product with an extended shelf life.
- **Sweetened Condensed Milk:** is made by removing about 60% of the water from a mixture of milk (whole and nonfat pasteurized, homogenized milks), then has a sweetener added.
- **Buttermilk:** Refers to a number of dairy drinks. Originally, buttermilk was the liquid left behind after churning butter out of cream. This type of buttermilk is known as traditional buttermilk.

Cultured or Fermented Dairy Products

Also known as cultured dairy foods, cultured dairy products, or cultured milk products, fermented milk products are dairy foods that have been fermented with lactic acid bacteria such as Lactobacillus

Cheeses:

- **Natural Cheese:** Dairy food made from milk to which salt, enzymes and flavorings can be added. Cheese is made by adding acid, enzyme or starter culture to milk, causing the sugar in the milk to ferment and the casein proteins to coagulate. This causes it to separate into semi-solid curds and liquid whey. The type of cheese is determined by the type of culturing agent used. Cheese is one of mankind's oldest foods and is a way of preserving the nutrients in milk in a delicious form.
- **Cheese Curds:** The first product of cheese making. The milk is curdled with acid, enzyme or starter culture forming curds and whey. The whey, or the liquid portion, is drained off and the curds remain.

- **Processed Cheese:** A food product made from natural cheese plus emulsifiers, salt, colorings, or whey. Many flavors, colors, and textures of processed cheese exist.
- **Cottage Cheese:** A cheese curd product with a mild flavor formed by the addition of either lactic acid producing bacteria or acidifiers to milk. It is drained, but not pressed, so some of the liquid whey remains and the individual curds remain loose.
- **Cream Cheese:** A soft, mild-tasting cheese with a high fat content. Traditionally, it is made from unskimmed milk enriched with additional cream.

Yogurt and Soft Cultured Products:

- **Yogurt:** is the product resulting from the culturing of a mixture of milk and cream products with the lactic acid-producing bacteria, *Lactobacillus bulgaricus* and *Streptococcus thermophilus*. Whole milk yogurt contains not less than 3.25% milkfat and 8.25% solids-not-fat.
- **Sour Cream:** is the product resulting from the addition of lactic acid-producing bacteria to pasteurized cream containing not less than 18% milkfat. Sour cream may also be called 'cultured sour cream.'

Cultured Beverages:

- **Cultured Milk:** Contains not less than 3.25% milkfat and not less than 8.25% milk solids-non-fat. It is produced by culturing any of the following milk products alone or in combination: cream, milk, partially skimmed milk or skim milk with appropriate characterizing bacteria. The resulting products may be kefir cultured milk, acidophilus cultured milk, or cultured buttermilk.
- **Kefir:** A fermented milk drink prepared by inoculating milk with kefir grains.

Desserts:

- **Custard:** A cooked mixture of milk or cream and egg yolk. Depending on how much egg or thickener is used, custard may vary in consistency from a thin pouring sauce to a thick pastry cream used to fill éclairs.
- **Ice Cream:** Mixture of dairy ingredients such as cream/milk/nonfat milk, and ingredients for sweetening and flavoring, such as fruits, nuts, etc. Functional ingredients, such as stabilizers and emulsifiers, are often included in the product enhance texture and the eating experience. By federal law, ice cream must contain at least 10% milkfat, before the addition of bulky ingredients, and must weigh a minimum of 4.5 pounds/gallon.
- **Frozen Custard or French Ice Cream:** Contain a minimum of 10% milkfat and at least 1.4% egg yolk solids.
- **Frozen Yogurt** consists of a mixture of dairy ingredients such as milk and nonfat milk which have been cultured, as well as ingredients for sweetening and flavoring.
- **Gelato:** Contains sweeteners, milk, cream, egg yolks and flavoring and is characterized by an intense flavor and is served in a semi-frozen state.
- **Sherbet:** Has a milkfat content of between 1% and 2%, and a slightly higher sweetener content than ice cream. Weighs a minimum of 6 pounds/gallon and is flavored with fruit or other characterizing ingredients.
- **Sorbet and Water Ices:** Similar to sherbets, but contain no dairy ingredients.
- **Semifreddo:** A class of semi-frozen desserts, such as semi-frozen custards or fruit tarts. It has the texture of frozen mousse because it is usually produced by combining equal parts of ice cream and whipped cream.
- **Soft Serve:** A type of ice cream that is softer than regular ice cream, as a result of air being introduced during freezing. Soft serve ice cream has been sold commercially since the late 1930s.

In a Class by Itself...

- **Butter:** Made by churning fresh or fermented cream, generally used as a spread, as well as in cooking, baking, sauce making and pan frying. Butter consists of butterfat, milk proteins and water. Only about 52% of butter by weight is saturated fat, 20% monounsaturated, 5% polyunsaturated, the remainder is water and proteins.