



# Dairy Permeate Standard

## Product Definition

Dairy Permeate is produced by the removal of protein and other solids from milk or whey resulting in a product with a high concentration of lactose. Removal of the dairy constituents is accomplished by physical separation techniques such as filtration and diafiltration. The acidity of Dairy Permeate may be adjusted by the addition of safe and suitable pH adjusting ingredients. Dairy Permeate meets the definition of Dairy Product Solids, which is the subject of a GRAS notification to the U.S. Food and Drug Administration, and complies with all provisions of the U.S. Federal Food, Drug, and Cosmetic Act.

## Composition

Classifications	Protein	Lactose	Fat	Ash	Moisture
Milk Permeate	Typical 3-5% Min. 2%	Typical 78-88% Min. 76%	Typical 0-1.0% Max. 1.5%	Typical 8-11% Max. 14%	Typical 3-4.5% Max. 5.0%
Whey Permeate	Typical 2-7% Max. 7%	Typical 76-85% Min. 76%	Typical 0-1.0% Max. 1.5%	Typical 8-11% Max. 14%	Typical 3-4.5% Max. 5.0%

## Other Characteristics

Scorched Particle Content            ≤ 15.0 mg  
 pH    5.5 - 6.6  
 Color    white to cream  
 Flavor    bland, clean

## Microbiological Analysis

Standard Plate Count ≤ 30,000/g  
 Coliform                                        ≤ 10/g  
 Salmonella                                    negative by test  
 Listeria                                         negative by test  
 Yeast & Mold                                 100/g

## Methods of Analysis

Criteria	Reference Method
Lactose (anhydrous)	HPLC: ISO 22662/IDF 198
Protein	Kjeldahl method: AOAC 991.20 (N x 6.38)
Fat	Mojonnier: AOAC 989.05
Ash	Oven at 550C: AOAC 942.05
Total Moisture	Vacuum oven: AOAC 925.45

## **Product Labeling**

Product may be identified on the label as: “Milk Permeate” (for permeate derived from milk only), “Whey Permeate” or “Dairy Product Solids.”

Alternate names could include: Modified Whey, Deproteinized Whey, Dried Whey Product or Dried Whey Solubles.

## **Product Applications and Functionality**

May be used as a direct replacement of other dairy solids in many food applications, including: bakery products and pizza crust dough; confectionary products; as a replacement for sucrose or corn syrups; to reduce the level of salt in formulated products; and for fermentation. Milk permeate may also be used for standardizing skim milk or whole milk powders.

Permeate can be a source of lactose and minerals required for the development of nutritional products for the feed sector – especially for baby animals.

## **Storage & Shipping**

Product should be stored and shipped in a cool, dry environment with temperatures below 80°F and relative humidities below 65%. Stocks should be rotated and utilized within 9 mo - 1 yr.

## **Packaging**

Multiwall kraft bags with polyethylene inner liner or other suitable closed container – i.e., “tote bins,” etc.