



AMERICAN  
Dairy Products  
INSTITUTE

# MPI

## Milk Protein Isolate (90+%)

MILK PROTEIN

## Product Definition

Milk Protein Isolate (MPI) is obtained by concentrating bovine skim milk through filtration processes so that the finished dry product contains at least 90% protein by weight. MPI may be produced by filtration, dialysis, or any other safe and suitable processes by which all or part of the lactose and minerals may be removed. The product cannot be manufactured by combining separately produced ingredients, i.e. casein (or caseinates) and whey proteins.

MPI is produced by filtration methods (ultrafiltration and diafiltration) which capture essentially all the casein and whey proteins contained in the raw material stream, resulting in products with a casein-to-whey protein ratio equivalent to that of the original milk, generally a value of 90:10.

MPI complies with all provisions of the U.S. Federal Food, Drug, and Cosmetic Act.

## Composition

PARAMETER	UNITS OF MEASURE	MPI
	Limits (protein limits are minima; all other limits are maxima)	
PROTEIN, DRY BASIS	%	89.5
LACTOSE	%	5.0
FAT	%	2.50
TOTAL MOISTURE	%	6.0
ASH	%	8.0

## Product Labeling

Recommended identifications: Milk Protein Isolate

## Protein Quality

**Protein Digestibility Corrected**  
**Amino Acid Score (PDCAAS) ..... 1.00**

**Digestible Indispensable**  
**Amino Acid Score (DIAAS): ..... 1.18**

## Nutrition Facts

servings per container	
<b>Serving size</b>	<b>(100g)</b>
<b>Amount per serving</b>	
<b>Calories</b>	<b>360</b>
% Daily Value*	
<b>Total Fat</b> 1g	<b>1%</b>
Saturated Fat 0g	<b>0%</b>
Trans Fat 0g	
<b>Cholesterol</b> 60mg	<b>20%</b>
<b>Sodium</b> 140mg	<b>6%</b>
<b>Total Carbohydrate</b> 2g	<b>1%</b>
Dietary Fiber 0g	<b>0%</b>
Total Sugars 2g	
Includes 0g Added Sugars	<b>0%</b>
<b>Protein</b> 86g	
Vitamin D 0mcg	<b>0%</b>
Calcium 2100mg	<b>160%</b>
Iron --mg	<b>--%</b>
Potassium 340mg	<b>8%</b>

\*The % Daily Value tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

## Functionality and Applications



### HIGH PERFORMANCE:

Emulsification  
Water Binding  
Heat Stability



### MEDIUM PERFORMANCE:

Hydration Rate  
Viscosity

Milk Protein Isolate is primarily used for protein fortified foods as a source of high quality protein. Milk protein isolate has good solubility and heat stability for high heat applications such as low acid, ultra high temperature (UHT) processed beverages and foods. It maintains good solubility at a pH greater than 6.0.

## Product Examples

(launched in the last 2 years)

*Credit: Innova Market Insights*



**Quest Crunchy Protein Puffs:** Milk protein isolate and starch provide the structure for this high protein puffed snack. MPI also provides the primary source of high quality protein to give this puffed cheese flavored snack a much better nutritional profile than a typical cheese puff.



**Snickers Hi-Protein Bar:** This high protein candy bar uses MPI as a primary source of protein. Adding milk protein to a candy bar will provide more hunger control while also supporting muscle maintenance in a well-known, traditional treat.



**Super Creamer Positive Energy:** Most coffee creamers are low in protein and high in vegetable fat and use caseinates to provide emulsifying properties. This creamer uses MPI to provide high quality protein and good emulsification when combined with real cream and MCT oil.



**Alani Flavored Protein Shake:** This aseptic, low acid protein shake benefits from the heat stability of milk protein isolate as the primary source of protein. Consumers will also benefit from the high quality protein that MPI contributes to the shake.



**Premier Protein Good Night Protein Hot Cocoa Mix:** This high protein cocoa mix uses MPI as the primary source of high quality protein. MPI is a source of tryptophan to help aid sleep and help re-build muscles as you sleep.



**Life Cuisine Carb Wise Veggie Pizza:** Milk protein isolate added to this pizza crust helps to achieve a high protein, lower carb veggie pizza. Using MPI combined with low moisture mozzarella cheese provides high quality protein for pizza lovers who are looking for keto friendly foods.