

Dairy & Dairy Alternative Applications



CATEGORY	SPECIFIC PRODUCTS	Alt. Cheese	Alt. Milk	Cheese	Chocolate Milk	Confections	Cottage Cheese	Cream Cheese	Desserts/Flans	Dressings	Frozen Yoghurt	Gelato	Ice Cream	Instant Dairy Protein Beverages	Kefir	Plant Protein Beverages	RTD Dairy Beverages	Sauces	Sorbet	Sour Cream	Yoghurt
Applications																					
CITRATES, LACTATES &		X	X	X	X		X	X			X		X	X		X	X	X	X	X	X
DISTILLED SPIRITS			X						X									X			
EMULSIFIERS					X	X			X	X			X			X		X			
ENZYMES	Lactase, Fermented Chymosin, Phospholipase, Proteases, Transglutaminase, Invertase, Alpha-amylase, Glucoamylase, Custom Products	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
HYDROCOLLOIDS & GUMS	Acacia Gum, Agar, Carrageenan, Gellan Gum, Guar Gum, HPMC, Konjac Gum, Locust Bean Gum, MC, Sodium Alginate,	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
NATURAL		X				X			X	X	X	X	X			X	X	X	X		
PHOSPHATES		X	X	X			X			X							X				X
PLANT PROTEINS		X	X													X		X			X
SALT		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
STARCHES					X	X					X			X				X		X	X
SWEETENERS	Sugar, Fructose, Dextrose, Maltodextrin	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
VANILLA			X			X			X		X	X	X	X		X	X	X	X		X
VANILLIN			X		X	X			X		X	X	X	X			X		X		X

Citrates, Lactates, & Gluconates

- **pH Control:** ensures consistency and quality by maintaining the desired pH levels in dairy products
- **Antimicrobial Properties:** keeps dairy products fresh and safe
- **Acidification:** aid in the acidification process, enhancing the flavor and stability of dairy products
- **Sodium Reduction:** used as a substitute for sodium-based additives, helping to reduce the sodium content in dairy products



Distilled Spirits



- **Flavor Enhancement:** Distilled spirits like rum, whiskey, or vodka can add complex and rich flavors to dairy products, making them more appealing and unique
- **Preservation:** Alcohol acts as a preservative, extending the shelf life of dairy products by inhibiting the growth of bacteria and fungi
- **Texture Improvement:** Distilled spirits can enhance the texture of dairy products, providing a smoother and creamier mouthfeel
- **Innovative Products:** Incorporating distilled spirits into dairy products can lead to the creation of innovative and distinctive offerings, such as alcohol-infused ice creams or cheeses
- **Sustainability:** Using whey, a by-product of dairy production, to create distilled spirits helps reduce waste and promotes sustainability in the dairy industry

Emulsifiers

- **Texture Enhancement:** Emulsifiers help create a smooth and creamy texture by stabilizing the mixture of fat and water, preventing separation
- **Improved Stability:** Emulsifiers prevent the separation of ingredients, ensuring a consistent and uniform product
- **Extended Shelf Life:** Emulsifiers help extend the shelf life of dairy products by securing emulsion stability
- **Enhanced Mouthfeel:** Emulsifiers contribute to a pleasant mouthfeel by reducing the size of fat globules and improving the overall texture
- **Fat Crystallization Control:** Emulsifiers help control fat crystallization, preventing the formation of large ice crystals in frozen dairy products like ice cream



Enzymes

- **Clean label stabilization:** Ensures stability in yogurt and fermented beverages
- **High-protein milk beverages:** Improves solubility for better consumer experience
- **High-quality hydrolysates:** Derived from milk protein, offers added value with improved functionality and non-allergenic peptides
- **Improvement of sensory profiles:** Enhances taste and texture in dairy and plant-based beverages
- **Organic and non-GMO lactases:** Supports sustainable and natural production processes
- **Enhancing yield and quality:** Improves cheese making processes
- **Sugar reduction:** Effective in both dairy and plant-based beverages
- **Wide portfolio of lactases:** Caters to the demand for lactose-free dairy products, improving yield and quality



Hydrocolloids & Gums

- **Natural hydrocolloids:** ensures recognizable and wholesome ingredients in dairy and plant-based beverages
- **Emulsifiers:** improves the texture and stability of dairy products, as well as aid in particulate suspension
- **Gelling agents:** enhances the consistency and mouthfeel of yogurt and fermented beverages
- **Organic-allowed and non-GMO hydrocolloids:** promotes eco-friendly and health-conscious choices
- **Stabilizers:** maintains the quality and shelf life of dairy and plant-based beverages
- **Sustainable hydrocolloids:** promotes environmentally friendly practices in production
- **Wide portfolio of hydrocolloids:** caters to diverse consumer preferences, improving texture and quality



Natural Coloring



- **Healthier Alternatives:** Natural Colorings are derived from plants and contain antioxidants and bioactive compounds that promote health
- **Clean-Label Appeal:** consumers prefer products with simpler, more recognizable ingredients. Natural colorings align with this desire for transparency and cleaner labels
- **Non-Toxic and Hypoallergenic:** unlike synthetic dyes, natural colorings are generally safer for consumption and less likely to cause allergic reactions
- **Sustainability:** using natural sources reduces reliance on harmful petrochemicals, contributing to a cleaner environment
- **Consumer Perception:** the “natural” label often carries positive connotations, potentially influencing consumer preferences towards products using natural colors

Phosphates

- **Improved Texture:** enhances the smoothness and creaminess of dairy products, providing a more enjoyable sensory experience for consumers
- **Stabilization:** acts as stabilizers, preventing the separation of fats and oils, which helps maintain the consistency and quality of products like milk and cream
- **Extended Shelf Life:** contributes to extending the shelf life of dairy products by inhibiting the growth of bacteria and fungi
- **Enhanced Meltability:** improves the meltability, making cheese smoother and more uniform
- **Mineral Supplementation:** provides essential minerals like phosphorus, which are crucial for bone health and energy metabolism



Plant Proteins



- **Nutritional Value:** rich in essential amino acids, vitamins, and minerals; provides a healthy alternative to animal proteins, especially for those following vegetarian or vegan diets
- **Digestibility:** generally easier to digest and can be less likely to cause allergies compared to some animal proteins
- **Sustainability:** have a lower environmental impact compared to animal proteins; require less water, land, and energy to produce, making them a more sustainable choice
- **Versatility:** used in a wide range of products, from dairy alternatives like almond milk and soy yogurt to protein bars and meat substitutes
- **Health Benefits:** consuming plant proteins can help reduce the risk of chronic diseases such as heart disease, diabetes, and certain cancers

Salt

- **Flavor Enhancement:** improves the taste of dairy products by balancing sweetness and reducing bitterness
- **Preservation:** preserves dairy products by inhibiting the growth of harmful bacteria
- **Texture Improvement:** contributes to the texture of dairy products by binding water and modifying proteins
- **Microbial Control:** creates an environment that supports the growth of beneficial bacteria while suppressing unwanted microbial activity



Starches



- **Texture Enhancement:** improves the texture of dairy products by providing a smooth and creamy consistency in products like yogurt, puddings, and dairy desserts
- **Stability:** stabilizes dairy products during processing and storage, prevent syneresis (whey separation) and maintain the desired viscosity, which is crucial for products like yogurt and dairy-based sauces
- **Shelf-Life Extension:** extends the shelf life of dairy products by improving moisture retention and preventing spoilage for products like cheese and milk-based beverages
- **Heat Tolerance:** withstands high temperatures during processing, ensuring that dairy products maintain their quality and consistency even after heat treatments
- **Cost Effective:** starches in dairy products can reduce production costs by enhancing process efficiency and minimizing waste

Sweeteners

- **Natural sweeteners:** recognizable and wholesome ingredients in dairy and plant-based beverages
- **High-intensity sweeteners:** provides sweetness without added calories
- **Organic-allowed and non-GMO sweeteners:** promotes eco-friendly and health-conscious choices
- **Sugar alternatives:** effective in both dairy and plant-based beverages for reduced sugar content
- **Sustainable sweeteners:** promotes environmentally friendly practices in production
- **Wide portfolio of sweeteners:** caters to diverse consumer preferences, improving taste and quality



Vanilla



- **Flavor Enhancement:** adds a rich, aromatic flavor that enhances the overall taste of dairy products like yogurt, ice cream, and custards
- **Masks Undesirable Tastes:** masks undesirable tastes in formulations with added nutrients or supplements, making products like protein-enriched yogurts more palatable
- **Antioxidant Properties:** contains vanillin, which has antioxidant properties that can contribute to the health benefits of dairy products
- **Preservation:** preserves dairy products by extending their shelf life while maintaining flavor
- **Consumer Appeal:** comforting and familiar flavor of vanilla increases the consumer appeal of dairy products, making them more enjoyable and marketable

Vanillin

- **Flavor Enhancement:** adds a rich, sweet, and aromatic flavor to dairy products like ice cream, yogurt, and flavored milk, making them more appealing to consumers
- **Antioxidant Properties:** exhibits significant antioxidant activity, which helps neutralize free radicals and reduce oxidative stress.
- **Anti-Inflammatory Effects:** according to research, vanillin possesses anti-inflammatory properties, which can help manage inflammatory conditions such as arthritis and inflammatory bowel disease
- **Antimicrobial Activity:** contains antimicrobial properties that can inhibit the growth of bacteria and fungi, helping to extend the shelf life of dairy products
- **Mood Enhancement:** mood-enhancing effects from the pleasant aroma, reducing stress and promoting relaxation





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