



DAIRY



MAKING DAIRY EXTRAORDINARY

Add Texture Appeal with Tate & Lyle

Thick, creamy yoghurt. Low-fat ice cream without the ice crystals. Controlling moisture. Whatever sensory experience you wish to deliver or functional challenge you need to master, Tate & Lyle makes it easy to create the right texture that appeals to your consumers. Many dairy-product manufacturers have found that texture makes their products more desirable, with consumers willing to pay a premium price. In fact, thick yoghurt demands the highest price on shelves because so many consumers equate thickness with taste.

Tate & Lyle's food starches are derived from a variety of botanical food sources and are available in native, modified, cook-up, instant and clean-label varieties. Our diverse portfolio provides options from basic thickening to highly-unique functionalities relevant to the dairy category. Also, if you need assistance, we offer experienced application guidance to help you achieve your goals.

Dairy

Our starches provide creamy texture, uniform viscosity, and improved mouthfeel for low or non-fat products. They can also be used for gelatin replacement, emulsion stabilisation, water binding and gelling in a variety of dairy-based foods.

FUNCTIONALITY	STARCH		MODIFIED STARCH		BENEFITS
	Cook-Up	Instant	Cook-Up	Instant	
Thickening	CLARIA®		MAXI-GEL® REZISTA® 682 THIN-N-THIK®		Stable under high processing conditions. <i>e.g. Yoghurt, processed cheese</i>
Improved firmness			MIRA-CLEER® NU-STAR™ STA-O-PAQUE®		Increase product firmness and yield. <i>e.g. Yoghurt, processed cheese</i>
Gelling	Pure Food Powder	CLARIA® MIRA-GEL®	MIRA-SET®	SOFT-SET®	Replaces or reduces the need for gelatin. <i>e.g. Yoghurt, processed cheese</i>
Fat reduction			CREAMIZ™ MIRA-MIST® STA-SLIM® 143 STA-SLIM® 151	STA-SLIM® 142 STA-SLIM® 150	Provides creamy texture to low-fat formulations. <i>e.g. Ice cream, yoghurt</i>
Instant thickening				MIRA-THIK® MIRA-SPERSE®	Rapidly hydrates in high solid formulas. Creates high viscosity with creamy texture. <i>e.g. Instant puddings</i>
Structure development			MIRA-MIST® MIRA-QUIK® MGL NU-STAR™		Provides body in low protein formulas and aids in partial casein or caseinate replacement. <i>e.g. Processed cheese</i>
Water binding			MAXI-GEL® REZISTA® THIN-N-THIK®	MIRA-THIK®	Reduction of syneresis. <i>e.g. Yoghurt</i>
Water management for controlling ice crystal growth			LO-TEMP® REZISTA® TENDERFIL®		Retains smooth texture in frozen products. <i>e.g. Ice cream</i>

Starch source: CORN | **TAPIOCA** | POTATO

Viscosity Development

- **Heat process** - From UHT (ultra-high temperature) and HTST (high-temperature-short-time) processing to homogenisation and fermentation, the right starch is critical to the final product quality.
- **Cold process** - Our wide range of instant, or cold-water swelling, starches enables the convenience of cold processing for a variety of products, including dairy desserts, dips and mousses.

Texture Development

- **Gelling** - Our speciality gelling starches can achieve the short, cuttable texture that is desired in many dairy products, including yoghurt, sour cream and dairy-based dips and spreads. They can also be successfully used to develop high-quality, gelatin-free products for preferred label appeal.
- **Creamy** - Whether it is processed and RTE (ready to eat) or an instant mix, starches can help create the rich, creamy texture found in high-quality dairy products, including sauces and puddings.
- **Structure** - Sometimes used in combination with proteins or other hydrocolloids, starches add structure to dairy products such as processed cheese, cheese dips and sauces. These ingredients can also totally or partially replace high-cost ingredients such as casein and caseinate.
- **Mouthfeel improvement** - Starches can be used to maintain a creamy, highly indulgent texture in a wide range of reduced-fat yoghurt, RTE desserts, ice creams and processed cheeses.

Process Functionality

- **Heat and shear tolerance** - Optimise viscosity while maintaining starch functionality through processing. In addition, pasteurisation, high-pressure, high-temperature and shear conditions require a stable starch.

Finished Product Stabilisation

- **Ice-crystal growth** - Starches can add the premium in ice cream, helping to control ice-crystal formulation, particularly in reduced- or low-fat varieties. Controlling ice-crystal growth over shelf life ensures this pleasant eating quality is maintained even after distribution and consumer use.
- **Melt characteristic** - Starches offer the ability to produce analogue and processed cheeses with excellent sliceability, shred and melt characteristics for a wide range of end-use applications.
- **Moisture management** - Prevent syneresis by adding starches in puddings and yoghurt.

Clean Label

Enjoy a clean-label claim and great taste, too, with CLARIA® Functional Clean-Label Starches, which label simply as "starch", "corn starch" or "tapioca starch"* yet perform similarly to modified food starches. The CLARIA® line offers a clean, neutral taste and colour comparable to modified food starches and is versatile across a broad range of applications and sophisticated processes.

*"Starch" or "maize starch" in Europe; "starch" or "corn starch" in the USA, Canada, China, Australia, New Zealand and Latin America.

ABOUT TATE & LYLE

Tate & Lyle is a global provider of ingredients and solutions to the food, beverage and other industries, with operations in over 30 locations worldwide.

tateandlyle.com

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