

Protein Conjugates: Acacia Gum Emulsifier Substitute

Protein processing technology for improved food and beverage emulsification, stability, solubility, and allergenicity



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- Inventor of Dubliner Cheese

Market:

The acacia gum emulsifier and stabilizer market is expected to reach \$1.2 billion by 2024 with a CAGR of 4.4%. This market is restrained by political and climate volatility in nations where acacia gum is produced, sparking significant demand for substitutes.

Technology:

This processing technology conjugates proteins with polysaccharides to prevent protein denaturation, reducing unwanted off-flavors and browning during food & beverage processing while also improving the proteins' heat and pH stability, emulsification, solubility, gelation, and allergenicity.

IP and Stage:

1 issued patent. Pilot-scale spray-dried application to produce food-grade maltodextrin-conjugated milk-derived whey proteins (MD-MDWP), reducing 99% of patient allergic response to cow's milk protein.

Impact:

This protein conjugation method improves food and beverage manufacturers' processing efficiency, product variety, and appeal. These polysaccharide-conjugated proteins improve processing stability to enable food manufacturers to protein enrich a larger array of products (e.g., carbonated drinks) using multiple processing methods, all while reducing potential unwanted off-flavors and browning. This can also be used as direct substitute for acacia gum to alleviate supply and price volatility concerns.

Ask:

Introductions to food and beverage manufacturers

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