

Lecithin as Instantizing

Formulation of instant foods faces the problem of incorporation of difficult materials (fat, proteins, fibres, vitamins/minerals) into a product that can be readily dissolved in cold water, milk, or other aqueous solutions. High-fat powders are difficult to wet and disperse because they are hydrophobic and repel water.



On the other hand, high proteins ingredients are hydrophilic (attracted to water) and can hydrate too quickly forming lumps that do not hydrate internally. Lecithin solves these problems. Usage ranges from 0.2-1.0% and depends on fat and protein levels, particle sizes and the desired degree of wetting. Foods in which instantizing is needed include beverage powders, meal replacement shakes, soups and gravies, high protein nutrition beverages, powder dairy / nondairy products and dry instant formulas. Instantization is usually accomplished by spray coating onto the powder's surface. Deoiled filtered lecithin is preferred in hydrophilic instantizing application because it has excellent emulsifying properties and the absence of triglycerides yields no off flavours are low viscosity and sprayable at ambient temperature and are recommended for lipophilic instantizing applications.

Lecithins for instantizing milk and calf milk replaces require O/W emulsifiers and are designed for a high HLB, Standardized fluid lecithins (62% AI) provide moisture retention and emulsification in high viscosity application.

Reference:

Polar lipids: biology, chemistry and technology editors: Moghis U Ahmad and Xuebing Xu