

Statement on the Use of Cross-Flow Microfiltration Process

Supplier: Arla Foods Ingredients Group P/S
Plant: Danmark Protein
Product type: Whey Protein Isolates (WPI)
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Background:

In Arla Foods Ingredients Group P/S's flowcharts the type of filtration processes are not specified. However, well-known fractionation processes are used for the production of whey protein concentrates based on membrane separation. Membrane separation includes for example microfiltration, ultrafiltration, nanofiltration, and reverse osmosis.

Whey protein isolates (WPI) have a protein content of about 90% and are prepared from defatted whey obtained by microfiltration processes. Functionality and chemical/physical characteristics of WPI products, including amino acids profile and nutrition information, are described in product specifications (PID).

Handling:

Arla Foods Ingredients Group P/S's WPI products are produced using microfiltration processes. The type of microfiltration applied is 'cross-flow microfiltration'.

In cross-flow microfiltration a constant turbulent flow along the membrane surface prevents the accumulation of matter on the membrane surface. The membranes used in this process are commonly tubes with a membrane layer on the inside wall of the tube. The feed flow through the membrane tube is at an elevated pressure providing the driving force for the filtration process and a high flow speed to create turbulent conditions. The process is referred to as cross-flow because the feed flow and the filtration flow direction are at a 90° angle.

Conclusion:

The microfiltration process used for WPI production is a cross-flow microfiltration process.

Best regards,
Arla Foods Ingredients Group P/S



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