Joint venture of AAK & IFF
ADVANCED LIPIDS

IFF's Advanced Lipids Patent in New Zealand: A Process for Producing Human Milk Fat Substitutes

Background: Research (unpublished) conducted by Advanced Lipids in 2019, tested the triglycerides species and other fat components of human milk from Chinese women. The study results substantiated a notion based on published data that human milk fat from Chinese women is different from the human milk fat of Western women. The main difference found is in the triglyceride structure of Chinese human milk, and is the basis for INFAT® PLUS, an innovative fat ingredient specially designed to be closer to the structure of mother's milk fat in China. Mother's milk offers optimal nutrition for infants, and the fat it contains provides half the energy they require for healthy growth and development. Nearly all of this fat is in the form of triglycerides (TG). Palmitic, oleic and linoleic acids are the most abundant fatty acids found in human milk, and the most abundant TG species in mother's milk contains both and is mainly in the structure Oleic-Palmitic-Oleic (OPO) or Oleic-Palmitic-Linoleic (OPL).

Q: Describe the exciting, new capability of IFF's recently patented process.

A: The patent describes a production process for a composition containing 1,3-dioleoyl-2-palmitoyl glycerol (OPO), as well as the production of infant formula and baby food containing the composition. The product of the process also contains 1-oleyl-2-palmitoyl-3-linoleyl glycerol (OPL). INFAT® PLUS, which contains both OPO and OPL, is produced in accordance with the patent. Before the development of INFAT® PLUS, the triglyceride in INFAT® products was primarily OPO. INFAT® PLUS has been designed to be closer in structure to Chinese human milk fat with respect to the major triglyceride species. INFAT® PLUS is exclusively sold by Advanced Lipids, a joint venture between IFF and AAK.

Q: Explain some of the benefits of INFAT® PLUS.

A: INFAT® PLUS, the innovative fat blend developed by Advanced Lipids, is designed to be closer in structure to Chinese human milk fat in all major TG species and has an increased level of palmitic acid bound at the glycerol mid-position, also known as *sn*-2 palmitate. INFAT® PLUS, similarly to INFAT®, complies with GB standard 30604-2015 for OPO and is intended for infant formula. Studies show that infant formula containing at least 40% *sn*-2 palmitate supports fat and calcium absorption, strong bones, softer stools, less crying, and more sleep compared to standard formula fed infants, as well as a positive effect on gut microbiome.

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