Comfort ingredient for premium infant formula

The very best nutrition for the newborn baby is the mother's milk. Sometimes the mother cannot, or chooses not to, breast feed her baby. In those cases it is important that there is an alternative source of nutrition for the infant that also well covers its needs. The ultimate goal for infant milk formula producers is to present a product as similar as possible to mother's milk.

Infat is a fat especially developed to be even closer to the fat in mother's milk than standard vegetable oil blends are. With its unique structure it helps preventing the baby from constipation often associated with formula feeding. It also improves the energy and calcium uptake, making it the first choice product for premium infant milk formula.

Mother's milk composition the golden standard

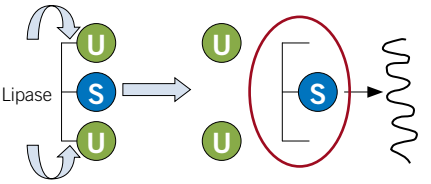
The first step when designing a fat for infant formula is to match the fatty acid profile of mother's milk. This is achieved by the use of various raw materials. The fatty acid profile differs somewhat between women depending on diet, heritance etc, but one thing is very much conserved and that is the high content of C16 as the main saturated fatty acid in the milk.

Next step is to look at the triglyceride structure, how the fatty acids in the fat are connected to the glycerol backbone of the triglyceride. The structure of the triglyceride is of crucial importance for the babies ability to digest the fat. In mother's milk fat the important C16 is mainly situated in the middle position of the triglyceride, whereas the unsaturated fatty acids are in the outer positions. In a normal vegetable oil or fat, the structure is opposite, with the C16 in the outer position and the unsaturated in the middle.

The structure is important

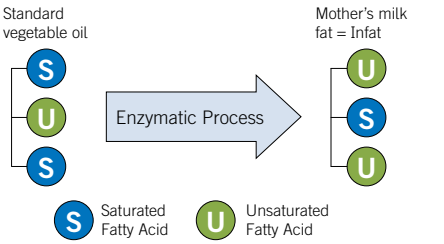
When the baby eats fat, an enzyme cleaves the outer fatty acids of the triglyceride and they will be digested as free fatty acids. However, if those free fatty acids are made up of C16 as in standard vegetable oil, they cannot be digested as free fatty acids due to their high melting point. To be digested the C16 needs to be in the middle position of the triglyceride, where it will be digested as a monoglyceride.

Fat digestion



Free C16 will instead form insoluble soaps with the calcium in the formula and leave the body via the faeces. This will cause problems with hard stools, constipation and also loss of calcium and fatty acid.

Same structure as in mother's milk



In standard vegetable oils the unsaturated fatty acids are mainly situated on the mid-position of the triglyceride and the saturated in the outer positions. This is opposite in mother's milk. By enzymatic inter-esterification of the vegetable oil, this is changed, making Infat having the same structure as mother's milk.

Closer to mother's milk

Based on vegetable sources, Infat has a unique structure on triglyceride level that is obtained by an enzymatic inter-esterification process. Because of this structure, an infant formula blend containing Infat is not only composed to have the same fatty acid profile as the fat in mother's milk, it also has the similar structure on triglyceride level. The infant formula with Infat will be closer to mother's milk. As shown in several scientific studies, the formula-fed baby will then get a better comfort, have less problems with constipation and also have an enhanced energy and calcium uptake, which is very important in the beginning of a new life.

In*Fat*™ *is supplied by Advanced Lipids, a joint venture of AAK and Enzymotec.*