

Fat is a major ingredient in infant formula. To create the desired composition, a blend of four or more oils is often required. Buying a complete blend rather than purchasing individual oils and blending them in-house offers both quality and cost advantages.

Optimising the supply of oils for infant formula

The reference for infant formula is mother's milk. An important aim is therefore to mimic the fat composition of human breast milk. To achieve this, a number of different oils need to be blended.

Palm oil provides palmitic acid, which is the predominant saturated fatty acid. To reach the level of 20-25 % found in mother's milk, 40-50 % palm oil or palm olein is required. To get even closer to mother's milk, palm oil should be replaced by **InFat™**, the product described in the adjacent article.

In addition, coconut or palm kernel oil is needed to provide the shorter-chain fatty acids C8, C10, C12 (lauric) and C14 (myristic). Ten to fifteen percent is enough to provide the desired level of lauric acid, for example.

Furthermore, the formula needs to contain sufficient essential fatty acids. 10-20 % rapeseed or soybean oil delivers the target level of 1-2 % of linolenic acid and part of the linoleic.

In most cases at least one more liquid oil is needed to provide the desired levels of linoleic and oleic acid.

Four tanks or one

While these facts are well known to all manufacturers of infant formula, they choose different ways of buying their oils.

Clearly, purchasing individual oils requires at least one storage tank for each oil. The rate of consumption of the various oils will differ since they are used in different percentages in the blend. The challenge of balancing supply and demand is consequently greater when buying individual oils.

Freight costs are an important factor in the total cost, and full truckloads keep these costs as low as possible. Transporting all oils in full trucks may, however, lead to a slower turnover rate for oils used in smaller quantities. This will have a negative impact on product quality since longer storage leads to more oxidative breakdown of the oil. A slower turnover also leads to higher working capital being tied up in raw material storage since more tanks are needed and there is a strong likelihood that on average more oil will be stored in the tanks.

The advantage of blends

AAK has the expertise and facilities to supply blends of oils. Our production facilities are designed to produce a large number of different products, with a focus on the efficient handling of many different oils, frequent product changeovers with minimum co-mingling and precise blending according to specified compositions.

It's our job to make things simple for our customers. If a customer needs 25 MT a week, we will deliver one truckload with the required blend each week. When supplying oil blends we effectively take over the raw material supply and storage for our customers and supply freshly produced oil blends at a rate that matches their rate of consumption.

Better quality, simpler planning and less working capital make this a more attractive option than four trucks with four different oils arriving once a month.

