

# Akonino – the preferred choice for infant formula blends



## Breast milk – the reference

The reference for infant formula is breast milk. An important aim is therefore to mimic the fat composition of human breast milk. To achieve this, a number of different oils needs to be blended. AAK has a long experience in supplying tailor made blends to infant formula producers under the Akonino brand name.

## Specified fat composition

A tailor made blend for an infant formula may comprise up to five components of specified proportions, in order to come as close as possible to the fat composition in breast milk.

Different oils contribute with different fatty acids providing the total composition to be in line with the specification. AAK can provide a wide range of oils to fulfill any requirement on composition.

## Saturated fat from palm and laurics

Palm oil provides palmitic acid, which is the predominant saturated fatty acid. To reach the level of 20-25 % found in breast milk, 40-50 % palm oil or palm olein is required. To get even closer to breast milk, palm oil should be replaced by **InFat™**, the product described in pages, 6-7.

In addition, coconut or palmkernel oil is needed to provide the shorter-chain fatty acids C8, C10, C12 (lauric) and C14 (myristic). 10 to 15 percent is enough to provide the desired level of lauric acid, for example.

## Essential fatty acids

Furthermore, the formula needs to contain sufficient essential fatty acids. 10-20 % rapeseed or soyabean oil delivers the target level of 1-2 % of linolenic acid (18:3) and part of the linoleic (18:2).

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

## Antioxidants

Different antioxidants, such as mixed tocopherols,  $\alpha$ -tocopherol, ascorbyl palmitate and lecithin can also be added on request.

## Akonino range

Most Akonino products are tailor made in cooperation with the customer, some examples of standard products are described below.

Akonino NS is a typical example of a blend for a standard infant formula, with a composition very close to that of breast milk. In this blend the linolenic acid is sup-

plied by rapeseed oil. Akonino NR is a similar blend where the linolenic acid comes from soyabean oil instead.

Akonino SC is a blend comprising MCT oils, which are used in special formulas for preterm infants. MCT oils are based on short chain fatty acids (C8, C10) and as such are appreciated as an efficient source of energy.

## Raw materials available from AAK

- ◆ Coconut oil
- ◆ Palmkernel oil
- ◆ Palm and palm oil fractions
- ◆ Sunflower oil
- ◆ High oleic sunflower oil
- ◆ Soyabean oil
- ◆ Rapeseed oil
- ◆ Corn oil
- ◆ High oleic rapeseed oil
- ◆ MCT oils

## Fatty acid composition of some typical Akonino products

Fatty acid profile (%)	Breast milk	Akonino NS	Akonino NR	Akonino SC
C8	0.6	0.5	2.2	30
C10	1	0.5	1.8	20
C12	6.2	6	14.7	4.5
C14	7.8	2.5	5.9	1.5
C16	25	23	22.5	4.2
C18:0	8.7	3	3.7	1.4
C18:1	35.0	42	29.5	14.5
C18:2	11.0	19	15.6	19.5
C18:3	1.2	2	1.5	2.8