

# THE FORTIFICATION OF STAPLE FOODS WITH VITAMIN A



Cooking oil is a very suitable food for fortification with vitamin A since it is in widespread private and commercial use. In addition, the fortification process requires no special equipment, as vitamin A itself is an oil in its natural state and is readily miscible with other oils and fats. BASF is a leading vitamin A producer offering special products for the fortification of vegetable oils.

#### BASF's oily vitamin A products:

- Vitamin A-Palmitate 1.0 mio I.U. / g
- Vitamin A-Palmitate 1.7 mio I.U. / g
- Vitamin A-Acetate 1.5 mio I.U. / g
- Vitamin A-Propionate 2.5 mio I.U. / g

Blends with other oil-soluble vitamins like vitamin D and vitamin E are available on request.

#### Stability

At ambient temperatures in factory-sealed containers, vitamin A oil has relatively good bulk stability (Figure 1).

Its retention characteristics when mixed with cooking oil depend on the way the end product is used – in particular, the temperature to which it is heated. Stability test results are available from BASF on request.

Many vegetable oils are rich in vitamin E, which acts as an anti-oxidant for vitamin A. In this way they act as a natural stabilizer for vitamin A.

#### Technology

The relation between the two components in the mixture – the cooking oil and vitamin A – is easy to control. The principle behind the fortification of cooking oil is outlined in Figure 2. However, it is advisable to dilute the vitamin A oil beforehand with some of the cooking oil or fat. The mixing process can be performed either continuously in static mixers or in a batch process.

Homogenization is achieved after the mixture has been stirred for a specified length of time.

Figure 1: Bulk stability of vitamin A during storage

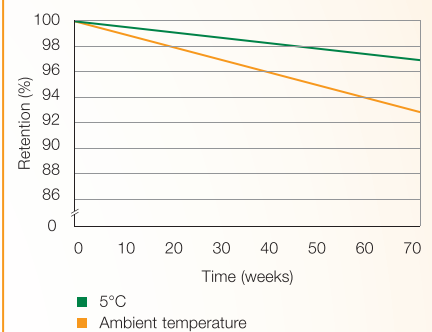
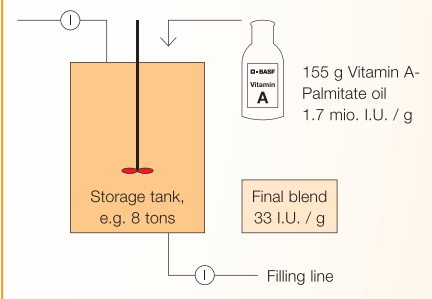


Figure 2: Fortification principle



# Oil Fortification

BASF Nutrition – the healthy decision.

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