BASF
We create chemistry

Flour Fortification

An Investment in the Future

Vitamin A deficiency (VAD) is one of the most prevalent micronutrient deficiencies worldwide. Through BASF Food Fortification program, vitamin A is added to staple foods in more than 40 countries. BASF is committed to combating VAD by offering reliable vitamin A product solutions with technical expertise in formulation and application. A sufficient supply of vitamin A is an investment in the future as it contributes to a healthier society.

Why Fortify Flour?

Fortification of flour is a commonly used method to ensure supply of vitamin A to populations who lack sufficient intake of this vitamin in their diet. Vitamin A manufactured for flour fortification is in powder form which is mixed homogenously with flour. Because flour is a widely consumed staple across the world, it is an excellent vehicle to address nutritional deficiencies. Flour fortification is a cost-effective way to deliver micronutrients to the population.

BASF Product Solutions

BASF has developed a vitamin A product specially formulated for flour fortification: dry vitamin A palmitate 250, containing 250,000 IU/g. It has been optimized for homogeneity and stability in corn flour and wheat flour. The stability of dry vitamin A palmitate 250 FLP has been documented according to the USDA commodity requirements CSB 13.

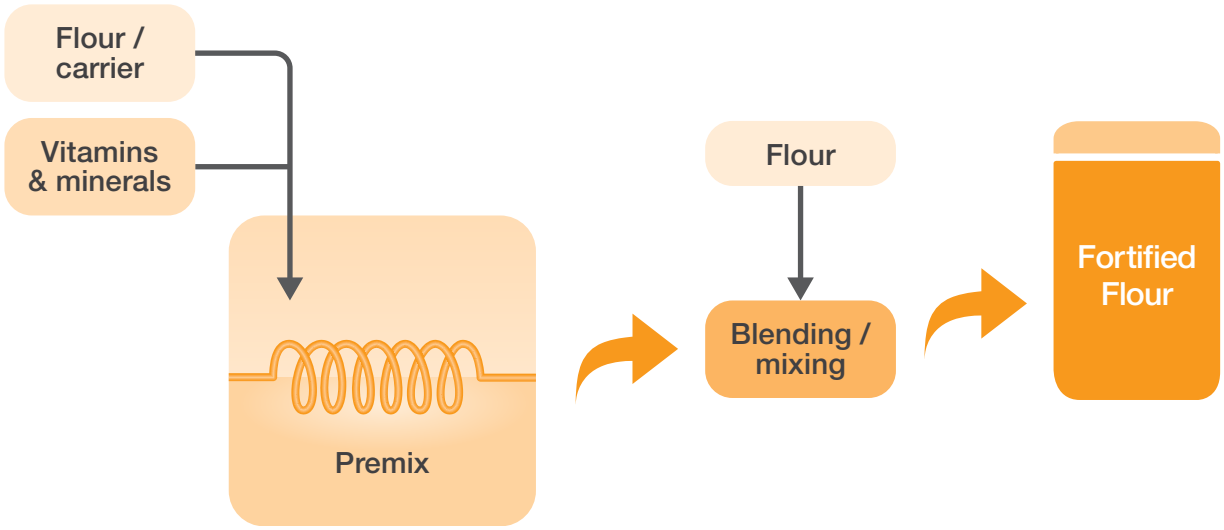
BASF Testing Solution

To test for vitamin A in flour, BASF has developed semi-quantitative Test Kits which can screen for the presence of vitamin A in flour at a very low cost.

Flour Fortification Principle

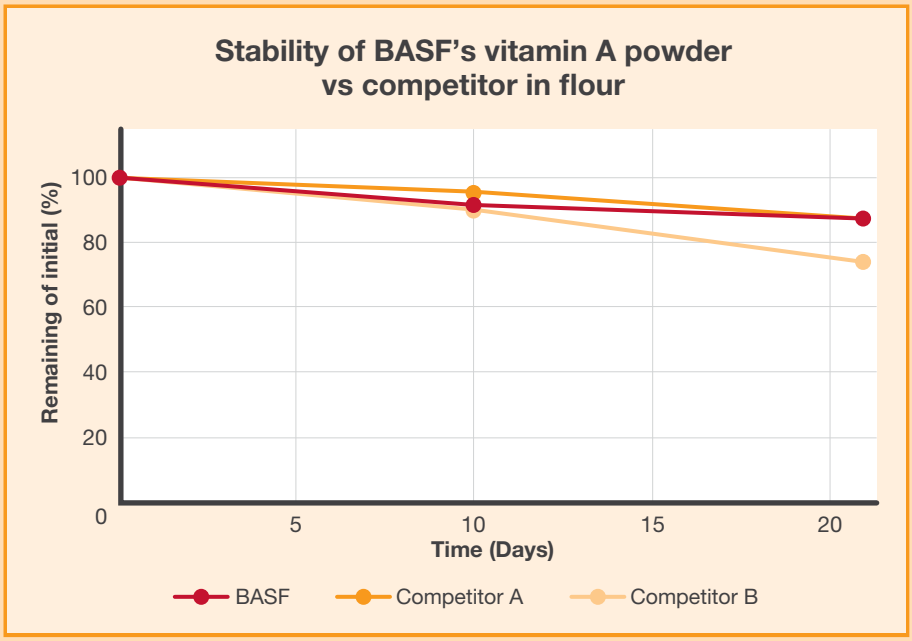
Flour and vitamin A powder have a suitable particle size distribution, thus making segregation into different particle sizes unlikely. Homogenous distribution of vitamin A in the final product depends on steady flows of premix – a concentrated blend of microencapsulated vitamin A and flour – and the main volume of flour. The vitamin A is usually added in a vitamin and minerals premix. Depending on the components of this premix, a feeder should be selected that eliminates bridge formation and segregation of components in the feeder. Typically, a continuous high-speed mixer is used to blend the flour and premix. With the right mixing tools, this will produce a homogenous mixture. The exact measures that need to be taken to avoid segregation depend mainly on the features of the factory.

Flour Fortification Process



Stability

Stability is strongly influenced by the particle size of the vitamin A powder. Larger particle size means greater stability, because the total particle surface area is lower in relation to the total weight compared to simple spray dried products. Optimization of particle size distribution is thus an important quality parameter.



Please get in touch with us for more details: food-fortification@basf.com
www.food-fortification.com