



We create chemistry

Milk Fortification

An Investment in the Future

The fortification of staple foods such as milk is an effective public health strategy to improve micronutrient intake in populations at risk of deficiency.

At BASF, we are driven by a clear purpose: to help build a healthier future by improving access to micronutrients, e.g. vitamins A and D₃. Through our high-quality, reliable product solutions, we enable food fortification and thereby help to close nutritional gaps.

We see adequate vitamin supply not only as a nutritional necessity, but as an investment in long-term well-being and better lives for millions of people worldwide.

? Why Fortify Milk?

Fortifying milk with vitamins A and D₃ enhances its nutritional profile. As milk is widely consumed across all age groups—particularly by children and young adults—it serves as an effective carrier for delivering these essential nutrients through the daily diet.

For milk powder applications, successful fortification with vitamins A and D₃ depends on carefully designed formulations that ensure uniform distribution and maintain high stability throughout shelf life.



BASF Product Solutions

BASF is a leading producer of highly stable vitamin A and D₃ powders and oils for the fortification of milk:

Oily Vitamin Blend:
Vitamin A-Palmitate
1.0 Mio IU/G
Vitamin D₃ 100,000 IU/G
Retest period: 24 months

Dry Vitamin A-Acetate
325 GFP
Retest period: 24 months

Dry Vitamin A-Palmitate
250 CP CWD
Retest period: 24 months

Dry Vitamin A-Palmitate
250 FP CWD
Retest period: 24 months

Dry Vitamin D₃
100 GFP
Retest period: 36 months

Milk is available in both liquid and powdered formats, requiring tailored fortification solutions for each application. To ensure optimal compatibility, vitamins A and D₃ are therefore provided in both liquid and powder formulations.



BASF Testing Solution

To test for the vitamin A content of fortified milk, BASF has developed a semi-quantitative test kit.

It is easy to use and allows fast screening of milk for the presence of vitamin A at low cost.



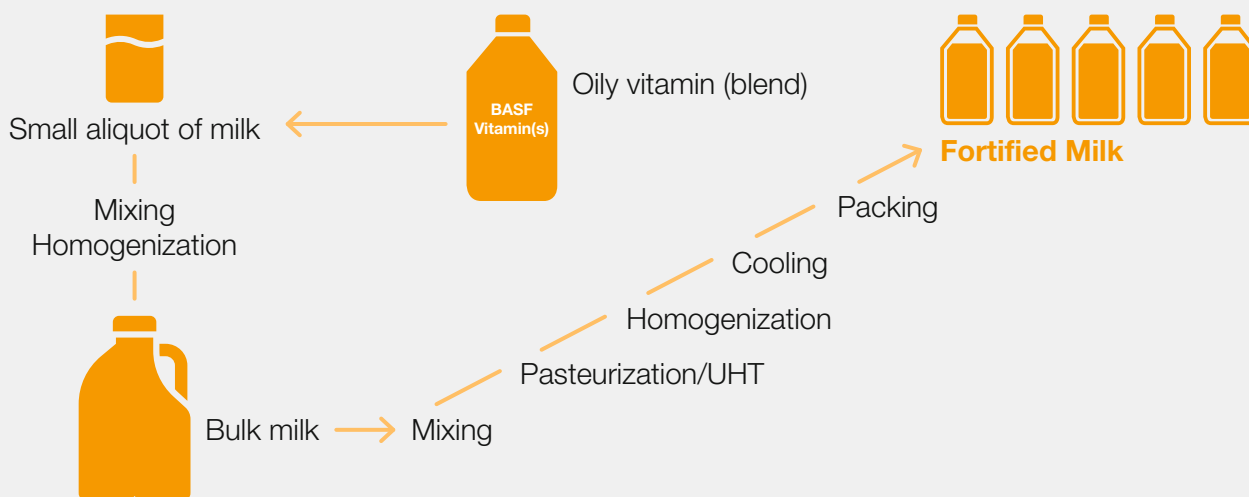
Milk Fortification Principle

Oily vitamin formulations are typically used for the fortification of liquid milk and are incorporated prior to homogenization.

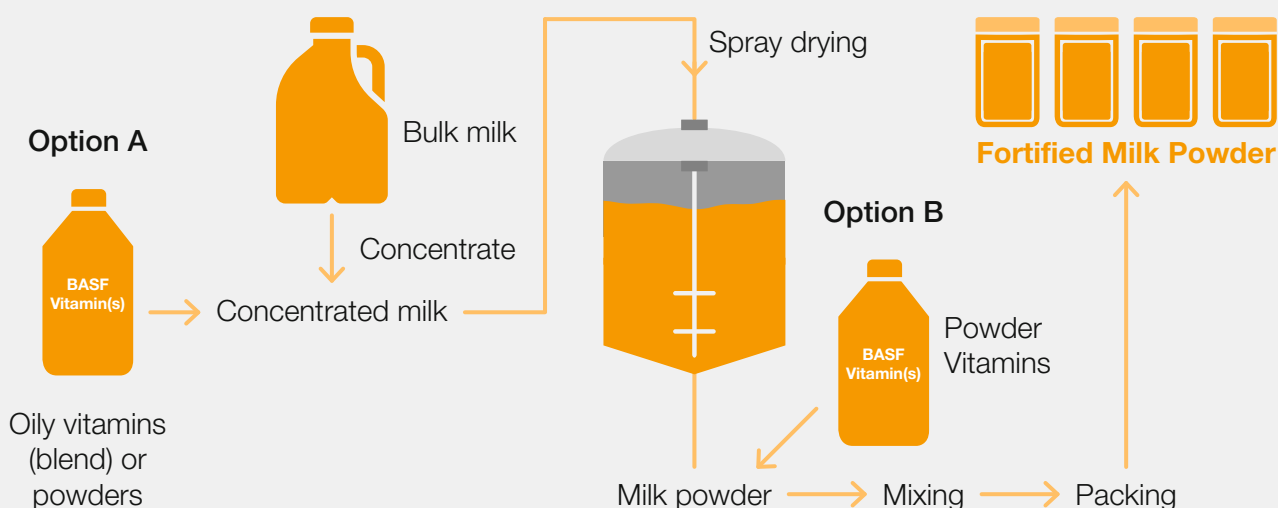
For milk powders, two approaches are applied: either oily vitamin formulations are added to the milk before spray-drying, or vitamin powders are blended into the finished dry product.

The optimal fortification strategy depends on three key factors: the targeted end product, the technical set-up of the production facility, and the availability of processing equipment such as homogenizers or dry-mixing systems.

Milk Fortification Process



Milk Powder Fortification Process



For information about other vitamins for food fortification, and applications in oil, flour or sugar, please contact us.



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