



IS 17781: 2021 VITAMIN MINERAL PREMIX FOR MANUFACTURING FORTIFIED RICE KERNELS- SPECIFICATION

Vitamin and Mineral Premixes are dry or liquid custom blends of a wide range of vitamins, minerals, or combinations of vitamins and minerals, which are used in food and beverages for enrichment or fortification purposes with an objective of enhancing the nutritional value of the products.

In this standard Vitamin and Mineral Premix (VMP) is a powdered blend of micronutrients, including vitamins and minerals, designed for use in the manufacturing of **Fortified Rice Kernels (FRK)**. These kernels, shaped like rice grains, are then blended with polished raw or parboiled rice to create fortified rice. The VMP itself consists of essential micronutrients such as **iron, folic acid, and cyanocobalamin**. It may also include **zinc oxide, vitamin A, thiamine, riboflavin, nicotinamide, and pyridoxine**. The premix utilises a white base or carrier material and may include food-grade emulsifiers, hydrocolloids, binding agents, acid regulators, and antioxidants as permitted by regulations.

Consumers expect VMP to be safe, effective, and easy to incorporate into food production. Key quality parameters would include precise and consistent micronutrient composition, good flowability for easy handling and mixing, a lack of undesirable colour, odour or foreign matter, and appropriate packaging that protects against light, moisture, and air. Consumers would also expect the product to meet regulatory requirements for food safety.

The **FAD 16 Indian Standard (IS 17781:2021)** addresses these expectations by outlining specific requirements and testing methods for VMP. It mandates that the premix be a free-flowing powder, white to off-white in colour, with a faint odour, free from lumps and foreign matter, and manufactured in hygienic conditions. The standard specifies the required micronutrients and their chemical forms, ensuring accurate nutritional content. It also sets limits for **moisture content** and **particle size** for optimal handling and dispersion. Further, the standard dictates food-grade packaging that safeguards the premix and mandates clear labelling, including a list of micronutrients and their chemical forms, date of packing, best before date, and compliance with food safety regulations. The standard also includes procedures for sampling and testing, ensuring consistent quality. These measures aim to provide a product that is safe, effective, and meets the expectations of both consumers and food manufacturers.