Brazil has practiced food fortification with folic acid (FA) and iron (Fe) voluntarily or by legal requirements. Since the chemical stability of folic acid and iron is largely affected by processing conditions, the objective of this study was to evaluate the stability of these micronutrients, the baking powder in pure form (PA) and microencapsulated (ME) and combined into: CF-A (AF and Fe PA’s), CF-B (AF ME and Fe PA), FQ-C (AF PA and Fe ME), CF-D (AF and EF ME), and also to perform the quantification of folic acid and iron in these products in a shelf life of 180 days. The analyzes for CLUE for baking powder were carried out using a C18 column as stationary phase and a 1% acidified solution of formic acid in water / acetonitrile (95:5) as mobile phase within 6 minutes runs and DAD detection (285 nm). Iron analyses were carried out with a flame atomic absorption spectrometer. The microencapsulated folic acid samples had good stability, which proves that the microencapsulation prevented the degradation of this vitamin because iron more stable under the conditions studied. It can be observed a significant loss for the two groups-CF A (77.16%) and CF-C (87.14%) having in their formulations not microencapsulated folic acid, while the groups of microencapsulated folic acid CF-B (29.71%) and CF-D (16.85%) presented a moderate loss. This moisture is due to the plastic packaging material in HDPE (high density polystyrene) which has a low barrier to moisture and oxygen. Regarding to iron, it was stable at 180 days of shelf life.