



Application

Food

Objective

Details various applications of Turbiscan for beverage products

Device

TURBISCAN® LAB



Development and control of beverage emulsions

INTRODUCTION

Beverages based on emulsions are very common on the market as they comprise all dairy based drinks and many of the soft drinks, which are diluted emulsions. All these products have relatively short shelf lives and show typical colloidal instabilities (creaming, sedimentation, flocculation, coalescence). Therefore, it is important to test their stability in the less time possible in order to increase the delivery period from the development to the production and, by doing so, follow the expectations of the consumers in the most efficient way.

APPLICATION 1: CONTROL OF THE RAW MATERIALS

1. Common method

Controlling the quality of raw materials (flavours, stabilisers, gums, etc.) for beverage emulsions is of prime importance for both the raw material supplier and the food industry because of the sensitivity of these products towards stability. Therefore, tests have to be performed to ensure the quality of the raw materials. These tests are usually done by preparing reference emulsions (standard emulsion with only the raw material to test changing) and testing their stability visually over several weeks.

The quality control of raw materials can therefore take a few days, holding back the distribution of the batches.

2. Turbiscan® method

The Turbiscan LAB enables to accelerate stability tests of emulsions prepared with the same standard method as previously mentioned. The equipment also gives the possibility to draw kinetics of instability (migration or particle size variation) and therefore to compare easily newly produced batches to reference values. The thermoregulation (from 4 to 60°C) enables to accelerate the tests even more.

Using the Turbiscan LAB, the control tests of raw materials are accelerated up to 30 times, enabling to increase the production capacity and to improve the reliability of the products.

APPLICATION 2: DEVELOPMENT OF A NEW BEVERAGE

1. Common method:

When developing a new drink, the formulator has a list of specifications from the marketing that he needs to fulfil, with all the physico-chemical issues that can arise with mixing different kind of raw materials (e.g. milk and orange juice). Because of the large complexity of the systems, the most widely spread method to measure the stability of food product is the visual observation of the samples at different temperatures during several months. However, this is a very subjective and tedious test that leads to long delivery time of new products.