



Quality control of self-emulsifying oils and lubricant emulsions

Application

Oil & Petroleum

Objective

Details various applications of Turbiscan for lubricant products

Device

TURBISCAN® LAB

INTRODUCTION

The lubricant industry for machining metal parts, engines, etc., offers a large range of products as emulsions, as they enable to reduce the cost of the lubricant and to increase the cooling capacities, while keeping good lubricant properties. These products are sold as emulsions or as self-emulsifying oils that are diluted directly by the user.

APPLICATION 1: QUALITY CONTROL OF SELF-EMULSIFYING OIL

1. Common method

Visual observation is usually used to control the quality of self-emulsifying oils. This method requires waiting for around 10 hours in order to measure if the oil is homogeneous (no haziness, no phase separation), despite the addition of various additives. If haziness or phase separation occurs, it is necessary to adjust the formulation and to wait again for 10 hours to check the stability of the newly formulated oil.

A batch of oil can therefore be held back for more than 24 hours in the tank.

2. Turbiscan® method

The measurement of the light flux transmitted by the oil enables to detect quickly the quality of the oil produced. A scan measurement during 30 minutes allows a detection of phase separation or haziness, in an objective and traceable way compared to visual observation. The product can therefore be reformulated more rapidly if necessary. Moreover, it is possible to compare the transmission values of the produced batch to a reference. The thermoregulation enables to control the products at different temperatures to simulate the use conditions.

By using the Turbiscan LAB the quality control tests of the oils are accelerated 20-fold, enabling to increase the production capacities and to improve the reliability of the batches produced.

