

TURBISCAN

THE REFERENCE FOR
STABILITY ANALYSIS



Formulaction
Smart scientific analysis



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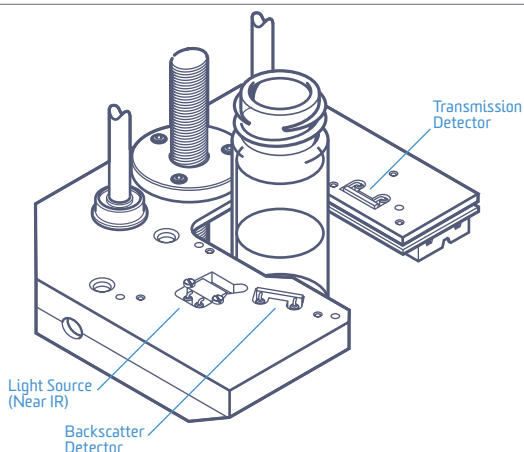
The Turbiscan range is world widely used in order to characterize the **dispersion state** of emulsions, suspensions, foams...

Changes in terms of size and concentration (such as creaming, sedimentation, flocculation or coalescence...) are directly monitored, in realistic conditions enabling **faster and more relevant** characterization compared to common methods such as visual observation or centrifugation, which are time-consuming or non-realistic.

Users have now the easiest way ever to check the stability of their formulations with a one-click access to the **Turbiscan Stability Index (tsi)**.

SCREENING STABILITY TESTS: TURBISCAN™ CLASSIC

AGEING & CHARACTERISATION : TURBISCAN™ LAB



→ MULTIPLE LIGHT SCATTERING

All Turbiscans work on the same principle. This technique consists in sending photons (light) into the sample. These photons, after being scattered many times by objects in suspension (droplets, solid particles, gas bubbles, ...) emerge from the sample and are detected by the measurement device of the Turbiscan.

→ MEASUREMENT PRINCIPLE

A mobile reading head, composed of a NIR diode and two detectors (transmission (T) and backscattering (BS)), scans a glass cell containing the sample. The Turbiscan software then enables to interpret the obtained data easily.

The measurement enables the quantification of several parameters, as BS and T values are linked to particles average diameter (d) and volume fraction (φ).

$$BS = f (d / \varphi)$$

→ BENEFITS



VERSATILE TECHNOLOGY

User can study all kinds of liquid dispersions (emulsions, suspensions, foams, ...), with concentration up to **95% v/v**, over a wide range of size (**10 nm to 1 mm**).



OPTICAL AND THERMAL ACCELERATION

Thanks to the high optical resolution and the possibility of important storage temperatures, detection of the samples ageing is accelerated up to **200 times**.



NON CONTACT MEASUREMENT

Measurement is done without any mechanical or external stress, and without any dilution, thus allowing to monitor the ageing of the product in realistic conditions.



EASY SAMPLE HANDLING

Measurement is performed in a disposable glass cell, preventing evaporation or drying, requiring absolutely no sample preparation (such as dilution).



AUTOMATED SHELF
LIFE ANALYSIS :
TURBISCAN™ AGS




PROCESS
MONITORING :
TURBISCAN™ ONLINE
IMPROVE AND CONTROL
YOUR PROCESS ONLINE
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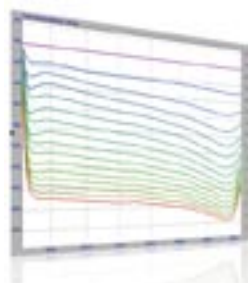
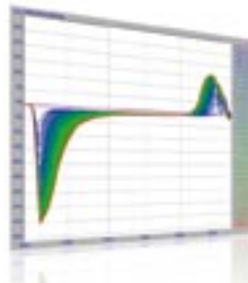
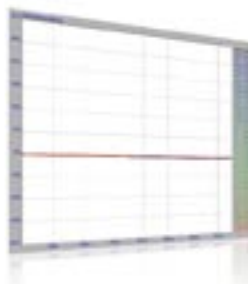
→ DATA ANALYSIS

The Turbisoft software provides multi-level data treatment for both experts and non experts, enabling the use of the instrument in various domains such as R&D, pre-formulation, upscaling, quality control, ...

The Turbiscan Stability Index  is a one-click feature providing a key number depending on the global stability of the sample. It is a quick and easy way to characterize the sample, and enables the user to sort various formulations.

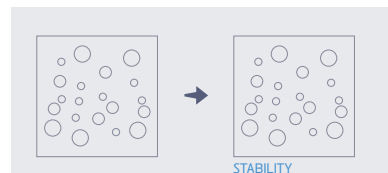
Kinetics computation based on the raw signal allows to identify and quantify in details the phenomena taking place in the samples, depending on size and concentration variations.

An additional feature allows to compute the evolution of the average particles diameter or concentration during the ageing of the product in any part of the sample.



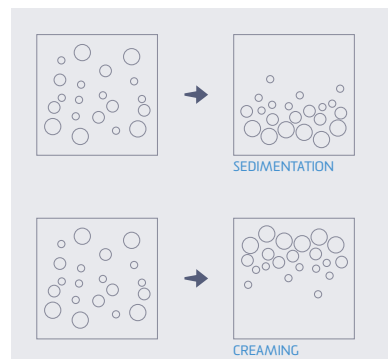
STABILITY

No variation of BS and T



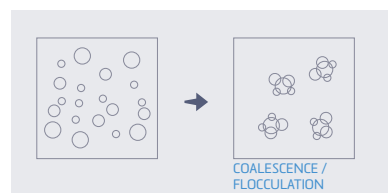
PARTICLES MIGRATION

Local peaks of variation of BS or T



PARTICLES SIZE VARIATION

Global variation of BS or T on the whole height



→ SPECIFICATIONS



TURBISCAN CLASSIC



TURBISCAN LAB



TURBISCAN AGS

Quantitative monitoring of dispersion	●	●	●
Migration velocity & hydrodynamic diameter	●	●	●
Turbiscan Stability Index (TSI) computation		●	●
Long-term analysis		●	●
Disposable glass cells		●	●
Automatic samples recognition (bar-code)		●	●
Temperature control		T,E*	●
Average diameter and volume fraction computation		E*	●
Automatic handling of 54 samples			●
Storage at 3 different temperatures			●
Automatic reporting			●
Repeatability (manual measurement)	0.5%	0.1%	N/A
Repeatability (automatic measurement)	0.1%	0.05%	0.05%
Dimensions (cm)	27,5*13*23,5	38*42*32	145*75*85
Weight (kg)	5	13	50

* Turbiscan LAB is available in 3 distinct versions : Standard, Thermo (T), or Expert (E)

→ APPLICATIONS



Cosmetics



Food



Paint & Ink



Oil & Petroleum



Polymers



Pharmaceutical

Formulation
Smart scientific analysis

10, impasse Borde Basse
31240 L'Union - France
+33 (0)5 62 89 29 29