

RHEOLASER® MASTER

BULK RHEOLOGY AT REST



VISCOELASTICITY CHARACTERIZATION

6 SAMPLE POSITIONS

Easy and fast comparison
of various formulations or
parameters
(pH, conc., time...)

MEASUREMENT AT REST

An optical method for
zero shear and
non-intrusive analysis
of viscoelastic
properties.

MULTIPARAMETER ANALYSIS

Single experiment set-
up for viscosity, elasticity,
gel point, aging time...
characterization.

KINETIC ANALYSIS

Monitoring of rheological
behavior over ageing time
on the very same sample.



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FORMULATION 
Scientific instruments

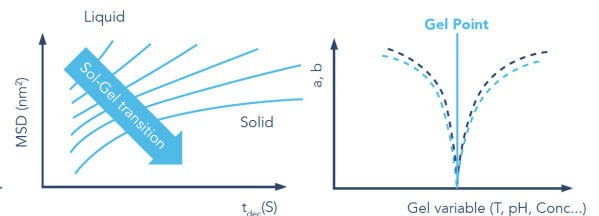
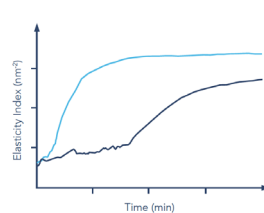
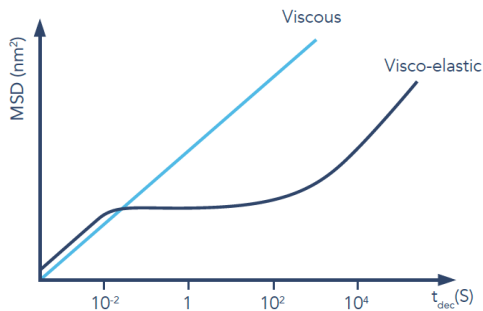
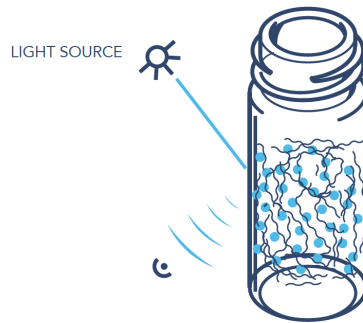
VISCOSLEASTICITY CHARACTERIZATION AT REST AND OVER TIME

Rheolaser Master enables the analysis of rheological properties of soft materials without mechanical stress (by passive microrheology). It is particularly suited for viscoelastic evolution monitoring: sol-gel transitions, changes due to aging or structure recovery. Based on diffusing wave spectroscopy (DWS) it provides highly sensitive monitoring of the smallest structure changes without contact.



MEASUREMENT PRINCIPLE

Rheolaser MASTER is based on Multi Speckle Diffusing Wave Spectroscopy (MS-DWS) and detects particle Brownian motion. A thorough analysis of wave interferences due to particle mobility provides information about the rheological properties of the structure. In a strong gel (viscoelastic systems) particle mobility will be partially limited by the network structure. While in a simple viscous media, the mean square displacement (MSD) will have more linear form. Monitoring MSD over time and temperature allows to monitor gel formation, determine sol-gel transitions and characterize gel strength with extreme accuracy and without any contact with the sample.



KEY BENEFITS

NON-CONTACT RHEOLOGY

- Weak structure characterization (weak gels, emulsions..).
- Long term analysis without stress or resampling.
- Gel formation monitoring without intervention.

A SIMPLE EXPERIMENTAL SET-UP

- Easy sample manipulations, no calibration or geometry setting.
- 6 sample positions for simultaneous measurement.
- Fully automated data treatments.

GEL POINT DETERMINATION

- A complete viscoelastic analysis: gel formation, gel strength, viscosity and elasticity indices.
- Gel point determination as a function of multiple parameters (temperature, time, pH, concentration..)

APPLICATIONS



Food



Materials



Oil & Petroleum



Home & Personal Care



Polymers



Pharmaceutical

TECHNICAL SPECIFICATIONS

Technology	MS-DWS 650 nm
Sample volume	4 or 20 mL
Temperature range	RT - 90°C
Number of Samples	1 - 6
I* measurement	Yes
Minimum Viscosity	15 mPa.s
Dimensions	60 x 40 x 30 cm
Weight	36 kg



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