

RHEOLASER MASTER



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.

BULK RHEOLOGY AT REST

MICRORHEOLOGY

www.formulaction.com

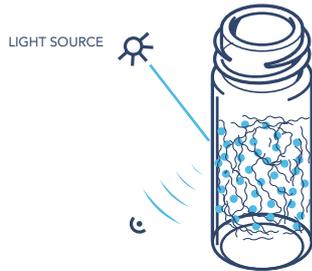
Formulaction 
Smart scientific analysis

VISCOSLEASTICITY CHARACTERIZATION AT REST AND OVER TIME

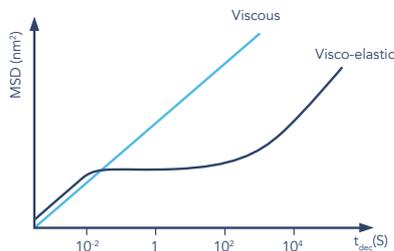
Rheolaser®MASTER enables the analysis of rheological properties of soft materials without mechanical stress (by passive microrheology). It is particularly suited for viscoelastic evolution monitoring: sol-gel transitions, changes due to aging or structure recovery. Based on diffusing wave spectroscopy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

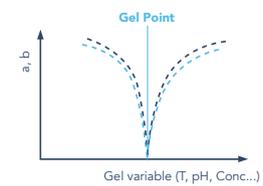
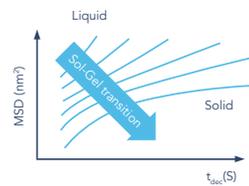
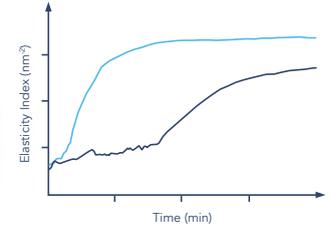
- Weak structure characterization (weak gels, emulsions...)
- Long term analysis without stress or resampling.
- Gel formation monitoring without intervention.

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



Polymers



Cosmetics



Pharmaceutical



Raw materials



Oil & Petroleum

TECHNICAL SPECIFICATIONS

Technology	MS-DWS 650 nm
Cell Volume	4 or 20 ml
Simultaneous measurements	6
Temperature control	RT to 90°C
I* measurement	Yes
Minimum Viscosity	15 mPa.s
Dimensions	60 x 40 x 30 cm
Weight	36kg