



ELEMENTIS

Application Leaflet

# RHEOLATE® 2001

Highly efficient anti-settling  
additives for highly pigmented  
aqueous systems

Unique chemistry, sustainable solutions

## Key Benefits

- Outstanding anti-settling properties
- Easy to incorporate
- No elevated temperature for activation required

## Chemical and physical data

|                                       |   |
|---------------------------------------|---|
| Composition                           | Olefinic copolymer colloidal suspension |
| Appearance                            | Translucent off-white liquid            |
| Active content [%]                    | 24                                      |
| Solvent                               | water                                   |
| Specific gravity [g/cm <sup>3</sup> ] | 1.008                                   |

## Introduction

**RHEOLATE® 2001 is a highly efficient, pourable liquid, anti-settling additive dedicated for aqueous application.**

RHEOLATE® 2001 has been based on a liquid dispersion of a proprietary aliphatic co-polymer containing functional carboxylate groups. These are in the delivery form of the product neutralized with an amine in order to make it compatible with water.

Typical applications of RHEOLATE® 2001 are Inks, paper coatings, pigment slurries and colorants as well as various kinds of water reducible applications.

## Benefits and Features

- Outstandingly effective anti-settling properties
- Excellent syneresis reduction
- Minimum effect of low & mid shear viscosity
- Easy incorporation, no elevated temperature necessary
- Enhances spray application

## Mechanism and performance

The dispersed, colloidal copolymer particles are forming long chains in the rest, resembling strings of beads. Due to entanglement of the chain a three dimensional network is provided throughout the formulation. The resulting structure is open, however, supports finely divided pigments, extenders and fillers from sedimenting.

**FIGURE 1:** Stability of aqueous ink

RHEOLATE® 2001 works best in highly filled systems. As it interacts with the solid material of the formulation building up a polymer network. As a consequence, the effectivity of RHEOLATE® 2001 is increasing with inclining filling grade.

In low solid system might not be enough particulate material to interact. In such cases, sedimentation might still occur, however, should be limited to soft settle. Problematic hard sedimentation is limited to a minimum.

RHEOLATE® 2001 provides long-term stability even in low viscous systems such as stains and wood care systems as well as industrial spray paints.

RHEOLATE® 2001 gives strong anti-settling performance and some sag control to a various water reducible systems and pigment dispersions. It only forms its network structure when the formulation is resting. This explains the minimum effect on the low and mid shear viscosity.

Further, RHEOLATE® 2001 does neither affect the gloss, the film build nor the levelling character of the final system.

In **FIGURE 1** is has been visualized that RHEOLATE® 2001 effectively eliminates settling and phase separation of a blue, aqueous ink system with a filling grade of 30%.

## Incorporation

RHEOLATE® 2001 has been designed to be easy to incorporate. The low viscosity and the small particle size enables RHEOLATE® 2001 for the incorporation as a post-add additive. However, as it is shear stable addition millbase process is another suitable way of application.

In all cases, the proposed system needs to have a pH value of above 6.

NOTE:

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