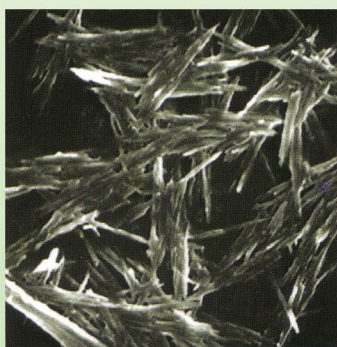


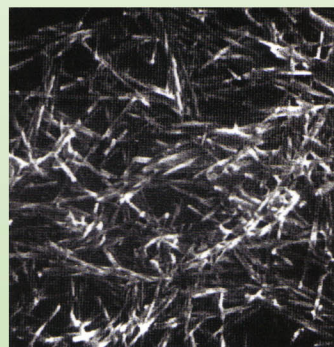
## PANGEL RHEOLOGY MODIFIERS

The **PANGEL** range of rheological additives are derived from natural Sepiolite clays (hydrous magnesium silicate). When incorporated into a paint or ink, the needle-like structure of Sepiolite forms a 3-dimensional network.

**PANGEL B20 in xylene**



**PANGEL S9 in water**



The solvent, pigment / fillers and other colloidal particles are retained within this network, leading to an increase in viscosity which helps to prevent sedimentation and syneresis. However, when a shear force is applied to the paint (i.e. when the paint is stirred, or when it is applied with a brush, roller or spray gun) the 3-dimensional network breaks down, and the Sepiolite fibres orientate themselves in the direction of the shear force. This leads to a decrease in viscosity, producing good flow and levelling behaviour. When the shear force ceases (e.g. after application to the substrate), the viscosity of the paint increases once more, providing the paint with anti-sagging character.

The optimal method for incorporating **PANGELS** into a paint is by high shear mixing. For maximum efficiency, it is recommended that **PANGELS** are added at the beginning of paint production, before the addition of pigments and fillers. Alternatively, **PANGELS** can also be added as a pre-gel (suspension of **PANGEL** that has been pre-dispersed into the paint medium or solvent).

The choice of which grade of **PANGEL** to use will depend on the overall polarity of the solvent system:



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