

VISCOGEL[®] B3

Description

VISCOGEL[®] B3 is an economical rheological additive, for solvent-borne systems of low to medium polarity. VISCOGEL[®] B3 gives thixotropic effect, sag control and prevents pigments from long-term storage settling.

The nature of VISCOGEL[®] B3 is a bentonite clay, organically modified with a quaternary alkylammonium compound to develop the necessary organophilicity, to be effective in organic media.

Tab: CHEMICAL AND PHYSICAL DATA

COMPOSITION	COLOUR	FORM	DENSITY	MOISTURE
Smectite clay with alkylammonium salt	Pale cream	Free flowing powder	1.7 g/cm ³	3 %

Applications

VISCOGEL[®] B3 is a good performing, low cost rheological additive based on a purified organoclay for systems which do not require high gloss, like for example traffic paints, primers, asphalt coatings, drilling fluids. VISCOGEL[®] B3 shows good performance in solvents like aliphatic mineral spirits and aromatics. Low polarity binders like alkyds and terpenes, petroleum derivatives are also compatible with VISCOGEL[®] B3.

Incorporation

VISCOGEL[®] B3 belongs to the conventional type of organoclays group, which requires mechanical energy, shear forces applied with a good dispersion equipment, and a chemical (polar) activator to reach the proper level of delamination of the organobentonite platelet stacks. Suitable polar activators are low molecular weight. Propylene carbonate can also be used, even in absence of water.

Tab: Activators' dosage (based on VISCOGEL[®] weight)

METHANOL/H ₂ O (95:5)	ETHANOL/H ₂ O (95:5)	ACETONE/H ₂ O (95:5)	PROPYLENE CARBONATE/H ₂ O (95:5)	PROPYLENE CARBONATE
33%	50%	60%	33%	33%

It is always recommended to determine the proper level of addition by experiment. Either defect or excess of chemical activator would result in poorer viscosity development.

Other surfactants based chemical dispersants are available in the market, which acts as dispersants for VISCOGEL[®] B3 platelets stacks, these have to be used once organoclay is first dispersed.

Several methods can be used to incorporate VISCOGEL® B3:

1. The “direct add” technique. VISCOGEL® B3 is added directly in powder form to the solvent/resin mix, before pigment addition and milling. It is advisable to allow the organoclay to wet and disperse and add the polar activator before or after the pigment. Surfactants have to be added the last.

2. The “pregel” technique. VISCOGEL® B3 is pregelled as described above in a suitable solvent at a 5-10 % concentration, with a polar activator. The activated gel is then added to the binder solution and stirred. After pigment addition the mix is finally milled. Higher activated gel concentrations (15-20 %) can be obtained with the aid of suitable dispersing additives, always added after full organoclay dispersion.

Dosage

Level of addition strongly depends on the type of system and on the degree of thickening or other properties desired. Typical levels are between 0.3 % and 0.8 % of VISCOGEL® B3, this is sufficient to provide good antissettling properties to a paint. For primers, higher levels are required (0.5-1.0 %). For strong antisagging properties, up to 3.0 % can be used.

Storage Stability And Packing

Product do not deteriorate in a significant way in a 36 months period. Storage is advisable in a dry, sheltered place in closed bags. Packing is 25 Kg net paper bags on wood pallets of 1000 - 1,400 Kg each.

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