

Stabylen 30

Polymeric stabilizer

Chemical and physical characteristics (*)

Chemical Name	Acrylic acid/Vinyl ester copolymer
INCI Name	Acrylates/Vinyl Isodecanoate Crosspolymer
Appearance	White fine powder
Bulk density (g/cm ³)	0.20-0.23
pH (0.5% water dispersion)	2.7-3.5
Viscosity (mPa·s) of neutralized dispersions (Brookfield RV, 20 rpm, 25°C)	

% Dispersion	Viscosity		Spindle
	Min.	Max	
0.2	3,000	9,000	4
0.5	6,000	15,000	5

(*) Typical values not qualified for quality control purpose

Applications

Stabylen 30 is a cross-linked acrylic polymer with enhanced lipophilic characteristics.

It combines emulsifying properties with a good thickening efficacy in a broad range of pH (see Fig.1 and 2).

STABYLEN 30 provides very stable oil-in-water emulsions with any oil phase without regard to HLB, even operating at room temperature. The emulsions formulated with STABYLEN 30 exhibit a very good stability along with an improved spreadability and a significant reduction of soapy feeling.

Thanks to its low sensitivity to salts (see Fig. 3), STABYLEN 30 can be used as suspending and thickening agent in surfactant systems.

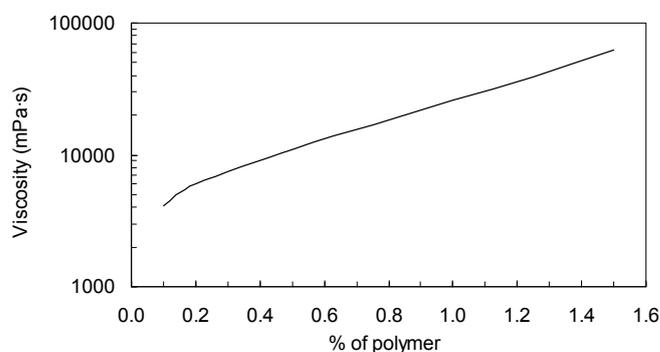
Normal percentage of use is between 0.1 to 1.5% depending on type of formulation and final desired viscosity.

Use

STABYLEN 30 can be dispersed following the normal procedure adopted for carbomer. When it is added to water and neutralized with an appropriate base, a clear gel is formed. Dispersion should be made by slow addition of the polymer in order to avoid the formation of lumps and stirring until all particles are completely hydrated. Turbulent agitation should be avoided to prevent trapping of air which would be difficult to remove from the finished product.

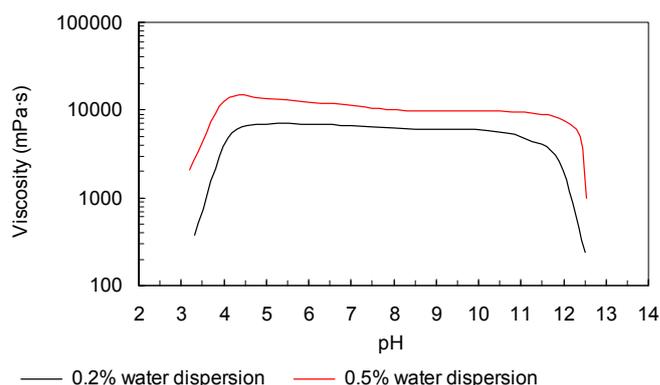
During the preparation of emulsions, STABYLEN 30 can be dispersed either in the water or in the oil phase.

Figure 1 - Viscosity vs polymer concentration



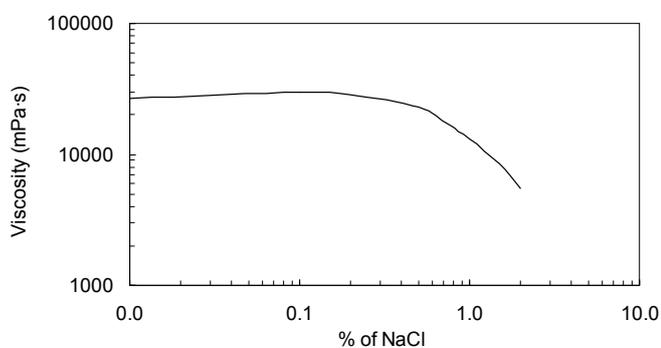
Water dispersion neutralized to pH 7 with NaOH

Figure 2 - Viscosity vs pH of polymer dispersion



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Figure 3 - Viscosity vs NaCl concentration



1% water dispersion neutralized to pH 7 with NaOH

The neutralization can be carried out with inorganic bases (such as NaOH, KOH, NH₄OH) or with organic amines (such as TEA, AMP, AMPD). For example to neutralize to pH 7 1g of STABYLEN 30 0.4g of NaOH or 0.89 g of AMP are required. It is advisable to add strong bases previously diluted into water at a concentration not higher than 10%. Prolonged high shear during and after neutralization should be avoided since this could possibly lead to a permanent loss of viscosity.

In normal conditions, gels prepared with STABYLEN 30 are not attacked by moulds and bacteria; nevertheless, they do not prevent the growth of micro-organisms and therefore the addition of suitable preservative system is advisable.

UV rays can cause loss of viscosity in STABYLEN 30 gels. The addition of water-soluble UV-absorbers, such as UVASORB S5 (Benzophenone-4), can help for preventing polymer degradation.

Toxicological information

Dermal irritation (in vitro test)	non irritant
Eye irritation (in vitro test)	non irritant
Skin sensitization (max. test)	non-sensitizing

Transport, storage and handling

Labelling: product not classified as hazardous according to international transport regulations.

Store in the original closed containers in a dry cool place. Protect from moisture. Do not breathe dust and avoid contact with skin, eyes and mucous membranes. In case of contact, wash immediately with plenty of water.

For further information please refer to safety data sheet.