

Polyfam[®] 103

Technical Data Sheet

Characteristics

Polyfam[®] 103 is an acid-containing, crosslinked acrylic emulsion copolymer.

Colloidal charge

anionic

Recommended Application Areas

Waterborne paints
Waterborne inks
Textiles

Aqueous waxes and polishes

Specification

These technical data are determined for each batch before its release by our quality control laboratory.

	Unit	Value	Dev.
Solids content (ISO 3251: 1h; 105 °C)	%	28 ±	0.5
Viscosity (ISO 2555; Spindle no. 1; 60 rpm; 23 °C) Brookfield-viscometer LVT	mPa.s (cP)	15	max
pH value (as packed) (ISO 976)		2.5 ±	0.5

Additional Data

These data are solely to describe the product. They are not subject to constant monitoring or part of the specification.

	Unit	Value
Dispersion		
Appearance		milky liquid
Density (ISO 2811)	g/cm ³	approx 1.056

Applications

[®]Polyfam 103 forms viscous solution at low concentrations upon neutralization with a base and is used as a thickener in waterborne coatings. When the emulsion is diluted with water and neutralized with a base, each emulsion particle swells greatly. The emulsion clarifies under these conditions and become highly viscous. The high viscosity of [®]Polyfam 103 solutions, even at low concentrations, suggests their use to suspend pigments and fillers in water based paints, inks or other coatings of the abrasive particles in waxes or polishes.

It is also useful for viscosity adjustment of emulsion and latex compounds of many types.

This information is based on our present state of knowledge and is intended to provide general notes on our products and their uses. It should not therefore be construed as guaranteeing specific properties of the products described or their suitability for a particular application.

Processing

Polyfam[®] 103 being a polyacrylic thickener gives superior performance than conventional thickeners like CMC, HEC. Storage stability of paints containing Polyfam[®] 103 is much superior to those with CMC or HEC. Solutions for use are prepared rapidly since neutralization occurs instantaneously with a variety of standard bases.

It is frequently possible to incorporate Polyfam[®] 103 directly into the system to be thickened without pre-neutralization. This avoids handling a viscous thickener solution. If the system contains enough free alkalinity to neutralize Polyfam[®] 103, then “in-situ” solubilization and thickening takes place. If no free alkalinity is present then alkali can be added to the system containing Polyfam[®] 103 and “in-situ” thickening will occur; Polyfam[®] 103 fully neutralizes at a pH of approximately 8.0.

Solutions of Polyfam[®] 103 effectively suspend pigment, abrasives and other finely divided solids. The sodium salt of Polyfam[®] 103 is a highly efficient thickener for these suspensions and the thickened pigment suspension have good stability. Unlike conventional thickeners, salts of Polyfam[®] 103 have little flocculating action, thickened dispersions are free from any creaming tendency and aqueous suspensions are free from sedimentations.

Freezing or addition in the emulsion of soluble iron, copper or other multivalent cations may cause precipitation of polymer solids. If the emulsion is accidentally frozen and settling of the polymer is evident, the product may be recovered in useful form by dilution with water and addition of alkali to form the salt solution.

A lot of commercially available defoamers can be included in order to prevent excessive foaming in case of vigorous agitation. Trials must be carried out to determine the most suitable grades and the correct concentration.

Preservation and Storage

Prior to use, Polyfam[®] 103 should be stored for no longer than 6 months at temperatures as constant as possible between 5 and 25 °C and must be protected from frost and direct exposure to sunshine. Furthermore, it must be ensured that already opened drums or containers are always tightly closed.

The technical data ascertained by our quality control laboratory at the time of product release may vary according to the storage conditions and may deviate from the stated limits.

Industry Safety and Environmental Protection

Not a hazardous substance.

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