Technical Information

Efka® PX 4320
(old : Efka® 4320)

□ · BASF
The Chemical Company

general	high-molecular-weight dispersing agent

Efka® PX 4320 is made by the Controlled Free Radical Polymerization (CFRP) technology, which allows producing polymeric dispersants with defined polymer architecture and a low poly-dispersity index. Efka® PX 4320 is suitable for solvent-based industrial and automotive coatings.

Efka® PX 4320 offers high efficiency in stabilizing pigments and demonstrates a wide compatibility with many resin systems. This makes Efka® PX 4320 ideally suited for use of the concept of Resin-Free Pigment Concentrates (RFPC).

- improves color development with organic pigments
- highly suitable for optimum dispersion of carbon blacks
- viscosity reduction at high pigment concentration in the grinding stage

chemical nature	acrylic block copolymer

Properties

physical form	clear, slightly orange liquid

shelf life Efka® PX 4320 should be stored in a dry and cool place. When kept in original unopened containers, it can be stored for up to 4 years from the date of manufacture.

typical properties (no supply specification)

solvent	1-methoxy-2-propyl acetate
density at 20 °C (68 °F)	~ 1.04 g/cm^3
active ingredients	~ 50 %
amine value	~ 28 mg KOH/g
color	$\leq$ 9

Application

Efka® PX 4320 is highly suitable to be used in Resin-Free Pigment Concentrates (RFPC) for a wide range of solvent-based industrial and automotive coatings.

decorative coatings	industrial coatings	automotive coatings
not suitable	solvent-based 2-pack PUR	OEM: acrylic/melamine
	solvent-based 2-pack acrylics	OEM: polyester/melamine
	solvent-based polyester	refinish: 2-pack PUR

Efka® PX 4320 can also be used as a single dispersant for direct grinding of the pigments or within Resin-Minimal Pigment Concentrates (RMPC).

Efka® PX 4320 has an improved compatibility to resins commonly used for coil coatings (polyester/melamine formaldehyde) and plastic coatings (high- and low-T_g thermoplastic acrylics).

guideline formulations for resin-free pigment concentrates (RFPC)

	Sicopal® Yellow L 1100	Special Black 6 Evonik (formerly Degussa)	Irgalite® Blue PG
Colour Index (Pigment…)	Yellow 184	Black 7	Blue 15:3
Efka® 4320	7.80	20.40	18.00
1-methoxy-2-propyl acetate	27.20	62.60	52.00
pigment	65.00	17.00	30.00
	100.00	100.00	100.00

The addition levels are recommended for starting formulations. For optimum results a ladder study should be performed in the customer specific binder formulation

recommended concentrations

Calculation method to estimate the minimum required amount of active ingredients on pigment (solid dispersant on …):

inorganic pigments	10–15 % on oil absorption value
organic pigments (green, blue, violet)	15–30 % on BET value
organic pigments (yellow, orange, red)	15–45 % on BET value
carbon blacks (LCF)	15–20 % on DBP value
carbon blacks (HCC)	40–50 % on DBP value

Efka® PX 4320 should be incorporated in the mill base before adding the pigments.

Safety
When handling this product please comply with the advice and information given in the safety data sheet and observe protective and workplace hygiene measures adequate for handling chemicals.

Note
The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, these data do not relieve processors from carrying out their own investigations and tests; neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights, etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product. The agreed contractual quality of the product results exclusively from the statements made in the product specification. It is the responsibility of the recipient of our product to ensure that any proprietary rights and existing laws and legislation are observed.

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