Efka® PX 4300

General

High-molecular weight dispersing agent

Efka® PX 4300 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 4300 is suitable for stabilizing pigments in solvent-based coatings. This results in:

- High color strength
- Good stability against flooding, floating and flocculation
- Strong viscosity-depressing effects

Chemical nature

Acrylic block copolymer

Properties

Physical form

Clear brownish liquid

Technical data
(not supply specification)

Solvent	(20 °C)	1-Methoxy-2-propyl acetate
Density	(20 °C)	0.99 – 1.02 g/cm^3
Solid content	(1h at 120 °C)	79.0 – 82.0 %
Amine value	(20 °C)	52 – 62 mg KOH/g
Color number	Gardner (20 °C)	≤ 9
Refractive index	(20 °C)	1.450 – 1.460

Application

Efka® PX 4300 is suitable for high quality solvent-based coating systems where high performance of difficult organic pigments is needed, e.g., automotive coatings (OEM and refinish).

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 NC	Refinish: 2-pack PUR

Guideline formulations for resin-containing pigment concentrates (RCPC):

	Colour Black FW 200 Orion Engineered Carbons	**Carbon Black MA 100** Mitsubishi Chemical	**Heliogen® Blue L 7087** SUN Chemical
Colour Index	Black 7	Black 7	Blue 15:3
Efka® PX 4300	7.00	2.50	7.19
Synthoester 186 HS (Synthopol)	40.00	–	–
Setal 84 XX-70 (Allnex)	–	50.00	–
Laropal® A 81	–	–	34.50
Pigment	12.50	10.00	23.00
1-methoxy-2-propyl acetate	40.50	37.50	31.31
Butylglycol acetate	–	–	4.00
	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 dispersant on pigment:

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 4300 should be incorporated in the mill base before adding the pigments.

Storage

Efka® PX 4300 should be kept in a cool and dry place.

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Validity

This Technical Data Sheet is valid for all versions of the Efka® PX 4300.

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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