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Dispex® Ultra PX 4585

general

Dispex® Ultra PX 4585 is a high-molecular-weight dispersing agent based on controlled free radical polymerization technology (CFRP).

- ideally suited for the use in resin-free pigment concentrates
- especially suited for the dispersion of organic pigments in water-based coatings
- wide compatibility with many water-based resin systems
- high efficiency in stabilizing pigments

chemical nature

acrylic block copolymer

Properties

physical form

clear, slightly yellowish liquid

shelf life

Dispex® Ultra PX 4585 may partially solidify when stored below 10 °C (50 °F). Heat to 35–40 °C (95–104 °F) to reliquify.

typical properties (no supply specification)

solvent	water
VOC	VOC-free
active ingredients	~ 50 %
amine value	~ 20 mg KOH/g
color	≤ 9

Application

Dispex® Ultra PX 4585 is very broad in its compatibility with different water-based resins and pigments.

decorative coatings	industrial coatings	automotive coatings
water-based acrylics	water-based acrylics	OEM: urethane-modified polyester/melamine
water-based alkyds	water-based 2-pack PUR	OEM: thermosetting acrylic dispersion
		refinish: 2-pack PUR

Dispex® Ultra PX 4585 can be used

- for organic and inorganic pigments
- in resin-free pigment concentrates (RFPC)
- in resin-minimal pigment concentrates (RMPC)
- for water-based architectural in-plant tinters
- in broad pH ranges during the grinding and let-down phases

Guideline formulations for VOC/APE-free pigment concentrates:

	Cromophtal® Violet L 5805	Heliogen® Blue L 7087	Irgazin® Orange L 2990 HD
Colour Index (Pigment…)	Violet 23	Blue 15:3	Orange 73
Dispex® Ultra 4585	22.00	16.00	7.55
polyethylene glycol (300 g/mol)	10.50	10.50	10.50
de-ionized water	37.00	28.00	45.45
pigment	30.00	45.00	36.00
FoamStar® SI 2250	0.30	0.30	0.30
biocide	0.20	0.20	0.20
	100.00	100.00	100.00

	Irgazin® Rubine L 4025	Colour Black FW 200 Orion Engineered Carbons	Bayferrox®[1] 130 M Lanxess
Colour Index (Pigment…)	Red 264	Black 7	Red 101
Dispex® Ultra 4585	20.00	13.50	5.50
de-ionized water	40.80	71.00	23.00
pigment	38.50	15.00	70.00
FoamStar® SI 2250	0.50	0.30	0.30
biocide	0.20	0.20	0.20
anti-settling agent	–	–	1.00
	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.

[1] registered trademark of Bayer AG

recommended concentrations

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

inorganic pigments	20–30 % on oil absorption value
organic pigments (green, blue, violet)	15–30 % on BET value
organic pigments (yellow, orange, red)	25–45 % on BET value
carbon blacks (LCF)	15–20 % on DBP value
carbon blacks (HCC)	50–80 % on DBP value

Dispex® Ultra PX 4585 should be incorporated into the mill base before adding the pigments.

Contacts worldwide

Asia
BASF East Asia Regional Headquarters Ltd
45/F, Jardine House
No. 1 Connaught Place
Central Hong Kong
China
formulation-additives-asia@basf.com

North America
BASF Corporation
11501 Steele Creek Road
Charlotte, NC 28273
USA
formulation-additives-nafta@basf.com

Europe
BASF SE
Formulation Additives
67056 Ludwigshafen
Germany
formulation-additives-europe@basf.com

South America
BASF S.A
Rochaverá - Crystal Tower
Av. das Naçoes Unidas, 14.171
Morumbi - São Paulo-SP
Brazil
formulation-additives-south-america@basf.com

Validity
This Technical Data Sheet is valid for all versions of the Dispex Ultra PX 4585.

Safety
When handling these products, 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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