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# Efka® PX 4733

**general**

high-molecular-weight dispersant

Efka® PX 4733 is an advanced polymeric dispersant with a core-shell structure. It offers the following benefits:

- 100% active, liquid dispersant
- high pigment loading at low mill base viscosity
- particularly effective in UV-curable and in mild-solvent ink-jet systems
- suitable for use in UV-curable ink system including UV-curable flexographic, litho and screen inks
- well suited solvent-based Resin-Free (RFPC) and Resin-Containing Pigment Concentrates (RCPC) in a wide range of applications

**chemical nature**

polymer with pigment-affinic groups

## Properties

**physical form**

brown viscous liquid

**storage**

Efka® PX 4733 should be stored in a cool dry place. Storage at temperatures below 10 °C (50 °F) may lead to partial solidification. Reliquefy by heating contents to 35 – 40 C (95 –102 °F).

**typical properties (no supply specification)**

| | |
|---|---|
| active ingredients | 100 % |
| amine value | ~ 25 mg KOH/g |

## Application

Efka® PX 4733 is a dispersant with broad compatibility with different ink systems and pigments and is particularly recommended for:

| UV-curable | solvent-based | water-based |
|---|---|---|
| Offset-inks | | |
| inkjet inks | inkjet inks (“strong solvent”) | not recommended |
| flexographic inks | inkjet inks (“mild solvent”) | |

Efka® PX 4733 is excellent in stabilizing organic and inorganic pigments in low-viscosity systems based on acrylate-functional UV monomers and in organic solvents.

Efka® PX 4733 shows excellent performance in Resin-Containing Pigment Concentrates (RCPC) e.g. with Laropal® A 81 for a wide range of solvent-based industrial and automotive coatings.

| industrial coatings | automotive coatings |
|---|---|
| solvent-based 2-pack PUR | OEM: acrylic/melamine |
| solvent-based 2-pack acrylics | OEM: polyester/melamine |
| solvent-based 2-pack EP | refinish: 2-pack PUR |

**recommended concentrations**

Appropriate use levels depend on pigment selection, dispersing medium and let-down composition. A ladder study should be performed to determine the optimum use level. Efka® PX 4733 should always be incorporated before addition of pigment.

**use levels for inkjet ink formulations:**
The optimum level can generally be found in the range of 20 – 90 % Efka® PX 4733 calculated on pigment load

**use levels for UV-curable flexographic formulations:**
The optimum level can generally be found in the range of 2.5 – 10.0 % calculated on pigment load. Such levels offer significantly reduced mill base viscosity and nearly Newtonian flow.

**guide formula for resin-containing pigment concentrate (RCPC):**
EFKA® PX 4733 delivers optimum performance with α-Cu-phthalocyanine pigments. However, it is also effective with β-Cu-phthalocyanine pigments.

| **colour index** | **PB 15:1** |
|---|---|
| EFKA® PX 4733 | 3.0 |
| methoxy propyl acetate | 70.30 |
| Laropal® A 81, 60% in MPA | 16.70 |
| pigment (Heliogen® Blue L6950) | 10.00 |
| | 100.00 |

In general, the minimum required amount of active dispersant can be estimated from the specific surface area or oil absorption value of the pigment. The calculated amount can be used as a starting point for ladder studies.

| | |
|---|---|
| inorganic pigments | 10 – 20 % on oil absorption |
| organic pigments | 15 – 45 % on BET value |
| carbon blacks (LCF) | 15 – 20 % on DBP value |
| carbon blacks (HCC) | 40 – 50 % on DBP value |

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**Validity**
This Technical Data Sheet is valid for all versions of the Efka® PX 4733.

**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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