

Printing & Packaging Functional Packaging Coatings

Technical Data Sheet

Joncryl® FLX 5201 (Preliminary)



| | |
|------------------------------------|---|
| Product Description | Joncryl® FLX 5201 is an aliphatic polyurethane dispersion for use in lamination inks for medium-duty food packaging applications. |
| Key Features & Benefits | <ul style="list-style-type: none">- Excellent lamination bonds on OPP, PET, and nylon substrates- Very good printability and resolubility- Good block resistance- Swiss List compliant* for food packaging |
| Chemical Composition | Polyurethane dispersion |

Properties

| | | |
|---------------------------|--|------------------------|
| Typical Properties | Appearance | white emulsion |
| | Molecular weight (Mw) | > 200,000 |
| | Non-volatile | 40% |
| | pH | 8.5 |
| | Viscosity at 25°C (Brookfield #3 LVF, 30 rpm) | 100 cps |
| | Density at 25°C | 1.05 g/cm ³ |
| | MFFT | < 5°C |
| | Freeze-thaw stable | No |
| | Total VOC | < 1.0% wt |

These typical values should not be interpreted as specifications.

Applications

Joncryl® FLX 5201 is a polyurethane dispersion that is used as a vehicle for lamination inks for food packaging on polyolefin and polyester substrates. When used alone or in combination with Joncryl® FLX 5000-A, Joncryl® FLX 5201 provides water-based lamination inks with high bond strength, very good resolubility, and print performance.

Joncryl® FLX 5201 is recommended for applications such as:

- Printing inks for flexographic or gravure applications

The combination of high lamination bonds on polyester substrates, good printability and Swiss List compliance*, makes Joncryl® FLX 5201 a unique vehicle for medium and high performance flexible packaging applications.

*All components of Joncryl FLX 5201 are listed on Swiss List Annex 6, List A and B. Contact the BASF product regulatory group for further information.

Formulation Guidelines

Joncryl® FLX 5201 can be used in conjunction with resinated or surfactant-based commercially available pigment dispersions and is compatible with standard ink making materials.

Surfactant-based TiO₂ pigment dispersions are recommended in opaque white formulations.

The ratio of Joncryl® FLX 5201 to Joncryl® FLX 5000-A can vary based on package design requirements. Higher levels of Joncryl® FLX 5201 increase bond strength and higher levels of Joncryl® FLX 5000-A improve printability and resolubility.

Starting Point Formulation

The following starting point formulations are recommended for initial evaluations of Joncryl® FLX 5201. Additional optimization of the formulations may be required to achieve desired results for specific applications.

White Ink at various ratios of Joncryl® FLX 5201 : Joncryl® FLX 5000-A

| Materials | 100:0 | 75:25 | 50:50 |
|------------------------------------|--------------|--------------|--------------|
| 75% TiO ₂ dispersion | 40.0 | 40.0 | 40.0 |
| Joncryl® FLX 5201 | 56.4 | 42.3 | 28.2 |
| Joncryl® FLX 5000-A | | 14.1 | 28.2 |
| Isopropanol | 3.0 | 3.0 | 3.0 |
| Joncryl® Wax 4 | 0.2 | 0.2 | 0.2 |
| Antifoam | 0.3 | 0.3 | 0.3 |
| Wetting agent | 0.1 | 0.1 | 0.1 |
| Total | 100.0 | 100.0 | 100.0 |
| Add as needed to adjust viscosity: | | | |
| Rheovis® PE 1320 NC | 0.3 | 0.9 | 0.8 |

Pigmented Ink at various ratios of Joncryl® FLX 5201 : Joncryl® FLX 5000-A

| Materials | 100:0 | 75:25 | 50:50 |
|------------------------------------|--------------|--------------|--------------|
| Pigment dispersion | 40.0 | 40.0 | 40.0 |
| Joncryl® FLX 5201 | 56.4 | 42.3 | 28.2 |
| Joncryl® FLX 5000-A | | 14.1 | 28.2 |
| Isopropanol | 3.0 | 3.0 | 3.0 |
| Joncryl® Wax 4 | 0.2 | 0.2 | 0.2 |
| Antifoam | 0.3 | 0.3 | 0.3 |
| Wetting agent | 0.1 | 0.1 | 0.1 |
| Total | 100.0 | 100.0 | 100.0 |
| Add as needed to adjust viscosity: | | | |
| Rheovis® PE 1320 NC | 1.1 | 0.8 | 0.3 |

White Pigment Concentrate

| Materials | |
|------------------|--------------|
| TiO ₂ | 75.0 |
| Antifoam | 0.5 |
| Dispersant | 7.5 |
| Water | 17.0 |
| Total | 100.0 |

Safety

General

The usual safety precautions when handling chemicals must be observed. These include the measures described in Federal, State, and Local health and safety regulations, thorough ventilation of the workplace, good skin care, and wearing of protective goggles.

Material Safety Data Sheet

All safety information is provided in the Material Safety Data Sheet for Joncryl® FLX 5201.

Important

While the descriptions, designs, data and information contained herein are presented in good faith and believed to be accurate, they are provided for guidance only. Because many factors may affect processing or application/use, BASF recommends that the reader make tests to determine the suitability of a product for a particular purpose prior to use. **NO WARRANTIES OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH, OR THAT THE PRODUCTS, DESCRIPTIONS, DESIGNS, DATA OR INFORMATION MAY BE USED WITHOUT INFRINGING THE INTELLECTUAL PROPERTY RIGHTS OF OTHERS.** In no case shall the descriptions, information, data or designs provided be considered a part of BASF's terms and conditions of sale. Further, the descriptions, designs, data, and information furnished by BASF hereunder are given gratis and BASF assumes no obligation or liability for the descriptions, designs, data or information given or results obtained, all such being given and accepted at the reader's risk.

Joncryl and Rheovis are registered trademarks of BASF Group.

© BASF Corporation, 2015



BASF Corporation is fully committed to the Responsible Care® initiative in the USA, Canada, and Mexico.

For more information on Responsible Care® go to:

U.S.: www.basf.us/responsiblecare_usa

Canada: www.basf.us/responsiblecare_canada

México: www.basf.us/responsiblecare_mexico

U.S & Canada

BASF Corporation
24710 W Eleven Mile Road
Southfield, MI 48033
ph: 1(800) 231-7868
fax: 1(800) 392-7429
Email: Custserv_charlotte@basf.com
Email: edtech_info@basf.com
www.basf.us/dpsolutions

Mexico

BASF Mexicana, S.A. de C.V.
Av. Insurgentes Sur # 975
Col. Ciudad de los Deportes
C.P. 03710
Mexico, D.F.
Phone: (52-55) 5325-2756
Fax: (52-55) 5723-3011