

# Technical Information

Solvent-based Liquid Systems | Ink series



## Gecko<sup>®</sup> Frontal Uni SP

Solvent based printing inks for flexible packaging  
Surface Printing

### Description

A full colour range of pigmented nitrocellulose printing inks designed for surface printing applications on flexible films, supplied as finished products or for use as mono component concentrates and system additives with an ink dispensing formulation approach.

### Printing Process

Flexographic and gravure printing.

### Applications

Surface Printing  
Suitable for food and beverage flexible packaging.

**Substrates:** LDPE, Coex OPP, BOPP, Pearl BOPP, Acrylic Coated OPP\*

\* Applicability on acrylic coated OPP has to be tested properly in relation to the adhesion promoter already contained in the series

**Minimum surface tension:** LDPE, Coex OPP, BOPP, Pearl BOPP: 38 mN/m (mN/m = dynes/cm)

### Properties

Adhesion	5	Water resistance	5
Rub resistance	5	Deep freeze resistance	5
Anti-scratch	5	Edible oil resistance	5
Gloss	4-5	Heat-resistance	160° C - 180° C

**Rating scale** (1 to 5 based on Gecko product range) 1= worst value, 5= best value

**Note:** All technical properties are a guideline only and depend on pigment choice and final application. For details about exact test methods which are the basis for info about fastness properties given above please refer to the general test method overview.

## Printing Viscosity

Diluents	Flexographic Printing 20 – 25 s FCB4	%	Gravure Printing 13 – 15 s FCB4	%
Slow	n-Propanol/n-Propyl Acetate/ Ethoxy Propanol	80:10:10 to 70:10:20	Ethanol/n-Propyl Acetate	50:50 to 75:25
Standard	n-Propanol/n-Propyl Acetate	90:10 to 70:30	Ethanol/Ethyl Acetate	50:50 to 30:70
Fast	Ethanol/Ethyl Acetate	90:10 to 70:30	Ethyl Acetate	100
Retarder	Ethoxy Propanol		Ethoxy Propanol	

## Auxiliaries

<b>Metallics</b>	A full range of Gecko® imitation gold and silver inks is available.
<b>Additives</b>	Gecko® Frontal Uni SP will give adhesion when printing directly on OPP and LDPE films. For little inferior treated film, adhesion promoter is recommended. A full range of additives (like scuff, slip, gloss etc.) is available to modify the required surface printing performance characteristics of Gecko® Frontal Uni SP.
<b>Process Inks</b>	A range of slow drying Flexo half-tone process colours is available (GFUSP raster).
<b>Lacquers</b>	For modification of surface properties a wide range of lacquers/ OPV's are available.

## Instructions for the use of printing inks for the production of primary food packaging

For information on the use of printing inks, varnishes and additives for the manufacture of food packaging please refer to the respective „**Statement of Composition**". This information is provided to allow the calculation of possible levels of migration of evaluated substances in a worst case situation.

Migration tests at **huber**group laboratories with printed samples made from commercially available OPP film (film thickness: 35 u, printed wet ink: 6 g/m<sup>2</sup>, with 95 % ethanol as the food simulant) and PE film (film thickness: 50 u, printed wet ink: 6 g/m<sup>2</sup>, with 95 % ethanol as the food simulant) showed no migration of substances above legal limits. Based on the results of these migration tests, we expect that the printed inks enable the final printed products to comply with the legal requirements for packaging for all kinds of foodstuff.

The manufacturer of the finished article and the filler have the legal responsibility to prove by appropriate migration testing that it is fit for its intended purpose.

In order to maintain low residual solvents concentration in the printed film, the printer must ensure sufficient drying of the product, especially when retarders have been added. Residual solvent content must be regularly monitored.

The products must not be used in the manufacture of packaging where the printed ink layer is intended to come into contact with foodstuff (direct food contact).

There are restrictions for the use of printing inks for applications where temperatures above 100 °C for extended periods of time are applied. For details, please see document "Food Packaging Inks for High Temperature Applications".

## **Health & Safety**

The material safety data sheets contain all relevant information for the generation of appropriate internal plant instructions. The user is responsible for all local legislation requirements.

## **Ink Handling**

Please refer to General Guidelines for handling inks for flexible packaging.

## **Storage Conditions**

Store the material in the original packaging at a temperature not below 5°C and not in direct contact with sunlight.

Contact addresses for advice and further information can be found under [www.hubergroup.com](http://www.hubergroup.com)

Due to the many variables in materials for printing, design construction, processing conditions and test criteria, this Technical Data Sheet can only be of an advisory nature. Our data reflect the latest state of our knowledge and are based on the characteristics established in the laboratory and on practical experience. Because there are many factors under the control of the user which may affect processing or application/use, it is necessary for the user to carry out appropriate tests to determine whether the product(s) is technically and safely suitable for the particular purpose, prior to use. hubergroup disclaims any liability for applications for which this ink series is not foreseen. No warranties of any kind, either expressed or implied, are made regarding the products here described. The English version is the master document, on which to refer for any translations.