



Gecko® Frontal Storm NEW

Solvent based printing inks for flexible packaging
Surface printing

Description

A full colour range of plurisolvant, nitrocellulose-based, highly pigmented printing inks designed for surface printed applications on flexible films for outdoor storage, supplied as finished products or for use as mono-pigmented concentrates and system additive.

Printing Process

Flexographic printing.

Applications

Surface printing.

Suitable for flexible packaging for products like fertiliser or gardening soil printed on polyethylene designed for outdoor storage.

Substrates: White or transparent PE

Minimum surface tension: PE : 38 mN/m. (mN/m = dynes/cm).

Properties

Adhesion	■■■■■■■■■■	Water resistance	■■■■■■■■■ ■■■ (**)
Rub resistance	■■■■■■■■■ ■■■	Deep freeze resistance	■■■■■■■■■ ■■■ (**)
Scratch resistance	■■■■■■■■■ ■■■	Gloss	■■■■■■■■■ ■■■ (**)
Light Fastness (*)	Min 6 (**)	Heat resistance	120-130°C

■ = positive rating point on a scale from zero to max. Ten points for highest value / best suitability. (*) for Light Fastness: 3 = for a specific and correct light fastness to take as a reference the values indicated for each C.I. in the TDS Annex I (11.P.018)

(**) When using pigments with adequate fastness properties

Note: All resistance properties are a guideline only and depend on the final application. For reaching adequate fastness properties during outdoor storage, it is mandatory to use selected weather-resistant pigments exclusively. Please refer to our Technical Datasheet for Gecko Base pigment concentrates. 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 DIN 4	%
Slow	n-Propanol/n-Propyl Acetate	90:10 to 70:30
Standard	Ethanol/Ethyl Acetate	90:10 to 70:30
Retarder	Ethoxy Propanol	100

Auxiliaries

Additives Usually, the use of additives is not required

Process Inks A range of slow drying flexo half-tone process colours is available (GFS raster).

Notes

Weather-resistance of printed packaging during outdoor storage will not only depend on ink selection but also on a number of other parameters like type and surface tension of PE substrate, filling good, printing parameters etc.

Therefore, we recommend confirming fastness properties under the specific conditions of the final application.

Please make sure to select weather-resistant pigments according to our Technical Information for Gecko Base system. Special care must be taken when using standard cyan pigment (PB 15:4) for printing films used for packing products like compost or organic soil to avoid the risk of pigment degradation.

For further details please refer to our Technical Information Gecko®: Outdoor storage of printed packaging materials.

Gecko Frontal Storm inks from Concentrates

With mixing stations or other equipment, it is possible to produce ready-made Inks of the Gecko Frontal Storm Series using selected concentrates of the Gecko Base Series (please refer to local **hubergroup** Technical Service) and the appropriate System Additive Gecko Frontal Storm (00GF487864).

For this operation, it is required a mixing ratio of:

- 40% of System Additive GFS (00GF487864)
- 50% of Gecko Base products (Colour Concentrates and NC varnish 00GB274057 or 00GB295711).
- 10% of free solvent (for optimum rheology we recommend using a 1:1 mixture of n-Propanol and n-Propylacetate)

For maximum colour strength requirements, the solvent part can be replaced by Gecko Base products.

No warranties can be given if products from other manufacturers are mixed with **hubergroup** products.

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 **hubergroup** laboratories with printed samples made from commercially available OPP film (film thickness: 35 u. printed wet ink: 6 g/m², with 95 % ethanol as the food simulant) and PE film (film thickness: 50 u, printed wet ink: 6 g/m², 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

Due to the many variables in materias 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.