



NEW: SICURA BOARD NUTRITEC – BPA-free

Process: UV sheet-fed offset | **Application:** Food packaging, labels
Series: SICURA BOARD NUTRITEC

This migration-optimised UV offset series replaces the proven ink series SICURA LM 361 and LM 100.

SICURA BOARD NUTRITEC, currently formulated, is now made with BPA-free raw materials (BPA = Bisphenol-A) without altering the excellent properties of LM 361 and LM 100. Like the previous series, SICURA BOARD NUTRITEC can be printed **excellently on paper/cardboard and selected plastic substrates** and stands out by its ease of use and excellent reactivity. High pigmentation, low dot gain and good overprintability with low migration varnishes using the SICURA Flex OPV series are further beneficial properties of this new series. Due to minimal migration tendency, these inks are **also suitable for**



demanding applications, such as fruit juice or dairy products packaging. (See also the article about BPA on page 4)

Outstanding low migration UV flexographic primer for optimised adherence

Process: UV flexographic printing
Application: Labels, food packaging
Product number: LAB FL LM PRIMER 0146 85-600675-4

This low migration primer optimises the adhesion performance of all low migration UV inks.

The primer provides excellent results on PET composite materials, PP, OPP, PE and top-coated aluminium. It is **suitable for food packaging** (however, a migration analysis must be performed for every new application).

Due to its smooth surface, it can be overprinted without any problems and is easy to process. This primer is a new development, designed to be combined with usual low migration flexographic series. It also has excellent sterilisation resistance.

New UV waterless offset series low migration

Process: UV offset waterless | **Application:** Labels, food packaging
Series: SICURA WL NUTRITEC



These new UV waterless offset inks provide perfect printability and adhesion with minimal odour and low migration potential.

The new ink series has been developed to meet the stringent requirements in the sensory and migration area. That makes it **perfect for labels and packaging of the pharmaceutical and food industry.** The new SICURA WL NUTRITEC series replaces the widely valued inks of the SICURA WL LM series.

Due to new components specially selected for this ink generation, the series is equally suitable for printing plastic materials and coated papers. **The adhesive properties along with scratch resistance are very good.** The inks are distinguished by low dot gain and do not scum even at increased temperatures.

Common low migration UV flexographic varnishes and primers

The overview below shows the most commonly used varnishes and primers for migration-optimised UV flexographic printing. (The standard UV flexographic varnishes were presented in the last edition of «Narrow Web» No. 82.)

Designation	Article number	Containing silicone	Comments
LAB FL LM Varnish 0102	85-601849-4	Yes	Overprinting varnish, suitable for UV LM flexographic and offset inks
LAB FL LM Varnish 0179	85-600738-0	Yes	Overprinting varnish, suitable for UV LM flexographic and offset inks
LAB FL LM Varnish 0178	85-601853-6	Yes	Overprinting varnish, suitable for UV LM flexographic and offset inks
LAB FL LM Slip Varnish 0001	85-600518-6	Yes	Overprinting varnish with excellent slip properties
LAB FL LM Gloss Varnish 301	85-601690-2	Yes	Overprinting varnish for high-end applications (e.g. soup sachets, food packaging)
OPV FL LM 2932	85-600588-9	Yes	Gloss varnish for thermo-papers
LAB FL LM Varnish 0178 SF	85-601854-4	No	High-gloss overprinting varnish for UV LM flexographic and offset inks
OPV FL LM Matt Varnish 0017 SF	85-600638-2	No	Matt varnish for UV LM flexographic & offset inks
LAB FL LM Primer Varnish 0201	85-601856-9	No	Primer for UV LM flexographic & offset inks *)
LAB FL LM Primer Varnish 0146	85-600675-4	No	Primer for UV LM flexographic & offset inks, especially suitable for PET printing material
LAB FL LM Primer Varnish for Paper	85-600489-0	No	Primer for UV LM flexographic & offset inks printed on paper

*) in order to attain better adhesion of the overprinted inks, 4% curing agent **71-470074-7** (411 LM curing agent 90) can optionally be admixed with this varnish. Pot life of the 2-component system: 6 hours.

New UV dry offset primer for IML

Process: Dry offset

Application: IML

Product number: OPV LM Primer 75-600548-4

411 LM Hardener 90 71-470074-7

Siegwerk ink experts have succeeded in developing a low migration primer for in-mould labels and wet conditions.

This 2-component UV dry offset primer gives **outstanding adhesion** on the most difficult substrates and **excellent mechanical properties in wet conditions**. A typical application for this new primer is the UV printing of in-mould labels for ice cream containers.

With standard primers on the market, condensed water on a label's surface leads to poor wet adhesion and weak abrasion resistance.

The combination of this SICURA UV dry offset LM primer together with SICURA PLAST NUTRITEC and LM OPV will offer the printers not only a safe system in terms of migration but also high adhesion levels, even in wet conditions.

The screen printing white with optimum adhesion

Process: UV screen printing | Application: Labels

Series: 78-6 Opaque White 124 | Product number: 81-010295-4

Excellent adhesion on diverse materials, with very high opacity and good scratch resistance.

With this new opaque white, the Siegwerk ink developers have succeeded in producing yet another excellent product. No matter where it has been used, it has never failed to attract words of praise. The new white has a **higher pigmentation than normal and reveals an impressive opacity with low viscosity**. It is silicone-free, remains very clean and does not exhibit any pinholes. The printed white is specially resistant to solvents and can therefore be



overprinted with other printing methods, e.g. screen, flexo, offset or letterpress printing, without any problem.

Printer's Corner

What do you need to look out for when mixing spot inks?

More and more printers have ink mixing software in their colour laboratory, allowing them to mix application-specific spot ink shades themselves. The artwork is measured with a spectral photometer, while the computer program ascertains what basic colours or which available standard colours should comprise the printing ink to be mixed. However, a couple of important points must be observed in this respect:

1. The software of the mixing program is based on definite values for the application weight of the ink film (in g/m²), which are attained with a definite anilox roller.
2. The printing press must be equipped with the appropriate anilox roller. If this is not

available and a different anilox roller is used, such information must be entered as a variable in the colour mixing program and entered as a percentage value of the defined value of the colour mixing program (see example below). It is presupposed that the weight actually transferred from the anilox roller used is known.

3. The software calculates the adapted colour recipe for the selected layer thickness.
4. The colour shade is checked by proofing the sample print. The effective application weight can be determined using differential weighing.

Example:

- Calibration proofs (defined value in the colour mixing program) with anilox roller: 7 cm³/m² = 1.9 g/m²
- Available anilox roller 6 cm³/m² = 1.5 g/m² (100/1.9 x 1.5) - 100 = -21%
- The application weight is 21% less than that of the roller that was used for the calibration proofing. The value 79% must therefore be entered as a variable for the coat thickness tool of the colour mixing program.
- The test proof on the proofing press consequently has to be created with 1.5 g/m².
- The equilibrium between the colour mixing program, proofing press and printing machine is restored.

Successful «INKday» in France

The Siegwark event «INKday» on 11th June was visited by a large number of French speaking customers and experts. Experiences regarding specific problems and innovative solutions were exchanged. The subjects covered modern **printing ink technology for high-tech gravure printing, flexographic and sheet-fed offset as well as narrow web UV printing**. Those attending came together in small groups to discuss topics, such as on-site consulting and process optimisation, sustainable printing ink solutions from Siegwark – e.g. Unirics, Nutripack and Nutritec – as well as product safety and the resultant corporate responsibility.



Welcome by Herbert Forker (CEO Siegwark)



Participants talking shop



Presentation by Bruno Garnier, Quality & Sustainability Expert at Carrefour S.A.



Evening party on the Seine

Health Safety Environment

The ban of BPA – a step towards greater food safety

In France, Bisphenol A (BPA) is banned from printing inks and varnishes on food packaging material, unless a suitable barrier against migration is provided.

BPA is a chemical compound of great importance, because it is mainly used for the synthesis of polymer plastics. However, several studies in recent years have revealed that BPA may be harmful in food. In 2008, Canada has forbidden the manufacturing of milk bottles for babies and soothers from BPA-containing plastic. In Europe, the European Food Safety Authority (EFSA) just confirmed that BPA can adversely affect some organs and recommends that the tolerable daily intake should be lowered by a factor of 10.

As the first European country, France has adopted at the end of 2012 a law which generally **prohibits the use of packaging materials in the food industry from 1st January 2015, if these materials are printed with BPA-containing inks or varnishes.** The new law concerns printing inks and varnishes formulated with raw materials which may contain BPA and

which come into contact with food. Not affected are packaging materials which are protected by an appropriate barrier to migration towards the foodstuffs, such as aluminium or glass, so that set-off on to the food contact side cannot occur. The French authority DGCCRF is still to define the test requirements for validating the compliance of a food contact material. As these tests will be performed on the finished articles, requests concerning analyses on Siegwark inks are not relevant. Furthermore, the strict Nestlé standard is also oriented towards the regulations of the new French law.

When manufacturing its products, Siegwark does not add BPA as a recipe component, however, some raw materials based on BPA are used. Siegwark is working towards replacing BPA-based raw materials in printing inks for food packaging. **Later this year, Siegwark will offer alternative products corresponding to the new French law.**

Health Safety Environment

New Toys Safety Directive

Since July 2013, the new Toy Safety Directive 2009/48/EC (TSD) is fully implemented in all European member states.

The revised directive focuses on enhanced safety requirements for toys, particularly with regard to the chemicals present. The use of certain allergenic fragrances is restricted, and new migration limits of 19 metallic elements in toys have been set. At the same time, the new version of the EN 71-3 standard sets the requirements for migration testing of the 19 elements in toy materials.

As a rule, toy packaging is not subject to the directive, while printing inks and varnishes do not represent

toy materials unless the packaging itself is used as a toy.

As a printing ink manufacturer, Siegwark cannot assume responsibility for the use of its products outside their normal intended use. Since EN 71-3 refers to the finished toy and not to the printing ink as it is supplied to the printer, it is the responsibility of the toy manufacturer to validate the conformity of the toy with the regulations by means of analysis.



As some metallic elements can be part of pigments or drying agents used in sheet-fed offset inks, it is not possible to declare that all Siegwark products are suitable for application on toys which can be sucked or swallowed. We recommend to customers to ask their Siegwark contact if they need information on a specific product requiring compliance to the TSD.

Packaging without toy function is not subject to the TSD, unless it is used as a toy.