

TECHNICAL DATA SHEET

Date: 13.07.2016, Version: 2

Range name :

SICURA Litho Nutriplast

Description :

SICURA Litho Nutriplast Low Migration is a free radical UV offset system especially developed to achieve very low residual odour and migration risk after curing and outstanding adhesion properties on a wide range of synthetic materials.

Application Fields / Market :

SICURA Litho Nutriplast is dedicated to food and pharmaceutical packaging applications, including printing on the outer surface of primary food packaging needing low odour and low migration in conformity with the requirements of the regulations.

It is in particular suited for IML, sleeves and adhesives labels. In case of pouches or other very demanding low migration applications, please consult our technical department. This serie is BPA free.

Product safety:

Intended Use

Food packaging (incl. pharma and hygiene) : **YES**

Compliance Management

These inks are only suitable for use on the non-food-contact side of food packaging, provided that they are applied using the relevant Good Manufacturing Practices (a system for ensuring that products are consistently produced and controlled according to quality standards) and according to the guidelines in this Technical Data Sheet.

The printer, converter and the packer/filler each have a responsibility to ensure that the finished - printed - article is fit for the intended purpose(s) and that the ink and coating components do not migrate into the food at levels that exceed legal, regulatory and industry defined requirements.

Please refer to Siegwerk's "**Statement of Composition**" for further regulatory information.

In case of specific applications, please contact your technical application service.

For further information, please refer to **Siegwerk's Customer Guidance: Printing Inks for Food Packaging ("Know How")** on <https://www.siegwerk.com/en/our-responsibility/product-responsibility/customer-communications/food-packaging-safety.html>

- In particular, **SICURA Litho Nutriplast** products represent a new generation of inks exclusively formulated with selected components, so as to both minimize potential migration of concern through the substrate and the set-off from the printed outer side to the food contact surface in the stack or the reel.
- **SICURA Litho Nutriplast** formula does not contain the following :
 - Basic dye complex ("fanal") pigments and barium-organic pigments with high bleeding tendency,
 - Low molecular weight acrylates with potential to leave undesirable contents of free monomer in the cured printed layer, and with high potential to migrate into food at undesirable levels,
 - Low molecular weight photoinitiators and synergists with potential to remain largely non-bound in the cured printed layer and/or to release photocuring breakdown substances at levels of concern, thus with high potential to migrate into food at undesirable levels and to cause an unacceptable odour and off-flavour risk.

With this advanced design, a high degree of ink-side safety is provided, enabling the converter to produce packaging, which is minimized in sensory impact and migration of concern according to today's standards.

Note that set-off and migration are dependent on the processing conditions such as efficiency of the lamps, reflectors, and thickness of the ink layer, colour and sufficient barrier properties of the substrate. Particular consideration for these parameters, and for the selection of non-bleeding ink references with resistant pigment, is required in case of demanding areas such as packaging for :

- organoleptically sensitive foodstuffs in general
- liquid or pasty, fatty and/or aqueous or acid food
- pasty or solid fatty food

and such as place mats with possibility of short-time food contact.

These inks are not suitable for microwave nor thermal oven usage.

For toy applications, please contact our technical department.

For final applications having to be stored in cool and humid conditions and/or requiring sterilization resistance and/or destined to dairy/cheese food, a blending issue may occur. We recommend to switch from the standard magenta to the alkali rubine red. Please conduct preliminary tests and contact our technical department.

You will produce a safe packaging material if you observe good printing practices and restrictions as outlined in the Technical Information mentioned above. In particular, these inks are not approved for direct contact with food, separated from it or not by a varnish layer.

Substrates:

SICURA Litho Nutriplast offers top performances on a wide range of materials OPP, PVC...

It is advisable to always conduct adhesion tests prior to printing.
Please consult our laboratory for more information.

Features - Performances:

⇨ **ON THE PRESS SIDE**

- Suitable for all dampening systems with or without alcohol
- Good stability and water / ink balance
- Good reactivity

⇨ **ON THE PRINTING SIDE**

- Good lithographic behaviour.
- Suitable for primary food packaging jobs.
- Extra low residual odour, off-flavour and migration risk
- Over-printable with water based varnish for IMI application : FIX RAPID 15-600611-6
- Over- printable with UV LM varnish, see TDS SICURA Nutriflex OPV

Warning :

- Certain low temperature and/or high humidity conditions of storage of the prints may weaken the adhesion of the inks on the substrate. Preliminary tests are recommended. Please consult our technical department.
- These UV inks are guaranteed for a period of 12 months after manufacture. Please check use by date indicated on the cans.
- UV inks must be stored in a cool place
- Open containers must be kept away from light sources and be closed after usage.
- Please consult material safety data sheets (MSDS) for more information.
- In case of hybrid printing press and mixed rollers, for printability and cross-contamination risk reasons, it is necessary to condition the rollers and the blankets correctly between two campaigns of runs with different ink chemistries (conventional and UV). Notably appropriate solvents must be used. We recommend you to contact our technical department for further information.

Auxillary printing additives :

When certain substrates or machine conditions imply adjustments of the ink properties, the additives should be chosen in function of this substrate and of the further processing of the printed matter.

Since addition of additives may have an influence on migration & organoleptic properties, printer is encouraged to take into account any product addition in the risk assessment of corresponding food packaging application.

Role	Designation	Reference numbers	Proportions
Reducer	Reactive reducer	81-470072-0	1 to 3 %
Tack reducer	Anti-tack paste	71-470085-3	1 to 3 %
Cure booster	Photoinitiator	71-470062-2	1 to 3 %
Mixt cleaning product	Solve 22	75-650144-1	pure

For fountain additives please contact our technical department.

Packing size:

✓ Vacuum Metallic Tins 2.5 kg Packaging code 1200

The range :

- PROCESS INKS**

Colours	Reference numbers	IWS (1)	Alcohol	Solvent	Alkali	UV Varnishing
Process yellow	70-300629-6	5	5	5	5	Yes
Process magenta	70-801280-2	5	5	5	3	Yes
Process cyan	70-111140-3	8	5	5	5	Yes
Process black	70-900479-0	8	5	5	5	Yes
Intense black	71-900513-4	7	5	5	5	Yes

Process Yellow, Process magenta and Process Cyan can be used for mixing system, whereas using of Process black or Intense black is not recommended.

- MIXING SYSTEM**

Colours	Reference numbers	IWS (1)	Alcohol	Solvent	Alkali	UV Varnishing
Fast yellow	71-300673-2	7	5	5	5	Yes
Warm yellow	71-300672-4	6	5	5	5	Yes
Orange 021	71-700291-9	5	5	5	5	Yes
Fast Orange	71-700292-7	6	5	5	5	Yes
Warm red	71-801403-8	5	4	3	5	Yes
Fast Warm red	71-801410-3	7	5	5	5	Yes
Red 032	71-801421-0	6	5	4	5	Yes
Rubine red alcali fast	71-801402-0	5	5	5	5	Yes
Fast Rubine red	71-801409-5	7	5	5	5	Yes
Fast Rhodamine red	71-801401-2	7	5	5	5	Yes
Violet	71-100336-8	7	5	5	5	Yes
Fast Reflex blue	71-111239-1	7	5	5	5	Yes
Green	71-500561-7	8	5	5	5	Yes
Neutral black	71-900506-8	7	5	5	5	Yes
Opaque white Plast LM	71-010272-4	7	5	5	5	Yes
Transparent white	71-000265-0	/	5	5	5	Yes

(1) These light fastness values refer to a solid tone printing. Light fastness decreases when colour strength is reduced or if colours are intermixed

This information is based on our experience and on results obtained in the laboratory, using specific processes and types of application. In view of the diversity of substrates and printing conditions, this data is communicated for information purposes only and is provided without any warranty on our part and must be authenticated by industrial tests before the products are used. Improvements are being made to our products on an ongoing basis and we therefore reserve the right to modify their composition as well as the contents of our technical data sheets. We disclaim any liability for applications for which this ink series is not foreseen. These products are only suitable for use on the non-food contact side of food packaging, provided they are applied under the relevant Good Manufacturing Practices (GMP) and according to the information in this Technical Data Sheet. The printer, converter and packer/filler have the legal responsibility to ensure that the finished article is fit for the intended purpose and that the ink and coating components do not migrate into the food at levels that exceed legal and industry requirements.