

TECHNICAL DATA SHEET

Date: 29.10.2018, Version: 8

Range name :

SICURA Litho Nutrimetal

Description :

SICURA Litho Nutrimetal is a free radical Low Migration UV series designed for the production of metallic shades for food packaging applications. They can be printed by offset or letterpress.

Two systems are available:

- 1-component system with ready to use inks. Preliminary tests are recommended on non-absorbent substrates
- 2-component system which has to be blended just before printing, but which offers more versatility in term of shade adaptation and substrates

Application Fields / Market :

Food packaging jobs needing metallic shades: folding boxes, labels, IML, sleeves, etc...

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 Siegwirk'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 Nutrimetal** 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 Nutrimetal** 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.

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:

- All papers and boards: in that case the corresponding transparent white to couple with the metallic paste (2K system) should be the one belonging to the SICURA Nutriboard 2
- Plastic substrates such PVC, OPP, etc...: in that case the corresponding transparent white to couple with the metallic paste (2K system) should be the one belonging to the SICURA Nutriplast 2

It is advisable to always conduct adhesion tests prior to printing.

Features - Performances:

- ⇒ **ON THE PRESS SIDE**
 - Excellent stability and water / ink balance
 - Suitable for all dampening systems with or without alcohol
 - Excellent transfer quality
 - High curing level
- ⇒ **ON THE PRINTING SIDE**
 - High opacity level and high intensity
 - Easily over-printable with UV or water based varnish
 - High Gloss
 - Over varnishing with UV or water based varnish is recommended to obtain a very good scratch resistance.

Warning :

- Inks delivered in two different components have a limited shelf life after blending and must be used during the same day.
- The metallic inks and pastes are guaranteed for a period of 6 months and for the UV transparent white it is 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.

Auxiliary 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.



The range :

1-component system

Metallic inks	Article numbers	Light (1)	Alcohol	Solvent	Alkali
Rich Gold / PMS 871	71-400290-4	7	2	5	2
Rich/Pale Gold / PMS 873	71-400292-0	7	2	5	2
Pale Gold / PMS875	71-400291-2	7	2	5	2
Silver / PMS 877	71-400289-6	7	2	5	2

2-component system

Depending on the substrate to be printed, it is important to choose the right transparent white to couple with the metallic paste:

Metallic shades	Article numbers	Ratio paste	Ratio Tr. white	SICURA Nutriplast 2 New Transparent white for all substrates
Rich Gold Paste / PMS 871	71-400202-9	50%	50%	71-000375-7
Rich/Pale Gold Paste / PMS 873	71-400203-7	50%	50%	
Pale Gold Paste / PMS 875	71-400201-1	50%	50%	

- Fastness :

Metallic shades	Article numbers	Light (1)	Alcohol	Solvent	Alkali
Rich Gold Paste	71-400202-9	7	2	5	2
Rich/Pale Gold Paste	71-400203-7	7	2	5	2
Pale Gold Paste	71-400201-1	7	2	5	2

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

Packing size :

✓	Metallic pastes	: Plastic bucket	1.0 kg	Packaging code	1821
✓	Transparent whites	: Vacuum Metallic Tin	2.5 kg	Packaging code	1200
✓	1 component inks	: Plastic bucket	1.0 kg	Packaging code	1821

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.