

TECHNICAL DATA SHEET

Date: 19.11.2018, Version: 5

Range name :

SICURA Metaldec

Description :

The **SICURA Metaldec** range is composed of a selection of metal dec suitable inks of the **SICURA Plast SP** for industrial applications and of the **SICURA Nutriplast 2 New** for food packaging applications.

Application Fields / Market :

All types of 3-pieces metal packaging.
Inks destined for printing on metal must have specific characteristics linked to the finishing treatment in the making of boxes, tins and caps.

Product safety:

Intended use :

1- FOOD PACKAGING APPLICATIONS (incl. pharma and hygiene) : YES
but exclusively with **SICURA Nutriplast 2 New**

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 Nutriplast 2 New** 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.
- **SICURA Nutriplast 2 New** 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, 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



Additionally, due to the potential application of internal/external varnishes, some set-off risks are existing. It is the responsibility of the converter to verify this point prior to any finished product marketing.

- 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.

2- INDUSTRIAL PACKAGING APPLICATIONS (Not for food packaging, pharma, or hygiene) :
with **SICURA Plast SP**

In case of food packaging application, please contact our technical department

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>

Substrates:

Coated tin plate
Electrolytic or heat-treated tin plate
Prelacquered aluminium

Features - Performances:

- ⇒ **ON THE PRESS SIDE**
 - Very stable ink/water balance even during long runs
 - Compatible with all types of dampening systems with or without alcohol
 - High speed runnability : 10000 cph
- ⇒ **ON THE PRINTING SIZE**
 - High colour strength
 - Minimum dot gain
 - Outstanding adhesion
 - Over-printable with UV varnishes and adapted acrylic / epoxy / polyester varnishes

Remarks – To be careful of :

- Some post-printing operations such as tin weld or side strip may need to reach very high temperatures. The temperature level may often be higher than the intrinsic heat resistance of the pigment.
- On the other hand, due to the wide diversity of overprint varnishes, some unknown components to us may generate chemical reactions with the pigments.
This is particularly true for yellows and magentas, that is why we always recommend to check the ink behavior with pre-printing tests in industrial conditions.

Warning :

- Sicura Plast SP inks are guaranteed for a period of 18 months after manufacture.
- Sicura Nutriplast 2 New 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
- For more information, please consult material safety data sheets (MSDS).



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
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The range :

Selection from SICURA Nutriplast 2 New for food packaging applications

• **PROCESS INKS**

Colours	Reference numbers	IWS (1)	Alcohol	Solvent	Alkali	Heat resistance °C/12min	Sterilisation 130°C/1h30 (immersion)
Process Yellow	70-301067-8	5	5	5	5	180	5
Process Magenta	70-802372-6	5	5	5	3	180	5
Process Cyan	70-120990-0	8	5	5	5	200	5
Process Black	70-900823-9	8	5	5	5	200	5

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

• **MIXING SYSTEM**

Colours	Reference numbers	IWS (1)	Alcohol	Solvent	Alkali	Heat resistance °C/12min	Sterilisation 130°C/1h30 (immersion)
Fast Yellow HR	71-301072-6	7	5	5	5	220	5
Warm Yellow	71-301073-4	6	5	5	5	200	4
Orange 021	71-700637-3	5	5	5	5	180	4
Fast Orange	71-700644-9	6	5	5	5	220	5
Fast Rubine Red HR	71-802381-5	7	5	5	5	200	5
Fast Rhodamine	71-802382-3	7	5	5	5	180	5
Violet	71-100570-2	7	5	5	5	180	5
Green	71-501336-3	8	5	5	5	200	5
Neutral Black	71-900829-4	7	5	5	5	200	5
Opaque White LM	71-010499-3	7	5	5	5	200	5
Transparent White	71-000375-7	/	5	5	5	200	5

(1) Light fastness, sterilisation and heat resistance values refer to a solid printing without overprint varnish. These values may decrease when colour strength is reduced, when colours are intermixed, when printing by screen (half-tone) and/or when an overprint varnish is applied.

HR : Heat resistant, in case of use please contact our technical department



Selection from SICURA Plast SP industrial applications (non-food)

• **PROCESS INKS**

Colours	Reference numbers	IWS (1)	Alcohol	Solvent	Alkali	Heat resistance °C/12min	Sterilisation 130°C/1h30 (immersion)
Process Yellow	70-380180-3	5	5	5	5	180	5
Process magenta	70-880134-5	5	5	5	3	180	5
Process cyan	70-113287-0	8	5	5	5	200	5
Process black	70-980214-4	8	5	5	5	200	5

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

• **MIXING SYSTEM – SICURA Plast SP**

Colours	Reference numbers	IWS (1)	Alcohol	Solvent	Alkali	Heat resistance °C/12min	Sterilisation 130°C/1h30 (immersion)
Fast Yellow	71-380230-4	7	3	2	3	200	5
Orange 021	71-710206-5	5	5	5	5	180	5
Fast Orange	71-710205-7	6	5	5	5	220	5
Fast Warm Red	71-880232-5	7	5	5	5	200	5
Fast Rubine	71-880248-1	7	5	5	5	200	5
Fast Rhodamine	71-880270-5	7	5	5	5	180	5
Violet	71-100814-4	7	5	5	5	180	5
Green	71-510507-8	8	5	5	5	200	5
Neutral Black	71-980246-4	7	5	5	5	200	5
Opaque White	71-010274-0	7	5	5	5	200	5
Transp. White	71-000291-6	/	5	5	5	200	5

(1)Light fastness, sterilisation and heat resistance values refer to a solid printing without overprint varnish. These values may decrease when colour strength is reduced, when colours are intermixed, when printing by screen (half-tone) and/or when an overprint varnish is applied.

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.