

TECHNICAL DATA SHEET

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Range name :

TEMPO NUTRIPACK METALLIC INKS

Description :

Litho sheet-fed metallic inks for food packaging applications.

Totally mineral oil free litho sheet-fed range, this series allows to guarantee excellent runnability with low odour level and optimized migration.

Series **TEMPO NUTRIPACK METALLIC INKS** are formulated without raw materials containing petroleum distillates like mineral oils or any other hydrocarbon solvents

Availability: Gold, Silver and Pantone® metallic bases in one or two-component systems

Application Fields / Market :

Primary and secondary food packaging jobs needing low residual odour and/or controlled migration.

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, **TEMPO NUTRIPACK METALLIC INKS** 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.
- **TEMPO NUTRIPACK METALLIC INKS** formula does not contain the following:
 - Basic dye complex ("fanal") pigments and barium-organic pigments with high bleeding tendency,
 - Mineral oils
 - Alkylbenzenes
 - Hydroquinone and ketoxime antidriers
 - Cobalt driers

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 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

In case where an overprint varnish is not applied, it is recommended to add a specific additive in order to increase the rub resistance (see this chapter at the end of the data sheet).



-For specific applications requiring the placement of printed packaging in a thermal or microwave oven, please use only inks developed for this purpose and characterized by a “Yes” in the reference tables below.

You will produce a safe packaging material if you observe good printing practices and restrictions as outlined in the Customer Guidance and the Good Practice Guide mentioned above. In particular, these inks are not approved for direct contact with food, separated from it or not by a varnish layer. Please contact us if you plan to produce place mats.

Substrates:

All types of board recommended for folding boxes for food packaging applications. Coated or uncoated papers for wrapping applications, place mats or inserts.

Features - Performances:

⇒ **ON THE PRESS SIDE**

- Very easy to use: able to run as well as a conventional ink
- Suitable for all dampening systems with or without alcohol
- High speed runnability
- Inks remain stable on the rollers
- Duct fresh overnight

⇒ **ON THE PRINTING SIDE**

- Very low residual odour, Robinson level ~1
- Optimized migration
- Excellent metallic effect
- Fast setting
- Excellent level of chemical and physical resistance
- Over printability (see fastness on the next pages)
- For a good rub resistance, it is recommended to apply an overprinting varnish, see VARNISHING.

Warning:

- For the two-component system: the metallic paste and the varnish have to be blended just before use. See the recommended ratio into the below table. Please take care that the blend presents a limited shelf life and must be used within 3 days after the mixing.

- All references of this range have a shelf life of 12 months from the date of production. This has to be interpreted as a warranty of "the best use" concerning the printing properties of the inks, providing the cans are not opened and stored at room temperature. After this date the inks are still usable on the press but their printing properties could eventually be altered in terms of transfer, trapping, optical density and to a certain extend in term of shade by consequence of the transfer

- The use of an IR drier or warm air will improve the setting and the gloss but it is recommended to respect 30°C maximum in the stack.

-In the event that an overprint varnish is not applied due to cost or material reasons, we recommend adding an additive to the inks to increase friction resistance (see “additives” below).

- Not recommended for toy applications.

- In any case, neither the food packaging compliance of the inks nor the risks of cross-contamination become an issue after the end of the expiry date. The compliance of the inks with the food safety requirements remains unaltered.



Varnishing :

In order to avoid set-off and rub resistance issues, we recommend to apply a low residual odour and low migration varnish:

➤ **WATER BASED VARNISH :**

- Gloss varnish : 10-602160-3 / 15SI041795
 - Matt varnish : 15-600466-5 / 15SI041796
- The mixing of these varnishes is possible to obtain a semi matt effect.

➤ **VEGETABLE BASED OFFSET OVERPRINT VARNISH NUTRIPACK 2 :**

- Gloss varnish : 65-600585-7
- Matt varnish : 65-600586-5

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

Role	Designation	Reference numbers	Proportions
Thinner	Vegetable Diluent	61-470079-7	1 to 3 %
Tack reducer	Tack reducer	61-470080-5	2 to 4%
Anti-friction paste	Hardener	61-470296-7	2 to 5%
Fountain additive	AQUA FOOD	65-060012-5	4 to 6%
Cleaning product	Food Packaging cleaner	65-650141-8	pure

Packing size :

- ✓ Metallic pastes and varnishes (two-component) 1 kg Packaging code 0700
- ✓ One-component inks 1 kg Packaging code 1190



The range :

Metallic shades	Reference of the metallic paste	Reference of the varnish	Ratio in %		FASTNESSES					
			Paste	Varnish	IWS (1)	Alcohol	Solvent	Alkali	Ability to microwave oven (2)	Ability to Baking oven
TWO-COMPONENT SYSTEM										
Rich Gold	61-400048-7	65-440153-8	50	50	7	2	5	2	No	Yes
Rich-Pale Gold	61-402455-2		50	50	7	2	5	2	No	Yes
Pale Gold	61-400049-5		50	50	7	2	5	2	No	Yes
Gold PMS 871	61-400048-7	65-440153-8	50	50	7	2	5	2	No	Yes
Gold PMS 872	61-400048-7	61-700134-2	50	50	7	2	5	2	No	Yes
Gold PMS 873	61-402455-2	61-700134-2	50	50	7	2	5	2	No	Yes
Gold PMS 874	61-402455-2	61-700135-9	50	50	7	2	5	2	No	Yes
Gold PMS 875	61-400049-5	65-440153-8	50	50	7	2	5	2	No	Yes
Gold PMS 876	61-400049-5	61-700135-9	50	50	7	2	5	2	No	Yes
Bright Silver PMS 877	61-400046-1	65-440153-8	30	70	7	2	5	2	No	Yes
SINGLE COMPONENT SYSTEM										
Rich Gold	61-409153-6				7	2	5	2	No	Yes
Rich-Pale Gold	61-409159-3				7	2	5	2	No	Yes
Pale Gold	61-409264-1				7	2	5	2	No	Yes
Silver PMS 877	61-409130-4				7	2	5	2	No	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.

(2) It is forbidden to place metallic particles in microwave

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.