



# Technical Information

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## Product Name

**81-010283-0** Nutriscreen Opaque white E01

## 1. Description / Application

UV curable opaque white specifically developed for combination printing with UV-Flexo, UV-Offset, WL-Offset and LM printing.

UV screen printing ink, curing by radical mechanism with UV-light, for a multitude of synthetic substrates – in-line Corona treated polypropylene included - and for paper, with high gloss and good fastness properties.

## 2. Product Safety

### Intended Use

Food packaging, pharma, or hygiene: **YES**

### Only for food packaging inks

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 Siegwirk'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 chapter 5. "The printer's selection of ink" has to be observed.

## 3. Properties / Substrates

### Properties

- glossy surface
- standard applications for normal requirements on in-line Corona treated polypropylenes need no addition of hardener
- with hardener **71-470074-7** (Nutri ADD Hardener E90): for die-cutting resistance, water resistance and other enhanced requirements, in particular if critical substrates are used

### Substrates

Adhesion, resistance to scratching and scuffing, water resistance (wet scratch and wet scuff resistance), heat-sealing resistance and resistances to fats, acid or alkaline products, cosmetics, lotions, shampoos, alcohol, cleaning agents and solvents are normally obtained on standard label substrates. Suitability of each substrate has to be tested before print run.

This white is normally not suitable for not in-line Corona pre-treated polyethylenes and polypropylenes.



Special applications

This ink is normally **hot stampable** and **overprintable with the thermal-transfer method**.

This ink is **not suitable for economic thermal papers** due to the darkening of the thermo-sensitive layer. Its **suitability on top-coat thermal papers is limited** mainly due to the comparably thick ink coat which may affect the thermal response.

In case of doubt, consult our technical service.

Guidelines for use

*Before the print job is started, new materials must be checked for compatibility with the planned varnish/inks combination, even if their suitability on a comparable type of the same substrate group is proved.*

*The test prints, especially on self-adhesive labels, have to be examined after die-punching (in particular at the edges) for adhesion, resistance to scratching and water (resistance to wet scratching and scuffing), resistance to the packaging contents and other job-specific requirements.*

*Due to possible different material shrinkage and other alterations, these examinations must be repeated after one day.*

*Levelling/printability, mechanical resistances (e.g. adhesion, folding resistance, punching resistance), resistance to water and the weather, and in particular the resistances to the packaged products, depend largely on the properties of the pre-printed inks. The latter is particularly applicable if the ink film on the punching edge is exposed, and hence subject to lateral attack.*

*Consequently, for every new job in which printing is done on a known material, but with untested ink and printing combinations, the aforementioned tests have to be carried out as well.*

**4. Printing and processing instructions**

Due to special additives, which allow a very good combination printing, following necessary instructions have to be observed:

- The opaque white must under no circumstances be mixed with inks of the series SICURA Screen78-3.
- The whole printing unit (ink tube, doctor blade, doctor blade axle, pump circulation...) has to be cleaned with detergent before printing, because slight soiling can interrupt the flow of the screen printing white (pinholes).
- Before use, the ink has to be stirred-up well.
- At the beginning of printing, sporadic pinholes can possibly appear which should disappear after few meters.
- Concerning substrates without topcoat, the flow could in some cases be improved by minimal increase of the blade pressure as well as adjustment (mostly increase) of Corona treatment.
- Should the print still show sporadic pinholes despite above mentioned adaptation of the machine conditions, additive **71-470094-5** (ADD Wetting agent E44) can be added to the ink (attention: not with foam problems! If large pinholes are visible, do not use the additive). Please start with a dose of 1 %. If there is an overdose of additives, foam problems will occur. The water resistance has to be re-checked after the addition of the additive.

**The wetting agent has to be stirred-in with an electrical mixer at about 500 r/min for min. 5 min!**

In case of doubt, consult our technical service.



Screens

Any rotary screen printing form developed according the photo-polymerization process resp. any polyester flat-bed screen with a solvent resistant emulsion may be used, whereby thicker ink layers tends to result in better flow than thinner ones (e.g. KS better than KM).

Rotary screen form recommendations

	Rotamesh, Stork	Screeny, Gallus
	Mesh	Open area (%)
Line images and/or texts:	305	13
Intensive solids:	305	13
		Type
		KS or KM
		HV or KS

UV-Curing

Suitable for curing the ink are medium pressure mercury vapour UV emitters with a power of at least 140 - 160 W/cm.

Under normal conditions, it is possible to print at a speed of 30 - 60 m/min.

UV-Hardener 71-470074-7 (Nutri ADD Hardener E90)

Enhanced requirements such as cold and hot water resistance, die-cutting resistance or sterilization resistance can be achieved by admixture of 1 – 2 % of above mentioned hardener. In particular on in-line Corona pre-treated polypropylenes and other critical substrates.

This 2-comp. system has a maximum pot life of 6 hours, which can vary depending on the ambient air temperature and humidity. It is recommended to first check the compatibility of the used ink-system with the hardener before printing.

The chemical crosslinking process and therefore the development of the required resistance takes about 24 hours at room temperature. Consequently the above-mentioned compatibility tests must be repeated after one day.

In case of doubt, please contact in time our technical department.

Please see also the information on the material safety datasheet.

Cleaning

The varnish can be removed from tools by using methoxypropanol.

**Shelf life**

This product has under normal conditions a shelf life of **at least 12 months**. Within this period the product is usable in conformity with the indications of this data sheet.

Normal conditions mean:

- Storage in firmly closed, not yet tapped containers.
- Temperatures not exceeding 20°C for weeks or 25°C for days.
- Do not expose open containers to direct sunlight or strong light sources.

Because of the differences in materials for printing, processing conditions and test criteria this Technical Information can only be of an advisory nature. Our data reflect the latest state of our knowledge and are based on the characteristics established in the laboratory and on practical experience. Your own tests with the original materials under the respective conditions are indispensable. We disclaim any liability for applications for which this product is not foreseen.