



Technical Datasheet

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Product Name

SICURA Flex + Nutriflex Whites

1. Description / Application

UV-Flexo whites for combination printing with UV-Flexo printing inks of series SICURA Flex 39-8, UV-Letterpress inks of series SICURA Typo 41-2 and suitable UV-Offset inks. Depending on the method of printing, the substrate, the application of the label or the viscosity, various opaque white inks are available.

These Flexo printing white inks are curing by radical mechanism with UV-light, for a wide range of synthetic substrates – in-line Corona treated polypropylene included - and for paper. **They show high gloss and good fastness properties.**

2. Product Safety

Intended Use

Food Packaging: **NO**

Only for Nutriflex Products

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

- Optimal performance (very good flow) in combination with UV-Flexo inks of series SICURA Flex 39-8, UV-Letterpress inks of series SICURA Typo 41-2 and appropriate UV-Offset inks.
- Good intercoat adhesion and good levelling when overprinted with UV-Flexo inks of series SICURA Flex 39-8, UV-Letterpress inks of series SICURA Typo 41-2 and suitable UV-Offset inks.
- Standard applications for normal requirements on in-line Corona treated polypropylene need no addition of hardener.
- Not suitable for economic thermal papers.
- Limited hot-stampability and thermal transfer printability.



Substrates

Adhesion, resistance to scratching and scuffing, water resistance (wet scratch and wet scuff resistance) and far-reaching resistances to cosmetics, lotions, shampoos, alcohol, cleaning agents and solvents are normally obtained on standard label substrates. Individual adhesion tests under original conditions have to be carried-out before printing.

Contact our technical department for more information.

Guidelines for use

Before the print job is started, new materials must be checked for compatibility with the inks of this series or with the planned ink-/overprinting varnish 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), adhesion and scratch resistance after heat-sealing, resistance of the printed ink to the packaging contents and other application-specific requirements.

Due to the post-curing process, these properties may change during the first 24 hours after printing. Therefore please make a re-check after one day.

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.

PVC and un-primed polyethylene and polypropylene substrates may contain lubricants, which can migrate to the surface e.g. during storage. Such substances may be present even if the measured surface tension is higher than 42 mN/m; they can negatively influence the adhesion, the scratch and water resistance of the printed inks.

4. Printing and processing instructions

The opaque white for combination printing **should under no circumstances be mixed with** flow additives and inks of series SICURA Screen 78-3 as well as with no **other ink series** in general.

The whole printing unit (ink tube, doctor blade and doctor blade axle, pump circulation) has to be cleaned thoroughly with a suitable detergent before printing, because slight soiling can interrupt the flow of the ink and cause pinholes.

Anilox rollers for standard whites

In practice, ART Anilox rollers of Praxair or Zecher linescreen 30° show very good results, but also other Anilox providers can offer suitable products. With the following specifications we got good results:

Application	Screen [l/cm]	Dip volume [cm³ /m²]
Opaque White:	140 - 160	10.0 - 12.0

Anilox rollers for Screen Imitation White (81-010328-3)

Application	Screen [l/cm]	Dip volume [cm³ /m²]
Opaque White:	140 – 160	17 – 25

The white also works well on “normal” types of Anilox rollers with less Anilox cell volume. The coverage is a bit less, due to the lower ink transfer.



UV-Hardener 71-470074-7 (Nutri ADD Hardener E 90)

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.

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

Stir up well each ink or varnish before use. Mainly whites, colours containing white, varnishes, as well as gold and silver inks show sedimentation of essential components.

Do not handle products without having consulted the corresponding safety data sheets. We supply them together with the first shipment.

Cleaning

The inks can be removed from aniloxes and tools by using methoxypropanol.

Reactive UV thinners are not suitable for cleaning.

5. Shelf life

The inks of this series have under normal conditions a shelf life of **at least 12 months**. Within this period the products are usable in conformity with the indications of this datasheet.

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.

6. Product list

Product name	Product code	Viscosity [Pa*s]	Pigmentation	Comment
Flexo White E01	81-010168-3	0.35	medium	
Flexo White E02	81-010166-7	1.20	very high	
Flexo White E03	81-000173-5	0.90	very high	
Flexo White E08	81-010328-3	0.40	very high	Screen imitation
Nutriflex White E01	81-000174-3	0.50	medium	Low migration
Nutriflex White E02	81-011513-9	0.90	medium	Low migration
Nutriflex White E05	81-010237-6	1.00	very high	Low migration
Nutriflex White E14	81-010367-1	1.2	medium	Low migration *

(*) 81-010367-1 can't be mixed with 71-470074-7 (Nutri ADD Hardener E 90)!



Opaque whites		Additives			
Product name	Product code	ADD Reactive diluent E83 Dosage (%)	ADD Initiator E01 Dosage (%)	Nutri-ADD Reactive diluent E10 Dosage (%)	Nutri-ADD Initiator E20 Dosage (%)
		71-470070-5	81-470167-8	85-601859-3	85-601860-1
Flexo					
Flexo White E01	81-010168-3	max. 5%	max. 3%	no	no
Flexo White E02	81-010166-7	max. 5%	max. 3%	no	no
Flexo White E03	81-000173-5	max. 5%	max. 3%	no	no
Flexo White E08	81-010328-3	max. 5%	max. 3%	no	no
Nutriflex					
Nutriflex White E01	81-000174-3	no	no	max. 5%	max. 5%
Nutriflex White E02	81-011513-9	no	no	max. 5%	max. 5%
Nutriflex White E05	81-010237-6	no	no	max. 5%	max. 5%
Nutriflex White E14	81-010367-1	no	no	max. 5%	max. 5%

Because of the differences in materials for printing, processing conditions and test criteria this Technical Data Sheet 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 ink series is not foreseen.