

Product Data Sheet

Screen Printing Ink

SunChemical[®]
Coates Screen Inks

852UV

UV-curing Screen Ink Range, 1-Component, “Low Migration”

APPLICATION

Screen printing inks 852UV are used for decorating plastic containers made of pre-treated polyethylene (LD-PE, HD-PE) and polypropylene (PP) such as cartridges, cans, bottles, tubes, etc.

PROPERTIES

- Solvent-free UV-curing screen printing inks 852UV have a very high reactivity.
- 852UV inks are delivered in a ready-to-print adjustment and show medium viscosity. Prints result in a high-gloss finish and show good adhesion and high chemical resistance.
- 852UV is formulated for fast running screen printing equipment for container printing.
- To obtain proper ink adhesion on PE and PP plastics, pre-treatment, preferably with flame, is imperative. Efficiency of pre-treatment also must be adjusted to the high printing cycles.
- 852UV inks are suitable for indoor and short-term outdoor applications.
- **Low migration: Compared to ink series 80UV, 81UV and 833UV-SF, screen inks 852UV show a further reduced migration potential (acrylate monomers).**
- **852UV inks are suitable for printing of food packaging.**
- **Conformity has to be verified by migration tests of the printed material.**
For further detailed information about this topic please refer to section “Conformity”.
- More UV ink ranges of the 80UV group for printing on PE/PP plastic containers:
80UV: Screen ink for printing on PE/PP containers, with medium viscosity.
81UV: Higher viscosity than 80UV.
833UV-SF: Optimized for printing on tubes, UV-LED curable, silicone-free.

COLOUR SHADES - OVERVIEW

- Mixing System: C-MIX 2000 12 colour shades for mixing of RAL, PMS and HKS colours.
- Special colour shades are available upon request.
- More information about available colour shades in the detailed tables in section Colour Shades.

CHOICE OF PIGMENTS AND LIGHT FASTNESS

Colour shades of 852UV ink range contain pigments with medium light fastness. Light fastness and weather resistance will reduce if thinner layers are applied or if base colours are mixed with a high ratio of white or varnish. 852UV inks are not weather resistant. They are suitable for indoor and short-term outdoor applications.

ADJUSTMENT FOR SCREEN PRINTING

- Screen printing inks 852UV are supplied in a ready-to-print adjustment. Generally, addition of auxiliary agents is not necessary.
- For some rare and special applications and depending on local conditions, addition of certain agents/additives is possible.
- Prior to printing, the inks should be stirred well to obtain a homogeneous dispersion of all ingredients.

AUXILIARY AGENTS

Application	Product	Addition in % by weight	Additional Information
Viscosity increase	Thickening powder	1 - 2 %	Stir with mixer
Matting	Matting powder	5 - 10%	Stir with mixer
Reactivity increase	LAB-N 561912	1 - 3%	Photoinitiator

OVERPRINTING

Generally, it is not necessary to overprint 852UV inks with varnish. If required, however, overprinting with varnish 852UV/E50 is possible.

BRONZE COLOURS

The following bronze colours with a stable shelf life are available upon request:

- Silver: 852UV 79/Standardsilber
- Gold: gold colours according to PMS C upon request.

DRYING / UV-CURING

- 852UV inks only dry/cure under UV-radiation.
- Suitable UV-driers with Hg medium-pressure lamps (250 – 400 nm) and an efficiency between 120 and 200 W/cm have to be used.
- Preferably, use reflectors with a focussed radiation.
- Ensure an even radiation (intensity/distance to the lamps) of the whole printed image.
- Curing parameter depend on thickness of printed ink layer, colour, substrate or substrate quality and temperature as well as construction and performance of the UV drier.
- Curing energy required depends on number of printed ink layers (check intermediate adhesion), printed layer thickness, colour and type of substrate. Hence, printers should determine the exact required energy with their own UV-drier.
- **UV-curing energy guide values:**
(printed with 150-31 fabric, white substrate)
UV-energy: approx. 100 mJ/cm²
(measured with Kühnast UV-integrator, 250 – 410 nm, max. 365 nm)
Printing speed: up to 100 cycles/min. (with a container printing equipment).
- **Note: Overprinting of several ink layers:**
Due to the very high reactivity and cross-linkage of the ink, it is possible to print with high cycle speeds. However, there is only a small period of time for safe overprinting (intermediate adhesion) of previously printed ink layers. Therefore, multicolour motives with overlapping ink layers should be printed "inline" in one pass on multicolour printing equipment with a corresponding number of inking units/print stations.
- Adhesion should only be checked several minutes after curing. Due to the post-curing process of the ink and depending on the substrate, sufficient adhesion may sometimes only be achieved after up to 24 hours.

SCREEN FABRIC / STENCILS

852UV inks are formulated for printing with fabrics of 140 – 190 threads/cm. Printability and especially UV-curing properties with coarser fabrics should be evaluated by corresponding trials.

All copy emulsions and capillary films suitable for solvent based and UV-curing screen inks can be used, such as our program of SunCoat or Murakami products.

CLEANING

Uncured UV inks can be removed from stencils and tools using our solvent based universal cleaning agents of the URS range.

Cleaning of cured UV inks is very time-consuming and hardly ever possible.

Note: As the acrylates contained in these UV inks may cause skin irritation, clean contaminated skin with water and soap immediately. Remove and clean contaminated clothing straightaway.

PACK SIZE

Screen printing inks 852UV are delivered in 1 and 5 kilo containers. Other pack sizes are available upon request.

SHELF LIFE

In closed original containers, 852UV inks generally have a shelf life of 2 years from date of production. For exact date of expiry, please refer to the label.

SAFETY DATA SHEETS

Read safety data sheet prior to processing.

Safety data sheets comply with Regulation (EC) No. 1907/2006 (REACH), Appendix II.

CLASSIFICATION AND LABELLING

Hazard classification and labelling comply with Regulation (EC) No. 1272/2008 (CLP/GHS).

CONFORMITY

Coates Screen Inks GmbH does not use any of the substances or mixtures for the production of printing inks, which are banned according to the EUPIA (European Association of the Printing Inks Industry) exclusion policy. Further compliance confirmations are available upon request.

Conformity according to EUPIA list “EuPIA Suitability List of Photoinitiators and Photosynergists for Food Contact Materials – May 2019”.

Printing inks and varnishes of 852UV ink range only contain photoinitiators mentioned in that list and which can potentially be used in printing inks for food contact materials. Follow instructions given in document “Statement of Composition of 852UV screen printing inks and varnishes”.

Based on present experiences the required photoinitiator threshold values of these screen printing inks can comply with the limit values when processed following good manufacturing practice. The printer is responsible for the properties of the finished ink film. We recommend to carry out a migration analysis of the printed parts.

Based on a concrete sample application Coates Screen Inks GmbH can provide evidence that it is principally possible to print on food packaging with ink range 852UV in compliance with legal requirements. Coates Screen has commissioned a migration analysis for this sample application. This analysis combined with a risk assessment has confirmed that health risks due to substances migrating from the printing ink can be excluded. Such results and assessments are specific to material and application and must be carried out for each individual application. They cannot be applied or derived for any changes of conditions and parameters.

ADDITIONAL INFORMATION ABOUT OUR PRODUCTS

Product data sheets: Auxiliary Agents for UV-Curing Screen Printing Inks

Brochures: UV-Curing Screen Printing Inks

Internet: www.coates.de, Service & Support, Technical Articles

FOR COLOUR RANGES, PLEASE REFER TO NEXT PAGE.

COLOUR SHADES

C-MIX 2000 BASE COLOUR SHADES LL pigmentation with medium light fastness Mixing system for matching of PMS, HKS, RAL colours (on white substrates) Start formulations available in data base „UV packaging printing C-MIX 2000“ According to colour card C-MIX 2000-LL					
primrose	852UV/Y34	red	852UV/R54	green	852UV/G50
golden yellow	852UV/Y54	magenta	852UV/M50	black	852UV/N50
orange	852UV/O54	violet	852UV/V50	white	852UV/W50
scarlet	852UV/R24	blue	852UV/B50	varnish	852UV/E50
4 COLOUR PROCESS INKS (CMYK) According to colour card STANDARD 1 for screen printing inks					
Upon request.					
SPECIAL PRODUCTS: Special Colour Shades, Vanishes, Pastes Information about availability upon request.					
Silver, stable shelf life		852UV 79/Standardsilber			

Matching of PMS, RAL, NCS colours and special shades upon request.

The statements in our product and safety data sheets are based on our present experiences, however they are no assurance of product properties and do not justify a contractual legal relationship. We provide these details to inform customers about our products and their possible applications. However, on account of various factors influencing processing of our products it is absolutely essential to carry out printing trials under local production conditions. Choice of individual ink types and their suitability for the intended application is the sole and entire responsibility of the user. We do not assume any liability for any problems of technical or process-related nature. Any liability shall be limited to the value of the goods delivered by us and processed by the user.

All former product data sheets are no longer valid.

November 2022 – Version B2

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