

# Product Data Sheet

# Screen Printing Ink

**SunChemical®**  
Coates Screen Inks

## RUB RUB OFF INKS

### Solvent Based Special Screen Ink Range, 1-Component

#### APPLICATION

Special screen printing inks to apply reversible (removable) opaque layers masking writing and symbols, e.g. for lottery scratch tickets.

#### PROPERTIES

- Screen Inks RUB are solvent based 1-component screen printing inks. They are highly opaque and result in a semi-gloss finish.
- Depending on adjustment RUB ink layers are either soft, medium-hard or rigid and result in different scratch off properties.
- RUB screen inks are only suitable for indoor applications.

#### PRE-COATING

- Generally, the substrate used for lottery scratch tickets is paper. RUB ink layers can only be removed (rubbed or scratched off) if the coating below the ink layer will stop the ink from bonding with the substrate. Therefore, the parts of the print sheets, where RUB inks are to be applied should first be printed with a suitable pre-print varnish. Special solvent based or UV-curing screen varnishes and also certain offset varnishes (UV-curing, possibly also water based) are suitable for this application.
- The pre-print varnish should form an even and full film on the surface of the substrate.
- RUB ink may only be applied to suitable, completely dried solvent or water based varnishes or fully cured UV-varnishes. If varnish is not completely dry the applied RUB ink cannot be scratched off the pre-print varnish.
- Note: Because of the very specific properties of substrates and pre-print varnishes and different removal requirements pre-tests are essential.

#### COLOUR SHADES - OVERVIEW

- Pre-print varnishes: 2 different types, see detailed table in section Colour Shades.
- RUB inks: 8 different types, see detailed table in section Colour Shades.

#### CHOICE OF PIGMENTS AND LIGHT FASTNESS

RUB inks contain high-quality pigments with a high opacity. They are only suitable for indoor applications.

#### ADJUSTMENT FOR SCREEN PRINTING

- RUB inks are not supplied in a ready-to-print adjustment.
- Depending on local conditions the ink is adjusted for printing by addition of 10 to 20 % by weight thinner or retarder (stir with mixer, agitator).
- The inks should be stirred well prior to printing to obtain a homogeneous dispersion of all ingredients.

**THINNERS / RETARDERS**

For adjustment of screen inks RUB, the following products are available:

<b>Thinner:</b>	<input type="radio"/> AVSP	Very quick thinner, for flexographic printing
	<input checked="" type="radio"/> AV	<b>Standard thinner</b>
<b>Retarder:</b>	<input type="radio"/> AD	Medium retarder
	<input checked="" type="radio"/> = Preferred	<input type="radio"/> = Suitable

Depending on printing conditions, the products listed above can be mixed into the inks individually or as mixtures. Please note that depending on evaporation rate of the thinner/retarder used drying times may be longer.

Thinner/retarder should be mixed into the ink thoroughly using a mixer or agitator. In addition, inks should be stirred well prior to each processing to obtain a homogeneous dispersion of all ingredients.

**ADDITIONAL AUXILIARY AGENTS**

**Not required.**

**PRE-PRINTING**

For RUB two pre-print varnishes are suitable.

- CP 70/31 Solvent based. Printing with fabrics ranging from 77 to 120 threads/cm.
- UV 70/RUB UV-curing. Printing with fabrics ranging from 140 – 165 threads/cm.

**BRONZE COLOURS, MIXING OF BRONZE INKS**

**Not applicable.**

**DRYING**

RUB screen printing inks dry physically, i.e. by evaporation of solvents.

Drying times below are only approximate as drying properties depend on various factors:

- Type and amount of thinners used.
- Thickness of printed ink layer.
- Rack drying or tunnel dryer.
- Temperature, air supply, speed of air stream.
- Type of substrate/material printed.
- Possible interactions with pre-print varnish or substrate colours.

Depending on local conditions, drying time in a drying frame (rack) is approx. 15 - 20 minutes at room temperature (20°C). Drying time with heat application (hot air fan/oven) is about 30 - 60 seconds at a temperature of 50°C.

**SCREEN FABRIC / STENCILS**

RUB inks have been formulated for printing with fabrics not above 77 threads/cm. Suitability for printing with significantly coarser or finer fabrics should be determined by corresponding pre-trials.

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

**CLEANING**

Stencils and tools can be cleaned with our universal cleaning agents URS or URS 3.

**PACK SIZE**

Screen printing inks RUB are delivered in 1 litre containers. Other pack sizes are available upon request.

**SHELF LIFE**

In closed original containers, RUB inks generally have a shelf life of 5 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.

**ADDITIONAL INFORMATION ABOUT OUR PRODUCTS**

Product data sheets: Auxiliary Agents for Screen Printing HM

Brochures: Solvent Based Screen Printing Inks

Internet: Various technical articles are available for download on [www.coates.de](http://www.coates.de), section "SN-Online"

**COLOUR SHADES**

<b>PRE-PRINT VARNISHES FOR RUB INKS</b>			
Pre-print varnish	solvent based	CP 70/31	
Pre-print varnish	UV-curing	UV 70/RUB	
<b>RUB - RUB OFF INKS</b>			
White	medium-hard adjustment	RUB 60/05	
black	medium-hard adjustment	RUB 65	
black	medium-hard adjustment	RUB 65/25	for rotary screen printing
Gold	medium-hard adjustment	RUB 76/05	
Gold	medium-hard adjustment	RUB 76/28-HD	for flexographic printing
Silver grey	hard adjustment	RUB 79	
Silver grey	medium-hard adjustment	RUB 79/01	
Silver grey	medium-hard adjustment	RUB 79/82-HD	for flexographic printing

*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.*

*April 2019 Version B1*

**Coates Screen Inks GmbH**  
 Wiederholdplatz 1 90451 Nürnberg  
 Tel.: 0911 6422 0 Fax: 0911 6422 200  
<http://www.coates.de>