

## SolarScreen® SRS Colours

Part of the SOLARIS® System

### 1. Description

**SolarScreen® Colours** are a range of UV rotary screen inks intended for printing labels, tags, sleeves, tickets and other applications in the narrow web market. The viscosity and flow of these products has been optimised for flatbed and rotary screen printing.

### 2. Product Features\*

- Optimised viscosity and flow for flatbed and rotary screen printing.
- Adhesion to a wide range of plastic label substrates and films
- Foil blockable
- Can be used in combination with other SOLARIS® System technologies.
- Resistance to commonly packaged liquids such as water, toiletries, detergents and alcohols
- SUNMATCH blending system for colour matching
- Free from NVP and NVC

### 3. Product Suitability\*

#### 3.1 Applications

**SolarScreen® Colours** are intended for use in the following areas:

- Flatbed and Rotary Screen printing of plastic labels and films for toiletries, detergents, alcohols etc.
- Combination printing with other Sun Chemical UV Flexo and UV Offset products.

**SolarScreen® Colours** are **not** suitable for use in the following areas:

- Primary food packaging unless there is an effective functional barrier.
  - Plastic packaging and bottles will not usually provide an effective barrier to migration.
  - Printers should assure themselves that use of these products on food packaging has been fully assessed for risk and the finished printed product meets all relevant regulatory requirements.
  - Typically, the use of specifically formulated Low Migration (LM) products will be required.

**SolarScreen® Colours** should not be used for other end uses without prior discussion with your local Sun Chemical representative

\*Please refer to your local Sun Chemical representative for specific details.



### 3.2 Substrates

**SolarScreen® Colours** are ideally suited to most commonly used label stocks, including paper, top-coated polyethylene and polypropylene, PVC, corona discharge treated polyethylene, polypropylene and PET. When using corona treated stocks, ink wettability may be improved by the use of additional in-line corona treatment. Use of adhesion promoter (551903 at 2-3%) further enhances adhesion to 'difficult' stocks and offers improved water and alcohol resistance. Once the adhesion promoter is added, the inks will remain usable for up to 24 hours, after which one subsequent addition can be made to restore the properties

It is strongly recommended that the handling and storage guidelines provided by the label material manufacturer are followed. In addition, thorough adhesion tests on both finished labels and labelled products should be conducted, especially if a new substrate is being used (see FINAT Suppliers and Users Technical Manual for Pressure Sensitive Laminates).

Not all grades of self-adhesive materials are suitable for decoration with UV curing inks. Some plastics suffer from embrittlement, resulting in difficulties with application and removal of labels.

Edge curl may be a problem when some UV curing inks are applied as a bleed-off on self-adhesive materials. However, SolarScreen® Colours have been developed in conjunction with major laminate suppliers and exhibit excellent lay flat properties. However, this is dependent on the grade of self-adhesive materials and the quality of the adhesive used.

The problem is exaggerated when heavy ink deposits are applied which require excessive cure energy but which may be avoided by leaving an unprinted border. As a number of factors can influence the adhesion of the label e.g. application conditions and even curvature of the labelled surface, it is recommended that preliminary testing is conducted to ensure the performance of the final product is acceptable. For further information, contact your local Sun Chemical Screen branch\*.

\* Please refer to your local SunChemical representative for specific details.

### 3.3 Resistance Properties

When printed and fully cured, **SolarScreen® Colours** will withstand the industry standard water immersion tests and are resistant to alcohol. These resistance properties make it suitable for use on labels for liquid soap and other toiletry products. However, if any specific resistance properties are required, printers should satisfy themselves of suitability before use.

Product resistance can be further improved with the use of adhesion promoter at a level of 2 - 3% by weight. When adhesion promoter is added to **SolarScreen® Colours** a usable pot life of up to 24 hours is possible. Pre-tests are also recommended to satisfy suitability before full production commences\*.

\* Please refer to your local SunChemical representative for specific details.

### 3.4 Lightfastness

The pigments used in **SolarScreen® Colours** have a rating of at least 6 on the Blue Wool scale; well beyond normal labelling requirements. Please note that some tints or blends, especially those containing a high proportion of white or base, may have reduced colour fastness properties



#### 4. Safety, Health and Environment

**SolarScreen® Colours** should be used in accordance with normal standards of industrial hygiene. Please refer to the information provided on product labels and relevant Safety Data Sheets. For more details on handling of UV materials please refer to EuPIA's latest document – 'Guidelines for Printers on the Safe Use of Energy Curing Printing Inks and Related Products'.

##### 4.1 Storage

**SolarScreen® Colours** are supplied in 5 Kg tamper-evident black plastic buckets or 200 Kg barrels. Shelf life is at least 12 months from date of manufacture in their original containers when stored between 5° and 25°C and protected from direct sunlight but may remain useable for longer periods.

##### 4.2 Waste Disposal

Care should be exercised in the disposal of printing ink waste. This should be carried out in accordance with good industrial practice, observing all the appropriate local regulations and guidelines. For more specific handling advice refer to the Safety Data Sheet (SDS).

#### 5. Printing Conditions

**SolarScreen® Colours** should be mixed thoroughly before use.

##### 5.1 Printing Materials

High quality stencil materials should be used and will enhance the quality of print. A number of compatible products are available from Sun Chemical.

##### 5.2 Additives

**SolarScreen® Colours** are supplied at press-ready viscosity and do not normally require modification. However, should thinning be necessary, small additions (up to 5%) of viscosity modifier TU11 can be made.

The use of adhesion promoter (551903 at 2–3%) enhances adhesion to 'difficult' stocks and offers improved water and alcohol resistance. Once added the inks will remain usable for up to 24 hours, after which one further addition can be made to restore the properties (it is recommended that only one further addition is made before the ink be discarded)..

##### 5.3 Wash Up

A variety of proprietary wash-up solutions are available which are suitable for use with UV inks and press components such as screens, squeegees and pipes. Please contact Sun Chemical technical services or your Sun Chemical representative for recommendations and advice.



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## 6. End-Use Safety / Assumptions

Acceptable technical performance of SolarScreen® Colours is dependent on:

- Control of screen mesh / film weight.
- Adequate curing on press to ensure that the print is dry before conversion.
- Full checks having been made to ensure the printed material meets customer specifications.

SolarScreen® Colours are not intended to be used in applications where low migration is an end-use requirement. There are materials within the ink formulation which have the potential to migrate under certain conditions. If a label, sleeve or tag etc. forms part of a food package, it is the responsibility of the converter and food packer to ensure that migration does not exceed any permitted regulatory limitations.

	Code	SolarScreen® Description	Lightfastness <sup>1</sup>	Alkali	Alcohol
Colour range	SRSW50	BLENDING WHITE	8	+	+
	SRSE50	BLENDING BASE	7-8	+	+
	SRSY34	SUNMATCH PRIMOSE LL	6	+	+
	SRSY54	SUNMATCH GOLDEN LL	6	+	+
	SRSO54	SUNMATCH ORANGE LL	6	+	+
	SRSR24	SUNMATCH SCARLET LL	7	+	+
	SRSR54	SUNMATCH MID RED LL	7	+	+
	SRSM50	SUNMATCH MAGENTA	7-8	+	+
	SRSV50	SUNMATCH VIOLET	7-8	+	+
	SRSB50	SUNMATCH BLUE	7-8	+	+
	SRSG50	SUNMATCH GREEN	7-8	+	+
	SRSN50	SUNMATCH BLACK	8	+	+
	SRSN70	SUNMATCH DENSE BLACK	8	+	+
Other products	TU11	Thinner	N/A	N/A	N/A
	551903	Adhesion Promoter	N/A	N/A	N/A

<sup>1</sup> Lightfastness at screen printed filmweight

Please see [www.sunchemical.com](http://www.sunchemical.com) for further information on Sun Chemical products and services and contact your local Sun Chemical representative for specific product advice.

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