

# SunCure® Starlux

## UV Curable Ink System for Carton, Luxury Packaging and Narrow Web applications

### 1. Description

SunCure® Starlux is a highly versatile range of UV curable lithographic inks designed for outer surface printing of carton board and foil boards, selected plastics and non-absorbent substrates. SunCure® Starlux is also designed for the printing of labels, sleeves, tags and tickets.

### 2. Product Features

- Sheetfed or web offset printable
- Extensive colour range, including resistant colours
- Adhesion to a wide range of paper, board and synthetic substrates
- Excellent dot gain and trapping properties for high print quality, including reversed out print
- Suitable for in-line or off-line coating, foil stamping and lamination
- Manufactured only from substances listed in Annex 1 and Annex 6 of the Swiss Packaging Inks Ordinance
- Formulated using materials listed within the Nestlé "Guidance Note on Printing Inks" 28.05.2009, modified 06.08.2009, but subject to the conditions of use defined in that document

### 3. Product Suitability

#### 3.1 Applications

SunCure® Starlux inks are intended for use in the following areas:

- Paper and carton board, non-food packaging
- Luxury packaging, such as liquor or cosmetic cartons
- Plastic packaging, on appropriately selected substrates
- Paper and top coated plastic self-adhesive labels
- Selected sleeve plastics, including shrinkable plastics
- Primary outer wrap packaging for food, subject to specific conditions of use\*\*

SunCure® Starlux inks are **not** suitable for use in the following areas:

- Primary packaging for food, where the packaged goods are in direct contact with the non-printed side of the packaging, e.g. juice or milk cartons
- Microwave or ovenable applications
- Direct food contact, or where low migration properties are demanded due to pack design or the nature of the packaged goods due to the risk of direct contact

**\*\* ONLY where the packaged goods are retained within an absolute or functional migration barrier OR the printed packaging has been tested in conditions of use and shown to conform to the requirements of EU Regulation EU1935/2004/EC.**

Printers should assure themselves that use of these products on food packaging has been fully assessed for risk and the packaging so produced meets regulatory requirements for its intended end use. Whilst SunCure® Starlux inks are versatile in performance, they may not be suitable if used outside the above defined applications. If in doubt, please check suitability with your local Sun Chemical representative

. \* Ordinance of the Federal Department of Home Affairs (FDHA) on Materials and Articles (817.023.21) Section 8b:Packaging Inks (Annex 6 revision 25.11.09)

### 3.2 Substrates

SunCure® Starlux inks are suitable for use on paper and carton board and a wide range of non-absorbent substrates. Corona treatment is recommended for non-top-coated plastic substrates to ensure an optimum treatment level of 38-44 mNm<sup>-1</sup>. Note: there is significant variation between different grades of substrates. The printer should follow specific advice from their substrate manufacturer and make any tests necessary to prove performance under realistic conditions before commencing with commercial printing.

### 3.3 Print Finishing

SunCure® Starlux inks can be coated to improve gloss, physical and chemical resistance properties. A range of SunCure® coatings is available for use with the inks, to provide a wide variety of finishes, including gloss, satin, matt and special effects. Printed material produced with these inks is suitable for hot and cold-foil stamping, with or without an appropriate coating. Note: there are many types of foil, which require specific application conditions. Testing is recommended to establish optimum foiling conditions before proceeding with commercial printing.

SunCure® Starlux printed materials can be successfully laminated in-line or off-line using solventless adhesives, using standard converting processes. Please contact your Sun Chemical technical service representative for specific information.

## 4. Safety, Health and Environment

### 4.1 Product Handling

SunCure® Starlux inks should be used in accordance with normal standards of industrial hygiene and good working practice. Please refer to the SunCure Starlux Safety Data Sheet for specific information.

### 4.2 Manufacturing and Materials

SunCure® Starlux inks are produced using Good Manufacturing Practice and in accordance with the latest EuPIA Guidelines on Printing Inks Applied to the Non-Food Contact Surface of Food Packaging Materials and Articles. (See [www.eupia.org](http://www.eupia.org) for details)

### 4.3 Storage

SunCure® Starlux inks are supplied in 3 kg black plastic buckets. Shelf life is at least two years from date of manufacture, when stored in original unopened containers between 5° and 25°C and protected from direct sunlight. The inks may remain useable for longer periods, but once they have reached this age should be checked before use. If in doubt, please contact your Sun Chemical representative for advice. Inks returned from press that have not been contaminated in any way should be re-used within three months.

### 4.4 Waste Disposal

Printing inks, coatings and printing residues should be disposed of in accordance with Local, EU and National regulations. Please refer to the product Safety Data Sheet for additional information.

## 5. Printing Conditions

### 5.1 Printing Conditions

SunCure® Starlux inks are supplied press-ready and should not need adjusting under normal printing conditions. The press and roller system should be thoroughly cleaned to avoid cross-contamination from products used previously or adhesion and cure properties may be affected.

### 5.2 Additives

A number of press-side additives are available for adjusting properties in non-standard conditions or applications. As a general principle, use of additives should be a last resort, when process adjustment has not solved particular application issues. Further, the maximum addition level should be respected, to avoid the potential creation of other issues.

### 5.3 Wash Up

A variety of proprietary wash-up solutions are available which are suitable for use with UV inks and press components, including rollers, blankets and plates.

### 5.4 Fountain Solutions

Depending on press type and substrate, a number of SunFount™ fountain solution additives are available from Sun Chemical for use with these inks, to provide optimum emulsification and printing properties. These inks are usually run with low or no alcohol founts and SunFount™ 480 and 485 are proven products for most applications.

Please contact your Sun Chemical representative for consumables advice and recommendations.

## 6. End-Use Safety / Assumptions

Acceptable technical performance of SunCure® Starlux inks is dependent on:

- The application of Good Manufacturing Practice
- The press being fitted for UV printing, including suitable rollers, blankets and plates
- Control of film weight and print density
- Adequate curing capacity on-press to ensure that the print is fully cured before conversion
- Appropriate packaging design and structure

Choice and control of film weight, curing and substrate are printer technical requirements for which Sun Chemical cannot accept responsibility.

### Important Information

Inks coded USL51, 52, 55, 60 & 61 (see Table) are based on dye complex (fanal-type) pigments. These products should not be used on food packaging. They are also not recommended for printing on plastic or filmic substrates as the pigment may “bleed” into the substrate. Inks of this type have poor resistance properties, especially on non-absorbent substrates such as foil board, so are not recommended for use where good lightfastness, solvent resistance e.g. perfume packaging, or outdoor resistance properties are required. Care should be exercised when coating print made with “fanal-type” inks as some types of coating, especially those with high amine content, can cause colour shift or “burn-out” of colour. If in doubt, please contact your Sun Chemical customer technical service representative for advice and product recommendation.

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Product	Product Code	Light fastness** Full Strength	Alkali**	Alcohol**
Process Yellow	SunCure® Starlux USL26	5	+	+
Process Yellow (1 <sup>st</sup> Down Opaque)	SunCure® Starlux USL28	5	+	+
Process Magenta	SunCure® Starlux USL27	5	-	+
Process Cyan	SunCure® Starlux USL25	7	+	+
Process Black	SunCure® Starlux USL46	7	+	+
Intense Process Yellow	SunCure® Starlux USL30	5	+	+
Intense Process Magenta	SunCure® Starlux USL35	5	-	+
Intense Process Cyan	SunCure® Starlux USL38	7	+	+
Intense Process Black	SunCure® Starlux USL24	7	+	+
Mid Resistant Process Yellow	SunCure® Starlux USL08	5	+	+
Resistant Process Yellow	SunCure® Starlux USL54	7	+	+
Mid-Resistant Process Red	SunCure® Starlux USL37	6	+	+
Resistant Process Red	SunCure® Starlux USL44	7	+	+
Pantone® 012 Yellow	SunCure® Starlux USL04	5	-	+
Pantone® Orange 021	SunCure® Starlux USL21	4	+	-
Pantone® Warm Red	SunCure® Starlux USL31	3	-	+
Pantone® Red 032	SunCure® Starlux USL32	6	+	+
Pantone® Rhodamine	SunCure® Starlux USL55	4	-	-
Pantone® Purple	SunCure® Starlux USL51	4	-	-
Pantone® Violet	SunCure® Starlux USL52	3	-	-
Pantone® Reflex Blue	SunCure® Starlux USL61	3	-	-
Pantone® Blue 072	SunCure® Starlux USL60	3	-	-
Pantone® Green	SunCure® Starlux USL71	7	+	+
Green Shade Yellow	SunCure® Starlux USL14	7	+	+
Transparent Scarlet	SunCure® Starlux USL33	6	+	+
Resistant Warm Red	SunCure® Starlux USL36	6	+	+
Resistant Pink	SunCure® Starlux USL56	7	+	+
Resistant Carmine	SunCure® Starlux USL88	6	+	+
Resistant Blue Shade Red	SunCure® Starlux USL07	6	+	+
Resistant Purple	SunCure® Starlux USL57	7	+	+
Resistant Violet	SunCure® Starlux USL53	7	+	+
Resistant Reflex Blue	SunCure® Starlux USL63	7	+	+
Resistant (072) Blue	SunCure® Starlux USL73	7	+	+
Untoned Black	SunCure® Starlux USL50	8	+	+
Special Intense Black	SunCure® Starlux USL74	7	+	+
Transparent White	SunCure® Starlux USL48		+	+
Non-yellowing Transparent White	SunCure® Starlux USL49		+	+
Non-yellowing Opaque White	SunCure® Starlux USL47		+	+
Opaque White	SunCure® Starlux USL84		+	+
Opaque White 2	SunCure® Starlux USL45		+	+

Please Note:  
Lightfastness is measured according to Blue Wool Scale. Under wet conditions such as during external exposure lightfastness is significantly worse for certain colours. Please consult Sun Chemical technical services for recommendations on alternative shades or blend formulations.

Resistant colours may differ slightly in shade from the equivalent non-resistant colour.

\*\*Test methods available on request

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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.

# SunChemical®

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Page 4/4

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