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By printing ink and lacquer

UVASLEEVE[®] YS Series

Free radical curing UV flexo printing inks for shrink-sleeve labels

Characteristics

The UVASLEEVE[®] YS series is a special range of UV flexo inks developed for printing of shrink-sleeve films in counter print (reverse print).

Printing Process:

UV flexo printing

Technical Data

Properties:

- High reactivity
- Excellent printability
- High gloss
- Excellent adhesion
- High colour strength
- Flexible ink film, good shrinkability
- ITX free
- non low-migration
(more information on page 3)

Substrates

Plastics:

Shrinkable plastic surface areas.

Packaging

Standard packaging: 5 kg bucket

Service

Our product range includes process inks, PANTONE[®] base inks and mixed shades.

Ink dispensing, mixing and measuring systems with different expansion levels.

Technical Service Center

We are ready at any time for competent technical application support on your site.

Please contact our technical service center for printing inks:

Ink-Service@Zeller-Gmelin.de

Tel: +49 7161 802-279

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Opaque White

The UVASLEEVE® Opaque white **YS-X55004** is designed for shrink applications, contains silicone, is not overprintable and has high slip properties:

- Anilox: 6-9 ccm
- Friction: COF 0.11

UVASLEEVE® Opaque white **L8-YSX55001** With wax and traces of silicone. The opaque white is overprintable and has an excellent shrinking behaviour, good surface after shrinking, higher gloss, and is reduced in odour with moderate slip properties:

- Anilox: 6-9 ccm
- Friction: COF 0.22-0.25

Additives

UVALUX® UV Thinner **U0010**, addition max. 10%. Reduces the viscosity.

UVALUX® UV Accelerator **U0062**, addition max. 5%. Improves curing of the ink.

UVAFLEX® UV Defoamer **Y0050**, addition max. 3%. Reduces air inclusion.

UVASLEEVE® Transparent White **YS-X60001** For reducing colour strength. No impact on viscosity.

Remark:

The addition of any additive might change the overall characteristics of the printing ink.

Printing material

All printing materials have to be resistant against ester and ketones. Therefore “rubber” rollers are mostly made of EPDM.

Storage

Optimal storage conditions:

The optimal storage temperature is 20°C. Higher storage temperatures reduce the shelf-life.

Remarks:

- protect from frost
- store in a cool and dark place
- ink should be closed immediately after usage
- stir well before using

Warranty:

If the inks are stored correctly, we guarantee a shelf life of 6 months from date of delivery, as our raw material suppliers guarantee this period to us. However we know from practical experience that the inks can remain usable for 1-2 years or longer if they are properly handled and stored.

Marking

Marking according to EC legislation:

Our inks are classified and marked according to EC legislation and the German “Gefahrstoffverordnung” (German dangerous substances regulation).

The material safety data sheet (MSDS) is available on request.

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Remarks on Migration and Conformity

Regulation (EC) No. 1935/2004 requires that the one responsible for the “placing on the market” of a packaging article must have an appropriate documentation available to demonstrate the compliance with the rules related to food processing and distribution.

Not only the used materials have an influence on the food-legislation related properties of a packaging. The production process of the packaging has a significant impact as well.

Therefore we recommend that you send your finished products to a recognized analytical institute for examination and certification. That way you can prove that your products comply with the legal requirements.

The transfer of substances from the packing into the filling is called migration. The following production parameters have a significant influence on the grade of migration:

- correct processing, especially the complete through-cure of the ink film
- type of substrate and substrate thickness (sufficient barrier effect of the substrate)
- prevention of a permanent direct contact of the printing ink with the food
- use of low-migration printing inks

The ink series UVASLEEVE® YS has no special low-migration formulation. Therefore anyone placing a packaging product on the market must ensure that the packaging is a functional barrier when printing primary packaging for food. However please note that migration can also occur by set-off when the printed surface is pressed against the food-contact surface of the packaging in the stack or reel.





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Fastness properties of UVASLEEVE® YS Process Inks

Color shade	Item number	Light fastness	Color shade
Process Inks			
Yellow	YS-S1100A	4	
Magenta	YS-S1200A	5	
Cyan	YS-S1300A	8	
Black	YS-S1400A	8	

Fastness properties of UVASLEEVE® YS PANTONE® Base Inks

Color shade	Item number	Light fastness	Color shade
PANTONE® Base Inks			
Yellow	YS-P100E	6	
Yellow 012	YS-P101D	6	
Orange 021	YS-P150D	6-7	
Warm Red	YS-P200C	6-7	
Red 032	YS-P201C	6-7	
Rubine Red	YS-P202C	5	
Rhodamine Red	YS-P203C	6-7	
Purple	YS-P250C	6-7	
Violet	YS-P251C	6-7	
Reflex Blue	YS-P300D	6-7	
Process Blue	YS-P301C	8	
Blue 072	YS-P302D	6-7	
Green	YS-P350C	7-8	
Black	YS-P400B	8	

UVASLEEVE® inks have been designed for counter print (reverse print). The transparent substrate protects the ink film against influences, for example alkali or solvents. Therefore statements about contact fastness are not necessary.

The colors shown are only for illustration. The colors are not a binding color sample!

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Declaration of Composition and Product Declaration

As there are no specific regulations concerning printing inks and varnishes Zeller+Gmelin -like other ink suppliers- is obliged to follow regulations in the EU not directly related to printing inks.

Regulation 1935/2004

Article 3 of the Regulation 1935/2004 (impact on food) demands, that materials and articles do not transfer their constituents to food in quantities which could endanger human health or bring about an unacceptable change in the composition of the food or bring about a deterioration in the organoleptic characteristics thereof.

We urgently advise you to use for printing on primary food packaging only printing inks which we specifically recommend for this application and which have a low-migration formulation (see page 1 and 3 of this document).

A possible impact on the quality of food does not solely depend on the printing ink itself but is depending on the complete production chain (ink laydown, UV-power, substrate, etc.). For this reason we can generally not confirm a compliance to Regulation 1935/2004 only based on the composition of the ink.

Based on Article 17 (traceability) material and articles shall be ensured at all stages in order to facilitate control, the recall of defective products, consumer information and the attribution of responsibility.

All raw materials for ink batches at Zeller+Gmelin are documented in writing on the Formula Component Report. Based on the batch number every raw material can be clearly traced back to the raw material batch.

Directive 2002/72/EC

this so-called "plastics directive" lists substances which are allowed to get into direct contact with foodstuffs. It also sets migration limits for each substance up to which the substances are allowed to migrate into the food (listed in the annex of the directive and its amendments). Printing ink components are not allowed to get into direct contact with foodstuffs and are therefore not included in this list. This is the reason why we can not confirm the conformity of our products with directive 2002/72/EC.

Directive 2007/19/EC

This Directive, which is an amendment to the Plastics Directive 2002/72/EC, provides limits for substances not listed in the corresponding annexes of the Plastics Directive and amendments. Most components used in printing inks are not intended to get into direct contact with foodstuff. Therefore directive 2007/19/EC does not indicate specific migration limits for them. For these substances without SML a general limit of <10ppb (10 µg/kg food) for the transfer into food has to be undercut (Article 7). Again, many different factors have an impact on the migration (see remark under 1935/2004). Therefore a compliance to Directive 2007/19/EC can not be confirmed.

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CEPE / EuPIA – Exclusion List

CEPE is the European Council of producers and importers of paints, printing inks and artists colours whereas EuPIA is the European Printing Ink Group of CEPE. The printing ink industry voluntarily came up with the Exclusion List for specific substances many years ago.

Zeller+Gmelin is an active member in the EuPIA and subgroups. The raw materials used by Zeller+Gmelin for the formulation of our printing inks meet the guidelines of the CEPE / EuPIA Exclusion list. This means that CMR-substances (cancerogenic, mutagenic and reprotoxic) plus T (toxic) and T⁺ (very toxic) are not used in our printing inks.

Heavy Metals

CONEG stands for Coalition of North-Eastern Governors in the USA. One of their legislations, adopted by 18 states as of 1998, requires reductions in the amount of the four heavy metals mercury, lead, cadmium, and hexavalent chromium in packaging and packaging components sold or distributed in their member states. For Zeller+Gmelin printing inks the limits for heavy metals as listed in the CONEG-Regulation (USA) are met. The Euro Norm 71.3 refers to the max level of heavy metals in childrens toys. For Zeller+Gmelin printing inks the limits for heavy metals as listed in the DIN EN 71-3 are met.

Heavy metals are no part of our formulations.

Hazardous substances

Substances mentioned in the directive **2002/95/EC** (RoHS) are not intentionally used in our formulations / printing inks.

SVHC-substances (substances of very high concern): In our products no substances are used which meet the criteria of SVHC-substances (substances of very high concern). SVHC-substances are substances which are classified as CMR 1 & 2, PBT (PBT pollutants are chemicals that are toxic, persist in the environment and bioaccumulate in food chains), vPvB (Substances that are potentially very persistent and very bioaccumulative) und endocrine disruptors (artificial hormones).

The substances listed in the guide line **67/548/EEC** (amended by the directive **2006/121/EC**) and in the guide line **76/769/EEC** are not part of the formulation of our printing inks.

Furthermore we confirm that our printing inks are in accordance with the EC regulation **1895/2005** (repeals the guide line **2002/16/EC**).

ISO 9001

The production site of Zeller+Gmelin / Germany is certified according to DIN EN ISO 9001:2000 and DIN EN ISO 14001:2005 (corresponds to EN ISO 14001 edition Nov. 2004).

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Please note:

According to applicable law the manufacturer of the finished article and the filler have the full legal responsibility to ensure that their product is fit for its intended purpose and complies with the applicable rules (not the supplier).

Please also consider the relevant publications of the European Printing Inks Association EuPIA (<http://www.eupia.org>).

There are many types of final packaging and the printing ink is only one constituent. Since the parameters in the printing, packing and storage processes are not under the control of the printing ink manufacturer, the printing ink suppliers are not able to issue certificates or declarations of compliance which cover the legal responsibility of the entire packaging chain (Text from EuPIA-PIFOOD May 2007).

The statements made in this declaration are according to our current knowledge. They do not absolve the user from its own responsibility to ascertain that our products are suitable for his application.

Zeller+Gmelin GmbH & Co. KG



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Sales Manager



i.V.
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Head of Product Management

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