Product description:

ULTRASTAR UV SP Silver inks are radical curing, solvent free and stable one-component UV-Screen inks for paper, board and various non-absorbent substrates based on METALURE® pigment dispersions.

These ULTRASTAR UV-inks offer a very high metallic effect in combination with good rub resistance and adhesion.
ULTRASTAR UV SP-8714 is the silicon-free version of ULTRASTAR UV SP-8712.

The radiation curing (UV light) ink series ULTRASTAR UV SP inks may release odour-generating by-products during the drying process and is neither low-migration nor low-odour. Therefore it might contain unevaluated substances with the potential to migrate. Further essential measures for food packaging inks like specific raw material selection, analytic control of raw materials and final products on composition and impurities, GMP production, cannot be guarantee for our ink series ULTRASTAR UV SP. Due to our production processes for these products, we cannot guarantee necessary measures for FCM (Food Contact Materials), such as special raw material selection, control of raw materials and end products regarding composition and impurities or production according to GMP.
A SoC is therefore not available for these products.
When using these products in indirect food contact, the suitability for this application has to be tested before commercial use by the user through suitable analyses.

Application:

ULTRASTAR UV SP-8712 and SP-8713 are suitable for screen-printing on paper, board and different film substrates, for labels, flexible packaging and cartons. Both inks are recommended for rotary screen application.

As with all metallic inks the substrate has a big influence on the final result. Very absorbent or uneven substrates often cause a bad pigment orientation resulting in inferior brilliance. In some cases, the use of primers for an improvement of the substrate surface is advantageous.

ULTRASTAR UV SP inks are suitable to be overprinted in-line. It's recommended to cure before varnish is applied in order to preserve the metallic effect.
Over lacquering reduces the metallic effect. This influence as well as the cohesion depend very much on the type of lacquer and should be tested prior to any commercial use.

Product properties:

Curing speed:

On many substrates the ULTRASTAR UV SP inks shows a fast and good curing (MEK-test), when applying a UV-lamp capacity of 140 Watt/cm and printing speeds of 45 m/min.

Strong absorbent and transparent substrates as well as a very high layer thickness can have a negative impact on the curing properties of the ink.

Rub resistance:

Fully cured ULTRASTAR UV SP inks provide a good rub resistance on almost all substrates.

Adhesion:

In general, when using none or only low absorbent substrates, corona treatment is recommended. Also by using coated papers, the adhesion can be improved significantly.

The adhesion of the ULTRASTAR UV SP inks, tested on coated label papers, PE and OPP films, shows very good results. The maximum adhesion takes effect after around 24 hours.

Due to the large variety of films, it is recommended to test the suitability of ULTRASTAR UV SP inks prior to any commercial use.

Additional product properties:

ULTRASTAR UV	SP-8712 Silver	SP-8714 Silver
Pigment content	ca. 2.5 %	ca. 2.5 %
Pigment size (D_{50})	ca. 10µm	ca. 10µm
Solvent content	0 %	0 %
VOC	0 %	0 %
Application	rotary	rotary
Pigment characteristic	Leafing	Leafing

For specifications of our products, please refer to the technical data sheet.

Recommended printing parameters:

Screen configuration:

The metallic effect depends on the ink lay down. The better the hiding power, the higher the brilliance.

As a starting configuration for the ULTRASTAR UV SP inks RM 325/22% or RM 305/11% are recommended.

Printing speed:

At 140 Watt/cm UV-lamp capacity and 10 µm layer thickness a printing speed of 45 m/min can be achieved for rotary screen printing. Dependent on substrate, the printing speed varies.

Printing viscosity:

ULTRASTAR UV SP inks are supplied with printing viscosity.

Dilution:

The inks are already adjusted to printing viscosity. It's not recommended to add reactive diluents, as a negative impact to optical effect, curing speed and stability of the ink may occur.

If it's necessary to adjust the viscosity, this can be achieved by addition of low amounts of reactive diluents like HDDA, TPGDA or TMP(EO)TA at press-side.

If unavailable, up to 5% of methoxypropanol or N-methylpyrrolidon can be added.

Cleaning recommendations:

ULTRASTAR UV-inks can be cleaned by using conventional UV-cleaning agents. Also with esters or ester/alcohol mixtures the uncured inks can be removed easily from the cylinders.

Please refer to the safety data sheet and the safety guidelines given there.

Handling:

ULTRASTAR UV-inks are stable, brilliant one-component inks. Blending with other components should only be done on ECKART's recommendation in order to avoid a possible decrease in quality.
Please contact ECKART Technical Support for further advice.

Metallic inks tend to settle because of the high specific gravity of the pigment. This is normal and not due to a lack of quality. The inks can be easily stirred up and homogenised again. This should be done before viscosity is checked. No pigment settling should be left on the bottom of the container.

When handling with UV-inks, please refer to the safety data sheet and the safety guidelines given there.

Storage and transportation:

ULTRASTAR UV-inks should be stored at temperatures below 25°C. Direct sunlight should also be avoided.

High temperatures can lead to gelling. Low temperatures can result in the separation of low soluble binder components.

Opened containers should never be handled at direct sunlight, since this will lead to polymerisation ahead of time.

For further information or samples, please contact:

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The data on this technical information sheet correspond with the current status of our knowledge and experience. The liability for the application and processing of our products lies with the buyer, and he is also responsible for observing any third party rights. We reserve the right to alter any product data as a result of technical progress or further developments in the manufacturing process.

Shelf life: 6 months

Important: ECKART strongly recommends disposing of used ink after running on press, as the shelf life of this material can be greatly reduce due to various factors such as light, heat, contaminants etc.
ECKART cannot guarantee the shelf life of printing ink, which has been previously used or modified, nor for ink, which has been stored out with the conditions above.