

## Technical Product Information



### METALSTAR Eco 10 silver series

**Article-No:**

053446..

**Product name:**

METALSTAR Eco 10 0006 Silver

REVISION: 2

EDITION: JUNE 2021

IDENT-NO: 00295.E

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#### Conventional sheetfed offset ink, mineral oil free<sup>1</sup>

##### Product description:

METALSTAR Eco 10 silver sheet-fed offset ink is formulated using vegetable ester (mineral oil free).

- Formulated with a reduced content of hydrocarbon solvents (mineral oils).
- With excellent printability
- Oxidative drying
- For press stability
- To meet today's demands (8-10 colour presses)
- Matching gloss and metallic effect of mineral oil based inks, e. g. METALSTAR 07 series

The oxidative drying ink METALSTAR Eco 10 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, can't guaranteed for this ink METALSTAR Eco 10. Therefore ECKART does not generally recommend this ink series for the production of packaging for food, beverages and tobacco, without the customer proving suitability of this inks series for the specific application via a migration test or other measures (e.g. use of functional barriers in the packaging design).

##### Application:

METALSTAR Eco 10 silver is suitable for offset-sheetfed printing. The inks based on a leafing aluminum pigment.

Ideal suitable for printing on paper and carton (e.g. labels, folding carton), especially for print jobs with high demands on intercoat adhesion.

As with all metallic inks, the substrate has an influence on the final result. This is true not only for optical properties as brilliance and hiding power, but also for printing properties such as adhesion and transfer.

Very absorbent or uneven substrates often affecting:

- The pigment orientation and consequently the brilliant effect.
- Transfer properties and adhesion, as essential parts of the binder might penetrate.

In some cases, the use of primers to improve the substrate surface is advantageous.

##### Product properties:

###### Rub resistance:

The METALSTAR Eco 10 silver ink is based on leafing pigments and provide good brilliance. For applications with high demands on rub resistance, an OPV (oil-based or water-based over print varnish) is necessary. However, it will reduce the brilliance.

##### Intercoat adhesion and lamination properties:

The leafing properties of the metallic pigments can cause problems with all kind of finishing. The intercoat adhesion with oil-based and water-based lacquers is good. UV lacquers and laminates should be avoided.

Every surface finishing (lacquers, laminates, etc.) will decrease the metallic brilliance.

For lamination, the METALSTAR SuperEco 08 silver is recommended (low VOC series, but containing mineral oil).

In each respective case, individual tests are necessary because of the multiple factors influencing the final result.

##### Additional product properties:

METALSTAR Eco	10 0006
Pigment content	appr. 16,0 %
Pigment size (D <sub>50</sub> )	appr. 7 µm
Mineral oil content	< 1 %

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

##### Recommended printing parameters:

###### Printing speed:

The maximum printing speed depends greatly on press conditions, substrate, design etc. Recommended press speeds are between 8000 – 12000 sheets per hour.

###### Print Density:

Measurements need to be taken with a densitometer including polarisation filter. The given guiding values might change depending on press conditions, substrate, etc.

METALSTAR Eco	Colour density (wet)	Filter
10 0006 silver	0.9 – 1.1	C

##### Fountain solution:

All METALSTAR inks can be used with most commercially available fountain solutions. The pH should be kept as neutral as possible to avoid drying problems and tarnishing during print run. Ideal would be pH: 5 – 5.5.

Avoid high pH levels as this might influence printability in a negative way.

Alcohol in damping units can be beneficial to metallic inks (max. 10%). METALSTAR inks print perfect with a wide range of alcohol free fountain solutions. For best printing results, please contact your press chemical supplier.

##### Printing plates:

Polymer layers of printing plates are sensitive to mechanical influences. Differences in the chemical nature of the polymers show significant variances in sensitivity, e. g. CTP plates are known to be more sensitive compared to usual plates.

<sup>1</sup> EuPIA Customer Information Note regarding the use of sheetfed offset inks/varnishes (setting and/or oxidative drying, or UV/EB curing) and water-based coatings for the manufacture of food packaging made from paper and board

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All metallic inks are abrasive by nature and might reduce the plate life circle, depending on pigment grade, the kind of plate and the number of impressions.

We recommend baking the plate to prolong its life.

**Dilution:**

METALSTAR inks are press ready and should not be diluted. Max. 1-3% of mineral oil free diluent could be added on your own risk. Do not use mineral oil to reduce this inks.

**Additives:**

To improve rub resistance 2-4% wax paste could be added press side. This might have a negative effect on stability and optical properties and should be tested beforehand.

**Cleaning recommendations:**

METALSTAR inks can be easily cleaned by commercial available products. In any case contamination of the ink with cleaning agents must be avoided in order to maintain stability and optical properties.

Please refer to the safety data sheet for safety instructions.

**Handling:**

The METALSTAR Eco 10 is a stable one-component, press-ready ink with good metallic effects. However, blending of METALSTAR inks with other components should only be done on ECKART's recommendations to avoid a possible decrease in quality.

Used ink should not be refilled into the tin as emulsified fountain solution might react with the metallic pigments causing gelling, oxidation or even gassing.

Please refer to the Safety Data sheet of METALSTAR Eco 10 for further handling guidelines.

**Storage and transportation:**

All METALSTAR inks should be stored at temperatures below 25°C. High temperatures as well as very low temperatures should be avoided as these conditions could damage the product (oxidation/ gassing or flocculation of binder/additives with low solubility).

Keep the drums tightly shut and avoid unnecessary opening. Once opened – an anti-skinning agent could be used to avoid skinning.

ECKART cannot guarantee shelf life stability for used products. Often enough used inks are printed again, we recommend optical tests prior to commercial use.

Additionally, used ink should be stored in a drum with air vent valve as possible contaminations (e.g. water content in solvents) can lead to gassing.

**Shelf life:**

12 months

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