



## CORONA-MGA<sup>®</sup> Silver

### for the offset process

Low migration sheet-fed offset ink  
for food packaging

Packaging shall protect the contents inside and not contaminate the packed foodstuffs. Substrates, printing inks and coatings are therefore not allowed to contain substances that are transferred to the packaged food in quantities that exceed the legal limits.

As a responsible partner of the printing industry, the **huber**group has developed new sheet-fed offset inks that are not only organoleptically neutral, but also offer low migration.

CORONA-MGA<sup>®</sup> printing inks are formulated using only components that do either not migrate or which have been evaluated for food contact. This distinguishes them significantly from standard sheet-fed offset inks.

### Colours available

#### One-component ink

CORONA-MGA<sup>®</sup> one-component silver is supplied ready to use. The advantage of one-component inks is to be found in their uncomplicated handling, because there is no need to mix the paste and varnish as is the case with two-component systems.

<b>CORONA-MGA<sup>®</sup> Silver</b>	<b>46MGA9000</b>
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**Shelf life of one-component inks is 6 months**

#### Two-components inks

<b>CORONA-MGA<sup>®</sup> Silver paste</b>	<b>46MGA9050</b>
<b>CORONA-MGA<sup>®</sup> Silver vehicle</b>	<b>10MGA8030</b>

**We recommend a mixturing ratio of 30 % paste und 70 % vehicle.**

This ratio can, however, also be varied:

- More pigment paste gives a greater metallic effect with lower rub resistance and reduced adhesion.
- More varnish improves the transfer characteristics and rub resistance but reduces the metallic effect.

### Mixing instructions for two-component inks

The silver ink is mixed from pigment paste and vehicle immediately prior to starting the print run. When mixing, the paste should be added to the vehicle and not the other way round. When preparing the ink, care must be taken not to „overstress“ it, i.e. the components must be mixed as gently as possible. High-speed agitators and excessive heating of the ink drying during mixing have a negative effect on its quality and must therefore be avoided at all costs (max. temperature 60 °C). If the conditions cited above are complied with, you will obtain very good metallic effects.

We recommend you use a vibration or biaxial mixer (mixing time for 2.5 kg: max. 2 - 3 minutes, longer mixing times of small quantities could exceed the temperature limit of 60 °C) for mixing the two components and to prevent contamination. If you require assistance, we can provide the names of manufacturers of suitable equipment.

To prevent contamination through conventional inks and coatings/varnishes, only ever use absolutely clean equipment and tools. Use suitable washup solutions. When using water-miscible washup-solutions, use water for the final washup step.

## Properties

- Inks for printing the non-food contact surface of food packaging made of paper and board
- Very low migration and lead to very little swelling
- These inks dry solely through setting and not by oxidation
- Relatively slow setting speed
- Organoleptic assessment of printed products shows excellent results („Robinson tests“ EN 1230 Part 1 und Part 2).

## Technical application

CORONA-MGA® has very good, trouble-free printing characteristics. Since the ink does not dry by-oxidation and sets relatively slowly, inline finishing with water-based coating is essential. Substrates with a low level of absorptivity necessitate the use of special water-based coatings. Without inline coating, there will be setoff in the stack and the required rub resistance will not be obtained.

Suitable water-based coatings have been developed specifically to meet the requirements of the production of food packages with CORONA-MGA® inks. The same is also true for fount concentrates and printing auxiliaries.

## Application instructions

The best metallic effect is obtained on coated stocks that have a uniform, smooth surface. In view of the fact that the systems possess excellent coverage properties, it is neither recommended nor necessary to try to enhance the effect by increasing the ink film weight. As a rule, this simply leads to printing problems such as piling on the press, poor stackability, long drying times and insufficient smudge resistance.

We recommend printing this silver ink with an optical density of approx. 0.9 - 1.0 (measured with a cyan filter). Doing so can reduce adhesion problems, especially after coating.

## Dampening / Fount solution composition

Delivery of the fount solution on the press must be kept to an absolute minimum - particularly when the level of ink applications is low - in order to prevent excessive emulsification and the poor coating quality associated with this.

The isopropanol concentration in the fount solutions when using COMBIFIX-MGA® must not exceed 10 % with a pH of 5.0 - 5.4.

The **huber**group has developed fount concentrates for use specifically with these products:

**COMBIFIX-MGA® 8060** (for printing with IPA)

**SUBSTIFIX-MGA® 8360** (for printing without IPA)

## ACRYLAC-MGA® water-based coatings

The coatings that have been developed specifically for finishing MGA® inks are:

- Glossy and rub-resistant coating for single-sided coating **ACRYLAC-MGA® 580 130/40.**
- Wet-blocking resistant and rub-resistant coating **ACRYLAC-MGA® 580 162/40.**

If required, other coatings with additional special properties can also be supplied.

We recommend that you set the coating application rate to the upper limit, in order to obtain an uninterrupted film over the inks. In this way, you can avoid the following problems:

- inadequate rub resistance
- inadequate gloss
- setoff in the stack

### **Printing auxiliaries / Ink mixtures**

To reduce ink tack only use Print oil **540860/52**. Under no circumstances may conventional printing ink oils, paste reducers or the like be used.

MGA® inks may only be mixed with other MGA® inks. Never use siccatives, because that could create strong-smelling decomposition products.

### **Postprint finishing**

We recommend that you do **not** continue processing the finished stacks until at least 48 hours after completing printing because of the relatively slow setting speed of the inks .

### **Roller treatment / Washup**

Due to the development of undesirable odour and taste, the press rollers must not be sprayed with Anti-drier 10 T 1200 or Farbfit 10 T 3303. After washing the rollers, leave them to dry well.

### **Special instructions**

Aluminium pigments are sensitive to moisture and especially so to acids or lyes. For this reason, ink left over in the ink duct after completion of the print run must not be kept for re-use, because the fount solution it contains can cause the left-over ink to produce and give off gases.

### **Finishing instructions**

When finishing metal-pigmented offset inks - by coating with ACRYLAC® or laminating - adhesion problems can arise between the ink film and the finish. These are caused by stabilisers and lubricants that have to be added during pigment production and which adhere to the metal pigment surface. We therefore recommend you test the coating for reticulation and adhesion characteristics between the ink film and the finish thoroughly prior to beginning the print run. The converter must be informed of the fact that the print to be finished has been produced using metallic inks.

Further details on the application and properties of CORONA-MGA® inks can be found in Technical information sheet 10.1.15.

### **Classification**

Safety Data Sheet available on request.

### **How supplied**

#### **One-Component inks**

2.5-kg-vacuum-sealed cans

#### **Two-component inks**

Paste

0.75-kg-vacuum-sealed cans

Vehicle

1.75-kg-vacuum-sealed cans

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Contact addresses for advice and further information can be found under [www.hubergroup.de](http://www.hubergroup.de)

This Technical information sheet reflects the current state of our knowledge. It is designed to inform and advise. We assume no liability for correctness. Modifications may be made in the interest of technical improvement.