

EuPIA Customer Information Note

**regarding the use of
sheet-fed offset printing inks and coatings
for the manufacture of food contact materials (FCM)
made from paper and board**

Executive Summary:

- For the manufacture of food contact materials, EuPIA member companies offer and recommend specific FCM printing inks
- Standard (*non*-FCM) printing inks are not intended to be used in the manufacture of food contact materials
- When manufacturing FCM made from paper and board, standard (*non*-FCM) sheet-fed printing inks can only be used where an absolute barrier is present, and where any transfer of ink ingredients, e.g. by invisible set-off, can be ruled out by appropriate packaging design and manufacturing process

Regulation (EC) No. 1935/2004¹ requires that materials and articles which, in their finished state, are intended to be brought into contact with foodstuffs or which are brought into contact with foodstuffs, must not transfer any components to the foodstuff in quantities which could endanger human health, or bring about an unacceptable change in the composition or deterioration in organoleptic properties.

This means that the manufacturer of the finished article and the filler have the legal responsibility that the food packaging is fit for its intended purpose.

1. Printing inks for food contact materials (FCM inks)

For the manufacture of food packaging made from paper and board, EuPIA member companies offer and recommend the use of specific printing inks for food contact materials (FCM inks). The term "FCM inks" also includes coatings. FCM inks are manufactured in accordance with the EuPIA "Good Manufacturing Practice – Printing inks for food contact materials" (EuPIA-GMP). FCM inks are designed and formulated for use on either the non-food contact or the food contact surface of materials and articles intended to come into contact with food, and are clearly specified with regard to their use as being either an "FCM ink", or a "printing ink for direct food contact" (DFC ink, a subgroup of FCM inks), respectively.

¹ Regulation (EC) No 1935/2004 of the European Parliament and of the Council of 27 October 2004 on Materials and Articles intended to come into Contact with Food

FCM inks are supporting manufacturers of food contact materials in supplying products that are compliant to the applicable legislation in Europe for materials and articles intended to come into contact with food, such as the Framework Regulation (EC) No 1935/2004 and the GMP Regulation (EC) No 2023/2006. FCM inks must be processed in accordance with the FCM producer's own GMP and with the information given in the technical data sheets.

EuPIA members are using the terms "printing inks for food contact materials" ("FCM inks") and "compliant with the EuPIA-GMP". Note that FCM inks for printing on the non-food contact surface of food packaging are sometimes also referred to in the market as "food packaging inks" or "migration compliant inks" (as they are specifically formulated and manufactured with respect to the migration of substances). Other phrases such as "low migration inks" have also been used in the marketing of FCM inks.

2. Standard (*non*-FCM) printing inks and varnishes

In contrast to FCM inks, **standard** (*non*-FCM) printing inks and varnishes are not designed for the manufacture of food contact materials. Standard inks are not formulated and manufactured according to the EuPIA-GMP. Many of them will contain substances (e.g. mineral oils, certain photoinitiators, etc.) which have not been evaluated for food contact and/or could bring about a deterioration of organoleptic properties. Standard inks can only be used for the manufacture of FCM where the print is separated from the foodstuff by an absolute barrier, and in addition any transfer of ink ingredients to the foodstuff (by invisible set-off in the stack or the reel, or through the gas phase) can be ruled out by appropriate design and manufacturing process of the FCM.

EuPIA wishes to clearly point out that when carrying out any risk assessment paper, board, and many plastic materials like PE or PP are not absolute barriers to migration of substances from the print or coating.

3. Mineral oil free inks

In the manufacture of sheet-fed offset inks or varnishes marketed as "mineral oil free", mineral oil is not intentionally used. Generally, the content of mineral oil hydrocarbons (MOH) in "mineral oil free" inks due to impurities in the raw materials is below 1%.

Sheet-fed offset FCM printing inks and varnishes are always formulated "mineral oil free", and their trace content of MOH is controlled and minimised to be considerably lower than 1%.

4. Overview: Sheet-fed offset FCM inks for printing on paper and board

Attached is an overview of types of sheet-fed offset FCM printing inks, varnishes and coatings available on the market (offered by EuPIA members), with indication of the suitability for the manufacture of food contact materials..

Suitability of sheet-fed offset FCM printing inks and varnishes for the manufacture of food contact materials (application on the non-food contact surface of the FCM)

Conventional sheet-fed offset ink, standard (either mineral oil based or mineral oil free)
Not suitable for the manufacture of FCM without absolute barrier.

Conventional sheet-fed offset *FCM* ink

- Suitable for the manufacture of FCM without absolute barrier.

Oil based varnish, standard (either mineral oil based or mineral oil free)

Not suitable for the manufacture of FCM without absolute barrier.

Oil-based *FCM* varnish

- Suitable for the manufacture of FCM without absolute barrier.

UV-curing printing ink or lacquer, standard

Not suitable for the manufacture of FCM without absolute barrier.

UV-curing *FCM* printing ink or lacquer

- Suitable for the manufacture of FCM without absolute barrier.

Water-based coating, standard

Not suitable for the manufacture of FCM without absolute barrier.

Water-based *FCM* coating

- Suitable for the manufacture of FCM without absolute barrier.

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