

EuPIA Customer Information Note

**regarding the use of
sheetfed offset printing 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

Executive Summary:

- Special food packaging sheetfed printing inks and varnishes are recommended for the manufacture of food packaging
- All other sheetfed printing inks and varnishes are **not suitable** for the manufacture of food packaging
- Standard sheetfed inks can only be used for the manufacture of food packaging 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. For the manufacture of food packaging made from paper and board, EuPIA member companies do offer and recommend the use of tailor-made **food packaging** inks, varnishes and coatings, often referred to as "low-migration and low-odour" products. These are specially formulated and manufactured in accordance with the "EuPIA Guideline on Printing Inks applied to the non-food-contact surface of food packaging materials and articles" and the EuPIA „Good Manufacturing Practices for the Production of Packaging Inks formulated for use on the non-food-contact surfaces of food packaging and articles intended to come into contact with food (GMP)". Provided that these printing inks, varnishes and coatings are processed on suitable substrates, it is possible to produce food packaging that meets the requirements of Regulation (EC) No. 1935/2004.

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

2. In contrast to these special food packaging inks, **standard**² sheetfed offset printing inks and varnishes are not designed for the manufacture of food packaging. Also, standard printing inks and varnishes are not formulated and manufactured according to the EuPIA Guideline and EuPIA GMP. Most of them will contain substances (e.g. mineral oils, certain photoinitiators, etc.) which have not been evaluated for food contact and which may be transferred from the print/coating to the foodstuff either by migration through the substrate or via the vapour phase, or by set-off from the printed/coated outer side to the food contact surface in the stack or the reel.
3. 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 sufficient barriers to migration of substances from the print/coating.

Attached is an overview of types of sheetfed offset printing inks and varnishes available on the market (offered by EuPIA members), with indication of the suitability for the manufacture of food packaging. For further information, please refer to the EuPIA Information Leaflet "Printing Inks for Food Packaging", and to the PIJITF "Explanatory Note on the assessment of migration potential from food packaging inks and its dependency on the packaging structure".

PIFOOD, 05 February 2009
amended, 30 June 2011
amended, 12 October 2015

² "standard" meaning In this specific context "**not** explicitly formulated and manufactured for the production of food packaging".

Suitability of Sheetfed Offset Printing Inks/Varnishes and Coatings for the manufacture of food packaging (application on the non-food contact side of the packaging)

1	Conventional sheetfed offset ink, mineral oil based Not suitable for the manufacture of food packaging without effective barrier.
2	Conventional sheetfed offset ink, mineral oil free Not suitable for the manufacture of food packaging without effective barrier.
3	"Low-odour" sheetfed offset ink, mineral oil free Not suitable for the manufacture of food packaging without effective barrier.
4	"Low-odour and low-migration" sheetfed offset ink, mineral oil free ● Suitable for the manufacture of food packaging without effective barrier.
5	Oil based varnish, mineral oil based Oxidative drying. Not suitable for the manufacture of food packaging without effective barrier.
6	Oil based varnish, mineral oil free Oxidative drying. Not suitable for the manufacture of food packaging without effective barrier.
7	"Low-odour and low-migration" oil-based varnish, mineral oil free ● Suitable for the manufacture of food packaging without effective barrier.
8	Standard UV printing ink or standard UV lacquer, mineral oil free Not suitable for the manufacture of food packaging without effective barrier.
9	"Low-odour" UV printing ink or UV lacquer, mineral oil free Not suitable for the manufacture of food packaging without effective barrier.
10	"Low-odour and low-migration" UV printing ink or UV lacquer, mineral oil free ● Suitable for the manufacture of food packaging without effective barrier.
11	Standard water-based coating, mineral oil free Not suitable for the manufacture of food packaging without effective barrier.
12	"Low-odour" water-based coating, mineral oil free Not suitable for the manufacture of food packaging without effective barrier.
13	"Low-odour and low-migration" water-based coating, mineral oil free ● Suitable for the manufacture of food packaging without effective barrier.

Definition: In the manufacture of "mineral oil free" inks or varnishes, mineral oil is not used. Generally, the content of mineral oil in mineral oil free inks due to impurities in the raw materials is below 1%. In low-migration inks, the content is considerably lower.