

Questions and Answers concerning food packages

What is Migration?

The word migration describes a transfer of material. In case of food packages the transfer of components from the ink or from the board into the food is meant.

What is 1935 (2004) EC?

A European directive which regulates articles which are intended to come into contact with food.

What is 2023 (2006) EC?

A European directive which prescribes that GMP rules has to be obeyed during the production of articles which are intended to come into contact with food.

What is 72 (2002) EC?

A European guideline which regulates the usage of plastic articles which are intended to come into contact with food.

What is a low migration ink?

A printing ink which secures, provided the ink is used in a proper way on a suitable substrate, that any eventual migration is below the relevant limits.

What is a declaration of conformity?

With the declaration of conformity the packaging producer confirms that the produced package is inline with the relevant legislations.

When has low migration ink to be used?

If a transfer of not assessed substances from the printing ink into the packed food cannot be excluded.

What implies the relation of packaging surface to the packed weight for the migration?

Migration is measured as migration through a surface and noted as mg/dm^2 . To get from this data to a concentration of migrating substances in packed food noted as (mg/kg) , you have to know the surface for calculation of the maximum migrating substances of the packaging and the weight of the food in the package. The maximum concentration of substances in the food is derived by division of the maximum of migrating substances through the weight of the packed food.

Are food safe inks and coatings available?

The term "food safe" is not defined together with printing inks.

What is about the ink which during printing is on the backside of the package, because of set off?

Set off should be avoided. If low migration inks are used, we need not to worry that more substance will migrate from ink particles at the backside of the board than from the ink on the front side. But if the package is one without an inner bag, the ban of direct contact of ink and food out of direction 2023(2006) might be ignored.

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What does GMP mean?

GMP is the abbreviation of **Good Manufacturing Practise** and means that the production has to run according to defined rules.

Are there limit values for migration?

For prints on board and paper there are no limit values in Europe (except in Switzerland). However, there are limit values for food packages of plastics. These limit values are also used for packages of paper and board.

Are only printing inks relevant for the migration or also the fountain solution, powder and substrate, too?

The substrate is important for the migration. But migration out of pulp board is minor and increases via fresh fibre board to recycling board. The influence of the fountain solution and the powder seems minor up to not present.

Can low migration inks also be used for direct contact with food?

No, direct contact of food and printed area is not permitted according to directive 2023/2006 annex part 3.

Are low migration inks more environmental friendly than normal ones?

Although no industrial product, for the production of which energy and raw materials will be used, can be called "non polluting" or "environmentally friendly" however, it is possible, to minimize the effects on the environment by a lot of individual measures. For the sheetfed offset inks of Flint Group this happens by optimization of environmental aspects during the whole 'life circle' of the inks. This is also true for low migration inks, but not more than for usual inks.

Are low migration inks more expensive than normal ones?

Yes, on one hand the raw material costs are higher, on the other hand the production costs are significantly higher, as to avoid cross contamination, low migration inks cannot be produced in fully automatic production lines.

Who is responsible for production of low migration packaging? Ink supplier or printer, the packer, or the distributor?

The responsibility for the packaging finally lies at the distributor of the products.

Do low migration inks contain drier?

No, low migration inks are also low odour and low taste transferring and therefore will not dry oxidative but only by setting.

Do low migration inks contain nano particles?

Special produced nano particles or nano technology are not used. However, dispersed ink pigments can (at least in one dimension) have a size beneath 100 nm.

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