

4-methyl benzophenone (4-MBP) is a low molecular weight chemical substance, which may be used as a photo-initiator in Ultraviolet (UV) radiation cured inks. It is not present in solvent or water based inks.

This Fact Sheet is a response to a recent alert that has been raised over its use in board products.

An alert over the presence of 4-methyl benzophenone in board products has been raised by Germany and concerns migration from cartonboard boxes containing chocolate crunch muesli. The affected product has been withdrawn from the market.

As a result, the European Commission asked EFSA (European Food Safety Agency) to evaluate the risk of the presence of 4-methyl benzophenone in food and whether the existing tolerable daily intake (TDI) thresholds for two similar substances - benzophenone and hydroxybenzophenone - could also be applied to 4-methyl benzophenone.

The Commission has also requested an updated opinion from EFSA on whether the current TDI levels for benzophenone and hydroxybenzophenone are still valid. EFSA has now published its opinion on 4-methyl benzophenone and the current German case. In its statement on 4th March 2009, EFSA has concluded that "Based on the limited exposure data available and applying knowledge on the toxicity of a similar substance, benzophenone, EFSA concludes that short term consumption of contaminated breakfast cereals should not pose a risk to most people." Consequently, the Commission decided to limit the presence of 4-methylbenzophenone by including it within an existing TDI limit. This means that there is now

a limit for the combined amounts of benzophenone, hydroxy-benzophenone and 4-methylbenzophenone of 0.6 mg/kg of foodstuff.

Following these developments, a number of customers are now asking Members to confirm whether 4-methyl benzophenone and the associated substances benzophenone and hydroxybenzophenone are present in their products.

It is recommended that:

- if you are not using any UV ink, varnish, or adhesive then a notification to this effect should be sufficient;
- if you are using UV ink, varnish, or adhesive, then you should ask your supplier to send you a statement in which they confirm whether any of these three substances are used in their products.

Notes:

EuPIA (European Printing Inks Association) does not consider 4-MBP to be suitable for use in UV cured inks and coatings that are intended for food packaging, unless there is a functional barrier present, or where the converter has carried out tests which confirm that the migration is in line with the limitations set out in the annex of GMP Regulation (EC) No 2023/2006. The

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use of 4-methyl benzophenone in non-food packaging applications is considered acceptable by EuPIA.

UV inks only represent a small percentage of total ink use in board packaging, typically less than 5% and 4-methyl benzophenone is only used in a fraction of UV inks, typically less than 15%. The amount of ink that could contain 4 methyl benzophenone in UK produced board packaging is extremely low. It will also be very low in recycled papers.

Further information:

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