4- Methyl Benzophenone in Printing Inks for Food Packaging

4-Methyl Benzophenone (4-MBP) is a low molecular chemical substance, CAS Number 134-84-9, and may be used as a photo-initiator in Ultra Violet radiation cured inks.

From data set out in manufacturer’s Safety Data Sheets 4-MBP is reported to have an LD50 above 2000 mg/kg, and thus is not considered harmful.

In addition negative Ames testing shows 4-MBP not to be a mutagen.

EuPIA members do not consider this photo-initiator suitable for use in UV cured inks and coatings for food packaging use in view of potential migration concerns, 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.

For food packaging applications, EuPIA members would normally recommend the use of low-migration inks and varnishes, as set out in Customer Information Note “regarding the use of sheetfed offset inks and varnishes (setting and/or oxidative drying, or UV/EB curing) for the manufacture of food packaging”, available on the EuPIA website (http://www.eupia.org).

The use of 4-Methyl Benzophenone in non-food packaging applications is not affected by this statement, and therefore considered acceptable.

4-Methyl Benzophenone is a derivative of Benzophenone which is used as a constituent of synthetic perfumes, and grades of which are used as sunscreen agents to reduce skin damage through acting as a block to UV-A and UV-B solar radiation.

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