

Paper and Board Food Packaging Materials: German BFR sets migration limits for Di-isobutyl Phthalate (DiBP)

Concerns of di-isobutyl phthalate (DiBP) in food-contact paper and carton materials at a special meeting of the working group 'Paper and Board' on 5 July 2007 at the German Federal Institute for Risk Assessment (BFR) was concluded with recommendations on certain specified requirements for specific migration limits. The phthalate was also proposed to be classified as a reprotoxic chemical.

Di-isobutyl Phthalate (DiBP) has been found in concentrations up to 5 mg/kg in packaged cartons for fat-containing, powder and fine grain foods such as rice, baking mixtures or breadcrumbs. Such levels are a concern as DiBP is deemed to cause damage to offsprings and impair fertility in studies. These properties prompted the chemical to be classified as a reprotoxic substance with the European Chemicals Agency (planned inclusion in Annex I of the Dangerous Substance Directive 67/548/EEC)

Di-isobutyl Phthalate (DiBP) is used as a plasticiser in dispersion glues for folding cartons and corrugated paper packaging. When these are recycled, DiBP is released and is deemed to be a pathway into foods.

From health assessments based on a closely related isomeric chemical, di-n-butylphthalate (DnBP), the German BFR has recommended specific migration limits (SMLs) for DiBP (Table 1).

Phthalate	Abbreviation	Food Packaging Materials	BfR Recommendations for Specific Migration Limits (mg/kg food)	
			Baby and Infant Formula	Others
Di-isobutyl Phthalate	DiBP	Paper and Board	0.5 mg/kg	1.0 mg/kg

Table 1: Recommended SMLs for DiBP

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The effectiveness of the recommended restriction was proposed to be reviewed every six months and further actions may be taken as necessary. It was suggested that associations of all companies involved in the production and processing of paper and board into printing products, packaging or other products should enter a voluntary undertaking to permanently phase out the use of DiBP in glues, printing inks and other products in order to reduce the levels of DiBP in recycled paper. This voluntary undertaking should be reviewed every six months.

The recommended restriction of DiBP strengthens the requirements of phthalates in plastic materials and articles intended to come into contact with foodstuff. Under Directive 2002/72/EC and its fourth amendment Directive 2007/19/EC, there are specifications and / or restrictions on the use of phthalates (DNOP, DNDP, BBP, DINP, DIDP, DEHP, DBP and Diallyl Phthalate) in their content as well as their SML levels.

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