

Migration of Plasticizers into Food

Phthalates, adipates and other
substances in the spotlight



Migration into Food

Plasticizers are added to synthetics, paints, varnishes, adhesives and other functional materials to make these more flexible and elastic.

The migration of plasticizers into food depends on various factors: diffusion constant of the migrating substance, the solubility in the given food, prevailing temperature, contact time, concentration gradient and the surface-to-volume ratio. Plasticizers generally are soluble in fat, and the migration from packaging into fatty foods such as oils, pesto or seasoning sauces is therefore of major importance.

Plasticizers also occur in dry foods packaged in cardboard, if the latter is glued by dispersion adhesives containing plasticizers or if plasticizers get into packagings through recycled cardboard. Di-isobutyl phthalate (DIBP) has been repeatedly found in cardboard boxes and cardboard packaged food.

Consequently, cardboard manufacturers voluntarily discontinued the use of phthalates in 2007.

Plasticizers can also enter the human body in other ways, for instance through inhalation of vapors from floor coverings and wallpapers. Children may accumulate these substances by mouth contact with toys.

Toxicology

In 2005, the European Food Safety Authority (EFSA) evaluated several phthalates and classified diethylhexyl phthalate (DEHP), dibutyl phthalate (DBP) and benzylbutyl phthalate (BBP) as reproductive toxins.

Analysis

Eurofins' experts have long-term experience with the analysis of plasticizers. We are offering analyses of phthalates, adipates, triisobutyl phosphate, acetyl tributyl citrate, 1,2-cyclohexane dicarboxylic acid diisononyl ester (DINCH) and other substances in fats, oils, fish oils, food, packagings and food simulants by GC-MS or LC-MS/MS.

For further information about the range of our screenings and LOQs, please see our technical sheet.

An individual offer is available on request. Please contact us.

24 h express analysis is possible for LC-MS/MS analysis of plasticizers in food and oils.

About Eurofins

- Global provider of analytical services
- Competence Centers with state-of-the-art analytical technology
- Local contacts within a global network
- Reliable results on time
- Accreditation according to DIN EN ISO/IEC 17025:2005
- Regular participation in proficiency tests
- Authorized experts for double and cross checks according to § 43 of the German Food and Feed Code (LFGB)

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