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XVII. Poly(terephthalic acid diol esters)

As of 01.06.2014

There are no objections to the use of poly(terephthalic acid diol esters) in the manufacture of commodities in the sense of § 2, Para. 6, No 1 of the Food and Feed Code (Lebensmittel- und Futtermittelgesetzbuch), provided they are suitable for their intended purpose and the following conditions are met:

1. The use of starting materials for poly(terephthalic acid diol esters) is subject to the Commission Regulation (EU) No 10/2011.

The evaluation presented in the following refers to polymers from the following monomeric starting substances:
Ethylene glycol
Butanediol-1,4
1,4-Dihydroxymethylcyclohexane
Terephthalic acid
Isophthalic acid, max. 25 %
Adipic acid
Azelaic acid
Sebacic acid
Terephthalic acid dimethyl ester
Azelaic acid dimethyl ester
Sebacic acid dimethyl ester
Oligomeric diglycidethers of 4,4-Dioxydiphenyl-2,2-propane (Bisphenol A-diglycid ethers), max. 2.0 %
Polyethyleneglycol, max. 10 %
The following polymers may be added to the poly(terephthalic acid diol esters) made from the mentioned starting substances:
a) Polyethylene complying with Recommendation III, max. 5.0 %
or
b) Polypropylene complying with Recommendation VII, max. 5.0 %

2. Additives permitted by the Commission Regulation (EU) No 10/2011 may be used in compliance with the restrictions laid down therein. In addition to these, from manufacture and processing, only the following production aids, in the maximum amounts given, may be contained in the finished products:
   a) Catalysts and their residues:
      Phosphate polyester (mean mol. wt. 354), made from monoethyleneglycol, di-ethyleneglycol and phosphorus pentoxide. Phosphorus content of the finished product must not exceed 125 mg/kg, the amount of this ester must not exceed 0.2 %.

Oxides of antimony[1], calcium, gallium, germanium, cobalt[1], lithium, manganese[1], phosphorus, zinc and titanium[2], maximum amounts:
350 mg/kg (= 350 ppm) antimony
20 mg/kg (= 20 ppm) gallium
100 mg/kg (= 100 ppm) germanium
125 mg/kg (= 125 ppm) cobalt
130 mg/kg (= 130 ppm) lithium
140 mg/kg (= 140 ppm) manganese
80 mg/kg (= 80 ppm) zinc
120 mg/kg (=120 ppm) titanium
Finished products whose intended use does not involve them being subjected to a temperature of more than 80 °C for extended periods of time may also contain residual lead oxides, provided that their concentration does not exceed 40 mg/kg (= 40 ppm).
(Acetato-κ^1*O*)(2,2',2''-(nitrilo-κ^1*N*)tris(ethanolato-κ^3*O*))titan(IV), the amount of this substance must not exceed 0.008 %.

b) Polymerisation regulators:
2-(2H-Benzotriazol-2-yl)-6-dodecyl-4-methyl-phenol, branched and linear, max. 0.3 %

3. If commodities made of poly(terephthalic acid diol esters) are coated with other plastics so as to reduce their permeability to water vapour, these must comply with the Commission Regulation (EU) No 10/2011 and the corresponding BfR Recommendations.[3]

4. For the inner coating of commodities made from poly(terephthalic acid diol esters) the following substance may be used:
Silicon dioxide coatings made from the monomers hexamethyldisiloxane and hexamethyldisilazane. The transfer of the residual monomers to the food must be not more than 0.05 mg/kg (determined as hexamethyldisiloxane).

[1] Permitted in accordance with the Commission Regulation (EU) No 10/2011. Migration of this substance into foodstuffs is regulated by the Commission Regulation (EU) No 10/2011.
[2] Permitted as additives by the Commission Regulation (EU) No 10/2011 are: calcium oxide, zinc oxide, titanium oxide.
[3] As a rule, polyethylene and copolymers of vinylidene chloride are used.