

SCIENTIFIC OPINION

Scientific Opinion on the safety evaluation of the process “Cumapol”, used to recycle post-consumer PET into food contact materials¹

EFSA Panel on Food Contact Materials, Enzymes,
Flavourings and Processing Aids (CEF)^{2,3}

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ABSTRACT

This scientific opinion of the EFSA Panel on Food Contact Materials, Enzymes, Flavourings and Processing Aids deals with the safety evaluation of the recycling process Cumapol, EC register number RECYC085. The input of the process is hot caustic washed and dried PET flakes originating from collected post-consumer PET articles mainly bottles, containing no more than 5 % of PET from non-food consumer applications. Through this process, washed and dried PET flakes are extruded under vacuum and pelletised. The pellets are crystallised and solid state polymerised (SSP) in a continuous reactor at high temperature under inert gas flow. After having examined the challenge test provided, the Panel concluded that the three steps, the decontamination in the vented extruder (step 2) the crystallisation and pre-heating (step 3) and the decontamination in a continuous SSP reactor (step 4) are the critical steps for the decontamination efficiency of the process. The operating parameters to control the performance of these critical steps are the temperature, the pressure and the residence time for the extrusion step 2, the temperature, the pressure, the gas flow and the residence time for crystallisation and pre-heating step 3 and the temperature, the gas flow and the residence time for the SSP step 4. The operating parameters of these steps in the process are at least as severe as those obtained from the challenge test. Under these conditions, it was demonstrated that the recycling process is able to ensure that the level of migration of potential unknown contaminants into food is below a conservatively modelled migration of 0.1 µg/kg food. Therefore the Panel concluded that the recycled PET obtained from this process intended for the manufacture of materials and articles for contact with all types of foodstuffs for long term storage at room temperature, with or without hotfill is not considered of safety concern.

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KEY WORDS

Cumapol; Food contact materials; Plastic; Poly(ethylene terephthalate) (PET); Recycling; Process; Safety evaluation.

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