

SCIENTIFIC OPINION

Scientific Opinion on the safety evaluation of the following processes based on VACUREMA Prime ® technology used to recycle post-consumer PET into food contact materials¹

“Lux PET”, “Jayplas”, “PolyQuest” and “CIER”

EFSA Panel on food contact materials, enzymes, flavourings and processing aids (CEF)^{2,3}

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ABSTRACT

This scientific opinion of EFSA deals with the safety evaluation of the recycling processes LuxPET, Jayplas, PolyQuest and CIER (EC register numbers RECYC008, RECYC024, RECYC025 and RECYC027 respectively) which are all based on the same VACUREMA Prime ® technology. The decontamination efficiency of all these processes was demonstrated using the same challenge test. Collected post-consumer PET bottles are processed into washed and dried flakes which are used as input of the VACUREMA Prime ® technology. Through this technology, washed and dried PET flakes are heated in a batch reactor under vacuum and then heated in a continuous reactor under vacuum before being extruded into pellets. After having examined the challenge test provided, the Panel concluded that the two steps, the decontamination in batch reactors and the decontamination in continuous reactor are the critical steps that determine the decontamination efficiency of the processes. The operating parameters to control the performance of these critical steps are the temperature, the pressure and the residence time. It was demonstrated by means of the challenge test that the recycling processes under evaluation using a VACUREMA Prime ® technology are 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 considered that the recycling processes LuxPET, Jayplas, PolyQuest and CIER are able to reduce any foreseeable accidental contamination of the post-consumer food contact PET to a concentration that does not give rise to concern for a risk to human health if:

- i) they are operated under conditions that are at least as severe as those obtained from the challenge test used to measure the decontamination efficiency of the processes and

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the input is washed and dried post-consumer PET flakes originating from materials and articles that have been manufactured in accordance with the Community legislation on food contact materials containing no more than 5% of PET from non-food consumer applications.

The Panel concluded that the recycled PET obtained from the processes LuxPET, Jayplas, PolyQuest and CIER 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

LuxPET; Jayplas; PolyQuest; CIER; VACUREMA Prime; RECYC008; RECYC024; RECYC025; RECYC027; Food contact materials; Plastic; Poly(ethylene terephthalate); PET; Recycling; Process; Safety evaluation.