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Position paper on oligomers in polyolefins

There are concerns that mineral oil saturated hydrocarbons (MOSH) and mineral oil aromatic hydrocarbons could be harmful in food. Reports that mineral oils can migrate from carton board packaging into foodstuffs have therefore alarmed the public. The relevant ministries, authorities and trade associations have been investigating this closely, resulting in significant debate and the discussion of very strict migration limits for some mineral oil fractions.

Although the legal focus is still on carton board, polyolefin oligomeric saturated hydrocarbons (POSH) have also come to the public's attention. POSH are chemically very close to MOSH and are part of the oligomers present in all polyolefin grades. These oligomers are formed during the polymerisation process and represent the lower fraction of the natural molecular weight distribution of a polymer.

The European federation of plastics producers, Plastics Europe, began a project with IVV Fraunhofer to evaluate whether the migration of oligomers from polyolefins is dangerous and if it is sufficiently covered by the existing regulatory limits. The study demonstrated that oligomers migrating from all types of polyolefins only consist of linear and branched alkanes (POSH) and alkenes, and no cyclic or aromatic compounds were found. The toxicological assessment of such migrants concluded that they are **sufficiently characterised by the existing overall migration limit** as defined in the Commission Regulation (EU) 2011/10 on plastic materials and articles intended to come into contact with food. As a result, no further regulation of the oligomers is seen as necessary.

A detailed summary of the study can be found on the [Plastics Europe webpage](#).