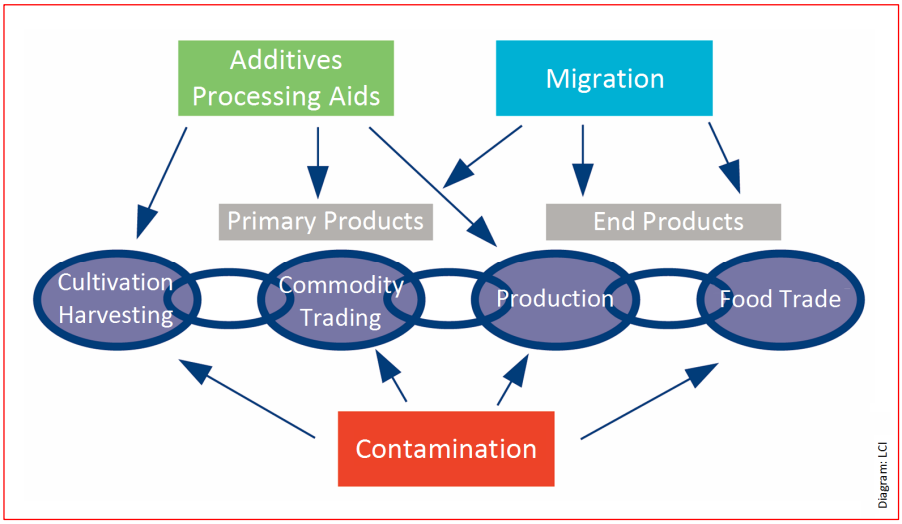
Mineral Hydrocarbons in Foods: German Confectionery Industry Welcomes Europe-Wide Monitoring

Data Basis Required

In January 2017, the European Commission recommended a Europe-wide gathering of data on mineral hydrocarbons (MOSH/MOAH) detected in a number of foods and food-contact materials covering the years 2017 and 2018. With this in mind and within the course of 2017, the Joint Research Center (JRC) of the European Commission is to first elaborate guidelines to ensure uniform analytical methods. The German confectionery industry, which has for many years been striving towards minimising the migration of mineral hydrocarbons to foods, supports this Europe-wide approach and calls for intensive basic research, an analytical technique validated across the EU, and the coordination of a European minimisation strategy. The marketability of foods shown to have low levels of MOSH/MOAH must remain guaranteed.



Potentially possible migration paths for MOSH/MOAH in raw materials and foods.

Causes of MOSH/MOAH Migration

Mineral hydrocarbons occur in the environment all around us and can also migrate into foods. However, these traces of MOSH/MOAH are by no means literally "mineral oil" but rather complex compounds of substances belonging to the mineral hydrocarbon group. In addition to the most predominant source of contamination from recycled fibre-based boards, there is also an environmentally related background level of MOSH/MOAH contamination (including emissions from combustion engines and combustion plants, hence also present in ambient air). The transportation and storage of raw foodstuffs and final food products may open up paths for mineral hydrocarbons to migrate to foods both in the commercial sphere and in the consumer's own home.

Successful Research and Minimisation Efforts by Members of the Confectionery Association

Over the last few years, German confectionery manufacturers have been successful in implementing MOSH/MOAH minimisation efforts: all primary product packaging has been optimised and the migration of mineral hydrocarbons during transport and storage has been reduced. These efforts include measures such as switching to virgin fibre-based board for primary packaging, the use of mineral-oil-free printing inks, and the implementation of suitable migration barriers. The confectionery manufacturers owe the success of their minimisation efforts to the research work conducted by the Food Chemistry Institute (LCI) of the BDSI. In addition to the efforts of the confectionery sector, the German Federation for Food Law and Food Science (BLL) initiated basic scientific research projects for the food sector.

Outlook: Further Efforts are Required

Given the degree of complexity surrounding the issue of MOSH/MOAH, minimisation efforts require the combined forces of all stakeholders along the food supply chain – especially internationally, since many contamination parameters lie outside Germany (e.g. storage and transport of raw material imports). Minimisation efforts are needed from the agricultural sector, the commodity trading sector, the transportation sector, the food and packaging sectors, the grocery sector, and the printing ink industry including newspaper publishers. The draft bills for the German Printing Inks Ordinance and the German Mineral Oil Ordinance are right to focus on avoiding migration paths from printing inks and recycled paper materials. It is also to be welcomed that the German Mineral Oil Ordinance seeks to regulate MOAH migration only. This excludes the highly problematical issue of erroneous MOSH readings caused, among other factors, by POSH (polyolefin oligomeric saturated hydrocarbons). However, the BDSI calls for Europe-wide rules and regulations that must be geared to the practical realities in the field. National stand-alone solutions merely lead to trade distortions. Hence the BDSI welcomes the EU-wide monitoring of MOSH/MOAH as a step in the right direction.