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**Tracking of mineral oil hydrocarbons during pressing and refining of edible oil**

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In the last years mineral oil saturated hydrocarbons (MOSH) and mineral oil aromatic hydrocarbons (MOAH) as contaminants in food gained more and more interest in public discussion. High contents of mineral oil were especially found in edible oil compared to other food classes. Mineral oil residues in food are of concern, because some MOSH accumulated in human tissues like liver, mesenteric lymph nodes and others. In addition MOAH might consist also of some cancerogenic compounds like PAH.

From this point of view the amount of Mineral oil hydrocarbons (MOH) in edible oil should be reduced according to the ALARA principle. Therefore it is important to trace MOSH/MOAH during the whole processing.

For this purpose rapeseeds and sunflower seeds have been spiked with a lubricant containing MOSH and MOAH. Afterwards spiked and unspiked samples were examined passing the processing steps dehulling, cold and hot pressing as well as extraction. The thus obtained edible oils underwent different refining steps like degumming, neutralisation, bleaching and deodorisation in pilot scale. The content of MOSH/MOAH was measured by LC-GC-FID for all products and side products in each step of production.

First results of this study show that some MOH can be removed by dehulling and deodorisation, which caused a reduction of up to 66% MOSH and 54% MOAH in the respective samples. Moreover pressing and extraction seem to be the most critical steps for contamination during processing of edible oil. As screw presses need lubrication, MOH out of the lubricant might enter into the food chain. Furthermore the use of contaminated solvents for extraction was identified as one point of concern, which might lead to significant contaminations.