HAMILTON

RESIDUES OF **MINERAL OILS IN FOOD AND MATERIALS** INTENDED FOR CONTACT WITH FOOD

Mineral oil hydrocarbons (MOH) are complex chemical mixtures. These are mainly MOAH - mineral oils consisting of aromatic hydrocarbons and MOSH - mineral oils being mixtures of saturated hydrocarbons.

The problem of the presence of mineral oils in food appeared for the first time as a result of research carried out in the Zurich laboratory, which showed the presence of certain types of mineral oils in dry food stored in packaging made of paper and cardboard. In addition, in 2012 EFSA (European Food Safety Authority) issued an opinion in which it considered the exposure to MOSH to be of concern, and exposure to MOAH was particularly worrying.

SOURCES OF CONTAMINATION:

- the presence of MOH in many different types of materials intended for contact with food (FCM), e.g. plastics, adhesives, rubber products, jute and sisal fibers, wax paper and cardboard
- use of MOH in the food and FCM production process as for example lubricating and defoaming agents, cleaning and release agents
- environment pollution
- printing inks based on mineral oils (MOH) in packaging made of recycled paper or cardboard

HEALTH HAZARD:

The composition of MOH mixture determines its toxicity and strongly depends on the presence of MOAH, which is the most toxic fraction due to its mutagenic and carcinogenic properties. MOSH are less toxic, but they accumulate in human tissues. In addition, MOAH has been identified as potentially disrupting the hormonal balance. Non-dietary exposure to MOH is associated with severe autoimmune reactions.

LEGAL REGULATIONS:

On 16 January 2017, the European Commission (EC) adopted Recommendation (EU) 2017/84 on the monitoring of mineral oils hydrocarbons in food as well as in materials and articles intended for contact with food.

The non-binding recommendation called on EU Member States to monitor the MOH in several food and FCM used to pack this food. The types of foods to focus on include fats and oils, bread, pasta, cereals, grains, nuts, sausages, fish, canned fish, cocoa, chocolate, sweets, ice and desserts. After detecting the MOH in a given product, further research should aim to determine the source of contamination.

LABORATORY ANALYSIS:

Laboratories J.S. Hamilton Poland offer determination of mineral oils residues in samples of FCM and food.

For more information, please contact our laboratory in Gdynia:

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