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What are the effects of aluminium on liver and intestine?

Aluminium is contained in food, cosmetics and consumer products and thus can be ingested. The initial findings of the German-French research project "SolNanoTox" – in which the BfR is one of the partners– show that orally consumed aluminium compounds temporarily accumulate in the intestine. Actual subjects of research are investigations on factors influencing the particle uptake and their related effects. Furthermore, the partners focused their research on the aluminium distribution within the body, in particular to the liver. The research group sees indications that a fraction of the accumulated particles are excreted with the stool. In this research project, BfR used biological samples to simulate the digestion of various types of aluminium from mouth to stomach to the intestine. During this process, physiological parameters like pH were controlled with the help of enzymes and salts. Throughout the simulated digestion, the aluminium compounds changed their reactivity and solubility. These findings are a first step towards a better understanding of the absorption, resorption and distribution of aluminium in the body. These findings allow the conclusion of data for the purpose of risk assessment. In high doses, aluminium compounds can have toxic effects on the nervous system and unborn life, and can influence fertility and bone development.

Identification of endocrine disruptors: from basics to practice

When it comes to active substances in pesticides and other chemicals, harmonised scientific criteria are necessary in order to identify endocrine-disrupting substances. In 2016, the BfR published a consensus paper as the scientific basis for the subsequent work of the EU authorities. On legislative level, EU-wide regulations are currently being drawn up to prepare scientific guidelines for the harmonised implementation of these regulations. The EU Commission has jointly commissioned EFSA and ECHA to handle this task. The BfR supports the authorities by providing scientific and technical expertise, through its participation in the relevant working group at EFSA, and by conducting research and surveys on the practicability of investigation methods. The corresponding guidelines are scheduled for publication in the spring of 2018. Following their implementation, they can then be used in approval practice on the basis of the adopted regulations.

More information:
Solecki et al. 2017. Scientific principles for the identification of endocrine-disrupting chemicals: a consensus statement. Arch Toxicol 91: 1001–1006.


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Insect stop in textiles: allergenic effect unlikely

The risk of an allergy following contact with clothing and products treated with the biocide permethrin is unlikely based on current knowledge. This is the outcome of a new BfR risk assessment. This finding is supported by the fact that, despite the widespread use of the active substance in medicines and consumer products, there are no indications that contact allergies caused by permethrin are on the increase. The BfR comes to the conclusion that the risk of carcinogenic systemic effects as a result of dermal and oral exposure to permethrin in textiles is negligibly low. Permethrin is a biocidal substance used as protection against insects in products like sleeping bags, picnic and yoga blankets as well as carpets and clothing. It is classified as "sensitising" under the chemicals legislation, and the possibility of low carcinogenic potential is the subject of discussion in various scientific bodies. The active agent can be released from textiles and absorbed via the skin. In the case of small children, who put all manner of products in their mouth, there is the added possibility of oral intake of the substance.

More information: BfR Opinion No. 006/2017 of 25 April 2017 (in German)