Bundesinstitut für Risikobewertung

Risk assessment of high DL-PCB levels in hen's eggs

BfR opinion, No. 011/2012, 10 April 2012

Analyses of hen's eggs from a company in North Rhine-Westphalia found elevated levels of the sum of dioxins and dioxin-like polychlorinated biphenyls (DL-PCB). Only seven analysis results are currently available to the Federal Institute for Risk Assessment (BfR): four official test results and three results from producer's own internal controls. It is not known to the BfR over what period of time eggs with these DL-PCB levels were placed on the market. On the basis of the currently available data, the BfR has conducted an assessment of the health effects of these latest findings

Dioxins and DL-PCB are quite persistent compounds. They accumulate in the fatty tissue and are metabolized very slowly. Chronic effects observed in animal experiments included disorders of the reproductive, the immune and the nervous system as well as hormonal imbalance. To what extent these effects apply to humans has not been established as yet. For some dioxins and DL-PCB, it is assumed that they can increase the risk of developing cancer. Acute effects caused by high doses of dioxin and / or DL-PCB in humans have only been described following industrial and occupational accidents or after intentional exposure.

The consumption of eggs containing dioxin and DL-PCB at levels within the range of the highest level measured (approximately 30 pg WHO-PCDD/F-PCB-TEQ/g egg fat) involves the risk of exceeding the tolerable daily intake (TDI). In the particular case of ingestion of dioxins and DL-PCB, exceeding the TDI for a short time is considered acceptable, if the daily average amount of consumption over extended periods (e.g. a year) does not exceed the TDI.

Accordingly, in this case, a short-term consumption of eggs is unlikely to pose any health risk to consumers.

The full version of this BfR Opinion is available in German on http://www.bfr.bund.de/cm/343/gesundheitliche-bewertung-von-ueberhoehten-pcb-gehalten-in-huehnereiern.pdf