

UZH – Centre for Xenobiotic Risk Research – Bisphenol A in cash register receipts

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Centre for Xenobiotic Risk Research

Bisphenol A in cash register receipts

It was recently reported in the press that thermopaper, such as that used in cash register receipts, can contain up to 2% of the plasticiser bisphenol A. While this itself represents nothing new (the fact has been known for years), studies performed by the Cantonal Laboratory Zurich have now shown that while receipts are being handled, small amounts of the substance can be deposited onto the skin. What is not very clear at this point is how much of the bisphenol A deposited on the skin eventually penetrates the skin and makes its way into the organism. A recently published study which used pig skin as a model showed that, within two hours, only around 3% of the deposited substance penetrates the skin ([reference](#)). The results of this study indicate that hardly any bisphenol A reaches the circulatory system. Dermal absorption, that is absorption through the skin, is therefore at most a secondary absorption route for bisphenol A. The primary absorption route is still dietary intake. For this route, daily total amounts of bisphenol A around 10,000 times higher are considered harmless for adults. This figure is based on the assumption that after handling a receipt, up to 10% of the 2 micrograms of bisphenol A remaining on the skin penetrates the skin and enters the circulatory system – that is, a maximum of 0.2 micrograms. This compares favourably with the internationally accepted maximum daily intake (dietary), recognised in Switzerland, of 50 micrograms of bisphenol A for every kg of bodyweight, that is 3,000 micrograms of bisphenol A every day. Therefore the risk of toxicity resulting from bisphenol A can be considered minimal, even where there is continual contact with cash register receipts, as with cashiers in department stores.

The above statements refer only to absorption of bisphenol A through the skin from cash register receipts. Absorption of bisphenol A from other sources, for example through dietary intake or via baby bottles, as well as environmental damage, should be considered separately.

It should be noted that the long-term effects of the substance and the dose levels that affect the human organism have not been agreed on definitively, and are subject to debate among scientists.

Prof. M. Arand, Prof. R. Eggen, Prof. S. Krähenbühl, Prof. H. Kupferschmidt, Prof. HP Nägeli, Prof. A. Odermatt, Prof. H. Segner, Dr N. von Götz, Dr Timo Buetler

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Further links

You will find additional information at:

Wikipedia http://en.wikipedia.org/wiki/Bisphenol_A

BAG Factsheet on Bisphenol A of 24/02/2009

<http://www.bag.admin.ch/themen/lebensmittel/04861/06170/index.html?lang=de>