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Czech J. Food Sci.

Vranová J., Ciesarová Z.

Furan in food – a review

Czech J. Food Sci., 27 (2009): 1-10

Furan and its derivatives were identified in a small number of heat-treated foods back in the 60' s and 70' s. In May 2004, US Food and Drug Administration published a report on the occurrence of parent furan in a number of thermally treated foods. Since furan has been classified as " possibly carcinogenic to human" by IARC, a great concern has been addressed to the analysis of this substance naturally-occurring in food. This paper gives a short overview on the mechanistic pathways of the parent furan formation in food by degradation of amino acids and/or reducing sugars, and oxidation of ascorbic acid and poly-unsaturated acids which can be induced by thermal or irradiation treatments; further, it deals with the metabolism and toxicology of furan as well as with the comparison of the methods of furan determination.

Keywords:

furan; heat processing contaminants;

headspace, solid-phase microextraction,
mechanisms of furan formation

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