

PATULIN AS A RISK FACTOR IN A CHILDREN'S FOOD

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Background: Patulin (4-hydroxy-4H-furo[3,2-c]pyran-2(6H)-one; CAS Number 149-29-1) patulin as a secondary metabolite of certain types of molds, primarily *Penicillium*, *Aspergillus* and *Byssochlamys*, belongs to the group of mycotoxins.

Patulin is a well-known toxicant in food, with adverse immunological, neurological and gastrointestinal outcomes associated with chronic intake. Patulin is an enteropathogenic mycotoxin and has the ability to alter the function of the intestine.

Methods and Objectives: The method for determining patulin using liquid chromatography is described in AOAC method 995.10, by which patulin is extracted three times with ethyl acetate, followed by purification using sodium carbonate solution, evaporation of the organic solvent, and determination of patulin on a C-18 reverse phase column, with a UV detector. 24 samples of baby food containing apple were analyzed. All samples were imported.

Results: In the group of products for infants and small children, patulin was detected in juices and porridges, in average concentrations below 10 µg/kg. The maximum determined content of patulin was 3.3 and 2.7 µg/kg in juices and porridges, respectively. In none of the 24 samples of food for infants and young children tested in this research, the patulin content was not over 10 µg/kg, from which it follows that all tested samples in terms of patulin content meet the legal requirements.

Conclusions: The safety rating of the tested samples was given on the basis of a comparison of the obtained results with the relevant maximum permitted levels defined by the legislation in the Republic of Srpska.

In order to preserve public health, it is necessary to monitor and control the population's exposure to patulin.

Keywords: patulin, mycotoxin, children's food, public health