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## **COMMISSION RECOMMENDATION**

**of **XXX****

**on the monitoring of the presence of glycoalkaloids in potatoes and potato-derived products**

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## COMMISSION RECOMMENDATION

of **XXX**

### on the monitoring of the presence of glycoalkaloids in potatoes and potato-derived products

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union, and in particular Article 292 thereof,

Whereas:

- (1) The European Food Safety Authority (EFSA) Panel on Contaminants in the Food Chain (CONTAM) adopted in 2020 a risk assessment scientific opinion of glycoalkaloids in feed and food, in particular in potatoes and potato-derived products<sup>1</sup>.
- (2) In humans, acute toxic effects of potato glycoalkaloids ( $\alpha$ -solanine and  $\alpha$ -chaconine) include gastrointestinal symptoms such as nausea, vomiting and diarrhoea. For these effects, the CONTAM Panel identified a lowest-observed-adverse-effect level of 1 mg total potato glycoalkaloids /kg body weight (bw) per day as a reference point for the risk characterisation following acute exposure. Acute exposure estimates indicate in certain exposure scenario's a health concern.
- (3) EFSA recommended that more occurrence data should be available of glycoalkaloids and their aglycones in the potato cultivars available on the market and on new potato cultivars resulting from breeding experiments and in processed potato products, including foods for infants.
- (4) The application of good agricultural practices (GAP), good storage and transport conditions and good manufacturing practices (GMP) can reduce or prevent the presence of glycoalkaloids in potatoes and processed potato products
- (5) Therefore, it is necessary to obtain more information on the different factors, which lead to relative high levels of glycoalkaloids in potatoes and processed potato products in order to be able to identify the measures to be taken to avoid or to reduce the presence of glycoalkaloids in these foodstuffs.
- (6) The results of monitoring of glycoalkaloids need to be reliable and comparable. Therefore, it is appropriate to provide instructions for extraction and requirements for analysis that should be applied. Furthermore as the presence of glycoalkaloids is lower in peeled than in unpeeled potatoes and higher in small potatoes compared to larger potatoes it is important to provide that information when reporting occurrence data.

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<sup>1</sup> EFSA CONTAM Panel (EFSA Panel on Contaminants in the Food Chain), 2020. Scientific Opinion – Risk assessment of glycoalkaloids in feed and food, in particular in potatoes and potato-derived products. EFSA Journal 2020;18(8):6222, 190 pp. <https://doi.org/10.2903/j.efsa.2020.6222>

- (7) To provide orientation in which cases it would be appropriate to identify the factors which have led to relative high levels of glycoalkaloids, it is appropriate to establish an indicative values for potatoes. Furthermore it is appropriate to obtain more information on the fate during processing.
- (8) It is therefore appropriate to recommend the monitoring of glycoalkaloids in potato and potato products and the identification of the factors resulting in high levels and to obtain more information on the fate during processing.

HAS ADOPTED THIS RECOMMENDATION:

1. Member States and food business operators should perform the monitoring of the glycoalkaloids  $\alpha$ -solanine and  $\alpha$ -chaconine in potatoes and potato products. If possible, also the degradation products  $\beta$ - and  $\gamma$ - solanine and chaconine and the aglycon solanidine should be analysed in particular in processed potato products.
2. It is necessary to add a mixture of 60 % methanol/water with 1 % formic acid to the potatoes when they are blended and homogenized before extraction and clean-up. The recommended method of analysis is. The methods of analysis recommended to use is Liquid chromatography with ultraviolet photodiode-array detection (LC-UV-DAD) or Liquid Chromatography Mass spectrometry (LC-MS). The Limit of Quantification (LOQ) for the determination of glycoalkaloids should preferably be around 1 mg/kg and not be higher than 5 mg.
3. Member States, with the active involvement of the feed and food business operators, should perform investigations to identify the factors resulting in these levels above the indicative level of 100 mg/kg as sum of  $\alpha$ -solanine and  $\alpha$ -chaconine in potatoes and processed potato products.
4. Member States and food business operators should provide to the European Food Safety Authority (EFSA) by 30 June of each year, the data for the previous year for compilation into one database in line with the requirements of EFSA's Guidance on Standard Sample Description (SSD) for Food and Feed and the additional EFSA's specific reporting requirements<sup>2</sup>. It is important to report for potatoes and processed potato products the variety and the size of potatoes and if the potatoes were peeled or not.

Done at Brussels,

*For the Commission*  
*Stella Kyriakides*  
*Member of the Commission*

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<sup>2</sup> <https://www.efsa.europa.eu/en/call/call-continuous-collection-chemical-contaminants-occurrence-data-0>