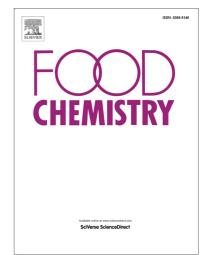
## Accepted Manuscript

Masked mycotoxins: an emerging issue that makes renegotiable what is ordinary

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## **ACCEPTED MANUSCRIPT**

1	Masked mycotoxins: an emerging issue that makes renegotiable what is ordinary
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5	
6	Abstract
7	The masked mycotoxins issue is of incresing relevance in the field of food safety. Although under
8	discussion, regulations are still to be set due to the lack of proper toxicological data.
9	In this comunication, we discuss the unmet needs to support regulatory bodies in the decision
10	making on this class of compounds.
11	
12	Keywords: masked mycotoxins - regulation - deconjugation – bioactivation
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16	The presence of toxicants in food undoubtedly poses concern for human health and wellbeing.
17	Among them, the naturally occurring compounds called mycotoxins can accumulate in several
18	foodstuff and food products and they actually represent a prominent health issue. Many countries
19	have enforced regulations to limit the exposure in order to protect consumers from health risks. In
20	this context, regulations and recommendations for masked mycotoxins <sup>a</sup> are completely missing
21	(Berthiller, Crews, Dall'Asta, Saeger, Haesaert, Karlovsky et al., 2013; Rychlik, Humpf, Marko,
22	Dänicke, Mally, Berthiller et al., 2014). This scenario is mostly attributable to the shortage of
23	toxicological data since it is worldwide accepted that regulations must rely on reliable scientific
24	findings, the lack of which hinders the regulatory actions in facts. Indeed, even if in the recent
25	period the toxicity of masked forms (especially that of deoxynivalenol and zearalenone) has been
26	specifically object of investigation, (e.g. (Broekaert, Devreese, van Bergen, Schauvliege, De
27	Boevre, De Saeger et al., 2016; Dellafiora, Perotti, Galaverna, Buschini, & Dall'Asta, 2016; Pierron,
28	Mimoun, Murate, Loiseau, Lippi, Bracarense et al., 2015)), there are no sufficient toxicokinetic,
29	toxicodynamic and exposure data available to state ultimately the hazard for human and animal
30	health (Stoev, 2015). Also, data collected so far led to different conclusions in terms of the toxicity
31	held by the various masked forms. As example, glycosylation seems to be an effective detoxifying
32	route for deoxynivalenol (Pierron et al., 2015) but not for zearalenone (Dellafiora, Perotti,

<sup>&</sup>lt;sup>a</sup> The term "masked mycotoxins" refers to the plant phase-II conjugated metabolites of mycotoxins. They pose serious safety concerns as they can accumulate in the edible parts of contaminated crops. The toxicological data are contrasting and toxicity knowledge is actually in its infancy, but they are of great concern as they can be a relevant part of the total mycotoxins load.

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