foodwatch international

European Food Safety Authority

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Re-evaluation of safety of sweetener Aspartame in the light of recent scientific publications

Dear Dr Kriz and Mr Curtui,

foodwatch is a non-profit consumer rights organisation that promotes safe, healthy, and affordable food for all people. We give consumers a loud voice, speak up for transparency in the food sector, and defend our right to food that harms neither people, nor the environment. Almost one million people support our work across four EU member states: Germany, France, the Netherlands, and Austria.

Today, we are writing to you in relation to the safety of aspartame, a sweetener which is commonly used in thousands of popular food products such as soft drinks, confectionary, and dairy products. While the European Commission is responsible for the market approval of the substance, EFSA plays a critical role in terms of provision of updated scientific evidence to back up this decision.

EFSA's last evaluation of the substance dates back to 2013, which is more than a decade ago. Back then already, independent scientists expressed significant concerns about the potential long-term health effects of consumers' exposure to the substance via food, including cancer causation. In the meantime, the corpus of available independent scientific studies suggesting potential harm across health endpoints has kept increasing, including in relation to cardiovascular diseases, type 2 diabetes, or potential disorders of the gut microbiota. **We are concerned that the current safety evaluation (and related recommended dietary intake) of aspartame is based on a limited assessment of rather old and mostly industry-based evidence. Therefore, we ask EFSA to review all the available up-to-date science about the substance and to reconsider its recommendations in terms of daily intake.**

As you are aware, in June 2023, the WHO International Research Agency on Cancer (IARC) classified the substance as a possible carcinogen for humans (category 2B). The conclusion on a 2B category was justified by the limited availability of data for rodents and methodological limitations for some of these studies. On the other hand, a minority of experts supported a stronger classification (category 2A) and argued that the limitations mentioned would not affect the interpretation and the strength of the rodent studies[i].

At the same time, the joint WHO-FAO JECFA committee reconfirmed the safety limits currently used by EFSA (40 mg/kg body weight)[ii]. However, observers have pointed out that JECFA's assessment relies heavily on a single industry-funded study from 1981 and unclear criteria seem to have been used to dismiss independent evidence[iii]. In this context, we are surprised that, to date, European regulatory authorities have not at least reassessed all the available data about the substance and discussed them.

Since the IARC monograph was published, further publications have been released that in our view warrant such a reassessment of the substance even more. Among others:

- In March 2025, Chen et al. published a study investigating the effects of aspartame on delayed puberty based on rodent data and human models[iv]. Researchers found that long-term exposure from pregnancy to offspring resulted in delayed puberty in female offspring rats together with other effects such as mitochondrial dysfunction, increased ovary oxidative stress among others.

- In June 2025, a group of independent experts in cancer assessment published a commentary highlighting again the divide about the IARC's conclusion on the strength of the cancer classification[v]. The experts stressed that the methodological limitations invoked to dismiss some of the available rodent studies from the Ramazzini Institute and only support a 2B classification were not adequately justified. They also rightly pointed out that, on the other hand, studies from the same institute have commonly been integrated in the assessments of other IARC working groups.
- In July 2025, two studies published in Nature's Scientific Reports found potential evidence of harm for other health endpoints.
  - Meng et al. conducted a metagenomics and transcriptomics analysis of aspartame's impact on gut microbiota and glioblastoma progression in a mouse model. They found that aspartame consumption led to changes in the gut microbiota and in the expression of certain genes that could be critical for the progression of glioblastema and warrant further research. *"Our findings not only provide critical evidence for evaluating the safety of artificial sweeteners but also offer a comprehensive assessment of their impact on tumour progression. These insights open new avenues for GBM treatment strategies, including gene-targeted therapies and microbial-based interventions, among others."*[vi]
  - Integrating network toxicology and molecular docking, a study by Zhang et al. found that the sweetener "may contribute to ischemic brain injury through multi-target interactions, potentially disrupting inflammatory responses and vascular homeostasis. This study provides preliminary systematic insights into the potential neurotoxicity mechanisms of aspartame."[vii]
- In terms of recent epidemiology, findings from the French NutriNet-Santé[viii] cohort (more than 100,000 people) published in April suggest that the consumption of mixtures of additives casually found in food products, with sweeteners including aspartame, could be associated with higher incidence of type 2 diabetes (independently of the nutritional quality of the diet, and after confounders' adjustment). Researchers highlight that the presence of additives could be a modifiable risk factor in the prevention of type 2 diabetes.

All in all, the scientific evidence suggesting that aspartame consumption could be associated with several health effects keeps growing. Based on all of the above and keeping in mind that aspartame is a popular food additive used in more than 2,500 products across Europe, it is very hard for us to understand why at the time of writing, regulatory authorities have still not updated the safety assessment of the substance and reconsidered existing dietary intake recommendations based on the latest up-to-date science – all of which are within the mandate of EFSA.

We therefore ask you to take action as soon as possible by reviewing all the available independent evidence for the substance across health endpoints.

Yours sincerely,

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[i] IARC Publications: Aspartame, Methyleugenol, and Isoeugenol. 2024. IARC Publications Website - Aspartame, Methyleugenol, and Isoeugenol

[ii] Evaluation of certain food additives: ninety-sixth report of the Joint FAO/WHO Expert Committee on Food Additives. Geneva: World Health Organization and Food and Agriculture Organization of the United Nations; 2023 (WHO Technical Report Series, No. 1050). 9789240083059-eng.pdf

[iii] foodwatch: Clean Washing Aspartame, Why aspartame needs to be banned, based on independent science. 2025. 2025-02-04_foodwatch-report-aspartame.pdf

[iv] Yang-Ching Chen, Zih Ling Wang, Yu-Fang Lin, Chia-Yuan Lin, Shih-Yuan Hsu, Jacus S. Nacis, Rong-Hong Hsieh, Aspartame consumption linked to delayed puberty and mitochondrial Dysfunction: Evidence from human and animal studies, The Journal of Nutritional Biochemistry, Volume 140, 2025, 109889, ISSN 0955-2863, https://doi.org/10.1016/j.jnutbio.2025.109889.

[v] Landrigan, P.J., Straif, K., Birnbaum, L.S., McDiarmid, M., Perry, M.J., Forastiere, F., Comba, P. and Bucher, J.R. (2025) 'Irregularities in the IARC Working Group Evaluation of Ramazzini Institute Aspartame Studies', Annals of Global Health, 91(1), p. 28. Available at: https://doi.org/10.5334/aogh.4771.

[vi] Meng, K., Bao, Y., Chen, G. et al. Metagenomics and transcriptomics analysis of aspartame's impact on gut microbiota and glioblastoma progression in a mouse model. Sci Rep 15, 23298 (2025). https://doi.org/10.1038/s41598-025-06193-5

[vii] Zhang, T., Wang, T., Yu, K. et al. Aspartame and ischemic stroke: unraveling the molecular link through network toxicology and molecular docking analysis. Sci Rep 15, 23871 (2025). https://doi.org/10.1038/s41598-025-08898-z

[viii] Payen de la Garanderie M, Hasenbohler A, Dechamp N, Javaux G, Szabo de Edelenyi F, Agaësse C, et al. (2025) Food additive mixtures and type 2 diabetes incidence: Results from the NutriNet-Santé prospective cohort. PLoS Med 22(4): e1004570. https://doi.org/10.1371/journal.pmed.1004570