

Summary of the application: Vitamin D2 mushroom powder (*Agaricus bisporus*)

Applicant: Luxidum GmbH, Tempelhof 3, 74594 Kressberg, Germany

Luxidum requests approval of vitamin D2 mushroom powder (*Agaricus bisporus*) as a novel food. The novel food has a vitamin D2 content of 307 µg/g after short-term controlled UV light treatment, and is intended for use in a number of foods, including food supplements.

The mushroom powder used to generate vitamin D2 mushroom powder is a powder made of *Agaricus bisporus* commercially available on the EU market. The mushroom powder is conveyed on a tray by a vibrating plate and passes a UV light unit. The UV light treatment causes a photochemical process leading to a significant increase in the vitamin D2 content. The production process is able to achieve vitamin D2 levels in a range of 278 – 334 µg/g. The UV light unit is equipped with Luxidum's patented LED2D® technology. This LED technology uses a unique wavelength combination enabling the most efficient vitamin D synthesis possible, combined with the lowest yield of other photoproducts. Our UV light treatment is safe, and impacts only the content of ergosterol-derived photoproducts - mainly vitamin D2 - and all other compositional, nutritional properties, and the microbiological load remain unchanged from the raw material.

The sole toxicologically relevant components are aromatic hydrazine alkaloids (eg, agaritine) which are found naturally in all mushrooms of the genus *Agaricus*. However, there is ample scientific data proving that the agaritine content in button mushrooms drops considerably after various processing steps (e.g. UV treatment, cooking, refrigerating, freezing, and drying). No specific toxicity studies on the novel food have been conducted by the applicant. For previous scientific opinions on similar novel foods with UV light treatment to raise vitamin D content (UV-treated baker's yeast, UV-treated bread, and UV-treated milk, vitamin D2 mushroom powder), no toxicological studies were considered necessary, and these novel foods were classified as safe under their intended conditions of use (EFSA NDA Panel, 2014, 2015, 2016c, 2019).