

Activities of the European Commission's 'Joint Research Centre' on nanomaterials in food

Otmar Geiss

European Commission - Joint Research Centre Ispra, Italy

Abstract

Nanotechnology is one of the key-enabling technologies that has a variety of applications in the food sector including food manufacturing, processing, and packaging. While it offers numerous benefits, concerns have also been raised regarding the presence of (engineered) nanomaterials in food, their ingestion, and potential health effects.

The European Union (EU) is globally acknowledged for its stringent food safety standards, ensuring the protection of the health and interests of European citizens while fostering a well-functioning single market. With regards to nanomaterials the requirements of EU food legislation are set up in the Novel Food Regulation that includes a definition of engineered nanomaterials that is also directly applicable to other EU food legislation (e.g. Regulation (EC) No. 1333/2008 on food additives and Regulation (EU) No. 1169/2011 on food information to consumers).

To address potential concerns surrounding nanoscale materials in food and feed, the European Food Safety Authority (EFSA) has developed comprehensive guidance on risk assessment. However, the identification and characterization of nanoparticles in food suffers from the unavailability of validated analytical methods, the lack of (certified) reference materials and in some cases insufficient technical/analytical capacities and knowledge of the laboratories in charge of compliance testing.