

## **UNAUTHORISED SUBSTANCES IN FOOD SUPPLEMENTS - EXAMPLE OF MINERALS**

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As the popularity and the number of food supplements on the market unprecedentedly rise, a plethora of associated risks to public health inevitably follows. A crucial element of a food safety system is rapid flow of information, in Europe operating through Rapid Alert System for Food and Feed (RASFF). RASFF historic records provide a tremendous database of countless food hazards. Accordingly, RASFF database was automatically searched using following criteria: food category “food supplements”, hazard category “composition”, period of assessment 2011-2021. Data related to selected classes of substances, including minerals and minerals' sources, were manually extracted and evaluated in terms of compliance with regulation establishing minerals and minerals' sources that may be used in manufacture of dietary supplements. Records showed tens of notifications, and their annual distribution showed the sharp maximum in 2014, with over 30 notifications. Non-compliances were evenly distributed among Mg, Cu, Zn, Cr, Mn, Mo, Se, B and V, while Ca, K and Fe were much less represented. It is noteworthy that for a substantial number of supplements multiple non-compliances were recorded, meaning simultaneous presence of several unauthorized sources of minerals. Analysis of background data indicated the most probable cause of such a high number of notifications – absolutely predominant were supplements originating from the United States of America, whereas European countries appeared only sporadically.

Not taking into account regulatory differences between producing and selling countries leads to illicit practice of using unauthorized substances in dietary supplements, which need to be resolved in the best interest of consumers.

## **NEAUTORIZOVANE SUPSTANCE U DIJETETSKIM SUPLEMENTIMA – PRIMER MINERALA**

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Sa porastom popularnosti i brojnosti dijetetskih suplemenata na tržištu, raste i raznovrsnost i brojnost povezanih rizika po zdravlje. Ključni element sistema za bezbednost hrane je brz transfer informacija, koji se u Evropi realizuje kroz Rapid Alert System for Food and Feed (RASFF). Istorija RASFF zapisa čini bogatu bazu podataka o neprebrojnim opasnostima u hrani. Shodno navedenom, sprovedeno je automatsko pretraživanje RASFF baze prema sledećim kriterijumima: kategorija hrane “dijetetski suplementi”, kategorija opasnosti “sastav”, period 2011.-2021. godina. Podaci o različitim klasama supstanci, uključujući minerale i izvore minerala, su manuelno ekstrahovani i evaluirani u pogledu usaglašenosti sa zakonskom osnovom koja definiše minerale i izvore minerala koji se mogu koristiti u proizvodnji dijetetskih suplemenata. Zapisi su pokazali desetine upozorenja, a njihova raspodela po godinama je razotkrila oštar maksimum u 2014. godini, sa preko 30 upozorenja. Neusaglašenosti su bile približno ravnomerno raspodeljene među Mg, Cu, Zn, Cr, Mn, Mo, Se, B i V, dok su Ca, K i Fe bili znatno manje zastupljeni. Vredno je pomena da su za značajan broj suplemenata utvrđene višestruke neusaglašenosti, u smislu istovremenog prisustva više neautorizovanih izvora minerala. Analiza podataka o suplementima ukazala je na najverovatniji uzrok tako velikog broja upozorenja – u potpunosti su dominirali suplementi poreklom iz Sjedinjenih Američkih Država, dok su se evropske države pojavljivale samo sporadično. Zanemarivanje regulatornih razlika između država proizvođača i država na čijem tržištu suplementi treba da se prodaju vodi nedozvoljenoj praksi korišćenja neautorizovanih supstanci u dijetetskim suplementima, što je neophodno razrešiti u najboljem interesu potrošača.