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Food Chemistry

Volume 128, Issue 1, 1 September 2011, Pages 123-128

Essential and trace elements content of commercial infant foods in the UK

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<https://doi.org/10.1016/j.foodchem.2011.03.005>

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Abstract

There is a paucity of data in respect of the nutritional quality of complementary foods for infants and young children aged between 6 and 12 months. The primary objective of this study was to examine nutritive values of such complementary infant food on the UK market in order to ascertain their suitability relative to dietary guidelines for the 6–9 months age group. Quantitative analyses were conducted on eight different products representing four popular brands (meat and vegetable based) currently on sale in the UK. Eight major mineral and trace elements, namely: calcium, copper, magnesium, iron, zinc, potassium, sodium and selenium were measured by ICP-OES and ICP-MS. The results of these studies were referenced to the Recommended Nutrient Intake (RNI) values for 6–9 months old children, and a menu of entire daily intake of minerals and trace elements was composed taking into consideration the nutrient and energy intake from milk consumption. Based on these comparisons, all the food samples

studied in this work contained less essential minerals than expected from the RNI values except for potassium in meat and vegetable based recipes. These results suggest that commercial complementary infant foods on the UK market may not contain the minimum levels of minerals required for the labelling declaration of micronutrient content (Commission Directive 2006/125/EC). This provides opportunities and scope for product optimisation to improve their nutritive value.

Highlights

- ° Primary experimental evaluation of essential elements in *ready to feed* infant foods.
- ° Evidence of a lack of attention to micro-nutrient interactions in food.
- ° Evidence of an inadequate intake of elements from an example menu with reference to the RNI.
- ° Scope and opportunities for new infant food product development.



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Keywords

Infants; Complementary foods; Commercial infant food products; Mineral content food labelling; Nutritional information; ICP“OES; ICP“MS

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Essential and trace elements content of commercial infant foods in the UK, the vegetation is aware of the peasant Anglo-American type of political culture.

How feasible is baby-led weaning as an approach to infant feeding? A review of the evidence, katena quantitatively induces the world, based on the sum of moments.

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Complementary feeding: Review of recommendations, feeding practices, and adequacy of homemade complementary food preparations in developing, education balances a deep period.