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Nota di contenuto	Title Page; Copyright Page; Contents; List of contributors; Preface; Chapter 1 The importance of minerals in the human diet; 1.1 Historical aspects; 1.2 Types and metabolic function of mineral nutrients; 1.3 Essentiality and toxicological aspects; 1.4 Diagnosis of mineral status; 1.5 Food culture and mineral diet content; 1.6 Health consequences of human mineral malnutrition or excessive intake; 1.7 Minerals, health and ageing; 1.8 Foods or supplements as a source of minerals; 1.9 The effect of dietetic interventions on mineral status; 1.10 Current research and development; Acknowledgements Abbreviations References; Chapter 2 Dietary intake of minerals; 2.1 Essential, trace and toxic elements in foods; 2.1.1 Iron; 2.1.2 Calcium; 2.1.3 Zinc; 2.1.4 Selenium; 2.1.5 Copper; 2.1.6 Magnesium; 2.2 Recommended daily intake; 2.2.1 Dietary recommendations for iron; 2.2.2 Dietary recommendations for calcium; 2.2.3 Dietary recommendations for zinc; 2.2.4 Dietary recommendations for selenium; 2.2.5 Dietary recommendations for copper; 2.2.6 Dietary recommendations for magnesium; 2.3 The presence of minerals in diets; 2.3.1 Dietary iron; 2.3.2 Dietary calcium; 2.3.3 Dietary zinc 2.3.4 Dietary selenium 2.3.5 Dietary copper; 2.3.6 Dietary magnesium; 2.4 Total content in complete diets; 2.5 New challenges: speciation;

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3.1.3 Effect of processing on mineral bioavailability 3.2 Methods for evaluating mineral bioavailability; 3.2.1 In vivo bioavailability methods; 3.2.2 In vitro bioavailability methods; 3.3 Bioavailability of minerals of nutritional interest: Ca, Fe, Zn, Se; 3.3.1 Calcium; 3.3.2 Iron; 3.3.3 Zinc; 3.3.4 Selenium; 3.4 Bioavailability of minerals with toxicological risk: As, Hg, Cd, Pb; 3.4.1 Arsenic; 3.4.2 Mercury; 3.4.3 Cadmium; 3.4.4 Lead; Abbreviations; References; Chapter 4 Human risk assessment and regulatory framework for minerals in food; 4.1 Introduction
4.2 Dietary exposure and risk assessment of trace elements 4.2.1 Hazard identification and characterization; 4.2.2 Exposure assessment and risk characterization; 4.3 Human biomonitoring for risk assessment of metals; 4.3.1 Biomarker characterization; 4.3.2 Biomonitoring programmes and studies; 4.3.3 Risk characterization using biomonitoring; 4.4 Risk management and regulatory framework; 4.4.1 Legislative framework and regulated levels in food; 4.4.2 Monitoring, sampling and methods of analysis; 4.4.3 The European Community's Rapid Alert System for Food and Feed
4.5 Conclusions and future perspectives

Sommario/riassunto

Mineral elements are found in foods and drink of all different types, from drinking water through to mothers' milk. The search for mineral elements has shown that many trace and ultratrace-level elements presented in food are required for a healthy life. By identifying and analysing these elements, it is possible to evaluate them for their specific health-giving properties, and conversely, to isolate their less desirable properties with a view to reducing or removing them altogether from some foods. The analysis of mineral elements requires a number of different techniques - some methods may