Record Nr. UNINA9910555172303321 Autore Sarker Dipak K. Titolo Packaging technology and engineering: pharmaceutical, medical and food applications / / Dipak Kumar Sarker Hoboken, New Jersey; ; West Sussex, England:,: Wiley,, [2020] Pubbl/distr/stampa ©2020 **ISBN** 1-5231-4400-9 1-119-21390-8 1-119-21389-4 1-119-21395-9 Descrizione fisica 1 online resource (519 pages) Disciplina 615.18 Soggetti Drugs - Packaging - Quality control Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Historical perspective and evolution -- Chemical engineering of packaging materials -- Material science and chemistry -- The physics of packaging materials -- Engineering product : design, formation and machining -- Packaging for various applications -- Food, pharmaceutical and medical packaging -- Suppliers and manufacturers of packaging -- Problems: guestions, calculations, estimates and dilemmas. "Use of packaging is often thought of as an industrial age concept but Sommario/riassunto this is entirely untrue. In more ancient times products of economic or nutritional value were always wrapped in a suitable material to convey the need to protect the contents. The Roman emperors and Byzantine kings frequently wrapped precious good in all manner of materials from woven rattan baskets to carved and gilded in-laid ebony boxes. Expensive luxury goods such as chalices, and ceremonial goods are almost always stored in a suitable presentation case that demonstrated the value of the product contained within. Perfumes, chrism oils and ceremonial jewellery has always been containered in sculpted and carved lidded-boxes and glazed pottery. The use of bespoke packaging

is really a modern age phenomenon. However, the footsteps of

packaging use began with leaves and birch bark and other natural materials. In antiquity and prehistoric times humans wrapped their foods in crudely fashioned carriers and containers but also pelts and hides. Mass production of containers later involved woven materials e. g. rushes and reeds to create baskets and carriers but also the use of, textiles, pottery and bronze amphora and carved objects e.g. ivory, antler horn and wood. Recent estimates place "crude glass" or vitrified materials and wood packaging use to at least 3000 BC and these artifacts come from the Indus Valley civilisations and Mesopotamia"--